



January 23, 2018

Ms. Nancy Ryan  
Wisconsin Department of Natural Resources  
2300 North Martin Luther King Jr. Drive  
Milwaukee, WI 53212

RE: Soil Placement Approval Request for the Proposed BMO Tower  
Development Located at 778 North Water Street in Milwaukee, Wisconsin  
— DNR BRRTs # 02-41-579828; FEC Project No. 171204

Dear Ms. Ryan:

On behalf of Broadway Tierra Partners, LLC, ***Friess Environmental Consulting, Inc. (FEC)*** submits this letter to request that the Wisconsin Department of Natural Resources (DNR) grant a ch. NR 718.12 Wisconsin Administrative Code (WAC) approval for approximately 2,300-2,400 cubic yards (CY) of soil scheduled for excavation from the above-referenced property. The soils are proposed to be disposed of at the R&R excavating site (“the “Site”) located near the intersection of Highway 60 and Highway I in the Town of Cedarburg.

This letter provides a description of the generator site history and re-development plans, presents a summary of characterization data obtained to date for the generator site, and provides our conclusions and recommendations regarding the management of the soils. This letter will also discuss the continued protectiveness of human health and the environment through management of these soils and the low hazard risk to remove and place the soils at the R&R Excavating Site.

### **R&R Excavating Site**

The Site is located near the intersection of Highway 60 and Highway I in the Town of Cedarburg. The Site totals approximately 39.5-acres of which 11 acres had historically been quarried and subsequently filled as part of the quarry reclamation plan. The property is bordered by vacant agricultural land to the south and east, former quarries to the north and west, and Highway I farther to the east.

The Site meets the locational criteria outlined in ch. NR 718.12(1)(c) WAC. The soils placed at the R&R Excavating site have not been and will not be located within a floodplain; within 100 feet of any wetland or critical habitat area; within 300 feet of any navigable river, stream, lake, pond or flowage; or within 100 feet of any on-site water supply well or 300 feet of any off-site water supply well. In addition, soils have not been placed and will not be placed within 3 feet of the groundwater table. Information related to the Site as it relates to the ch. NR 718.12 locational criteria has been previously provided to and approved by the DNR.

The soils proposed to be placed at the Site as part of this ch. NR 718.12 and/or LHE approval request will be placed at a depth of approximately 20 feet below the proposed finished grade and at a distance greater than 3 feet above the groundwater table at the Site. Based on the relatively insoluble and/or highly immobile nature of the impacts, the planned capping of the Site, and the increased distance from the groundwater table at the disposal site versus the generator site, we request an exemption to the locational criteria of ch. NR 718.12(1)(c)6 to allow placement of the contaminated soil at a depth greater than the depth of the original excavation from which it was removed.

Although it is not a condition of the approved reclamation plan, nor does the Site have groundwater quality exceedances, it is understood that the owner of the Site will accept placement of the Site on the DNR GIS registry following completion of the reclamation plan as part of the ch. NR 718.12 approval to accept soils at the Site. The GIS registry would prohibit construction of a potable well on the Site without prior DNR approval, document soil conditions on the Site, and implement a cap maintenance plan (CMP) for the Site. No development is planned as part of the reclamation.

### **Response Action (Generator) Site Description**

The development project is located at 778 North Water Street in Milwaukee, Wisconsin. Several environmental studies have been conducted at the Site including Phase I and II Environmental Site Assessments and soil management sampling.

Based on a review of the Phase I ESA, the subject property was identified as a registered underground storage tank (UST) site. Two gasoline USTs were closed/filled with inert material on November 28, 1990 and December 16, 1991. The subject property was also historically occupied by Badger Auto Service Company Garage from 1935 to 1965. Additionally, a review of city directories and Sanborn Fire Insurance maps indicated that the subject property was historically utilized for printing operations and two 280-gallon gasoline tanks were buried in the alley between the subject property parcels and three gasoline tanks were located on the western side of the subject property. The historical use of the site was considered a possible recognized environmental conditions (PREC).

Sigma completed Phase II Environmental Site Assessment (ESA) and site investigation (SI) activities at the above referenced property (the "Site") between January and November, 2017, in order to assess potential environmental impacts associated with recognized environmental conditions identified in Sigma's Phase I ESA report completed for the Site in May 2017, and to characterize subsurface material for off-site disposal during earthwork activity associated with the construction of a new office building and parking garage. The results of Sigma's work identified Resource Conservation and Recovery Act (RCRA) metals in soil above actionable levels, as well as low-level detections of polycyclic aromatic hydrocarbons (PAHs), within the subsurface of the site. Low level VOCs were

detected in isolated areas, but are not part of this soil disposal exemption. The soils will require soils management during earthwork.

On January 30, 2017, Sigma completed eight soil borings and five temporary wells within the executive garage area. Additionally, between April 13 and 14, 2017, Sigma completed eleven soil borings within the auto-banking area and lower basement level of the site. Soil borings within the executive garage and auto-banking areas were advanced to an approximate maximum depth of 8 to 12 feet below ground surface (bgs). The lower basement level sub-slab soil borings were completed with hand-held drilling equipment. Soil samples were collected continuously from the ground surface to the boring termination depth. Soil samples collected from the soil borings were field screened by visual and olfactory observations and by a calibrated photoionization detector (PID) to semi-qualitatively assess the presence of volatile organic compounds (VOCs). The PID field screening results were recorded on the soil boring logs.

Based on the results of the Phase II ESA and the proposed development plans, Sigma conducted a site investigation consisting of eighteen additional soil probes. A total of six groundwater samples were collected from 5 temporary wells. In addition, two samples were collected and submitted for water leach testing. The results of the SI were provided in their Site investigation Report & Remedial Action Plan for the BMO Downtown Campus Parking Structure dated January 4, 2018. The sample results, probe logs and lab reports were provided to the DNR in Sigma's SI/RAP dated January 4, 2018.

Thirty seven soil probes and five groundwater monitoring wells have been conducted on the site. One to three soil samples from each soil boring location (56 discrete soil samples total) were submitted for laboratory analysis of VOCs, PAHs, RCRA metals or lead, PCBs, and/or ethylene glycol. The soil sampling conducted for the environmental assessments has sufficiently characterized the soils to be removed for disposal. In addition, a soil sample was collected for analysis for each 100 cubic yards of contaminated soil for the first 600 yards and an additional sample was collected for analysis for each additional 300 cubic yards to be removed thus meeting the requirements of NR 718.12 (e), WAC.

The soil proposed for placement is excess soil generated during excavation for building construction as part of redevelopment. The development will involve construction of the new BMO Tower. Reworked fill is present on the site. Information regarding the development plans is included with this request.

Based on the results of the recent subsurface explorations, there are no significant sources of impact to the soil. Although the intent is to minimize any off-site transport, approximately 2,300-2,400 CY of soil are anticipated to require off-site management. The fill soils can be managed with a ch. NR 718.12 approval for placement at the R&R Excavating site. Based on a review of the analytical data from the generator site, the concentrations of this soil would be less than those soils placed at the R&R Excavating Site under previous disposal approvals.

## **Development Plans**

The redevelopment of the site will consist of a new 25-story retail and office building referred to as the BMO Tower. The redevelopment (building, foundations, utilities, landscaping) will cover nearly all 35,765 square feet and the existing BMO Tower office building. The new construction will include lower level storage and building service rooms, a ground level (1st and 2nd floors) building lobby and limited retail space, and eight levels of above-ground parking (floors 3 through 10). The remaining fourteen floors (11 through 25) will be dedicated office space. Redevelopment plans for the proposed BMO Tower are attached. The current structure is being demolished. Construction of the new structure is anticipated to begin in February 2018 and be completed by January 2019. The site plan for the proposed development is attached.

It is anticipated that approximately 2,300-2,400 CY of material will be generated during excavation for basements, footings/foundations, utility construction and subgrade preparation/ grading for the floor slabs, parking lots, drive areas and sidewalks will be required. These soils will be placed of at the R&R Excavating site. The surplus fill soils that cannot be reused at the site will require export. The ch. NR 718.12 exemption applies to historic fill soils.

Sigma will monitor the earthmoving activities for unanticipated environmental conditions (such as a buried tank or barrel, strong unidentifiable odors, discolored soil, or volatile vapors) and to manage the materials appropriately, if necessary.

## **Conclusions**

Approximately 2,300-2,400 CY of soils would originate from the generator site. The soils contain impacts that are likely attributable to the fill soils. The soils to be removed are associated with footing, foundation, and utility excavation related to the construction of the new BMO Tower. The soils cannot be transported off-site as clean fill. We request that the DNR grant the ch. NR 718.12 exemption approval, as well as an exemption to ch. NR 718.12(1) (c) 6, for the disposal of soil from the proposed development at the R&R Excavating Site.

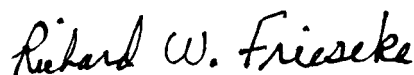
We appreciate your assistance with this request. If you have any questions or comments regarding this submittal, please contact us at (414) 228-9815.

Respectfully,

***Friess Environmental Consulting, Inc.***



Trenton J. Ott  
Project Manager



Richard W. Frieseke, P.E.  
President

171204BMO

## **Project Contacts**

### Disposal Site

R&R Excavating Site  
Parcel # 03-022-04-000  
County Road I  
Cedarburg, WI 53012  
SE ¼ of the NE ¼, Section 22, Township 10 N, Range 21 E  
WTM Coordinates: 683133, 318082; 43.317884 Latitude, -87.988200 Longitude

Charmoli Holdings, LLC  
Mr. Dick and Maxine Charmoli  
320 Douglas Lane  
Cedarburg, WI 53012  
(262) 377-5736

Ponfil Trust  
224 Aspen Drive  
Grafton, WI 53024  
(262) 238-0300

Friess Environmental Consulting, Inc.  
Mr. Rick Frieseke  
6635 North Sidney Place  
Milwaukee, WI 53209  
(414) 228-9815

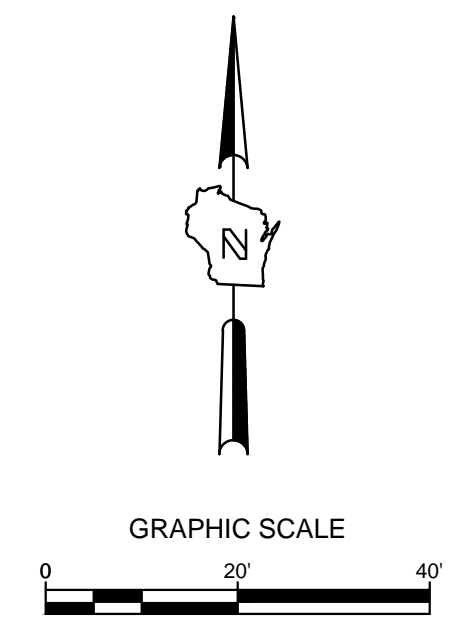
### Generator Site

BMO Tower  
778 North Water Street  
Milwaukee, Wisconsin 53202  
Telephone: (414) 443-0700  
Southeast ¼ of the Northeast ¼ Section 29 Township 7 North, Range 22 East  
WTM Coordinates: 690217, 285020; 43.24592 Latitude, -87.95452 Longitude

Broadway Tierra Partners, LLC  
c/o Irgens Development  
833 Michigan Street, Suite 400  
Milwaukee, WI 53202  
Telephone: (414) 443-0700  
Contact: Tim Gasperetti, P.E.

Generator Site Information  
See Sigma's SI/RAP dated January 4, 2018

1. Site Diagrams
2. Sigma PII and SI Results
3. Sigma RAP Information
4. Construction Plans



- LEGEND:**
- + TW SOIL BOREHOLE / TEMP WELL
  - SB SOIL BOREHOLE
  - ⊕ GEOTECH BOREHOLE
  - ▭ LOCATIONS FIELD MEASURED OR SURVEYED
  - ▭ BUILDING FOUNDATION ELEMENTS FOOTPRINT - FOOTINGS AND GRADE BEAMS (APPROXIMATE)
  - A — A' GEOLOGIC CROSS SECTION A-A' LOCATION



Project Site (Lot 2 CSM 8910)

778 N Water Street Property

SOIL BORINGS COMPLETED OFF-SITE (OTHER THAN SB-24 & SB-25) AND TW-17 ARE ASSOCIATED WITH SEPARATE PHASE II ESA WORK AND ARE NOT ASSOCIATED WITH THE SITE INVESTIGATION WORK COMPLETED AT THE SITE. SB-24 AND SB-25 WERE COMPLETED ON THE SOUTH SURFACE PARKING LOT AS PART OF SOIL MANAGEMENT PLANNING

TO OBTAIN LOCATIONS OF PARTICIPATING INFRASTRUCTURE FACILITIES BEFORE YOU DIG IN RECORD

**CALL DIGGERS HOTLINE**  
 1-800-242-8511  
 TOLL FREE

WE STATE: (42 USC 17074) REQUIRES MIN. 3 WORK DAYS NOTICE BEFORE YOU DIGGATE  
 MILW. AREA 259-1181

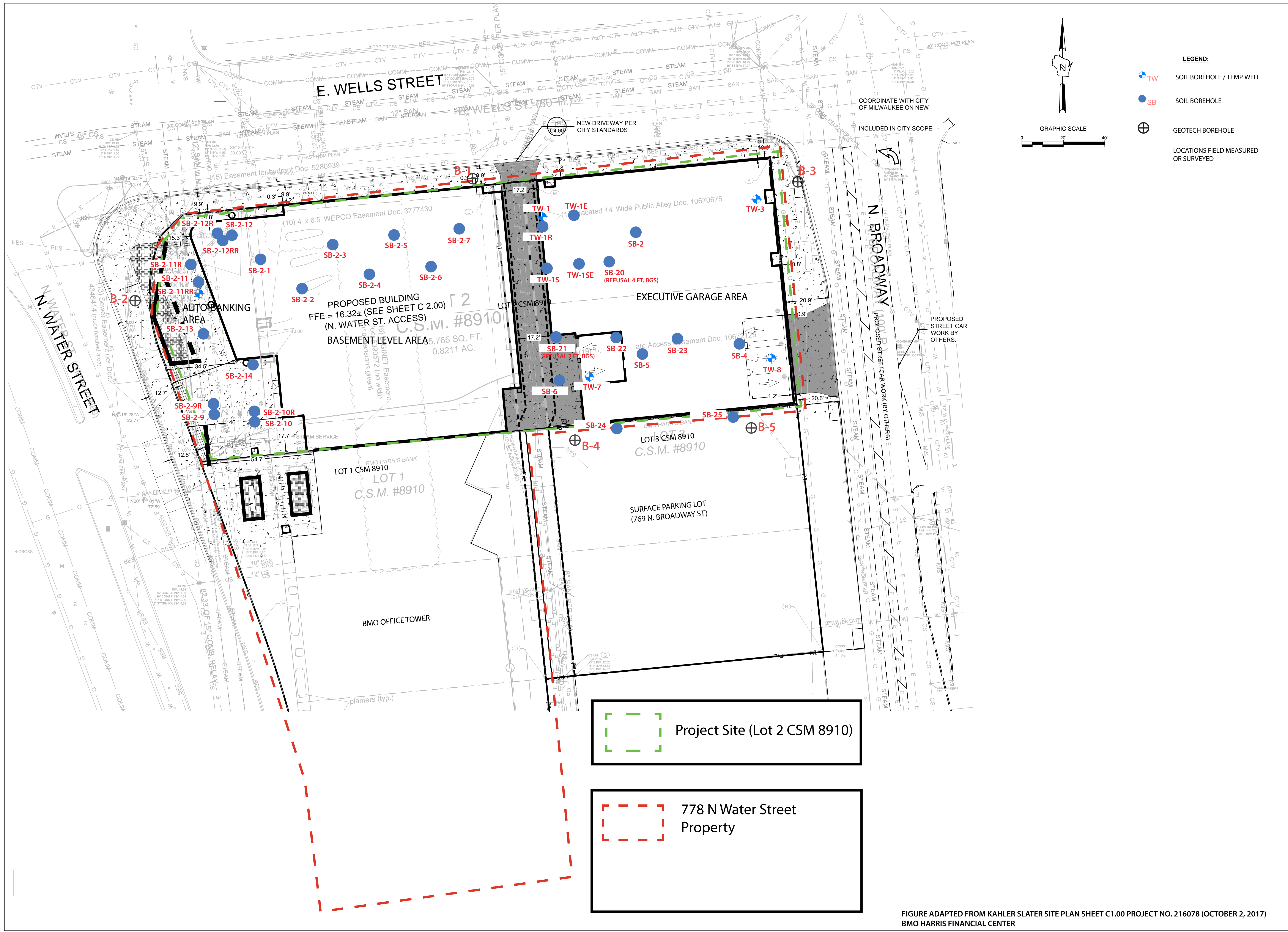
THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.

**BMO TOWER  
 MILWAUKEE, WISCONSIN  
 (LOT 2 - CSM 8910)**

**DETAILED SITE MAP  
 BMO CAMPUS PARKING STRUCTURE  
 NORTH NEW CONSTRUCTION**

NO. REVISION	DATE BY	DATE
7. DETAILED SITE MAP		12-20-2017
6. Drawing Update		12-6-2017
5. Site Plan Map Update		9-12-2017
4. Site Plan Map Update		6-7-2017
3. Site Plan Map Update		5-8-2017
2. REVISED BORING LOCATION		1-12-2017
1. REVISED BORING LOCATION		1-6-2017

DRAWING NO.	Sigma Boring Fig.dwg
DRAWN BY:	PRF/CCK (Site Plan Map Update)
DATE:	12/22/16
PROJECT NO.:	---
CHECKED BY:	---
APPROVED BY:	
FIGURE NO.:	



**LEGEND:**

- + TW SOIL BOREHOLE / TEMP WELL
- SB SOIL BOREHOLE
- ⊕ GEOTECH BOREHOLE
- ⊕ LOCATIONS FIELD MEASURED OR SURVEYED

BMO TOWER  
 MILWAUKEE, WISCONSIN  
 (LOT 2 - CSM 8910)

**REDEVELOPMENT PLAN**  
**BMO CAMPUS PARKING STRUCTURE**  
**NORTH NEW CONSTRUCTION**

7. REDEVELOPMENT PLAN	12-20-2017
6. Drawing Update	12-6-2017
5. Site Plan Map Update	9-12-2017
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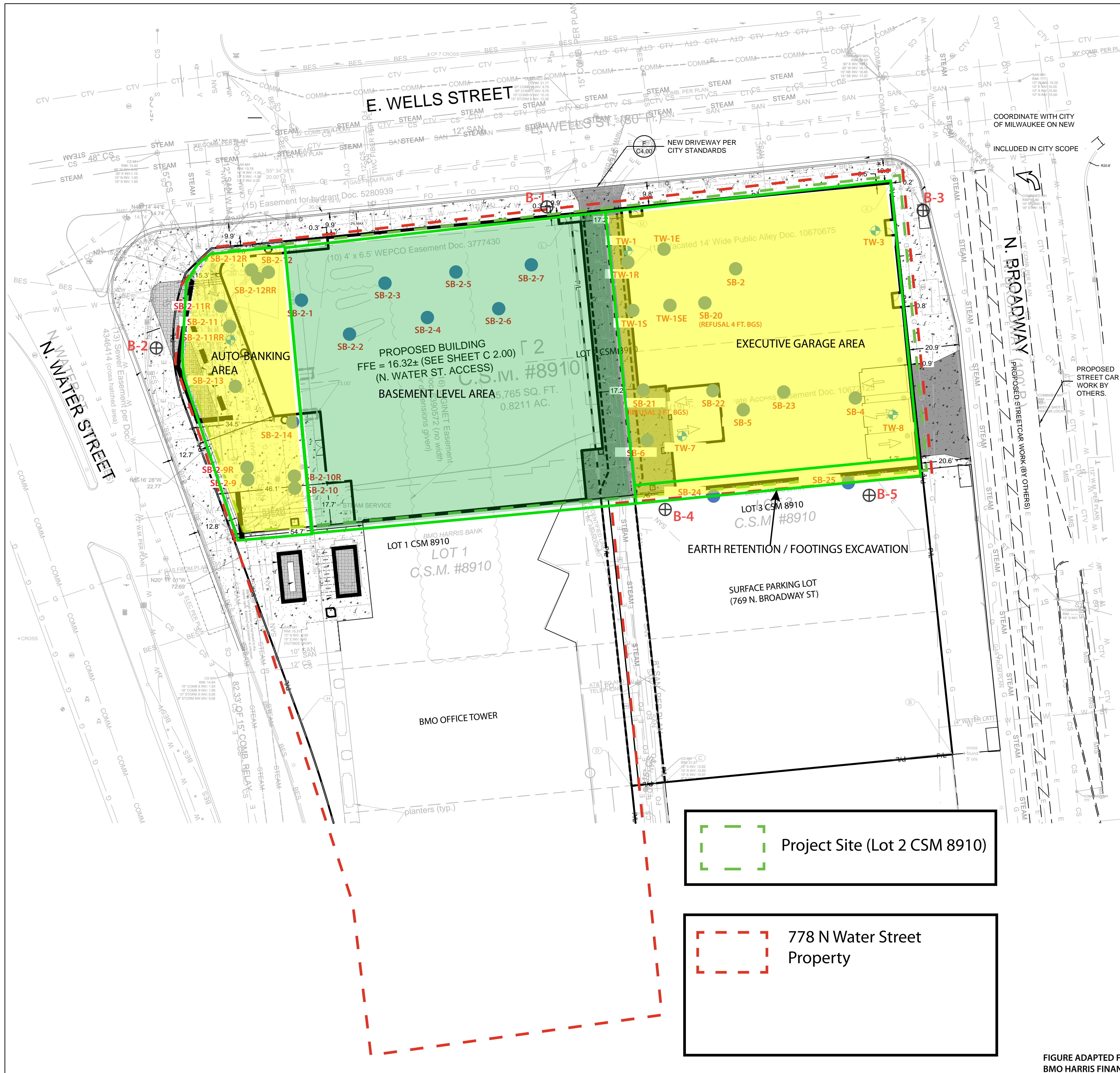
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DRAWN BY:	PRF/CCK (Site Plan Map Update)
DATE:	12/22/16
PROJECT NO.:	---
CHECKED BY:	---
APPROVED BY:	
FIGURE NO.:	

[ ] Project Site (Lot 2 CSM 8910)

[ ] 778 N Water Street Property

FIGURE ADAPTED FROM KAHLER SLATER SITE PLAN SHEET C1.00 PROJECT NO. 216078 (OCTOBER 2, 2017)  
 BMO HARRIS FINANCIAL CENTER





**LEGEND:**

- SOIL BOREHOLE / TEMP WELL
- SOIL BOREHOLE
- GEOTECH BOREHOLE
- LOCATIONS FIELD MEASURED OR SURVEYED

GRAPHIC SCALE: 0 20 40

**SOIL MANAGEMENT AREAS SUMMARY**

**RESTRICTED OFF-SITE DISPOSAL**

- Auto-Banking Area
- Appx. 1,470 cubic yards excess
- NR 718 regulated material to be taken to licensed landfill or Low-Hazard Exempt disposal site

**RESTRICTED OFF-SITE DISPOSAL**

- Executive Garage Area
- Appx. 591 cubic yards excess
- NR 718 regulated material to be taken to licensed landfill or Low-Hazard Exempt disposal site

**UNRESTRICTED**

- Basement Level Area
- Appx. 5,169 cubic yards
- Unrestricted material to be taken offsite and managed at generator discretion

**RESTRICTED OFF-SITE DISPOSAL**

- Earth Retention/Footings Excavation
- Appx. 250 cubic yards
- Fill - NR 718 regulated material to be taken to licensed landfill or Low-Hazard Exempt disposal site

- SOIL MANAGEMENT PLAN NOTES:**
- IF GROSSLY IMPACTED SOIL (e.g. FREE PRODUCT, STRONG ODORS, DISCOLORATION, OR ELEVATED FIELD SCREEN RESULTS) IS ENCOUNTERED DURING EXCAVATION ACTIVITIES, SIGMA MUST BE NOTIFIED. THE SOIL WILL BE EVALUATED BY SIGMA AND IF APPROPRIATE, EXCAVATED, TEMPORARILY STOCKPILED, CHARACTERIZED AND POSSIBLY DISPOSED OF OFF-SITE.
  - ALL SOIL IMPORTED TO SITE MUST BE APPROVED BY SIGMA, THE OWNER, AND POSSIBLY THE WDNR. CONTACT SIGMA AT LEAST 60 DAYS BEFORE TO BEGIN APPROVAL PROCESS.
  - IN THE EVENT THAT UNDERGROUND STORAGE TANKS (USTs) ARE DISCOVERED, SIGMA MUST BE NOTIFIED IMMEDIATELY. SIGMA WILL DIRECT THE REMOVAL AND OFF-SITE DISPOSAL IN ACCORDANCE WITH CURRENT REGULATIONS.

- MATERIAL PROPOSED FOR OFF-SITE DISPOSAL AT LOW-HAZARD EXEMPTION SITE OR LICENSED LANDFILL
- MATERIAL PROPOSED FOR UNRESTRICTED USE OFF-SITE

Project Site (Lot 2 CSM 8910)

778 N Water Street Property

**BMO TOWER**  
 MILWAUKEE, WISCONSIN  
 (LOT 2 - CSM 8910)

**SOIL MANAGEMENT PLAN**  
**BMO CAMPUS PARKING STRUCTURE**  
**REDEVELOPMENT**

NO.	REVISION	DATE	BY
6.	Drawing Update	12-6-2017	
5.	Site Plan Map Update	9-12-2017	
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FIGURE NO.:	

FIGURE ADAPTED FROM KAHLER SLATER SITE PLAN SHEET C1.00 PROJECT NO. 216078 (OCTOBER 2, 2017)  
 BMO HARRIS FINANCIAL CENTER

**Table 1**  
**Soil Analytical Results - North New Construction - Auto Banking Area**  
**WWB Development, LLC/Broadway Tierra Partners, LLC - BMO Site - 778 N Water Street, Milwaukee, Wisconsin**  
**Sigma Project No. 16722**

Soil Sample Location:	SB-2-9	SB-2-9R		SB-2-10	SB-2-10R		SB-2-11	SB-2-11R			SB-2-11RR	SB-2-12	SB-2-12R	SB-2-12RR	SB-2-13		SB-2-14		COMP OUTDOOR	Groundwater Pathway RCL <sup>4</sup>	Non-Industrial Direct Contact RCL <sup>5</sup>	Industrial Direct Contact RCL <sup>6</sup>	Background Threshold Value <sup>7</sup>	
	2-4	0-2	2-4	2-4	0-2	2-4	2-4	2-4	4-6	8-10	0-2	2-4	2-3	3-5	0-2	2-4	0-2	2-4	Composite					
Sample Depth (feet bgs):	2-4	0-2	2-4	2-4	0-2	2-4	2-4	2-4	4-6	8-10	0-2	2-4	2-3	3-5	0-2	2-4	0-2	2-4	4/13/17					
Sample Collection Date:	4/13/17	11/22/17		4/13/17	11/22/17		4/13/17	11/17/17			11/22/17	4/13/17	11/17/17	11/22/17	11/22/17		11/22/17		4/13/17					
Depth to Groundwater (feet bgs):	NA	NA		NA	NA		NA	NA			15.5	NA	NA	NA	NA		NA		NA					
Unsaturated/Smear Zone (U) or Saturated (S):	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U					
Soil / Material Composition	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Mixed Fill / Silty Clay	Silty Clay	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Granular Fill					
Photoionization Detector	ppm	0.1	0.1	0.2	0.1	0	0.1	0.1	1.7	1.6	1.0	0.5	0.1	1.6	0.7	0.1	0.6	0	0.1	0.1	NS	NS	NS	NS
VOCs		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1	NS	NS	NS	NS
PAHs																								
Acenaphthene	mg/kg	NA	< 0.0151	< 0.0151	NA	< 0.0151	< 0.0151	NA	2.42	0.06	<0.0151	0.0279 "J"	NA	8.3	0.42	0.0154 "J"	< 0.0151	< 0.0151	< 0.0151	<0.0151	NS	3,590	45,200	NS
Acenaphthylene	mg/kg	NA	< 0.0159	< 0.0159	NA	< 0.0159	< 0.0159	NA	0.44	0.314	0.0306 J	< 0.0159	NA	<0.159	< 0.0159	< 0.0159	< 0.0159	< 0.0159	< 0.0159	<0.0159	NS	NS	NS	NS
Anthracene	mg/kg	NA	0.0165 "J"	0.0131 "J"	NA	< 0.0109	< 0.0109	NA	5.9	0.83	0.084	0.085	NA	15.8	0.79	0.04	< 0.0109	< 0.0109	< 0.0145 "J"	0.0151 J	196,9492	17,900	100,000	NS
Benzo(a)anthracene	mg/kg	NA	0.058	0.033 "J"	NA	< 0.0116	0.0134 "J"	NA	{ 10.5 }	{ 1.81 }	0.12	0.187	NA	{ 27.2 }	{ 1.36 }	0.123	< 0.0116	< 0.0116	0.042	0.05	NS	1.14	20.8	NS
Benzo(a)pyrene	mg/kg	NA	0.044	0.0267 "J"	NA	< 0.0113	< 0.0113	NA	{ 7.7 }	{ 1.97 }	{ 0.135 }	{ 0.16 }	NA	{ 15.7 }	{ 1.01 }	0.105	< 0.0113	< 0.0113	0.0268 "J"	0.055	0.47	0.115	2.11	NS
Benzo(b)fluoranthene	mg/kg	NA	0.071	0.038 "J"	NA	< 0.013	< 0.013	NA	{ 11.2 }	{ 2.44 }	0.163	0.251	NA	{ 22.9 }	{ 1.48 }	0.151	< 0.013	< 0.013	0.041	0.117	0.4793	1.15	21.1	NS
Benzo(ghi)perylene	mg/kg	NA	0.036	0.024 "J"	NA	< 0.0114	< 0.0114	NA	4.2	1.18	0.086	0.103	NA	11.1	0.58	0.056	< 0.0114	< 0.0114	0.0177 "J"	0.054	NS	NS	NS	NS
Benzo(k)fluoranthene	mg/kg	NA	0.0292 "J"	0.0173 "J"	NA	< 0.0147	< 0.0147	NA	3.04	0.76	0.05	0.075	NA	7.7	0.51	0.054	< 0.0147	< 0.0147	0.0181 "J"	0.108	NS	11.5	211	NS
Chrysene	mg/kg	NA	0.054	0.033 "J"	NA	< 0.0121	< 0.0121	NA	7.5	1.6	0.108	0.197	NA	15.4	1.11	0.115	< 0.0121	< 0.0121	0.033 "J"	0.056	0.1446	115	2,110	NS
Dibenzo(a,h)anthracene	mg/kg	NA	< 0.0078	< 0.0078	NA	< 0.0078	< 0.0078	NA	{ 1.24 }	{ 0.33 }	0.0213 J	0.0267	NA	{ 3.5 }	{ 0.165 }	0.0183 "J"	< 0.0078	< 0.0078	< 0.0078	<0.0078	NS	0.115	2.11	NS
Fluoranthene	mg/kg	NA	0.106	0.053	NA	< 0.0147	0.0164 "J"	NA	22.4	3.8	0.266	0.43	NA	47	2.92	0.239	< 0.0147	< 0.0147	0.08	0.114	88.8778	2,390	30,100	NS
Fluorene	mg/kg	NA	< 0.0179	< 0.0179	NA	< 0.0179	< 0.0179	NA	2.51	0.16	0.0267 J	0.0201 "J"	NA	7.1	0.306	< 0.0179	< 0.0179	< 0.0179	< 0.0179	<0.0179	14.8299	2,390	30,100	NS
Indeno(1,2,3-cd)pyrene	mg/kg	NA	0.0238 "J"	0.0162 "J"	NA	< 0.0114	< 0.0114	NA	{ 3.8 }	1.08	0.075	0.085	NA	{ 8.5 }	0.5	0.054	< 0.0114	< 0.0114	0.0153 "J"	0.051	NS	1.15	21.1	NS
1-Methylnaphthalene	mg/kg	NA	< 0.0203	< 0.0203	NA	< 0.0203	< 0.0203	NA	0.62	<0.0203	<0.0203	<0.0203	NA	0.92	0.041 "J"	< 0.0203	< 0.0203	< 0.0203	<0.0203	<0.0203	NS	17.6	72.7	NS
2-Methylnaphthalene	mg/kg	NA	< 0.0113	< 0.0113	NA	< 0.0113	< 0.0113	NA	0.65	0.0165 J	<0.0113	<0.0113	NA	1.09	0.0262 "J"	< 0.0113	< 0.0113	< 0.0113	<0.0113	<0.0113	NS	239	3,010	NS
Naphthalene	mg/kg	NA	< 0.0153	< 0.0153	NA	< 0.0153	< 0.0153	NA	1.77	0.055	<0.0153	<0.0153	NA	3.6	0.056	< 0.0153	< 0.0153	< 0.0153	<0.0153	0.6582	5.52	24.1	NS	
Phenanthrene	mg/kg	NA	0.056	0.037	NA	< 0.0111	< 0.0111	NA	23.5	2.09	0.22	0.242	NA	44	2.4	0.173	< 0.0111	< 0.0111	0.056	0.056	NS	NS	NS	NS
Pyrene	mg/kg	NA	0.084	0.049	NA	< 0.0153	< 0.0153	NA	17.4	3.3	0.218	0.32	NA	35	2.21	0.196	< 0.0153	< 0.0153	0.062	0.097	54.5455	1,790	22,600	NS
RCRA Metals																								
Arsenic	mg/kg	NA	{ 0.93 J }	{ 2.28 }	NA	{ 0.74 "J" }	0.487 "J"	NA	NA	NA	NA	{ 1.36 }	NA	NA	{ 2.18 }	{ 2.89 }	{ 1.64 }	{ 0.954 "J" }	{ 0.968 "J" }	{ { 3.4 } }	0.584	0.677	3	8
Barium	mg/kg	NA	14.7	14.8	NA	14.5	13.4	NA	NA	NA	NA	15.6	NA	NA	15.1	54	12.4	19.4	13.3	52	164.8	15,300	100,000	364
Cadmium	mg/kg	NA	< 0.08	< 0.08	NA	< 0.08	< 0.08	NA	NA	NA	NA	< 0.08	NA	NA	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08	0.070 J	0.752	71.1	985	1
Chromium	mg/kg	NA	5.52	8.12	NA	5.37	7.04	NA	NA	NA	NA	7.57	NA	NA	5.7	10.7	6.9	7.73	6.43	6.4	360,000	NS	NS	44
Lead	mg/kg	NA	4.8	17.7	NA	3.3	4.69	NA	93.1	63.3	9.5	11	NA	12.4	7.72	67	4.69	3.53	3.36	350	27	400	800	52
Mercury	mg/kg	NA	< 0.019	0.0682	NA	< 0.019	< 0.019	NA	NA	NA	NA	< 0.019	NA	NA	< 0.019	0.7	< 0.019	< 0.019	< 0.019	0.065	0.208	3.13	3.13	NS
Selenium	mg/kg	NA	< 0.52	< 0.52	NA	< 0.52	< 0.52	NA	NA	NA	NA	< 0.52	NA	NA	< 0.52	< 0.52	< 0.52	< 0.52	< 0.52	< 0.51	0.52	391	5,840	NS
Silver	mg/kg	NA	< 0.57	< 0.57	NA	< 0.57	< 0.57	NA	NA	NA	NA	< 0.57	NA	NA	< 0.57	< 0.57	< 0.57	< 0.57	< 0.57	0.031 J	0.8491	391	5,840	NS
Organic Compounds																								
Ethylene Glycol	mg/kg	<1.3	NA	NA	<1.3	NA	NA	<1.4	NA	NA	NA	NA	<1.3	NA	NA	NA	NA	NA	NA	NA	2.8279	122,000	1,230,000	NS

Notes:

1. Unsaturated/smear zone versus saturated 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 (dilution factor of 2) as presented on the WDNR's RCL Spreadsheet (dated March 2017) 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 March 2017) 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 Web Calculator", dated June 2014
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 March 2017) 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 Web Calculator", dated June 2014
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)

**Table 1**  
**Soil Analytical Results - Basement Level Sub-Slab Area**  
**WWB Development, LLC/Broadway Tierra Partners, LLC - BMO Site - 778 N Water Street, Milwaukee, Wisconsin**  
**Sigma Project No. 16722**

Soil Sample Location:	SB-2-1	SB-2-2	SB-2-3	SB-2-4	SB-2-5	SB-2-6	SB-2-7	Groundwater Pathway RCL <sup>4</sup>	Non-Industrial Direct Contact RCL <sup>5</sup>	Industrial Direct Contact RCL <sup>6</sup>	Background Threshold Value <sup>7</sup>	
Sample Depth (feet bgs):	4-6	5-7	5-7	4-6	4-6	5-7	2-4					
Sample Collection Date:	4/14/17											
Depth to Groundwater (feet bgs):	NA											
Unsaturated/Smear Zone (U) or Saturated (S):	U	U	U	U	U	U	U					
Soil / Material Composition	Granular Fill	Silty Clay	Granular Fill / Silty Clay	Granular Fill	Granular Fill	Granular Fill	Granular Fill					
Organic Vapor Monitor	ppm	0.0	0.0	0.0	0.0	0.0	0.0	NS	NS	NS	NS	
<b>Detected VOCs</b>	<b>NONE DETECTED</b>											
<b>PAHs</b>												
Acenaphthene	mg/kg	<0.0151	<0.0151	<0.0151	<0.0151	<0.0151	<0.0151	NS	3,590	45,200	NS	
Acenaphthylene	mg/kg	<0.0159	<0.0159	<0.0159	<0.0159	<0.0159	<0.0159	NS	NS	NS	NS	
Anthracene	mg/kg	<0.0109	<0.0109	<0.0109	<0.0109	<0.0109	<0.0109	196.9492	17,900	100,000	NS	
Benzo(a)anthracene	mg/kg	<0.0116	<0.0116	<0.0116	<0.0116	0.0145 J	<0.0116	NS	1.14	20.8	NS	
Benzo(a)pyrene	mg/kg	<0.0113	<0.0113	<0.0113	<0.0113	<0.0113	<0.0113	0.47	0.115	2.11	NS	
Benzo(b)fluoranthene	mg/kg	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	0.4793	1.15	21.1	NS	
Benzo(ghi)perylene	mg/kg	<0.0114	<0.0114	<0.0114	<0.0114	<0.0114	<0.0114	NS	NS	NS	NS	
Benzo(k)fluoranthene	mg/kg	<0.0147	<0.0147	<0.0147	<0.0147	<0.0147	<0.0147	NS	11.5	211	NS	
Chrysene	mg/kg	<0.0121	<0.0121	<0.0121	<0.0121	<0.0121	<0.0121	0.1446	115	2,110	NS	
Dibenzo(a,h)anthracene	mg/kg	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078	NS	0.115	2.11	NS	
Fluoranthene	mg/kg	0.0197 J	<0.0147	<0.0147	<0.0147	<0.0147	<0.0147	88.8778	2,390	30,100	NS	
Fluorene	mg/kg	<0.0179	<0.0179	<0.0179	<0.0179	<0.0179	<0.0179	14.8299	2,390	30,100	NS	
Indeno(1,2,3-cd)pyrene	mg/kg	<0.0114	<0.0114	<0.0114	<0.0114	<0.0114	<0.0114	NS	1.15	21.1	NS	
1-Methylnaphthalene	mg/kg	<0.0203	<0.0203	<0.0203	<0.0203	<0.0203	<0.0203	NS	17.6	72.7	NS	
2-Methylnaphthalene	mg/kg	<0.0113	<0.0113	<0.0113	<0.0113	<0.0113	<0.0113	NS	239	3,010	NS	
Naphthalene	mg/kg	<0.0153	<0.0153	<0.0153	<0.0153	<0.0153	<0.0153	0.6582	5.52	24.1	NS	
Phenanthrene	mg/kg	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	<0.0111	NS	NS	NS	NS	
Pyrene	mg/kg	<0.0153	<0.0153	<0.0153	<0.0153	<0.0153	<0.0153	54.5455	1,790	22,600	NS	
<b>RCRA Metals</b>												
Arsenic	mg/kg	[ 1.97 ]	NA	NA	[ 2.65 ]	[ 2.43 ]	NA	NA	0.584	0.677	3	8
Barium	mg/kg	50.0	NA	NA	14.4	12.8	NA	NA	164.8	15,300	100,000	364
Cadmium	mg/kg	<0.08	NA	NA	<0.08	<0.08	NA	NA	0.752	71.1	985	1
Chromium	mg/kg	19.4	NA	NA	7.59	6.23	NA	NA	360,000	NS	NS	44
Lead	mg/kg	7.94	4.86	7.01	5.24	5.24	5.03	3.06	27	400	800	52
Mercury	mg/kg	<0.019	NA	NA	<0.019	<0.019	NA	NA	0.208	3.13	3.13	NS
Selenium	mg/kg	<0.52	NA	NA	<0.52	<0.52	NA	NA	0.52	391	5,840	NS
Silver	mg/kg	<0.57	NA	NA	<0.57	<0.57	NA	NA	0.8491	391	5,840	NS

Notes:

- Unsaturated/smear zone versus saturated 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.
- Analytical units: mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
- NA = not analyzed
- Groundwater Pathway RCL = Residual Contaminant Level for protection of groundwater as presented on the WDNR's RCL Spreadsheet (dated March 2017) 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
- 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 March 2017) 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 Web Calculator", dated June 2014
- 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 March 2017) 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 Web Calculator", dated June 2014
- 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).
- NS = no standard established
- Laboratory flags: "J" = Analyte detected between Limit of Detection and Limit of Quantitation
- Exceedances:
  - BOLD** = Concentration exceeds Groundwater Pathway RCL
  - [ ] = Concentration exceeds Non-Industrial Direct Contact RCL (any depth)
  - { } = Concentration exceeds Industrial Direct Contact RCL (any depth)

Table 1  
**Soil Analytical Results - North New Construction - Former Executive Garage**  
**WWB Development, LLC/Broadway Tierra Partners, LLC - BMO Site - 778 N Water Street, Milwaukee, Wisconsin**  
**Sigma Project No. 16722**

Soil Sample Location:	TW-1		TW-1R			TW-1E		TW-1SE		TW-1S		SB-2		TW-3		Groundwater Pathway RCL <sup>4</sup>	Non-Industrial Direct Contact RCL <sup>5</sup>	Industrial Direct Contact RCL <sup>6</sup>	Background Threshold Value <sup>7</sup>	
Sample Depth (feet bgs):	0 - 2	4 - 6	4 - 6	6 - 8	8 - 10	0 - 2	4 - 6	0 - 2	4 - 6	0 - 2	4 - 6	2 - 4	6 - 8	0 - 2	2 - 4					
Sample Collection Date:	1/30/17		11/17/17			11/17/17		11/17/17		11/17/17		1/30/17		1/30/17						
Depth to Groundwater (feet bgs):	5		7			NA		NA		NA		NA		3						
Unsaturated/Smear Zone (U) or Saturated (S):	U	U/S	U	U/S	S	U	U	U	U/S	U	S	U	S	U	U/S					
Soil / Material Composition	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Silty Clay	Granular Fill	Silty Clay	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Silty Clay	Granular Fill	Granular Fill					
Organic Vapor Monitor	ppm	0.8	1.1	3.7	3.5	4.0	1.1	1.5	1.4	1.1	3.4	2.1	1.1	13.1	0.7	1.2	NS	NS	NS	NS
<b>Detected VOCs</b>																				
Benzene	mg/kg	<0.03	<0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.03	<0.03	<0.03	<0.03	0.0051	1.6	7.07	NS
Naphthalene	mg/kg	<0.094	<0.094	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.094	<0.094	<0.094	<0.094	0.6582	5.52	24.1	NS
Toluene	mg/kg	<0.032	<0.032	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.032	<0.032	<0.032	<0.032	1.1072	818	818	NS
1,2,4-Trimethylbenzene	mg/kg	<0.025	<0.025	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.025	<0.025	<0.025	<0.025	1.3821	219	219	NS
Xylenes (total)	mg/kg	<0.116	<0.116	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.116	<0.116	<0.116	<0.116	3.96	260	260	NS
<b>PAHs</b>																				
Acenaphthene	mg/kg	<0.0135	<0.0135	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0135	<0.0135	<0.0135	<0.0135	NS	3,590	45,200	NS
Acenaphthylene	mg/kg	<0.012	<0.012	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.012	<0.012	<0.012	<0.012	NS	NS	NS	NS
Anthracene	mg/kg	<0.0124	<0.0124	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0124	<0.0124	<0.0124	<0.0124	196.9492	17,900	100,000	NS
Benzo(a)anthracene	mg/kg	<0.0116	<0.0116	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0116	<0.0116	<0.0116	<0.0116	NS	1.14	20.8	NS
Benzo(a)pyrene	mg/kg	<0.0113	<0.0113	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0113	<0.0113	<0.0113	<0.0113	0.47	0.115	2.11	NS
Benzo(b)fluoranthene	mg/kg	<0.013	<0.013	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.013	<0.013	<0.013	<0.013	0.4793	1.15	21.1	NS
Benzo(ghi)perylene	mg/kg	<0.0114	<0.0114	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0114	<0.0114	<0.0114	<0.0114	NS	NS	NS	NS
Benzo(k)fluoranthene	mg/kg	<0.0117	<0.0117	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0117	<0.0117	<0.0117	<0.0117	NS	11.5	211	NS
Chrysene	mg/kg	<0.0138	<0.0138	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0138	<0.0138	<0.0138	<0.0138	0.1446	115	2,110	NS
Dibenzo(a,h)anthracene	mg/kg	<0.0142	<0.0142	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0142	<0.0142	<0.0142	<0.0142	NS	0.115	2.11	NS
Fluoranthene	mg/kg	<0.0131	<0.0131	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0131	<0.0131	<0.0131	<0.0131	88.8778	2,390	30,100	NS
Fluorene	mg/kg	<0.0135	<0.0135	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0135	<0.0135	<0.0135	<0.0135	14.8299	2,390	30,100	NS
Indeno(1,2,3-cd)pyrene	mg/kg	<0.015	<0.015	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.015	<0.015	<0.015	<0.015	NS	1.15	21.1	NS
1-Methylnaphthalene	mg/kg	<0.0143	<0.0143	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0143	0.0211 J	<0.0143	<0.0143	NS	17.6	72.7	NS
2-Methylnaphthalene	mg/kg	<0.0119	<0.0119	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0119	<0.0119	<0.0119	<0.0119	NS	239	3,010	NS
Naphthalene	mg/kg	<0.0122	<0.0122	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0122	<0.0122	<0.0122	<0.0122	0.6582	5.52	24.1	NS
Phenanthrene	mg/kg	<0.0109	<0.0109	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0109	0.0128 J	<0.0109	<0.0109	NS	NS	NS	NS
Pyrene	mg/kg	<0.0126	<0.0126	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0126	<0.0126	<0.0126	<0.0126	54.5455	1,790	22,600	NS
<b>RCRA Metals</b>																				
Arsenic	mg/kg	NA	<b>{ {60.6} }</b>	<b>{ {3.53} }</b>	<b>{ {3.58} }</b>	<b>{ {3.34} }</b>	<b>{ {3.81} }</b>	<b>{ {2.81} }</b>	<b>{ {1.41 J} }</b>	<b>{ {1.51 J} }</b>	<b>{ {3.45} }</b>	<b>{ {3.14} }</b>	NA	NA	NA	NA	0.584	0.677	3	8
Barium	mg/kg	NA	132	13	17.4	36.2	16.8	29.1	10.7	15.2	17.7	13.6	NA	NA	NA	NA	164.8	15,300	100,000	364
Cadmium	mg/kg	NA	<b>1.33</b>	0.162 J	0.193 J	0.163 J	0.159 J	0.189	0.137 J	0.138 J	0.190 J	0.140 J	NA	NA	NA	NA	0.752	71.1	985	1
Chromium	mg/kg	NA	20.7	7.68	6.6	17	6.07	15.6	4.69	5.22	6.35	6.22	NA	NA	NA	NA	360,000	NS	NS	44
Lead	mg/kg	5.22	<b>65.5</b>	7.23	8.2	7.03	7.85	7.58	5.01	5.17	7.8	6.63	3.45	8.83	3.69	3.82	27	400	800	52
Mercury	mg/kg	NA	<0.0131	<0.0028	<0.0028	0.0072 J	0.0043 J	0.0070 J	<0.0028	<0.0028	0.0032 J	<0.0028	NA	NA	NA	NA	0.208	3.13	3.13	NS
Selenium	mg/kg	NA	<b>54</b>	<0.74	<0.74	<b>0.97 J</b>	<b>1.00 J</b>	<b>1.01 J</b>	<0.74	<0.74	<0.74	<0.74	NA	NA	NA	NA	0.52	391	5,840	NS
Silver	mg/kg	NA	<b>15.2</b>	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	NA	NA	NA	NA	0.8491	391	5,840	NS
<b>PCBs</b>																				
PCB-1016	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0094	4.11	28	NS
PCB-1221	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0094	0.213	0.883	NS
PCB-1232	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0094	0.19	0.792	NS
PCB-1242	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0094	0.235	0.972	NS
PCB-1248	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0094	0.236	0.975	NS
PCB-1254	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0094	0.239	0.988	NS
PCB-1260	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0094	0.243	1	NS

Notes:

1. Unsaturated/smear zone versus saturated 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 March 2017) 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 March 2017) 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 Web Calculator", dated June 2014
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 March 2017) 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 Web Calculator", dated June 2014
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)

**Table 1  
Soil Analytical Results - North New Construction - Former Executive Garage  
WWB Development, LLC/Broadway Tierra Partners, LLC - BMO Site - 778 N Water Street, Milwaukee, Wisconsin  
Sigma Project No. 16722**

Soil Sample Location: Sample Depth (feet bgs): Sample Collection Date: Depth to Groundwater (feet bgs): Unsaturated/Smear Zone (U) or Saturated (S): Soil / Material Composition	SB-4		SB-5		SB-6		TW-7		TW-8		SB-22	SB-23	SB-24		SB-25		Groundwater Pathway RCL <sup>4</sup>	Non-Industrial Direct Contact RCL <sup>5</sup>	Industrial Direct Contact RCL <sup>6</sup>	Background Threshold Value <sup>7</sup>		
	0 - 2	4 - 6	0 - 2	2 - 4	2 - 4	6 - 8	0 - 2	2 - 4	0 - 2	2 - 4	4 - 6	0 - 4	6 - 8	10 - 12	6 - 8	10 - 12						
	1/30/17		1/30/17		1/30/17		1/30/17		1/30/17		11/17/17	11/17/17	11/20/17		11/20/17							
	NA		NA		NA		6.5		0.5		NA	NA	NA		NA							
	U	S	U	U	U	U/S	U	U	U/S	S	U/S	U/S	U	U	U	U						
	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Granular Fill	Mixed Fill	Silty Clay	Mixed Fill	Silty Clay					
Organic Vapor Monitor	ppm	1.5	1.2	19.8	1.7	1.5	1.9	0.7	09	0.9	0.6	1.3	1.2	3.3	4.4	485	3.1	NS	NS	NS	NS	
<b>Detected VOCs</b>																						
Benzene	mg/kg	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.39	<0.03	<0.03	0.0051	1.6	7.07	NS	
Naphthalene	mg/kg	<0.094	<0.094	<0.094	<0.094	<0.094	<0.094	<0.094	<0.094	<0.094	<0.094	<0.094	<0.094	<0.094	<0.094	0.111 J	<0.094	0.6582	5.52	24.1	NS	
Toluene	mg/kg	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	0.137	<0.032	<0.032	1.1072	818	818	NS	
1,2,4-Trimethylbenzene	mg/kg	<0.025	<0.025	0.083	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	1.3821	219	219	NS	
Xylenes (total)	mg/kg	<0.116	<0.116	0.102 J	<0.116	<0.116	<0.116	<0.116	<0.116	<0.116	<0.116	<0.116	<0.116	<0.116	<0.116	<0.116	<0.116	3.96	260	260	NS	
<b>PAHs</b>																						
Acenaphthene	mg/kg	<0.0135	<0.0135	<0.0135	<0.0135	<0.0135	<0.0135	<0.0135	<0.0135	<0.0135	<0.0135	NA	NA	<0.0151	<0.0151	1.93	<0.0151	NS	3,590	45,200	NS	
Acenaphthylene	mg/kg	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	NA	NA	<0.0159	<0.0159	2.59	<0.0159	NS	NS	NS	NS	
Anthracene	mg/kg	<0.0124	<0.0124	<0.0124	<0.0124	<0.0124	<0.0124	<0.0124	<0.0124	<0.0124	<0.0124	NA	NA	<0.0109	<0.0109	10.2	<0.0109	196.9492	17,900	100,000	NS	
Benzo(a)anthracene	mg/kg	<0.0116	<0.0116	0.0118 J	<0.0116	<0.0116	<0.0116	<0.0116	<0.0116	<0.0116	<0.0116	NA	NA	0.012 J	<0.0116	[[ 23.4 ]]	0.0206 J	NS	NS	1.4	20.8	NS
Benzo(a)pyrene	mg/kg	<0.0113	<0.0113	<0.0113	<0.0113	<0.0113	<0.0113	<0.0113	<0.0113	<0.0113	<0.0113	NA	NA	<0.0113	<0.0113	[[ 19.8 ]]	0.0123 J	0.47	0.115	2.11	NS	
Benzo(b)fluoranthene	mg/kg	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	NA	NA	<0.013	<0.013	[[ 26.1 ]]	0.0149 J	0.4793	1.15	21.1	NS	
Benzo(ghi)perylene	mg/kg	<0.0114	<0.0114	<0.0114	<0.0114	<0.0114	<0.0114	<0.0114	<0.0114	<0.0114	<0.0114	NA	NA	<0.0114	<0.0114	13.4	<0.0114	NS	NS	NS	NS	
Benzo(k)fluoranthene	mg/kg	<0.0117	<0.0117	<0.0117	<0.0117	<0.0117	<0.0117	<0.0117	<0.0117	<0.0117	<0.0117	NA	NA	<0.0147	<0.0147	7.7	<0.0147	NS	NS	11.5	211	NS
Chrysene	mg/kg	<0.0138	<0.0138	0.015 J	<0.0138	<0.0138	<0.0138	<0.0138	<0.0138	<0.0138	<0.0138	NA	NA	<0.0121	<0.0121	19	0.0164 J	0.1446	115	2,110	NS	
Dibenzo(a,h)anthracene	mg/kg	<0.0142	<0.0142	<0.0142	<0.0142	<0.0142	<0.0142	<0.0142	<0.0142	<0.0142	<0.0142	NA	NA	<0.0078	<0.0078	[[ 3.3 ]]	<0.0078	NS	0.115	2.11	NS	
Fluoranthene	mg/kg	<0.0131	<0.0131	0.0273 J	<0.0131	<0.0131	<0.0131	<0.0131	<0.0131	<0.0131	<0.0131	NA	NA	<0.0147	<0.0147	49	0.0288 J	88.8778	2,390	30,100	NS	
Fluorene	mg/kg	<0.0135	<0.0135	<0.0135	<0.0135	<0.0135	<0.0135	<0.0135	<0.0135	<0.0135	<0.0135	NA	NA	<0.0179	<0.0179	1.99	<0.0179	14.8299	2,390	30,100	NS	
Indeno(1,2,3-cd)pyrene	mg/kg	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	NA	NA	<0.0114	<0.0114	[[ 11 ]]	<0.0114	NS	1.15	21.1	NS	
1-Methylnaphthalene	mg/kg	<0.0143	<0.0143	0.017 J	<0.0143	<0.0143	<0.0143	<0.0143	<0.0143	<0.0143	<0.0143	NA	NA	<0.0203	<0.0203	0.49 J	<0.0203	NS	17.6	72.7	NS	
2-Methylnaphthalene	mg/kg	<0.0119	<0.0119	0.0148 J	<0.0119	<0.0119	<0.0119	<0.0119	<0.0119	<0.0119	<0.0119	NA	NA	<0.0113	<0.0113	0.36 J	<0.0113	NS	239	3,010	NS	
Naphthalene	mg/kg	<0.0122	<0.0122	<0.0122	<0.0122	<0.0122	<0.0122	<0.0122	<0.0122	<0.0122	<0.0122	NA	NA	<0.0153	<0.0153	0.56	<0.0153	0.6582	5.52	24.1	NS	
Phenanthrene	mg/kg	<0.0109	<0.0109	0.0168 J	<0.0109	<0.0109	<0.0109	<0.0109	<0.0109	<0.0109	<0.0109	NA	NA	0.0134 J	<0.0111	33	0.0188 J	NS	NS	NS	NS	
Pyrene	mg/kg	<0.0126	<0.0126	0.0245 J	<0.0126	<0.0126	<0.0126	<0.0126	<0.0126	<0.0126	<0.0126	NA	NA	<0.0153	<0.0153	46	0.0254 J	54.5455	1,790	22,600	NS	
<b>RCRA Metals</b>																						
Arsenic	mg/kg	NA	NA	NA	[[ 3.91 ]]	NA	NA	NA	NA	NA	[[ 3.08 ]]	NA	NA	[[ 3.56 ]]	[[ 3.26 ]]	[[ 3.8 ]]	[[ 2.91 ]]	0.584	0.677	3	8	
Barium	mg/kg	NA	NA	NA	21.8	NA	NA	NA	NA	NA	15.8	NA	NA	35.6	60	943	22.9	164.8	15,300	100,000	364	
Cadmium	mg/kg	NA	NA	NA	<0.02	NA	NA	NA	NA	NA	<0.02	NA	NA	0.158 J	0.137 J	0.281	0.164 J	0.752	71.1	985	1	
Chromium	mg/kg	NA	NA	NA	8.21	NA	NA	NA	NA	NA	7.22	NA	NA	16.2	18	17	10	360,000	NS	NS	44	
Lead	mg/kg	3.64	4.67	1.3	9.45	4.62	6.04	4.8	2.14	3.52	4.86	NA	NA	7.38	7.37	164	6.64	27	400	800	52	
Mercury	mg/kg	NA	NA	NA	<0.0131	NA	NA	NA	NA	NA	<0.0131	NA	NA	0.0070 J	0.0076 J	0.085	0.0043 J	0.208	3.13	3.13	NS	
Selenium	mg/kg	NA	NA	NA	<0.52	NA	NA	NA	NA	NA	<0.52	NA	NA	0.95 J	<0.74	<0.74	<0.74	0.52	391	5,840	NS	
Silver	mg/kg	NA	NA	NA	<0.57	NA	NA	NA	NA	NA	<0.57	NA	NA	<0.28	<0.28	<0.28	<0.28	0.8491	391	5,840	NS	
<b>PCBs</b>																						
PCB-1016	mg/kg	NA	NA	NA	NA	<0.0035	<0.0035	NA	<0.0035	NA	NA	NA	NA	NA	NA	NA	NA	0.0094	4.11	28	NS	
PCB-1221	mg/kg	NA	NA	NA	NA	<0.0054	<0.0054	NA	<0.0054	NA	NA	NA	NA	NA	NA	NA	NA	0.0094	0.213	0.883	NS	
PCB-1232	mg/kg	NA	NA	NA	NA	<0.0042	<0.0042	NA	<0.0042	NA	NA	NA	NA	NA	NA	NA	NA	0.0094	0.19	0.792	NS	
PCB-1242	mg/kg	NA	NA	NA	NA	<0.0032	<0.0032	NA	<0.0032	NA	NA											

**Table 2**  
**SPLP Neutral Water Extraction Test Results - BMO Tower North New Construction**  
**WWB Development, LLC/Broadway Tierra Partners, LLC - BMO Site - 778 N Water Street, Milwaukee,**  
**Wisconsin**  
**Sigma Project No. 16722**

Well Location:		TW-1R	SB-2-12R	NR 140 ES	NR 140 PAL
Date:		11/17/17	11/17/17		
Sample Depth (feet bgs)		4-8	2-3		
Unsaturated/Smear Zone (U) or Saturated (S)		U / S	U		
Soil / Material Composition		Fill / Native	Fill		
Organic Vapor Monitor (PID)	ppm	1.1	1.6		
<b>SPLP VOCs</b>		<b>NOT ANALYZED</b>			
<b>SPLP PAHs</b>					
Acenaphthene	µg/L	NA	0.55	NS	NS
Acenaphthylene	µg/L	NA	0.202	NS	NS
Anthracene	µg/L	NA	0.141	3,000	600
Benzo(a)anthracene	µg/L	NA	0.021 J	NS	NS
Benzo(a)pyrene	µg/L	NA	<0.02	0.2	0.02
Benzo(b)fluoranthene	µg/L	NA	<0.018	0.2	0.02
Benzo(ghi)perylene	µg/L	NA	<0.025	NS	NS
Benzo(k)fluoranthene	µg/L	NA	<0.016	NS	NS
Chrysene	µg/L	NA	<0.02	0.2	0.02
Dibenzo(a,h)anthracene	µg/L	NA	<0.025	NS	NS
Fluoranthene	µg/L	NA	0.091	400	80
Fluorene	µg/L	NA	0.256	400	80
Indeno(1,2,3-cd)pyrene	µg/L	NA	<0.023	NS	NS
1-Methylnaphthalene	µg/L	NA	0.084	NS	NS
2-Methylnaphthalene	µg/L	NA	0.099	NS	NS
Naphthalene	µg/L	NA	0.324	100	10
Phenanthrene	µg/L	NA	0.447	NS	NS
Pyrene	µg/L	NA	0.115	250	50
Benzoic Acid	µg/L			NS	NS
<b>SPLP Dissolved Metals</b>					
Arsenic	µg/L	<3.5	NA	10	1
Barium	µg/L	66.1	NA	2,000	400
Cadmium	µg/L	<0.70	NA	5	0.5
Chromium	µg/L	<b>14.6</b>	NA	100	10
Lead	µg/L	<b>15.7<sup>(5)</sup></b>	NA	15	1.5
Mercury	µg/L	<0.049	NA	2	0.2
Selenium	µg/L	<7.4	NA	50	10
Silver	µg/L	<2.8	NA	50	10

Notes:

- NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard
  - NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit
  - NS = no standard
  - µg/L = micrograms per liter (equivalent to parts per billion, ppb)
  - NA = Not Analyzed
- "J" = Analyte detected between Limit of Detection and Limit of Quantitation.  
(5) = Lab Code 5 = The QC blank not within established limits.
7. Exceedances:
- BOLD** = Concentration exceeds NR 140 ES  
**ITALICS** = Concentration exceeds NR 140 PAL



## Remediation and Redevelopment Program

April 2017

# Recommended Format for Exemption Request Wis. Admin. Code § NR 718.12 or § NR 718.15

### Purpose

The purpose of this document is to provide a consistent format for consultants and responsible parties to demonstrate that the proposed management of solid waste material qualifies for a Wis. Admin. Code §§ NR 718.12 or NR 718.15 exemption and to request written approval of the exemption request. This document may be included as part of a Remedial Action Plan or Post Closure Modification Request, or can be submitted by itself depending on the activities conducted at the site. Using this recommended format will likely result in a faster DNR review. At a minimum, all exemption requests must satisfy the requirements of a soil management plan as outlined in Wis. Admin. Code § 718.12(2)(b).

### Introduction

Soil and other solid waste generated from a response action site as part of an interim or remedial action may be managed at a site or facility that is not an operating licensed landfill if a Wis. Admin. Code §§ NR 718.12 or NR 718.15 exemption is obtained from the Department of Natural Resources (DNR). The site or facility where material will be managed (the receiving property) would be exempted from the Waste and Materials Management Program requirements established in Wis. Stat. § 289 and Wis. Admin. Code ch. NR 500 to NR 538. The “receiving property” may be the same site or facility where the solid waste was generated from, or it may be a different site or facility. An exemption through Wis. Admin. Code § NR 718.12 can be granted when soil is being managed as part of an interim action under Wis. Admin. Code § NR 708 or a remedial action under Wis. Admin. Code § NR 722. An exemption through Wis. Admin. Code § NR 718.15 can be granted when other solid waste material is managed as part of an interim or remedial action on the site from which it was generated. Managing solid waste material with either exemption requires prior written approval from the DNR.

If this exemption request involves contaminated material impacted by a discharge that has not been reported to the DNR, a ‘Notification for Hazardous Substance Discharge (non-emergency)’ form must be completed and submitted immediately as required by Wis. Admin. Code

§ NR 706. This form is located at <http://dnr.wi.gov/files/pdf/forms/4400/4400-225.pdf>.

This form is not intended to be used for immediate actions under Wis. Admin. Code § NR 708 as prior DNR approval is typically not required. Immediate actions do not require prior DNR approval if the requirements of Wis. Admin. Code § NR 718.12(1) are met, contaminant concentrations do not exceed Wis. Admin. Code § NR 720 soil residual contaminant levels, and the quantity of material managed is less than 100 cubic yards total.

Exemptions for projects involving large-scale disposal or requiring items such as a liner system, leachate treatment and an engineered cap, or projects proposing to place the material below the groundwater table, should not be requested using this format. Check with DNR staff before submitting such a proposal.

### Document Instructions

Complete all sections of this document as instructed. Some portions of the document may be filled in directly as indicated, other responses will need to be completed separately and attached. Fully explain why any uncompleted section is not relevant. Submit one hardcopy and one electronic copy of the completed document and all required attachments and fees to the DNR project manager responsible for the site where the waste will be excavated. The request may be submitted to the regional environmental program associate (EPA) if a project manager has not been assigned to this case. A list of EPAs can be found here: <http://dnr.wi.gov/topic/Brownfields/Contact.html>.

Publication: RR-072  
dnr.wi.gov  
Search “brownfield”

*This document is intended solely as guidance and does not include any mandatory requirements except where requirements found in statute or administrative rule are referenced. This guidance does not establish or affect legal rights or obligations and is not finally determinative of any of the issues addressed. This guidance does not create any rights enforceable by any party in litigation with the State of Wisconsin or the Department of Natural Resources. Any regulatory decisions made by the Department of Natural Resources in any manner addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.*

C. Identify current uses of all properties adjacent to the site or facility. Check all that apply.

<b>Agricultural</b>	<input type="checkbox"/> N	<input checked="" type="checkbox"/> S	<input checked="" type="checkbox"/> E	<input checked="" type="checkbox"/> W	<input type="checkbox"/> NE	<input type="checkbox"/> NW	<input type="checkbox"/> SE	<input type="checkbox"/> SW
<b>Industrial</b>	<input type="checkbox"/> N	<input type="checkbox"/> S	<input type="checkbox"/> E	<input type="checkbox"/> W	<input type="checkbox"/> NE	<input type="checkbox"/> NW	<input type="checkbox"/> SE	<input type="checkbox"/> SW
<b>Recreational</b>	<input type="checkbox"/> N	<input type="checkbox"/> S	<input type="checkbox"/> E	<input type="checkbox"/> W	<input type="checkbox"/> NE	<input type="checkbox"/> NW	<input type="checkbox"/> SE	<input type="checkbox"/> SW
<b>Residential</b>	<input type="checkbox"/> N	<input type="checkbox"/> S	<input type="checkbox"/> E	<input type="checkbox"/> W	<input type="checkbox"/> NE	<input type="checkbox"/> NW	<input type="checkbox"/> SE	<input type="checkbox"/> SW
<b>Undeveloped</b>	<input checked="" type="checkbox"/> N	<input type="checkbox"/> S	<input type="checkbox"/> E	<input type="checkbox"/> W	<input type="checkbox"/> NE	<input type="checkbox"/> NW	<input type="checkbox"/> SE	<input type="checkbox"/> SW
<b>Commercial</b>	<input type="checkbox"/> N	<input type="checkbox"/> S	<input type="checkbox"/> E	<input type="checkbox"/> W	<input type="checkbox"/> NE	<input type="checkbox"/> NW	<input type="checkbox"/> SE	<input type="checkbox"/> SW
<b>Other</b>	<input type="checkbox"/> N	<input type="checkbox"/> S	<input type="checkbox"/> E	<input type="checkbox"/> W	<input type="checkbox"/> NE	<input type="checkbox"/> NW	<input type="checkbox"/> SE	<input type="checkbox"/> SW

Describe 'Other' property use below:

- D. Briefly describe any previous environmental site investigations or remedial actions conducted at the site or facility. Describe the environmental condition of the portion of the receiving site or facility where waste will be placed including what contaminants are present, the environmental sampling conducted in that area, and whether identified contaminant concentrations exceed applicable standards.
- E. Describe any environmentally sensitive areas at or near the site or facility where the contaminated soil will be managed.
- F. Describe any other features of this property not addressed above that influence its suitability for the disposal of the contaminated soil or other solid waste.
- G. Briefly discuss the geology and hydrogeology of the receiving site or facility, including information from any previous remedial investigations and well logs or well construction records from nearby wells. Also, provide the information requested below indicating whether the response is based on regional or site specific information:

Depth to Bedrock (ft. below ground surface): 80 feet       Regional     Site Specific

Bedrock Type:       Sandstone     Limestone/Dolomite     Metamorphic/Igneous

High Groundwater Level (ft. below ground surface): \_\_\_\_\_       Regional     Site Specific

Groundwater Flow Direction: East       Regional     Site Specific

### Section 6 – Locational Criteria

Indicate if excavated waste material will be placed in any of the following locations: **NO**

- Within a floodplain.
- Within 100 feet of any wetland or critical habitat area.
- Within 300 feet of any navigable river, stream, lake, pond, or flowage.
- Within 100 feet of any on-site water supply well or 300 feet of any off-site water supply well.
- Within 3 feet of the high groundwater level.
- At a depth greater than the depth of the original excavation from which the contaminated soil was removed.



## Section 1 – General Information and Fees

Identify the purpose of the exemption by checking each box that applies:

- Manage contaminated soil on the same response action site from which it was generated (§ NR 718.12).
- Manage contaminated soil at a site or facility that is different from the response action site from which it was generated (§ NR 718.12).
- Manage other solid waste at the same site from which it was generated (§ NR 718.15).

If none of the above boxes are checked, the proposed waste management activity cannot be exempted through Wis. Admin. Code § NR 718. Management of waste material from a site other than a response action site may be allowed after obtaining a “low hazard exemption” from the DNR Waste and Material Management Program. Guidance on a ‘low hazard exemption’ request is located: <http://dnr.wi.gov/files/PDF/pubs/wa/wa1645.pdf>.

Identify the applicable Wis. Admin. Code § NR 749 DNR review fees for this submittal by checking the applicable “On-Site Management Fee.” If material will be managed at a site or facility other than where it was generated, also select the appropriate “Off-Site Management Fee.” Record the combined fee sums in the space provided below.

NR 749 Fees for Requesting Wis. Admin. Code §§ NR 718.12 Soil or NR 718.15 Exemption			
Soil or Waste Managed on the Generating Property			
Action	Action Fee	WRRD Fee	On-Site MGMT Fee
Interim Actions per NR 708.11, with SMP and CO applied at other site/facility	\$700	No fee	<input type="checkbox"/> \$700
Remedial Action Plan approval, with SMP, without residual soil CO	\$1050	No fee	<input type="checkbox"/> \$1050
Remedial Action Plan approval, with SMP, with residual soil CO	\$1050	\$300	<input type="checkbox"/> \$1350
SMP submitted separately from a RAP or CO modification, without residual soil CO	\$700	No fee	<input type="checkbox"/> \$700
SMP submitted separately from a RAP or CO modification, with residual soil CO	\$700	\$300	<input type="checkbox"/> \$1000
Closed Sites: CO modification action, with SMP, without residual soil CO	\$1050	No fee	<input type="checkbox"/> \$1050
Closed Sites: CP modification action, with SMP, with residual soil CO	\$1050	\$300	<input type="checkbox"/> \$1350
Soil Managed on a Site or Facility other than the Generating Property			
Action	Action Fee	WRRD Fee	Off-Site MGMT Fee
Interim Actions per NR 708.11, with SMP and CO applied at other site/facility	\$700	\$350	<input checked="" type="checkbox"/> \$1050
Interim Actions per NR 708.11, with SMP and no CO applied at other site/facility	\$700	No fee	<input type="checkbox"/> \$700
All other Actions (Remedial actions, modifications to CO, etc.) with residual soil CO	\$700	\$300	<input checked="" type="checkbox"/> \$1000
All other Actions (Remedial actions, post closure modifications, etc.) with no residual soil CO	\$700	No fee	<input type="checkbox"/> \$700
Total of On-Site Management Fee and Off-Site Management Fee			\$

*altered by submittal*

**Other:** If the request does not conform to one of the options above, summarize the request below and the fee that is being paid:

- 1) SMP – A Soil Management Plan submitted in accordance with NR 718.12 (1) and (2) or NR 718.15.
- 2) “With residual soil CO” - site will have a residual soil continuing obligation (e.g. engineering control, cap, or cover) applied at the source property at the end of the applicable action; remedial action approval, or approval by an addendum to the closure letter.
- 3) “Without residual soil CO” - site that will not have a residual soil continuing obligation applied at the source property at the end of the applicable action.
- 4) WRRD – Wisconsin Remediation and Redevelopment Database

**Section 2 –Property and Contact Information**

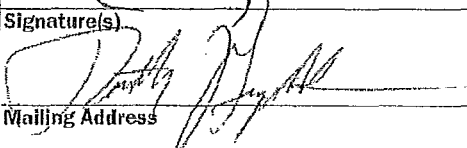
Fill in all applicable portions of this section.

**A. Information About the Site or Facility From Which Material is Proposed to be Excavated – Complete all applicable boxes**

BRRTS No. 02 -41- 579828		BRRTS Activity (Site) Name BMO Tower	
Response Action Site Address 778 North Water street		VPLE No. N/A	
City Milwaukee		Parcel ID No. Lot 2 CSM8910	
State Wisconsin		FID No. 341288970	
County Milwaukee		Zip Code 53202	
WTM Coordinates		WTM Coordinates Represent	
X: 690217      Y: 205020		Source Area <input type="checkbox"/> Parcel Center <input type="checkbox"/>	
SE ¼      NE ¼      Sec: 29		T: 7      R: 22      (E)W:	
Latitude: 43° 2.45922' N		Longitude: 87° 54.51923 W	
Current Zoning: C9F(A) office and service		Current Land Use: Commercial	

The Wis. Admin. Code §§ NR 718.12 and/or NR 718.15 exemption(s) will be issued to the Wis. Admin. Code § NR 700 responsible party identified below and to the owner of the receiving site or facility, if different than the generating site. If there is more than one responsible party or property owner, include the information requested below for each as a separate document and attach to this document. If the responsible party is not the owner of the site or facility, provide that information below.

B. Responsible Party Information			
Responsible Party (RP) Name(s) BROADWAY TierraPartners LLC		Company Name c/o Ergens Development	
Signature(s)			Date
Mailing Address 833 Michigan Street ; ste 400	City Milwaukee	State WI	ZIP Code 53202
Phone # (include area code) (414) 443-0700		Email	

C. Owner Information for Site or Facility From Which Material is Proposed to be Excavated from, if Different than Responsible Party			
Responsible Party (RP) Name(s) (SAME)		Company Name	
Signature(s) 			Date 1/23/12
Mailing Address 833 E MICHIGAN STREET STE 400	City MILWAUKEE	State WI	ZIP Code 53202
Phone No. (include area code) 414-443-2536		Email TGLASPERETTI@ERGENS.COM	

Fill in this next section if someone other than the responsible party and/or facility owner is preparing this submittal.

D. Requestor Information				
Last Name	First	Organization/Business Name		
Frieseke	Rick	Friess Environmental Consulting, INC.		
Signature(s)				Date
Rick Frieseke				
Mailing Address		City	State	ZIP Code
6635 North Sidney Place		Milwaukee	WI	53209
Phone No. (include area code)		Email		
(414) 228-9815		r.frieseke@fec.inc.us		
Check the box that describes the requestor's relationship to the generating property: <input checked="" type="checkbox"/> Is the property owner's agent or consultant <input type="checkbox"/> Is renting or leasing the property <input type="checkbox"/> Is developing the property <input type="checkbox"/> Other, describe relationship: _____				

E. Contact Information For Questions About this Request		
Last Name	First	Organization/Business Name
SAME		
Mailing Address		Email
City		Phone No. (include area code)
State	Zip Code	Relationship to Requestor (Same, Consultant, Developer, Etc.):

**F. Information About the Site or Facility Where Contaminated Soil Will Be Disposed, if at a Different Location Than The Site or Facility From Which It Was Generated**

Select if Same as Generating Property (and skip remainder of section)

BRRTS No. 15-46-5800680		BRRTS Activity (Site) Name R&R Excavating Site	
Receiving Site or Facility Address R&R Excavating site		VPLE No. N/A	
City Town of Cedarburg		Parcel ID No. 30220400000	
State Wisconsin		FID No. 246105750	
County Ozaukee		Zip Code	
WTM Coordinates		WTM Coordinates Represent	
x: 683133      y: 318082		Source Area <input type="checkbox"/> Parcel Center <input checked="" type="checkbox"/>	
SE <sup>1/4</sup>	NE <sup>1/4</sup>	Sec: 22	T: 10      R: 21      E/W: <input checked="" type="checkbox"/>
Latitude: 43.317884		Longitude: -87.988200	
Current Zoning: A-1 Agricultural		Current Land Use: Former quarry / Agricultural	

## G. Receiving Site or Facility (Source Property or Off-Site Property) Owner Information

Provide the following information for the owner of the receiving site or facility. If there is more than one property owner include the information requested below for each as a separate document and attach to this form.

Property Owner Name(s) Charmoli Holdings, LLC		Company Name Richard & Maxine Charmoli	
Mailing Address 320 Douglas Lane	City Cedarburg	State WI	ZIP Code 53012
Phone No. (include area code) (262) 377-5736	Email maxine5735@sbcglobal.net		

### Section 3 - Waste Characterization

Address the following items to describe the contaminated soil and/or other solid waste material that will be managed under this plan and demonstrate that it has been adequately characterized. Attach your responses to these items at the end of this document.

- A. Describe the material proposed to be managed, including its general makeup, physical characteristics, the homogeneity of the material, the proportion of soil to other solid waste, and any other pertinent descriptors.
- B. Describe the historic and current land use of the site or facility where the contaminated soil or other solid waste originates. State how this site or facility is zoned.
- C. Total volume of contaminated soil and/or other solid waste to be managed (cubic yards):
- D. Describe identified contaminants and the source(s). Indicate whether contaminant concentrations exceed Wis. Admin. Code § NR 720 Residual Contaminant Levels. Include a summary table, map with sample locations, and relevant laboratory data.
- E. Describe the sampling activities conducted to characterize the material including where the samples were collected from, how sample locations were chosen, the sampling methods used, and when sampling activities were conducted.
- F. Explain how the sampling activities adequately characterized the contaminated soil or other solid waste proposed to be managed. Indicate whether the samples were analyzed for all contaminants previously identified at the site or facility where the material will be generated and analyzed for all contaminants potentially present at the site or facility considering current and historic land use. Discuss how samples were collected from areas most likely to be contaminated and from material that will actually be managed under this exemption.
- G. Total number of samples collected from this material and analyzed for contaminants of concern.

- H. Rate of sample collection per volume (samples/cubic yard).
- I. Wis. Admin. Code § NR 718.12(1)(e) requires that samples collected to characterize soil be collected at a rate of one sample per 100 yards (for the first 600 yards) and one sample for each additional 300 yards of material, with a minimum of 2 samples. If the DNR pre-approved an alternative sampling plan, describe how the sampling that was conducted complied with a pre-approved plan. Provide the date the sampling plan was pre-approved and the name of the DNR person who approved the plan.

**Section 4 – Project Description/Material Management Plan**

*Address the following items to describe the material management activities proposed to take place. Attach your responses to these items at the end of this document.*

- A. Describe the waste management activities that will require a Wis. Admin. Codes §§ NR 718.12 or NR 718.15 exemption. Provide details on how and where waste material will be generated, transported and placed. Describe the depth of the proposed excavation of contaminated soil or other solid waste, and the depth that it will be placed at the receiving site. Describe any response actions proposed for the receiving site or facility to address the relocated contaminated material (such as the construction of a cap). Confirm the proposed material management will comply with Wis. Admin. Code § NR 726.13(1)(b) 1 through 5. Discuss how material management activities will fit in with the overall property remediation and/or development plans.
- B. Summarize the proposed schedule for implementation of the material management plan including anticipated start and end dates.
- C. Describe any procedures that have been established, or methods that will be used, to identify previously undocumented contamination during the completion of this project (such as instrument field screening, visual inspections, etc.). Also describe any contingency procedures that have been established to address unexpected contamination. The discovery of a previously unknown contaminant release on a property must be immediately reported to the DNR using the ‘Notification for Hazardous Substance Discharge (non-emergency)’ form.
- D. Summarize how the proposed management activities will prevent or minimize adverse environmental impacts and potential threats to human health and welfare, including worker safety, by assessing how all potential exposure and migration pathways of concern, including direct contact exposure, vapor intrusion, ground water, surface water, sediment and any other relevant pathway will be addressed by the proposed management.

**Section 5 - Receiving Site or Facility Information**

*Describe the site or facility receiving the waste material by addressing the following items. Where applicable, attach your responses to these items at the end of this document.*

- A. Is the receiving site or facility the same as the generating site? \_\_\_\_\_ Yes  No
- B. Describe the historic, current and proposed land use of the site(s) or facility(s) where the contaminated soil or other solid waste will be managed. How are these site(s) or facility(s) zoned?

If any of the above boxes are checked, an exemption from the indicated criteria must be requested as described below. If none of the above boxes are checked, and the proposed placement of waste material will not otherwise pose a threat to the public health, safety, or welfare of the environment, the proposed management activities will comply with the location criteria of Wis. Admin. Code § NR 718.12(1)(c) and you may skip ahead to Section 7.

Include an explanation of why granting an exemption to the Wis. Admin. Code § NR 718.12(1)(c) locational criteria will not cause a threat to public health, safety, welfare and the environment by assessing how all potential exposure and migration pathways of concern, including direct contact exposure, vapor intrusion, ground water, surface water, sediment and any other relevant pathway will be addressed by the proposed management. Consider the quantity and characteristics of the waste being managed, the geologic and hydrogeological characteristics of the receiving site, the unavailability of other environmentally suitable alternatives, and whether the activities will comply with other state and federal regulations including other portions of Wis. Admin. Code §§ NR 700 to NR 754. Attach your response to the end of this document.

### Section 7 – Additional Information Required for Non-Metallic Mine Receiving Sites or Facilities

Complete this section if the proposed disposal facility is a non-metallic mine.

- A. Current depth to groundwater at facility (feet below ground surface): 50'
- B. Has the facility been dewatered to allow mining?  Yes  No  
If yes, indicate the expected natural groundwater level when dewatering is terminated (feet below ground surface): \_\_\_\_\_
- C. Is waste proposed to be placed within 10 feet of the natural water table?  Yes\*  No  
\* If yes, placement of the waste will not comply with Wis. Admin. Code §§ NR 503.08(1)(e) and NR 503.08(2)(d).
- D. Include a copy of the reclamation plan indicating the placement of low level contaminated material is acceptable.
- E. Describe any design criteria established for the disposal site, include restrictions on material placement, engineered barrier requirements, etc. Attach your response to this item at the end of this document.

### Section 8 – Continuing Obligations at Receiving Site or Facility

Check the applicable boxes to indicate which continuing obligations will be specifically required to address the waste material being managed on the receiving property:

No Continuing Obligations

Residual Soil Contamination:

If contaminated soil managed under this soil management plan is excavated in the future, the property owner at the time of excavation will be responsible for the following:

- determine if contamination is present,
- determine whether the material would be considered solid or hazardous waste,
- ensure that any storage, treatment or disposal is in compliance with applicable statutes and rules.

Contaminated soil may be managed in accordance with Wis. Admin. Code § NR 718, with prior DNR approval. In addition, all current and future property owners and occupants of the property and right-of-way holders need to be aware that excavation of the contaminated soil may pose a hazard and as a result special precautions may need to be taken during excavation activities to prevent a health threat to humans. A historic fill exemption is required prior to construction of any structures over fill materials.



Depending on site-specific conditions, construction over contaminated soils or groundwater may also result in vapor migration of contaminants into enclosed structures or migration along underground utility lines. The potential for vapor intrusion and means of mitigation should be evaluated when planning any future redevelopment, and measures should be taken to ensure the continued protection of public health, safety, welfare and the environment at the site.

Maintenance of a cover:

A soil cover/engineered cover/other has been placed over remaining contamination and this cover must be maintained. Inspections will be required, and submittal of inspection reports may be required. Certain activities which would disturb the cover or barrier will be prohibited. If the cover is approved for industrial land use, notification of the DNR is required before changing to a non-industrial use, to determine if the cover will be protective for that use. A maintenance plan is attached, which describes the maintenance activities to be required. If the DNR requires changes to the maintenance plan, an updated maintenance plan must be provided at the completion of the soil disposal action. A map is attached which shows the location of the extent of contaminated materials and the extent of the cover.

Use of Industrial Land Use Soil Standards:

Industrial soil standards have been applied for the site receiving the contaminated materials. The DNR must be notified if the property land use will change from industrial use to a non-industrial land use. Additional investigation and remediation may be required prior to the change in land use to ensure the site conditions are protective for the planned land use.

Vapor: Future Actions to Address Vapor Intrusion:

While vapor intrusion does not currently exist, if a building is constructed on this property, or reconstructed, or if use of a building is changed to a non-industrial use, vapor intrusion may be a concern. The DNR must be notified before construction of a building or changing the use of an existing building to non-industrial use. The use of vapor control technologies or an assessment of the potential for vapor intrusion will be required at that time.

Site specific condition:

*Describe the site specific condition:*

## Section 9 – Figures

*Attach to this form figures that clearly depict the items listed below. All maps should be drawn to scale not larger than 1 inch equal to 100 feet and labeled with the site or facility name and address. The location of the property and the specific disposal area must be provided in sufficient detail to allow DNR personnel to inspect these areas in the future. Providing a 'cut/fill' map that clearly depicts how much material will be removed or added to different areas of the involved property(ies) and depicting how material will be moved across the site is highly recommended. Providing cross sections that depict site conditions before and after soil management activities is also recommended.*

- The boundaries of each property involved in the project as well as named and unnamed roads or access points, buildings and other surface features, underground utilities, land uses on adjacent properties, and known and potential sources of hazardous substances.
- The location of wetlands, critical habitat areas, floodplains, surface water bodies, water supply wells, or other possible receptors located near or within the area where material will be managed.

- The lateral extent and depth of planned excavation, grading, or otherwise disturbed areas.
- The lateral extent and thickness of excavated material placement locations.
- Soil sample locations at the generating and receiving sites. Depict applicable soil contaminant concentration data and sample depths. Indicate the extent of contamination exceeding a RCL.
- Depth to groundwater.
- The extent of any performance standards (such as a barrier or cap) that will be required at the completion of management activities.

### **Section 10 - Additional Attachments**

*The following documents are recommended for inclusion with a Wis. Admin. Code § NR 718.12 or a Wis. Admin. Code § 718.15 exemption request. Indicate which of these documents are applicable to this request by checking the boxes below. Submit copies of the indicated documents with this document.*

- A table summarizing the analytical results of all soil/waste samples collected at the generating site or facility that meets the requirements of Wis. Admin. Code § 716.15(4)(e). Clearly indicate which of these samples were collected from material that is proposed to be managed.
- The analytical package for all samples listed on the above table. The package should include the sample results, chain of custody, sampling methods, and QA/QC data.
- A maintenance plan for any performance standard needed to address the material proposed to be managed. The plan should follow the format found in DNR Form 4400-202, Attachment D.
- A copy of the reclamation plan for the receiving site or facility if it is a nonmetallic mine. Confirm the plan allows for acceptance of contaminated soil by marking relevant plan sections. *previously submitted*
- Power of Attorney (if applicable, see Section 12).
- Deed for the property receiving the contaminated soil and or waste. If a certified survey map or plat map is referenced by this deed then also include those documents. If a map is not referenced in the deed, provide a copy of a parcel map depicting the property boundaries. *previously submitted*

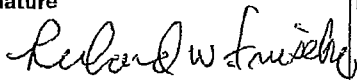
**Section 11 - Certification Statements**

All exemption requests submitted to manage contaminated soil or other solid waste as an interim action or remedial action under Wis. Admin. Code §§ NR 708 or NR 722 must be prepared by, or prepared under, the supervision of a professional engineer. The professional engineer who prepared or supervised this exemption request should complete the following section.

Environmental Consultant Information	
Firm Name Friess Environmental Consulting, INC	
Mailing Address 6635 North Sidney Place	State WI
City Milwaukee	ZIP Code 53209


Wis. Admin. Code § NR 712, entitled "Personnel Qualifications for Conducting Environmental Response Actions," establishes minimum standards for experience and professional qualifications for persons who perform certain environmental services. This law applies to work conducted under Wis. Admin. Code § NR 718, unless specifically exempted.

**Note:** The following certification must be attached to confirm the Wis. Admin. Code § NR 718 exemption request was prepared by or under the supervision of a professional engineer under Wis. Admin. Code § NR 712.07.

Professional Engineer Information			
Last Name Frieseke		First Name Richard W.	
Mailing Address 6635 North Sidney Place	City Milwaukee	State WI	ZIP Code 53209
Phone No. (include area code) (414) 228-9815	Email rfrieseke@fecinc.com		
<p>"I 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.</p> <p>It is my professional opinion that the proposed soil management activity will not cause environmental pollution nor cause any other significant risk to public health, safety or welfare."</p>			
Signature 	Date	Wisconsin Registration Number 29877-006	

**Section 12 - Signatures**

*Each receiving site or facility property owner's signature must be included as part of this request. Attach additional copies of the signature page, if needed. If one of the owners of the receiving site or facility is acting on behalf of other owners, a power of attorney form or statement must be signed and attached to this agreement clearly granting the agent the authority to accept the contaminated soils on behalf of all other owners of the receiving site or facility whose signatures are not included on this agreement.*

Owner(s) of Property Where Material is Placed		
Print Name	Signature	Date
Richard Charmoli		1-22-18
Print Name	Signature	Date
Print Name	Signature	Date
Print Name	Signature	Date

I understand that by signing this application I certify that I will follow the conditions and limitations required by law and specified in the exemption issued to me as owner of the site or facility that will receive the contaminated soil. Further, I certify that the contaminated soil proposed to be managed under this exemption will be at a property that meets the definition of "site" or "facility" under Wis. Stats. Chapter 292 and Wis. Admin. Code Chapters §§ NR 700 – 754, and I understand that the material must be managed any time in the future as a solid waste with the department's approval. I understand that this exemption will be tracked in the Wisconsin Remediation and Redevelopment Database, and if required, will include maintenance and inspection by me of any continuing obligations, such as maintaining an engineering control or barrier over the contaminated material, and will also be subject to inspection by the department. I understand that the conditions on my site or facility may be subject to Wis. Stats. Chapter 709, Disclosures by Owners of Real Estate. I believe that the legal description for all properties where material will be managed is included with this submittal.

## Section 12 - Signatures

*Each receiving site or facility property owner's signature must be included as part of this request. Attach additional copies of the signature page, if needed. If one of the owners of the receiving site or facility is acting on behalf of other owners, a power of attorney form or statement must be signed and attached to this agreement clearly granting the agent the authority to accept the contaminated soils on behalf of all other owners of the receiving site or facility whose signatures are not included on this agreement.*

Owner(s) of Property Where Material is Placed		
Print Name	Signature	Date
Scott Ponfil		
Print Name	Signature	Date
Print Name	Signature	Date
Print Name	Signature	Date

I understand that by signing this application I certify that I will follow the conditions and limitations required by law and specified in the exemption issued to me as owner of the site or facility that will receive the contaminated soil. Further, I certify that the contaminated soil proposed to be managed under this exemption will be at a property that meets the definition of "site" or "facility" under Wis. Stats. Chapter 292 and Wis. Admin. Code Chapters §§ NR 700 – 754, and I understand that the material must be managed any time in the future as a solid waste with the department's approval. I understand that this exemption will be tracked in the Wisconsin Remediation and Redevelopment Database, and if required, will include maintenance and inspection by me of any continuing obligations, such as maintaining an engineering control or barrier over the contaminated material, and will also be subject to inspection by the department. I understand that the conditions on my site or facility may be subject to Wis. Stats. Chapter 709, Disclosures by Owners of Real Estate. I believe that the legal description for all properties where material will be managed is included with this submittal.

### **RR Program Contacts**

General questions regarding Wis. Admin. Code §§ NR 718.12 and 718.15 exemptions should be made to:

- Statewide: Paul Grittner, **Paul.Grittner@wisconsin.gov**, (608) 266-0941
- Northeast Region: Kristin DuFresne, **Kristin.Dufresne@wisconsin.gov**, (920) 662-5443
- Northern Region: Chris Saari, **Chris.Saari@wisconsin.gov**, (715) 685-2920
- South Central Region: Mike Schmoller, **Michael.Schmoller@wisconsin.gov**, (608) 275-3303
- Southeast Region:
  - Nancy Ryan, **Nancy.Ryan@wisconsin.gov**, (414) 263-8533
  - Linda Michalets, **Linda.Michalets@wisconsin.gov**, (414) 263-8757
- West Central Region: Matt Thompson, **Matthew.Thompson@wisconsin.gov**, (715) 839-3750

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This document is intended solely as guidance and does not include any mandatory requirements except where requirements found in statute or administrative rule are referenced. This guidance does not establish or affect legal rights or obligations and is not finally determinative of any of the issues addressed. This guidance does not create any rights enforceable by any party in litigation with the State of Wisconsin or the Department of Natural Resources. Any regulatory decisions made by the Department of Natural Resources in any manner addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.

The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services, and functions under an Affirmative Action Plan. If you have any questions, please write to Chief, Public Civil Rights, Office of Civil Rights, U.S. Department of the Interior, 1849 C. Street, NW, Washington, D.C. 20240.

This publication is available in alternative format (large print, Braille, etc.) upon request. Please call for more information. Note: If you need technical assistance or more information, call the Accessibility Coordinator at 608-267-7490 / TTY Access via relay - 711

## Yang, Chue Yee - DNR

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**From:** Ryan, Nancy D - DNR  
**Sent:** Wednesday, February 14, 2018 8:50 AM  
**To:** 'Rick Frieseke'  
**Cc:** Cory Katzban (ckatzban@thesigmagroup.com)  
**Subject:** NR 718 request BMO Downtown Parking structure

Rick and Cory,

As Cory knows, I have been reviewing the BMO parking structure SI/RAP and the 718 soil management request for disposal at R&R excavating and have identified a few issues that will have to be addressed before DNR can complete the review of the site investigation or the 718.12 request for disposal of up to 2,400 yd<sup>3</sup> at R&R excavating site. Cory is aware of these issues, but there are a few items missing from the 718 disposal request that I'd like mention here.

As discussed with Cory, VOCs and elevated PAHs were identified at borings SB-24 and SB-25 south of the executive parking garage, actually on Lot 3, and this contamination not appear to have been defined, which affects the completeness of the SI and management options for soil around SB-24 and SB-25 and under the building adjacent to those borings.

The 718 request from FEC states that VOC impacted soil would not be disposed of at R&R (top of page 3). It is not clear what this means, or whether soil from the earth retention/footings excavation is or isn't included in the request. However, from my discussions with Cory, I understand that the intent was/is that this soil would be managed at R&R. This will need to be clarified in a revised 718.12 request and/or as plans evolve whether it is or isn't proposed for disposal at RR. Additional information not included in the 718.12 request but needed:

- Identification of Ponfil Trust as owner
- Signature of owner: Ponfil
- Figure(s) of the disposal property
- Copy of the reclamation plan
- Description of location and depths of excavations (cut fill map) clearly identifying location of soil proposed for disposal at R&R and delineation of soil > RCLs within the proposed excavation areas. Estimate of volume of contaminated soil proposed to be disposed of at RR. It would be helpful to include x-sections with excavation depths and RCL exceedance lines included on the figure(s)
- Discussion of soil results that exceed protection of groundwater RCLs (if proposed for disposal at R&R) –SPLP sample results were provided but not discussed to support the argument that contaminant leaching to groundwater would not occur at disposal site.

As you're aware, approval of the SI/RAP, soil management plan is requested by the RP ASAP and the information identified above is needed for me to complete my review of the 718.12 request (as well as any other changes to the original SI/RAP). Please call if you wish to discuss.

Thanks,

**We are committed to service excellence.**

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

**Nancy D. Ryan**

Hydrogeologist, Bureau for Remediation and Redevelopment

Wisconsin Department of Natural Resources  
2300 N. Dr. Martin Luther King, Jr. Dr.  
Milwaukee, WI 53212  
Phone: (414) 263-8533  
Fax: (414) 263-8550  
nancy.ryan@wisconsin.gov



[dnr.wi.gov](http://dnr.wi.gov)







February 17, 2018

Ms. Nancy Ryan  
Wisconsin Department of Natural Resources  
2300 North Martin Luther King Jr. Drive  
Milwaukee, WI 53212

RE: Soil Placement Approval Request for the Proposed BMO Tower  
Development Located at 778 North Water Street in Milwaukee, Wisconsin  
— DNR BRRTs # 02-41-579828; FEC Project No. 171204

Dear Ms. Ryan:

On behalf of Broadway Tierra Partners, LLC, ***Friess Environmental Consulting, Inc. (FEC)*** submits this letter to request that the Wisconsin Department of Natural Resources (DNR) grant a ch. NR 718.12 Wisconsin Administrative Code (WAC) approval for approximately 2,300-2,400 cubic yards (CY) of soil scheduled for excavation from the above-referenced property. The soils are proposed to be disposed of at the R&R excavating site (“the “Site”) located near the intersection of Highway 60 and Highway I in the Town of Cedarburg.

This letter provides a description of the generator site history and re-development plans, presents a summary of characterization data obtained to date for the generator site, and provides our conclusions and recommendations regarding the management of the soils. This letter will also discuss the continued protectiveness of human health and the environment through management of these soils and the low hazard risk to remove and place the soils at the R&R Excavating Site.

### **R&R Excavating Site**

The Site is located near the intersection of Highway 60 and Highway I in the Town of Cedarburg. The Site totals approximately 39.5-acres of which 11 acres had historically been quarried and subsequently filled as part of the quarry reclamation plan. The property is bordered by vacant agricultural land to the south and east, former quarries to the north and west, and Highway I farther to the east.

The Site meets the locational criteria outlined in ch. NR 718.12(1)(c) WAC. The soils placed at the R&R Excavating site have not been and will not be located within a floodplain; within 100 feet of any wetland or critical habitat area; within 300 feet of any navigable river, stream, lake, pond or flowage; or within 100 feet of any on-site water supply well or 300 feet of any off-site water supply well. In addition, soils have not been placed and will not be placed within 3 feet of the groundwater table. Information related to the Site as it relates to the ch. NR 718.12 locational criteria has been previously provided to and approved by the DNR.

The soils proposed to be placed at the Site as part of this ch. NR 718.12 and/or LHE approval request will be placed at a depth of approximately 20 feet below the proposed finished grade and at a distance greater than 3 feet above the groundwater table at the Site. Based on the relatively insoluble and/or highly immobile nature of the impacts, the planned capping of the Site, and the increased distance from the groundwater table at the disposal site versus the generator site, we request an exemption to the locational criteria of ch. NR 718.12(1)(c)6 to allow placement of the contaminated soil at a depth greater than the depth of the original excavation from which it was removed.

Although it is not a condition of the approved reclamation plan, nor does the Site have groundwater quality exceedances, it is understood that the owner of the Site will accept placement of the Site on the DNR GIS registry following completion of the reclamation plan as part of the ch. NR 718.12 approval to accept soils at the Site. The GIS registry would prohibit construction of a potable well on the Site without prior DNR approval, document soil conditions on the Site, and implement a cap maintenance plan (CMP) for the Site. No development is planned as part of the reclamation.

### **Response Action (Generator) Site Description**

The development project is located at 778 North Water Street in Milwaukee, Wisconsin. Several environmental studies have been conducted at the Site including Phase I and II Environmental Site Assessments and soil management sampling.

Based on a review of the Phase I ESA, the subject property was identified as a registered underground storage tank (UST) site. Two gasoline USTs were closed/filled with inert material on November 28, 1990 and December 16, 1991. The subject property was also historically occupied by Badger Auto Service Company Garage from 1935 to 1965. Additionally, a review of city directories and Sanborn Fire Insurance maps indicated that the subject property was historically utilized for printing operations and two 280-gallon gasoline tanks were buried in the alley between the subject property parcels and three gasoline tanks were located on the western side of the subject property. The historical use of the site was considered a possible recognized environmental conditions (PREC).

Sigma completed Phase II Environmental Site Assessment (ESA) and site investigation (SI) activities at the above referenced property (the "Site") between January and November, 2017, in order to assess potential environmental impacts associated with recognized environmental conditions identified in Sigma's Phase I ESA report completed for the Site in May 2017, and to characterize subsurface material for off-site disposal during earthwork activity associated with the construction of a new office building and parking garage. The results of Sigma's work identified Resource Conservation and Recovery Act (RCRA) metals in soil above actionable levels, as well as low-level detections of polycyclic aromatic hydrocarbons (PAHs), within the subsurface of the site. Low level VOCs were

detected in isolated areas, but are not part of this soil disposal exemption. The soils will require soils management during earthwork.

On January 30, 2017, Sigma completed eight soil borings and five temporary wells within the executive garage area. Additionally, between April 13 and 14, 2017, Sigma completed eleven soil borings within the auto-banking area and lower basement level of the site. Soil borings within the executive garage and auto-banking areas were advanced to an approximate maximum depth of 8 to 12 feet below ground surface (bgs). The lower basement level sub-slab soil borings were completed with hand-held drilling equipment. Soil samples were collected continuously from the ground surface to the boring termination depth. Soil samples collected from the soil borings were field screened by visual and olfactory observations and by a calibrated photoionization detector (PID) to semi-qualitatively assess the presence of volatile organic compounds (VOCs). The PID field screening results were recorded on the soil boring logs.

Based on the results of the Phase II ESA and the proposed development plans, Sigma conducted a site investigation consisting of eighteen additional soil probes. A total of six groundwater samples were collected from 5 temporary wells. In addition, two samples were collected and submitted for water leach testing. The results of the SI were provided in their Site investigation Report & Remedial Action Plan for the BMO Downtown Campus Parking Structure dated January 4, 2018. The sample results, probe logs and lab reports were provided to the DNR in Sigma's SI/RAP dated January 4, 2018.

Thirty seven soil probes and five groundwater monitoring wells have been conducted on the site. One to three soil samples from each soil boring location (56 discrete soil samples total) were submitted for laboratory analysis of VOCs, PAHs, RCRA metals or lead, PCBs, and/or ethylene glycol. The soil sampling conducted for the environmental assessments has sufficiently characterized the soils to be removed for disposal. In addition, a soil sample was collected for analysis for each 100 cubic yards of contaminated soil for the first 600 yards and an additional sample was collected for analysis for each additional 300 cubic yards to be removed thus meeting the requirements of NR 718.12 (e), WAC.

The soil proposed for placement is excess soil generated during excavation for building construction as part of redevelopment. The development will involve construction of the new BMO Tower. Reworked fill is present on the site. Information regarding the development plans is included with this request.

Based on the results of the recent subsurface explorations, there are no significant sources of impact to the soil. Although the intent is to minimize any off-site transport, approximately 2,300-2,400 CY of soil are anticipated to require off-site management. The fill soils can be managed with a ch. NR 718.12 approval for placement at the R&R Excavating site. Based on a review of the analytical data from the generator site, the concentrations of this soil would be less than those soils placed at the R&R Excavating Site under previous disposal approvals.

## **Development Plans**

The redevelopment of the site will consist of a new 25-story retail and office building referred to as the BMO Tower. The redevelopment (building, foundations, utilities, landscaping) will cover nearly all 35,765 square feet and the existing BMO Tower office building. The new construction will include lower level storage and building service rooms, a ground level (1st and 2nd floors) building lobby and limited retail space, and eight levels of above-ground parking (floors 3 through 10). The remaining fourteen floors (11 through 25) will be dedicated office space. Redevelopment plans for the proposed BMO Tower are attached. The current structure is being demolished. Construction of the new structure is anticipated to begin in February 2018 and be completed by January 2019. The site plan for the proposed development is attached.

It is anticipated that approximately 2,300-2,400 CY of material will be generated during excavation for basements, footings/foundations, utility construction and subgrade preparation/ grading for the floor slabs, parking lots, drive areas and sidewalks will be required. These soils will be placed of at the R&R Excavating site.

Sigma will monitor the earthmoving activities for unanticipated environmental conditions (such as a buried tank or barrel, strong unidentifiable odors, discolored soil, or volatile vapors) and to manage the materials appropriately, if necessary.

## **Conclusions**

Approximately 2,300-2,400 CY of soils would originate from the generator site. The soils contain impacts that are likely attributable to the fill soils. The soils to be removed are associated with footing, foundation, and utility excavation related to the construction of the new BMO Tower. The soils cannot be transported off-site as clean fill. We request that the DNR grant the ch. NR 718.12 exemption approval, as well as an exemption to ch. NR 718.12(1) (c) 6, for the disposal of soil from the proposed development at the R&R Excavating Site.

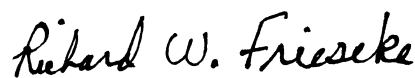
We appreciate your assistance with this request. If you have any questions or comments regarding this submittal, please contact us at (414) 228-9815.

Respectfully,

***Friess Environmental Consulting, Inc.***



Trenton J. Ott  
Project Manager



Richard W. Frieseke, P.E.  
President

171204BMO

## **Project Contacts**

### Disposal Site

R&R Excavating Site  
Parcel # 03-022-04-000  
County Road I  
Cedarburg, WI 53012  
SE ¼ of the NE ¼, Section 22, Township 10 N, Range 21 E  
WTM Coordinates: 683133, 318082; 43.317884 Latitude, -87.988200 Longitude

Charmoli Holdings, LLC  
Mr. Dick and Maxine Charmoli  
320 Douglas Lane  
Cedarburg, WI 53012  
(262) 377-5736

Ponfil Trust  
224 Aspen Drive  
Grafton, WI 53024  
(262) 238-0300

Friess Environmental Consulting, Inc.  
Mr. Rick Frieseke  
6635 North Sidney Place  
Milwaukee, WI 53209  
(414) 228-9815

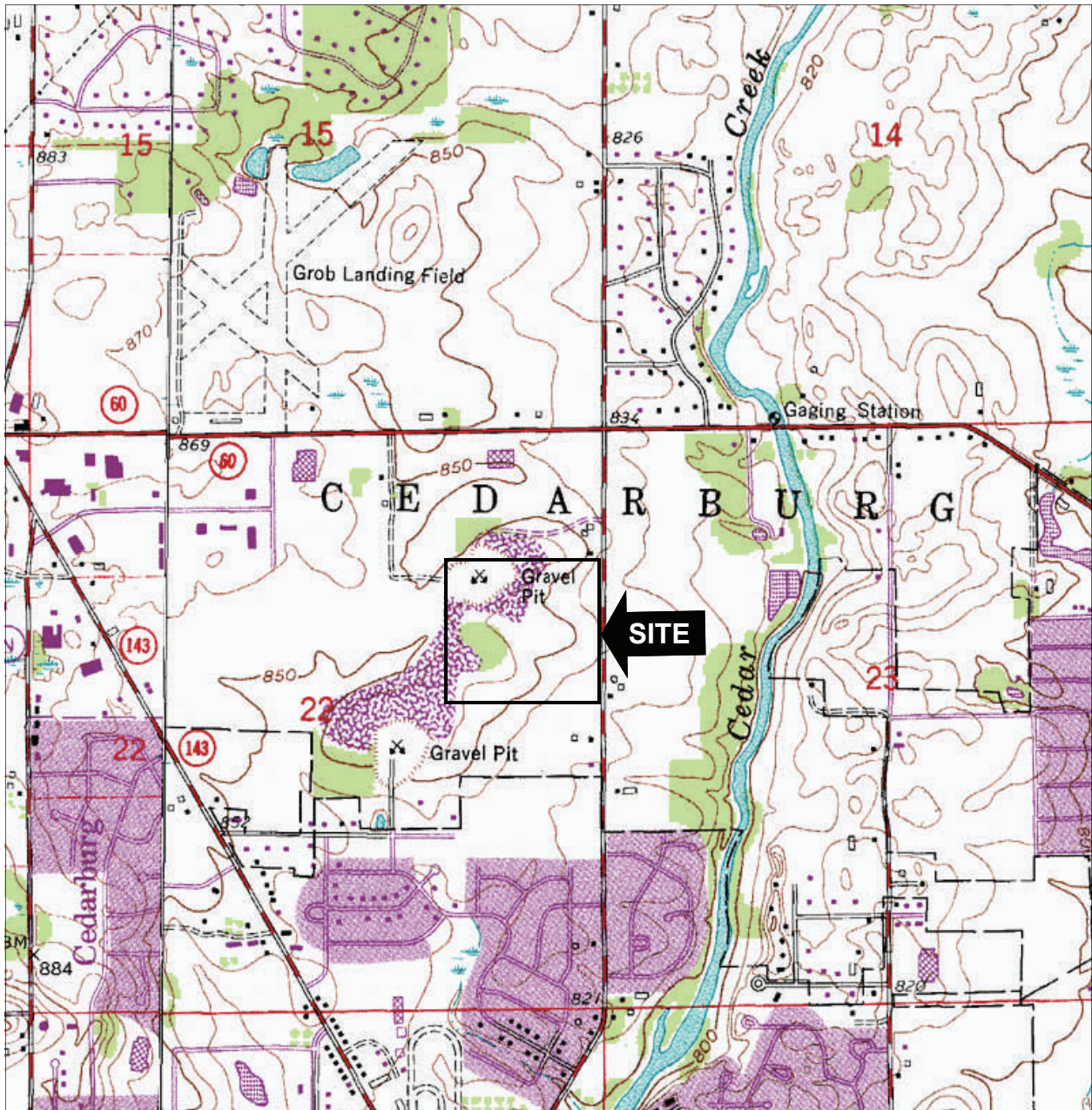
### Generator Site

BMO Tower  
778 North Water Street  
Milwaukee, Wisconsin 53202  
Telephone: (414) 443-0700  
Southeast ¼ of the Northeast ¼ Section 29 Township 7 North, Range 22 East  
WTM Coordinates: 690217, 285020; 43.24592 Latitude, -87.95452 Longitude

Broadway Tierra Partners, LLC  
c/o Irgens Development  
833 Michigan Street, Suite 400  
Milwaukee, WI 53202  
Telephone: (414) 443-0700  
Contact: Tim Gasperetti, P.E.

## Disposal Site Information


1. Site Diagrams
2. Reclamation Plan




<p>Approximate Scale</p> <p>1" = 2,000'</p>	<p>United States Geological Survey Topographic Map Sheboygan South Quadrangle</p> <p>NW 1/4 of Section 22, Township 9 North, Range 21 East</p>	
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	<p><b>Vicinity Diagram</b> R&amp;R Excavating Site Town of Cedarburg, Wisconsin</p>	<p>Figure 1</p>
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	2010 Aerial Photograph	
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	<p>Site Diagram R&amp;R Excavating Site Cedarburg, Wisconsin</p>	<p>Figure 2</p>
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# TOWN OF CEDARBURG OZAUKEE COUNTY, WISCONSIN

## R.&R. EXCAVATING & BULLDOZING, INC. - QUARRY RECLAMATION PLAN in the Se. 1/4 of the Ne. 1/4 of Section 22, T.10N. R.21E. Sheboygan Rd. C.T.H. "I" - 1/4 mile south of S.T.H. "60"

• JULY 10, 2012 •

### Site Information:

Total Property Area = 39.45 acres (100%)  
Quarry Area = 11.01 acres (27.9%)

Current Zoning = A-1 (Agricultural District)  
**R-2 (Single Family Residential District)**

### Site Fill Statistics:

Proposed 12" of Top Soil = 17,750 cubic yards  
Proposed 24" Soil Cap = 35,500 cubic yards  
Proposed General Fill = 536,510 cubic yards  
Total Site Fill Volume = 589,760 cubic yards

### PROPERTY DESCRIPTION :

The Southeast 1/4 of the Northeast 1/4 of Section 22, Town 10 North, Range 21 East, in the Town of Cedarburg, Ozaukee County, Wisconsin, inclusive of Certified Survey Map No. 386, as recorded in Vol. 2, Pages 92-93, as Document No. 235606 at the Ozaukee County Register of Deeds.

Excepting therefrom the East 33.0 feet, previously conveyed or dedicated for highway purposes.

### OWNER :

Richard Charmoll  
320 Douglas Lane  
Cedarburg, WI 53012

### OPERATOR :

R.&R. Excavating & Bulldozing, Inc.  
Richard Charmoll, President  
320 Douglas Lane  
Cedarburg, WI 53012

### Site History :

This site was originally opened as a County gravel pit in the late 1940's to early 1950's. R.&R. Excavating & Bulldozing, Inc. took over ownership and site operations in the early 1960's, and continued gravel mining operations until Jan. 2012. Limestone mining operations at this site took place from 1990 through 2011 in conjunction with the gravel mining. In January 2012, all mining operations at this site ceased. Heavy filling operations commenced in 2005 and are on-going.

### Post-mining Land Use :

The ultimate land use for the Quarry located on this property shall be in accordance with its current zoning which is A-1 (Agricultural District) as referenced on this cover sheet. Filling will continue to occur at the site until the final reclamation grades are attained with the final layer being of a topsoil material suitable to support the desired function of the land based on its zoning. The final grading plan will be designed to match the existing topography and drainage of the surrounding lands.

### Biological Information :

The lands adjacent to the reclamation site consist of a hardwood forest on the Northwest corner and agricultural lands planted with soy surrounding the remainder of the site. It is assumed that deer, birds, and various other wildlife utilize said lands for feeding, habitat cover, and travel between green space corridors.

### Reclamation Measures :

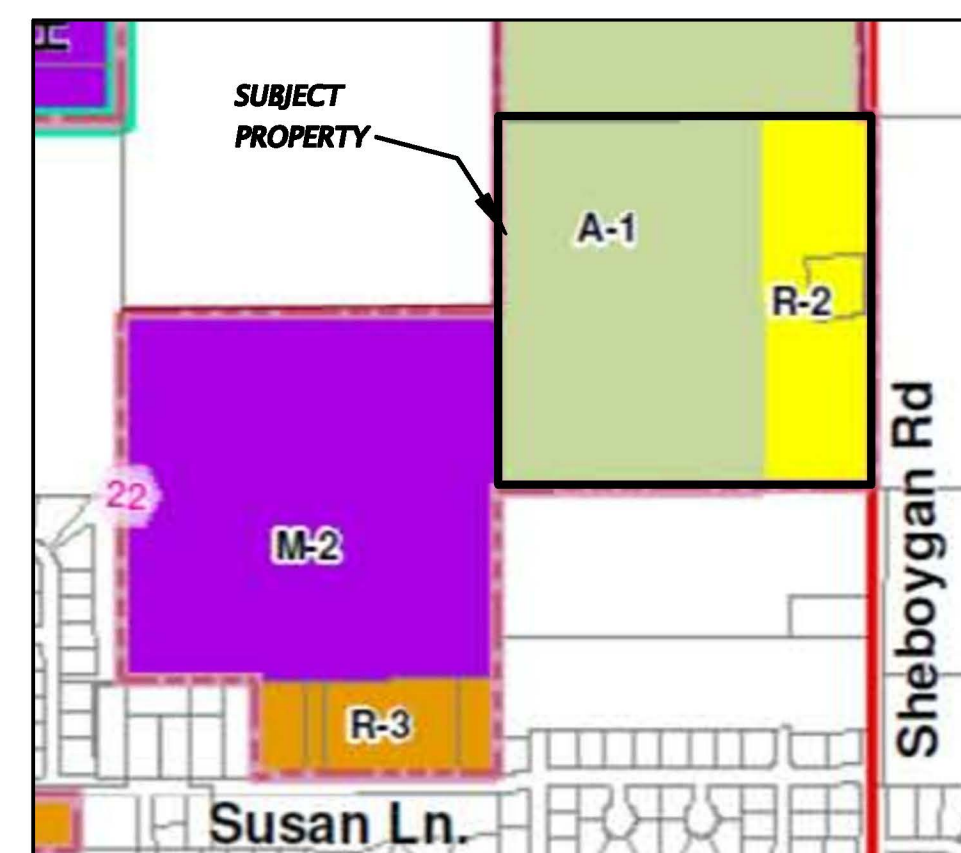
See Reclamation Measures on sheet 8 of 8

### F.E.M.A. Note :

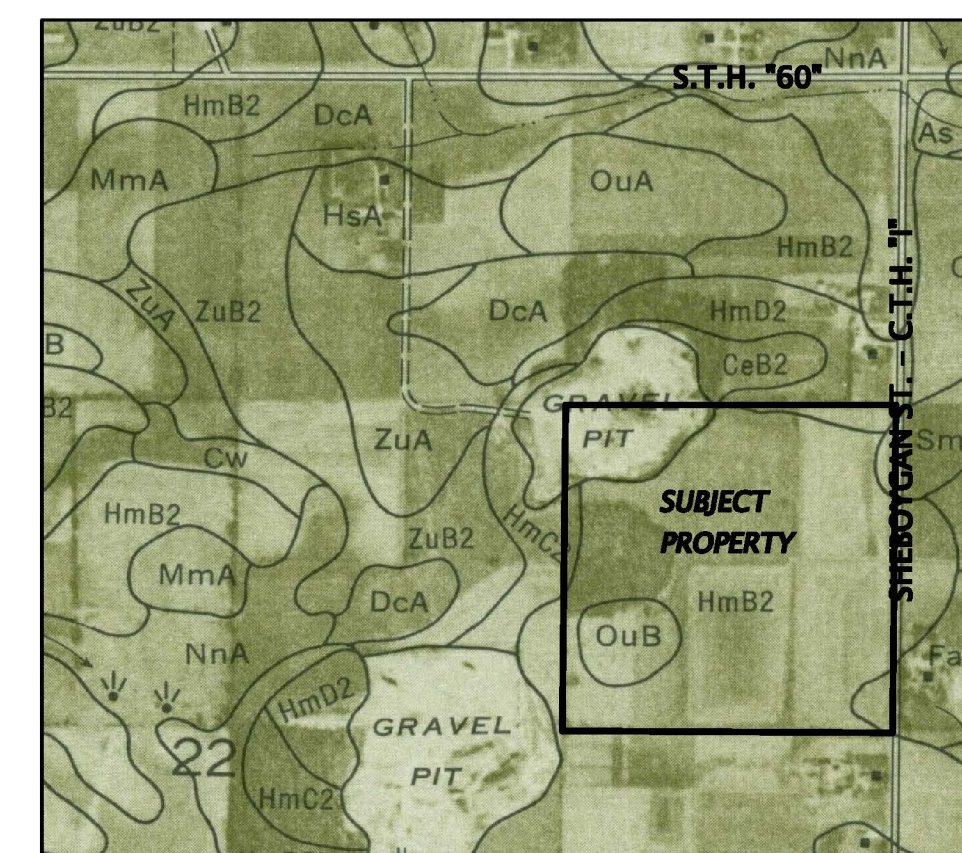
1. The subject property lies within Zone "X" areas determined to be outside the 0.2% annual chance Floodplain as determined by Flood Insurance Rate Map Community Panel No. 55089C 0178 F, Map Revised: December 4, 2007.



**LOCATION MAP**



**ZONING MAP**



**SOILS MAP**

For the United States Department of Agriculture Soil  
Conservation Service report Dated September, 1970

### SOIL TYPES :

HmB2 - Hochhelm loam, 2 to 6 percent slopes, eroded  
HmC2 - Hochhelm loam, 6 to 12 percent slopes, eroded  
HmD2 - Hochhelm loam, 12 to 20 percent slopes, eroded  
CeB2 - Casco loam, 2 to 6 percent slopes, eroded  
FaA - Fabius loam, 1 to 2 percent slopes  
OuB - Ozaukee silt loam, 2 to 6 percent slopes  
Sm - Sebawa silt loam

### Index of Sheets

Sheet	Description
1	COVER
2	SITE SURVEY & QUARRY LIMITS
3	EXISTING DRAINAGE PATTERNS
4	FINAL RECLAMATION GRADING PLAN
5	INTERIM RECLAMATION GRADING PLAN
6-7	GEOLOGICAL CROSS SECTIONS
8	RECLAMATION MEASURES & EROSION CONTROL DETAILS

Plan Date: July 10, 2012

Revision Date: March 28, 2013

Revision Date: April 5, 2013

### Benchmark Note :

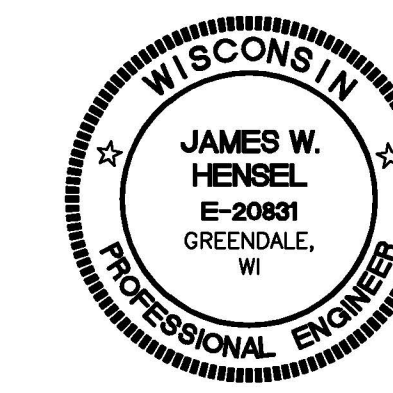
1. Main Benchmark is the Section corner monument at the SE. corner of the NE. 1/4 of Section 22, Town 10 North, Range 21 East. Top of monument elevation = 833.26.

### CERTIFICATION OF RECLAMATION PLAN

I hereby certify, as duly authorized representative or agent, that I, Richard Charmoll will comply with the provisions of this reclamation plan as well as the statewide nonmetallic mining reclamation standards established in ss. NR 135.05 through NR 135.15, Wisconsin Administrative Code.

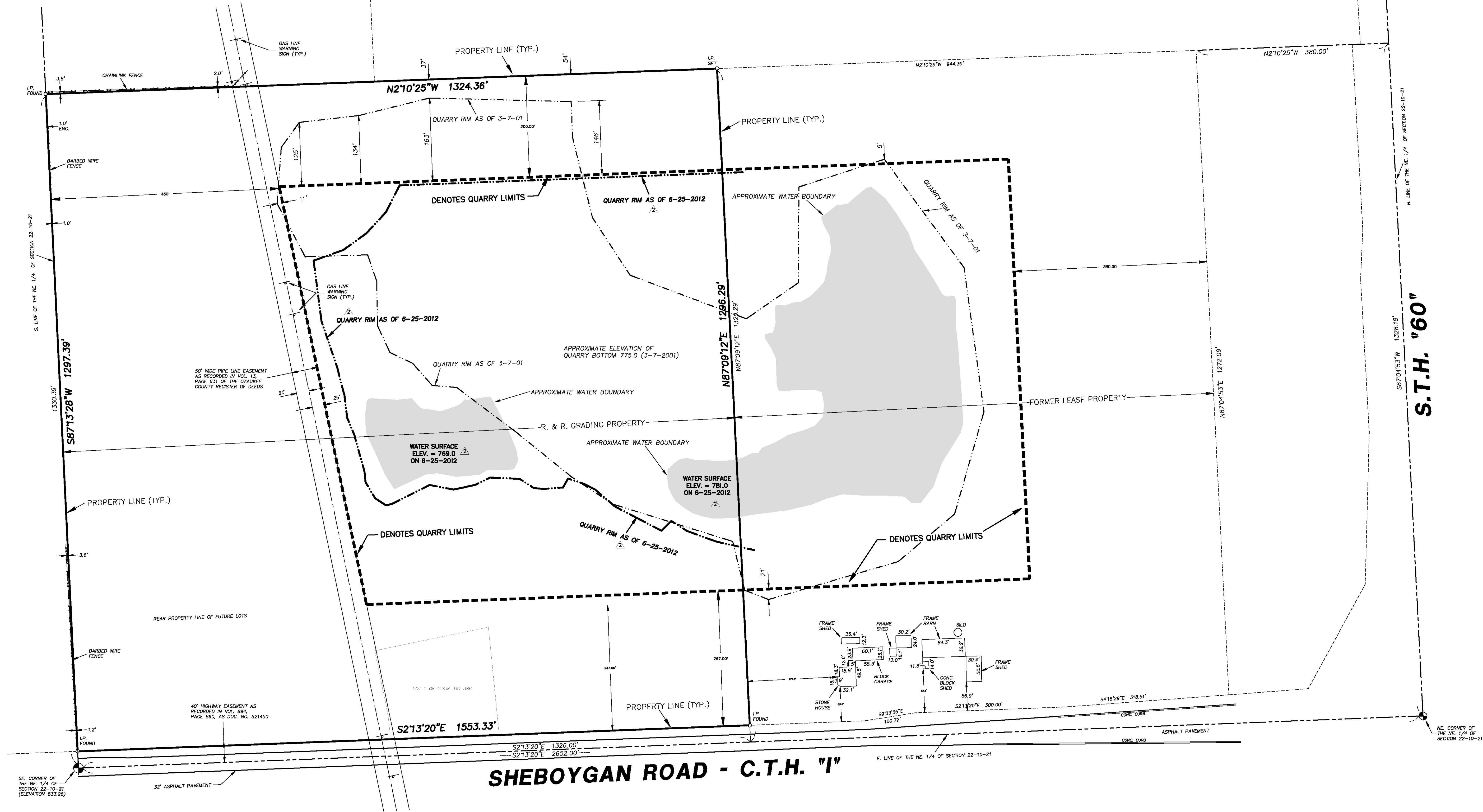
Richard Charmoll, Owner/Operator

Dated: \_\_\_\_\_



NSE # LS-3350-12

**NSE** NORTH SHORE ENGINEERING, INC.  
Consulting Engineers & Land Surveyors  
11433 N. Port Washington Rd., Mequon, Wisconsin, 53092  
(262) 241-9400 • FAX: (262) 241-5337  
www.northshoreengineering.net



**SHEBOYGAN ROAD - C.T.H. "I"**

**S.T.H. "60"**

**R. & R. PROPERTY DESCRIPTION :**

The Southeast 1/4 of the Northeast 1/4 of Section 22, Town 10 North, Range 21 East, in the Town of Cedarburg, Ozaukee County, Wisconsin, inclusive of Certified Survey Map No. 386, as recorded in Vol. 2, Pages 92-93, as Document No. 235606 at the Ozaukee County Register of Deeds.

Excepting therefrom the East 33.0 feet, previously conveyed or dedicated for highway purposes.

**SURVEY CERTIFICATE**

I have surveyed the above described property and the above map is a true representation thereof and shows the size and location of the property, its exterior boundaries, the location and dimensions of all visible structures thereon, boundary fences, apparent easements, roadways, and visible encroachments, if any.

This survey is made for the exclusive use of the present owners of the property, and also those who purchase, mortgage, or guarantee the title thereto within one (1) year from date hereof.

3-05-2001  
Date

James G. Schneider  
Surveyor - S-2127

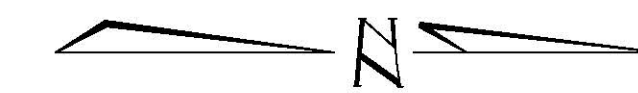
**FORMER LEASE PROPERTY DESCRIPTION :**

The Northeast 1/4 of the Northeast 1/4 of Section 22, Town 10 North, Range 21 East, in the Town of Cedarburg, Ozaukee County, Wisconsin, excepting therefrom Certified Survey Map No. 1363 as recorded in Vol. 7, Pages 80-81, as Document No. 329217 at the Ozaukee County Register of Deeds

also excepting therefrom that portion conveyed to the State of Wisconsin in Vol. 902, Page 855, at the Ozaukee County Register of Deeds

**BENCHMARK NOTE :**

BENCHMARK IS THE TOP OF SE. CORNER OF THE NE 1/4 OF SECTION 22-10-21 ELEVATION 833.26



SCALE 1" = 100'

SHEET  
**2**  
OF  
**8**

DATE	7-5-2002	ADD CURRENT RIM, WATER AREAS & BLEV.	J.G.S.	J.W.H.
DATE	5-1-2004	MINOR REVISIONS	BY	APVD
DATE		REVISION	BY	APVD

**QUARRY SURVEY**

for  
**R. & R. Excavating and Bulldozing, Inc.**

**Sheboygan Rd. - C.T.H. "I"**  
Town of Cedarburg, WI.

FIELD CREW:	D.L.G. & A.R.H.	Plot No.:	18-858-12
DATE:	MARCH 5, 2001		
DWN. BY:	J.G.S.		
CHKD. BY:	J.W.H.		

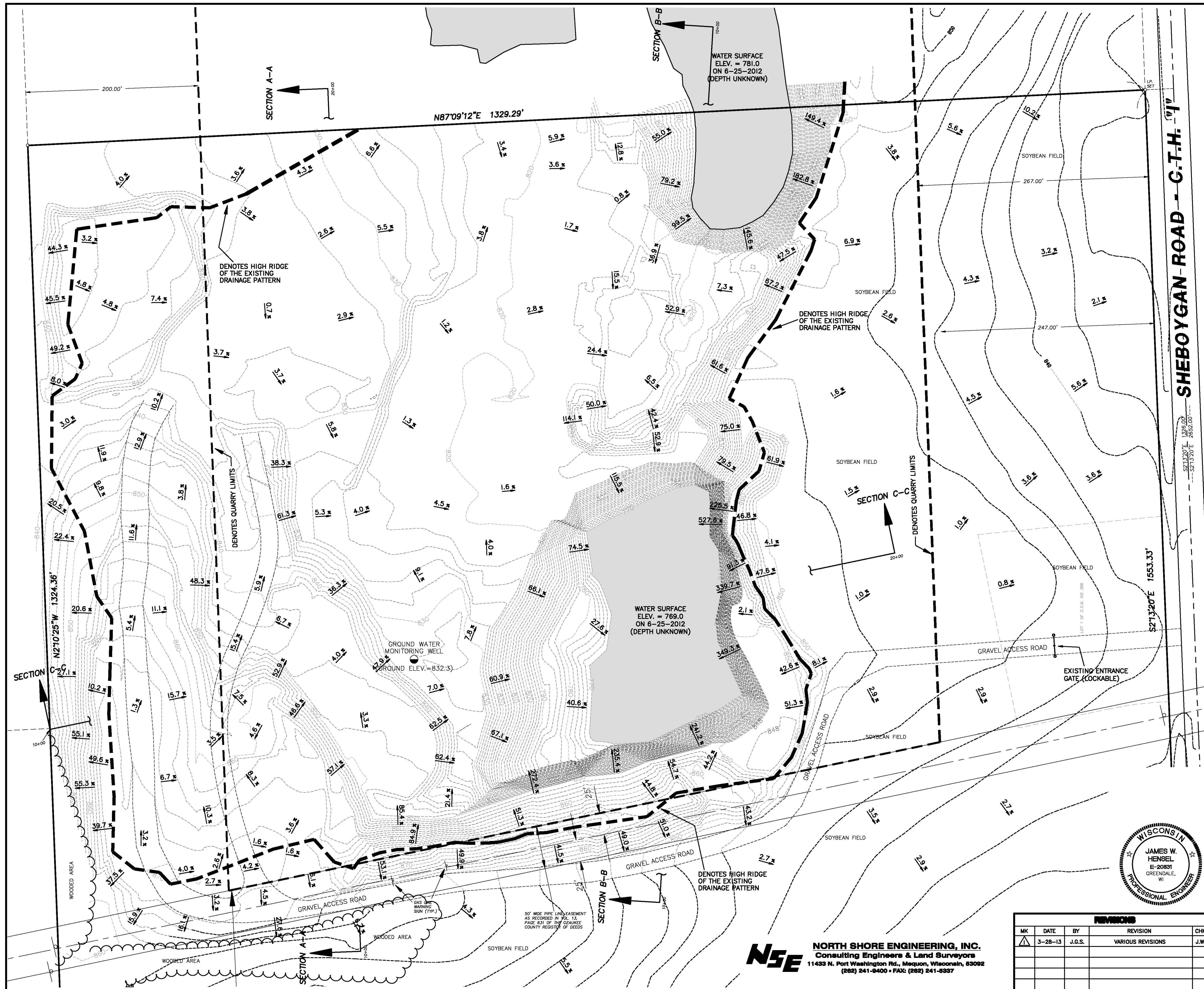


**NORTH SHORE ENGINEERING, INC.**  
Consulting Engineers & Land Surveyors  
11433 N. Port Washington Rd., Mequon, Wisconsin, 53092  
(262) 241-9400 • FAX: (262) 241-5337  
www.northshoreengineering.net

CERTAIN UNDERGROUND STRUCTURES HAVE BEEN LOCATED ON THE DRAWING. THESE LOCATIONS SHALL NOT BE TAKEN AS CONCLUSIVE. VERIFICATION TO THE SATISFACTION OF THE CONTRACTOR OF ALL UNDERGROUND STRUCTURES, WHETHER SHOWN ON THE DRAWING OR NOT, SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT.

**DIGGERS HOTLINE**

Toll Free (800) 242-8511  
 Milwaukee Area (414) 259-1181  
 Hearing Impaired TDD (800) 542-2289  
 www.DiggersHotline.com

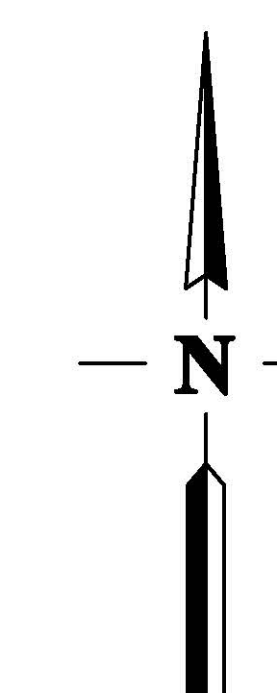


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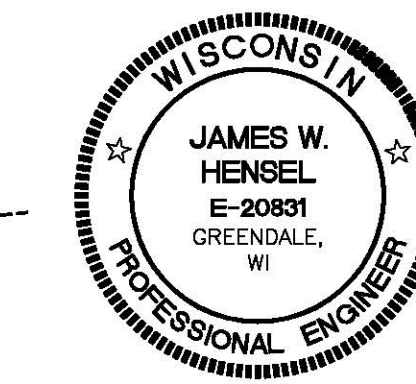
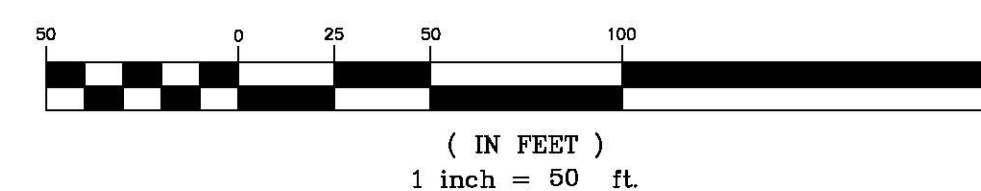
1. Main Benchmark is the Section corner monument at the SE. corner of the NE. 1/4 of Section 22, Town 10 North, Range 21 East. Top of monument elevation = 833.26.

**Legend**

- 838 --- DENOTES EXISTING MINOR CONTOUR
- 840 --- DENOTES EXISTING MAJOR CONTOUR



GRAPHIC SCALE



<b>TOWN OF CEDARBURG</b>			
OZAUKEE COUNTY		WISCONSIN	
<b>R. &amp; R. QUARRY - C.T.H. "I"</b>			
<b>Existing Drainage Pattern Plan</b>			
<b>DESIGNED:</b> J.W.H.	<b>DRAWN:</b> J.G.S.	<b>CHECKED:</b> D.E.O.	<b>SHEET</b> <b>3</b>
<b>DATE:</b> 8-15-2012	<b>SCALE:</b> 1"=50'		
<b>APPROVED:</b>	<b>PROJECT:</b> LS-3350	<b>OF</b> <b>8</b>	

REVISIONS				
MK	DATE	BY	REVISION	CHK'D
△	3-28-13	J.G.S.	VARIOUS REVISIONS	J.W.H.

**NSE** NORTH SHORE ENGINEERING, INC.  
 Consulting Engineers & Land Surveyors  
 11433 N. Port Washington Rd., Mequon, Wisconsin, 53092  
 (262) 241-9400 • FAX: (262) 241-5337

50' WIDE PIPE LINE EASEMENT AS RECORDED IN VOL. 13, PAGE 831 OF THE OZAUKEE COUNTY REGISTER OF DEEDS

GAS LINE WARNING SIGN (TYP.)

WOODED AREA

WOODED AREA

WOODED AREA

CERTAIN UNDERGROUND STRUCTURES HAVE BEEN LOCATED ON THE DRAWING. THESE LOCATIONS SHALL NOT BE TAKEN AS CONCLUSIVE. VERIFICATION TO THE SATISFACTION OF THE CONTRACTOR OF ALL UNDERGROUND STRUCTURES, WHETHER SHOWN ON THE DRAWING OR NOT, SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT.

**DIGGERS HOTLINE**

Toll Free (800) 242-8511  
 Milwaukee Area (414) 259-1181  
 Hearing Impaired TDD (800) 542-2289  
 www.DiggersHotline.com

**NOTE:**  
 TEMPORARY TOPSOIL STOCKPILES SHALL BE PLACED AT THE DISCRETION OF THE CONTRACTOR WITH THE ENGINEER'S APPROVAL, BUT SHALL BE LOCATED NO CLOSER THAN 50 FEET FROM POND, WETLANDS, DITCHES OR OTHER STORMWATER CONVEYANCE SYSTEM, UNLESS APPROVED BY THE ADMINISTERING AUTHORITY. MEASURES SHALL BE TAKEN TO MINIMIZE EROSION AND RUNOFF FROM ANY TOPSOIL STOCKPILES THAT WILL LIKELY REMAIN FOR MORE THAN 5 WORKING DAYS. ANY SOIL STOCKPILE THAT REMAINS FOR MORE THAN 30 DAYS SHALL BE COVERED OR TREATED WITH STABILIZATION PRACTICES SUCH AS TEMPORARY OR PERMANENT SEEDING AND MULCHING.

**Benchmark Note :**

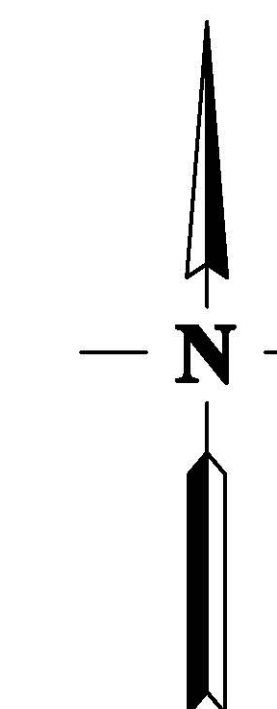
1. Main Benchmark is the Section corner monument at the SE. corner of the NE 1/4 of Section 22, Town 10 North, Range 21 East. Top of monument elevation = 833.26.

**Legend**

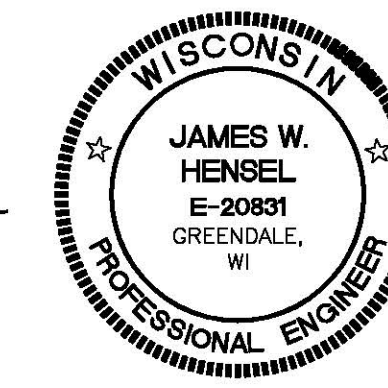
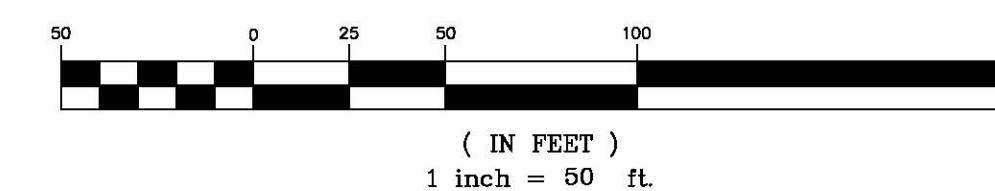
- 838 --- DENOTES EXISTING MINOR CONTOUR
- 840 --- DENOTES EXISTING MAJOR CONTOUR
- - - 848 - - - DENOTES PROPOSED MINOR CONTOUR
- - - 850 - - - DENOTES PROPOSED MAJOR CONTOUR
- - - - - DENOTES PROPOSED CHAINLINK FENCE
- ===== DENOTES PROPOSED SILT FENCE

**Site Fill Statistics:**

Proposed 12" of Top Soil = 17,750 cubic yards  
 Proposed 24" Soil Cap = 35,500 cubic yards  
 Proposed General Fill = 536,510 cubic yards  
 Total Site Fill Volume = 589,760 cubic yards



GRAPHIC SCALE



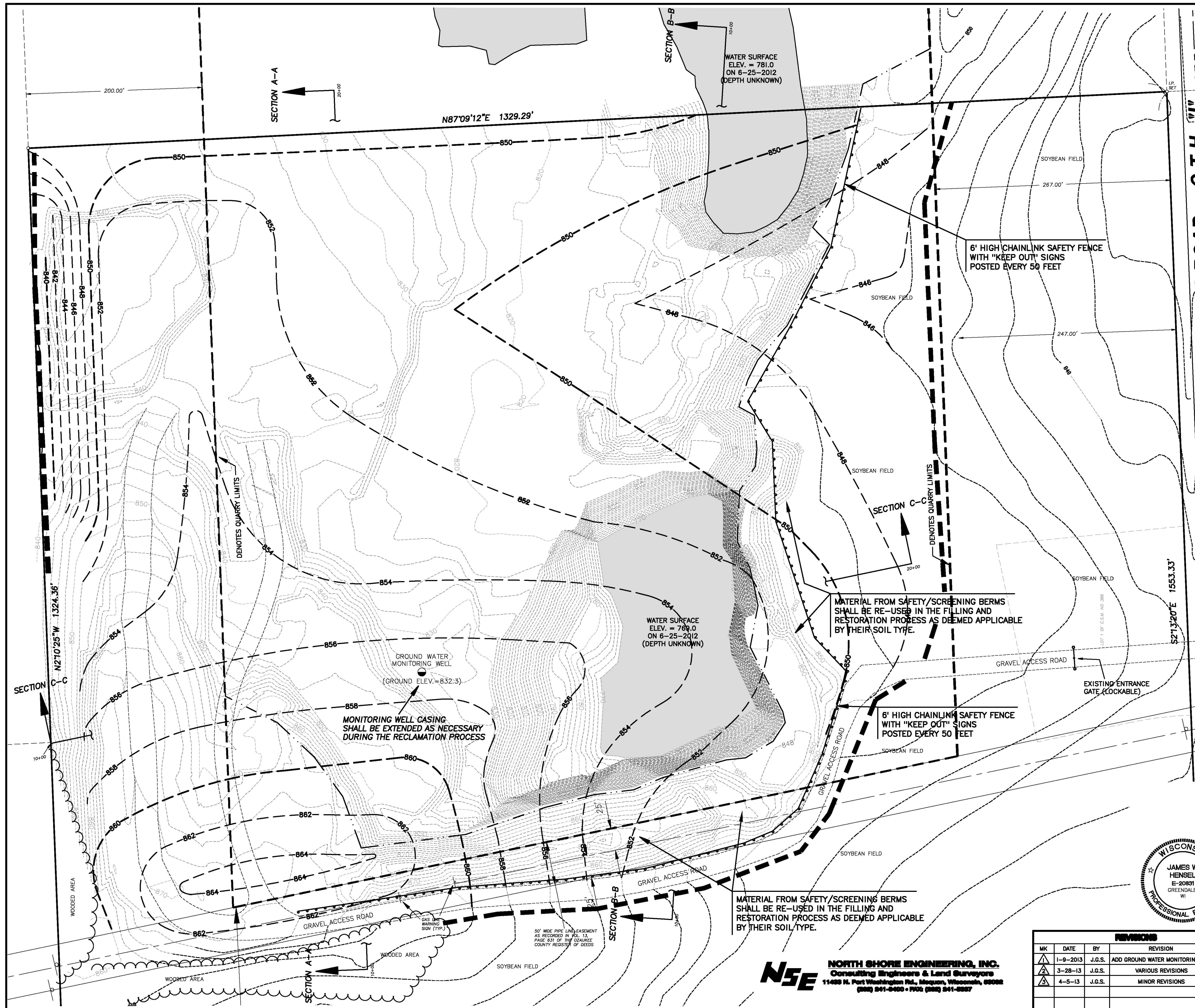
**TOWN OF CEDARBURG**  
 OZAUKEE COUNTY WISCONSIN

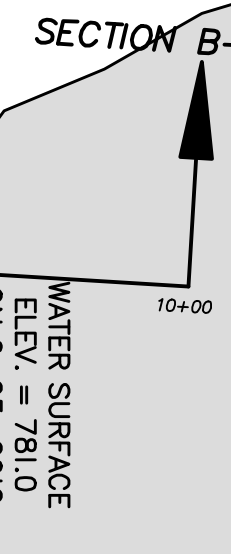
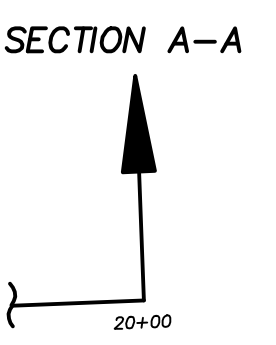
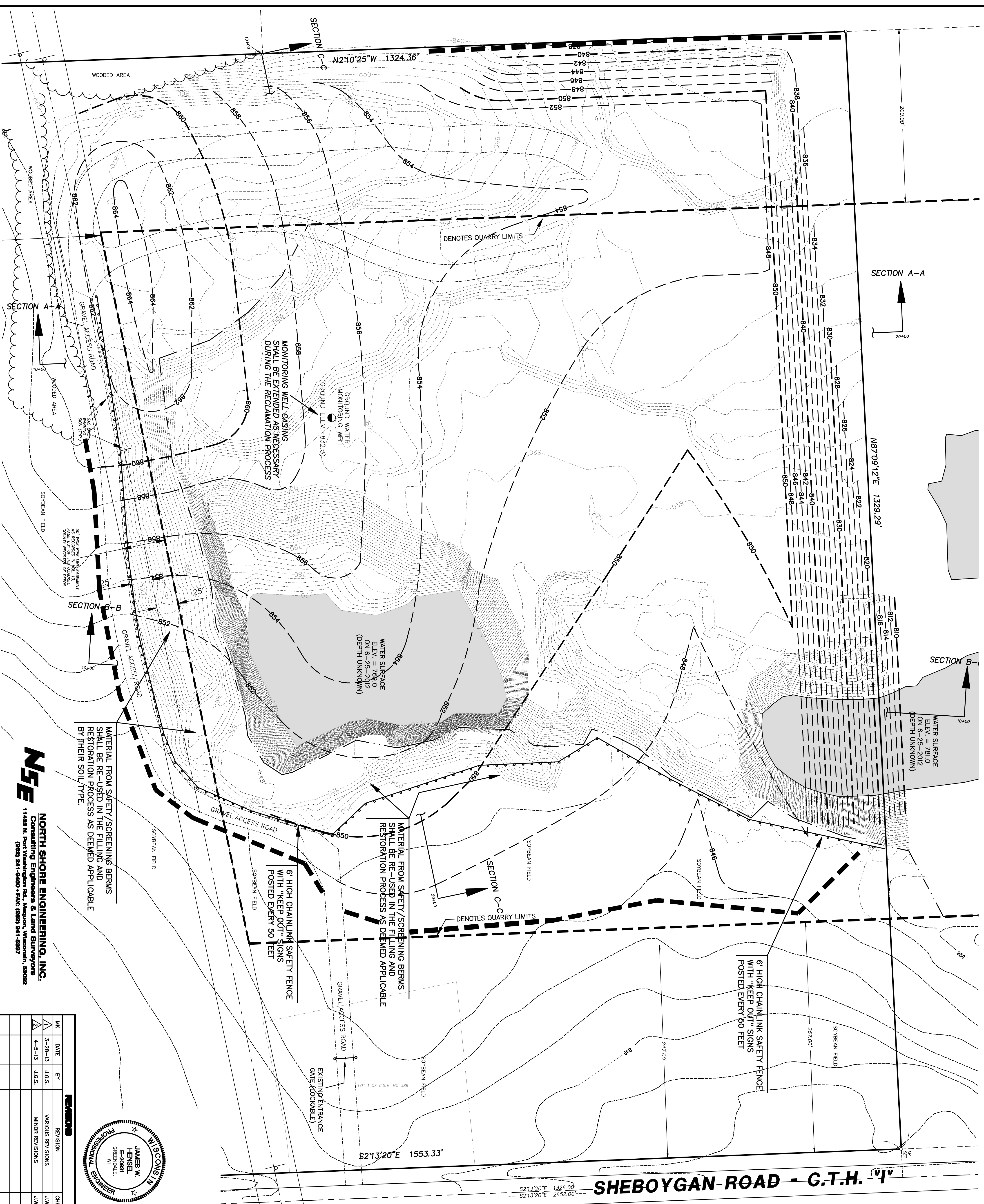
**R. & R. QUARRY - C.T.H. "I"**

**Final Reclamation Grading Plan**

REVISIONS					DESIGNED:	DRAWN:	CHECKED:	SHEET
MK	DATE	BY	REVISION	CHK'D	J.W.H.	J.G.S.	D.E.O.	4 OF 8
△	1-9-2013	J.G.S.	ADD GROUND WATER MONITORING WELL	J.W.H.	DATE:	SCALE:		
△	3-28-13	J.G.S.	VARIOUS REVISIONS	J.W.H.	7-10-2012	1"=50'		
△	4-5-13	J.G.S.	MINOR REVISIONS	J.W.H.	APPROVED:	PROJECT:	LS-3350	

**NSE NORTH SHORE ENGINEERING, INC.**  
 Consulting Engineers & Land Surveyors  
 11488 N. Port Washington Rd., Mequon, Wisconsin, 53092  
 (920) 941-8888 • FAX (920) 941-8887



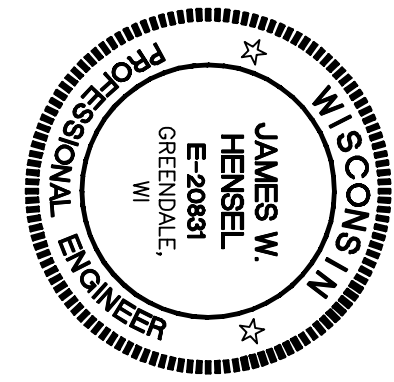


N87°09'12"E 1329.29'

SHEBOYGAN ROAD - C.T.H. "I"

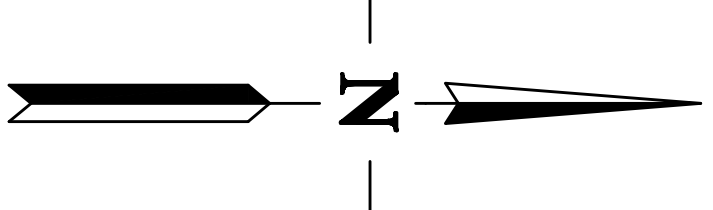
S21°3'20"E 1326.00'  
S21°3'20"E 2652.00'

**NSE**  
NORTH SHORE ENGINEERING, INC.  
Consulting Engineers & Land Surveyors  
11483 N. Port Washington Rd., Mequon, Wisconsin, 53092  
(cell) 241-9400 • Fax: (cell) 241-8337



NO.	DATE	BY	REVISION
1	3-28-13	J.G.S.	VARIOUS REVISIONS
2	4-9-13	J.G.S.	MINOR REVISIONS
3		J.M.H.	

GRAPHIC SCALE  
( IN FEET )  
1 inch = 50 ft.



- Legend**
- 838 --- DENOTES EXISTING MINOR CONTOUR
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  - 848 --- DENOTES PROPOSED MINOR CONTOUR
  - 850 --- DENOTES PROPOSED MAJOR CONTOUR
  - DENOTES PROPOSED SILT FENCE
  - DENOTES PROPOSED SILT FENCE

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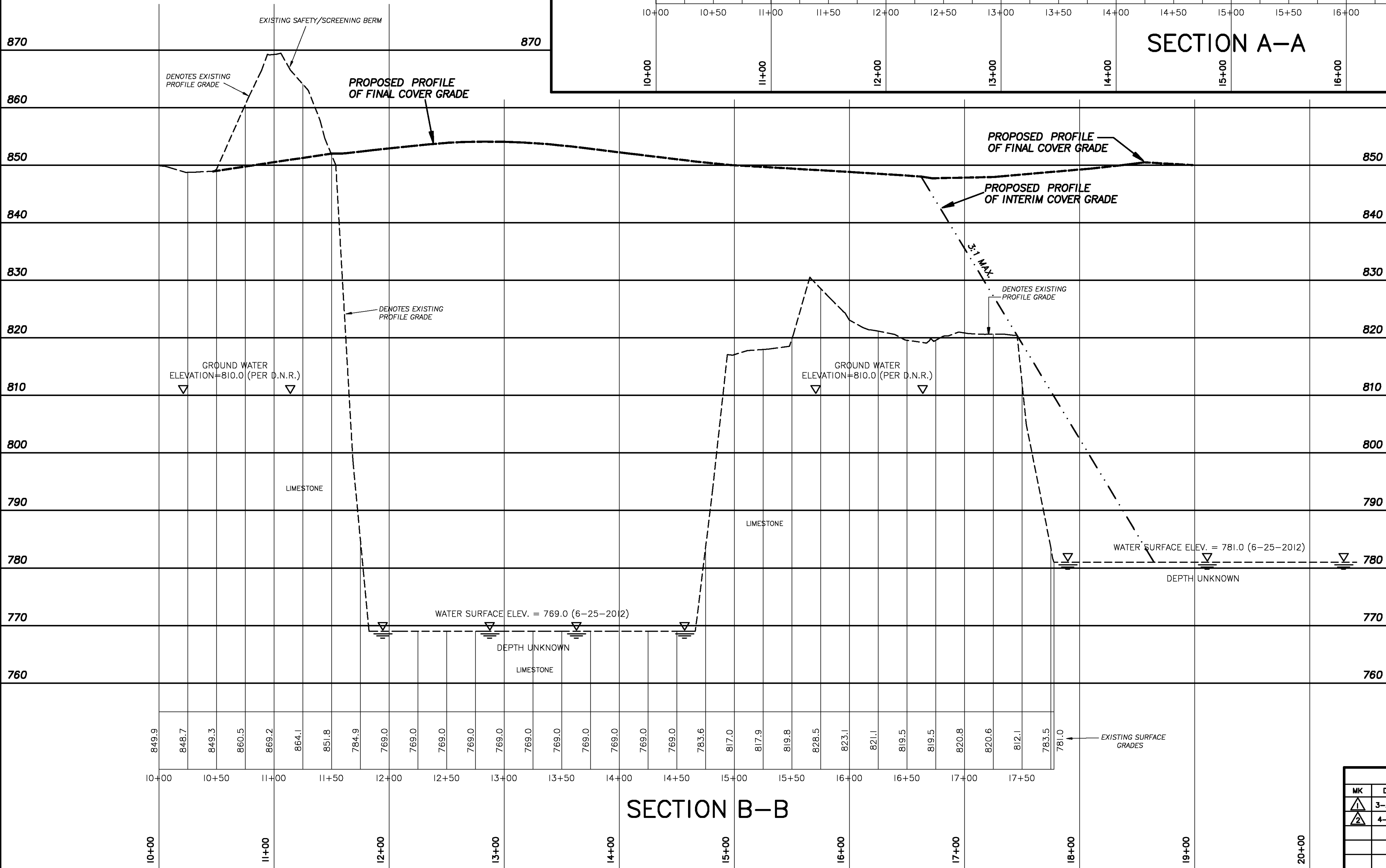
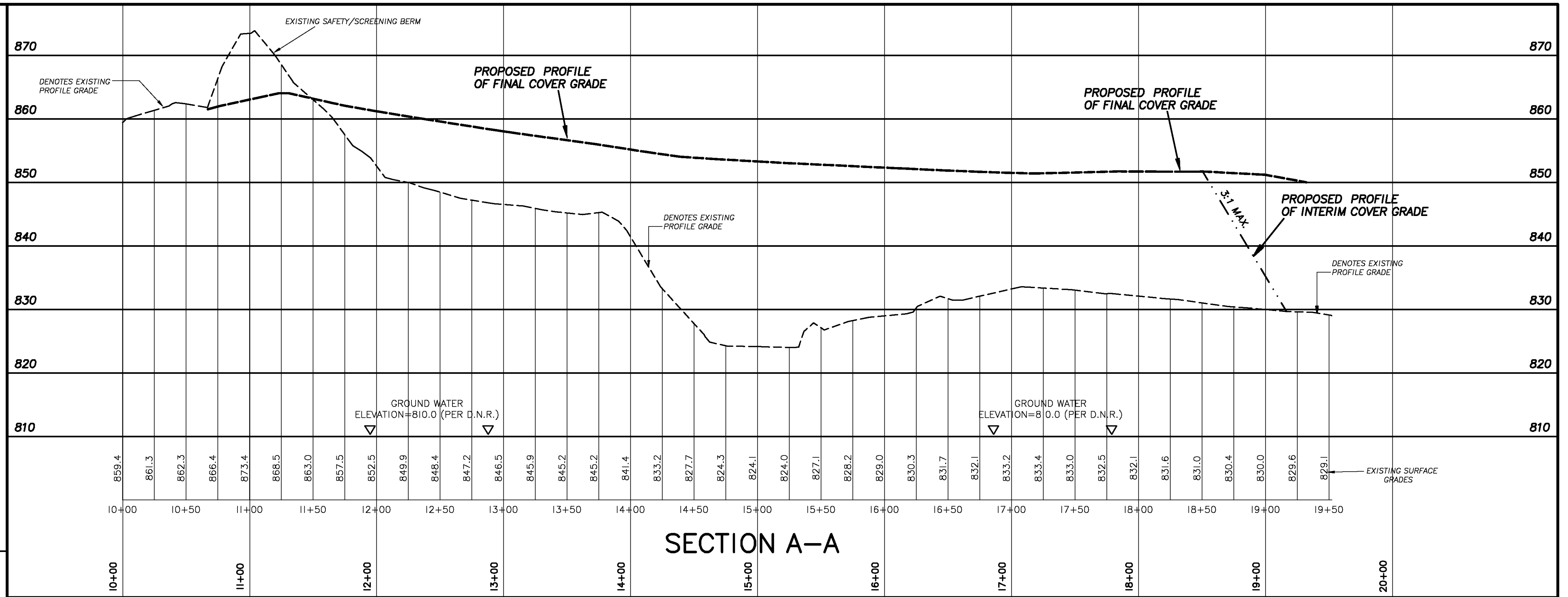
CERTAIN UNDERGROUND STRUCTURES HAVE BEEN LOCATED ON THE DRAWING. THESE LOCATIONS SHALL BE MAINTAINED THROUGHOUT THE RECLAMATION WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THESE STRUCTURES, WHETHER SHOWN ON THE DRAWING OR NOT. THIS SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT.

**TOWN OF CEDARBURG**  
OSHAUKEE COUNTY  
WISCONSIN

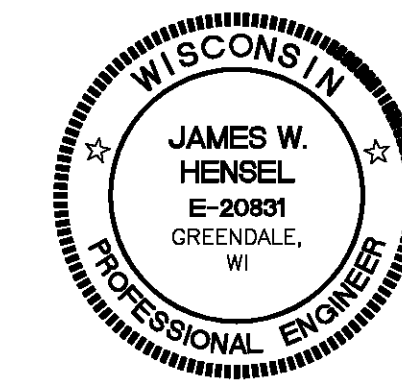
**R. & R. QUARRY - C.T.H. "I"**

**Interim Reclamation Grading Plan**

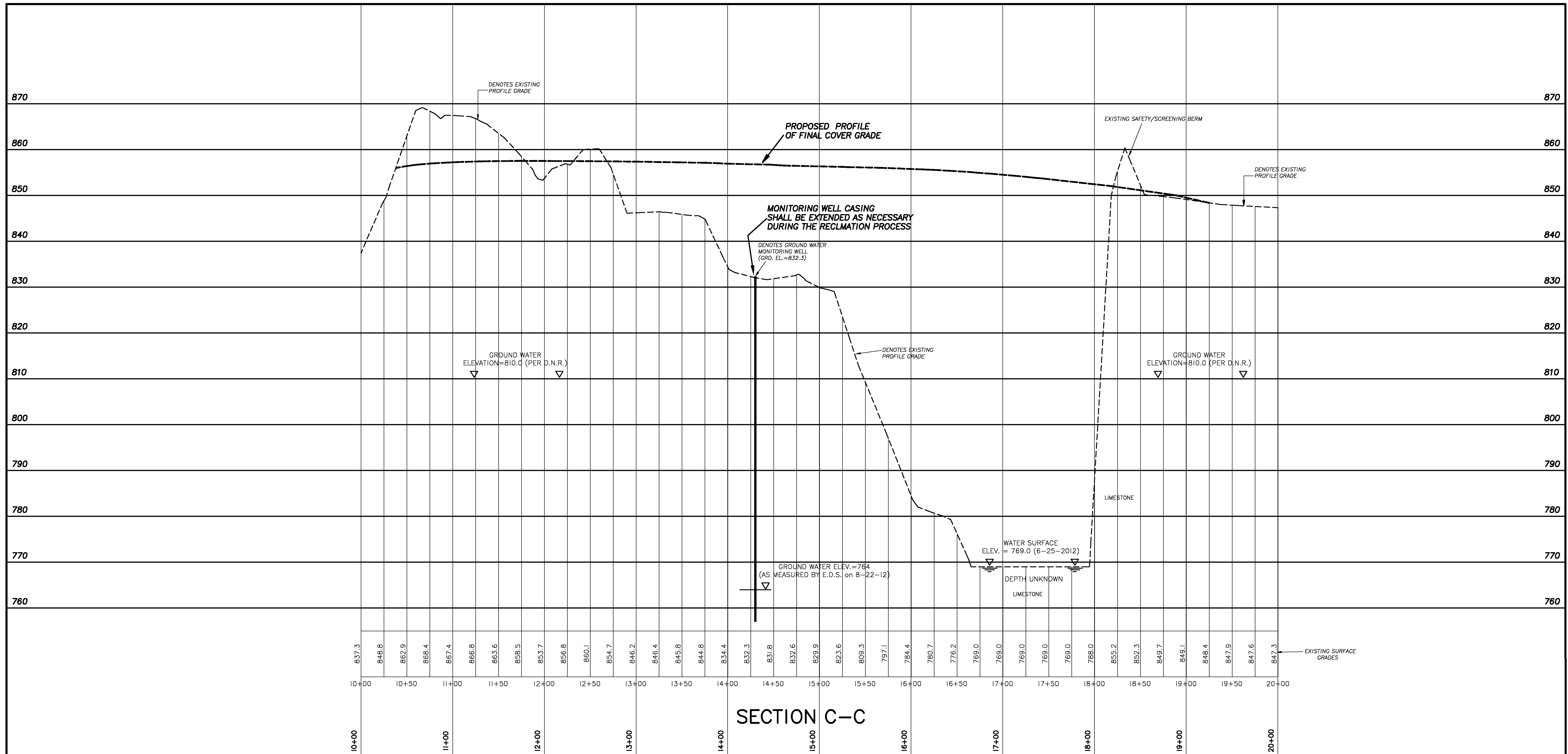
DESIGNED: J.M.H. DRAWN: J.G.S. CHECKED: D.E.O. SHEET 5 OF 8  
DATE: 7-10-2012 SCALE: 1"=50'  
APPROVED: PROJECT: LS-3350



**NSE** NORTH SHORE ENGINEERING, INC.  
Consulting Engineers & Land Surveyors  
11433 N. Port Washington Rd., Mequon, Wisconsin, 53092  
(262) 241-9400 • FAX: (262) 241-8337

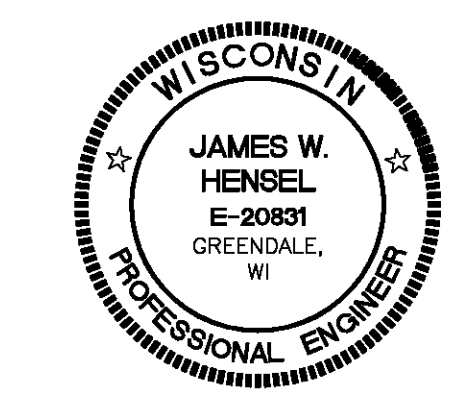


<b>TOWN OF CEDARBURG</b>																
OZAUKEE COUNTY	WISCONSIN															
<b>R. &amp; R. QUARRY - C.T.H. "I"</b>																
<b>Geological Cross-Sections</b>																
<b>DESIGNED:</b> J.W.H.	<b>DRAWN:</b> J.G.S.															
<b>DATE:</b> 7-10-2012	<b>SCALE:</b> HOR. 1"=50' VERT. 1"=10'															
<b>APPROVED:</b>	<b>PROJECT:</b> LS-3350															
<b>CHK'D:</b> J.W.H.	<b>CHECKED:</b> D.E.O.															
<b>REVISIONS</b>	<b>SHEET</b>															
<table border="1"> <thead> <tr> <th>MK</th> <th>DATE</th> <th>BY</th> <th>REVISION</th> <th>CHK'D</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>3-28-13</td> <td>J.G.S.</td> <td>REVISED FINAL COVER</td> <td>J.W.H.</td> </tr> <tr> <td>4</td> <td>4-5-13</td> <td>J.G.S.</td> <td>ADD GROUND WATER ELEVATIONS</td> <td>J.W.H.</td> </tr> </tbody> </table>	MK	DATE	BY	REVISION	CHK'D	3	3-28-13	J.G.S.	REVISED FINAL COVER	J.W.H.	4	4-5-13	J.G.S.	ADD GROUND WATER ELEVATIONS	J.W.H.	<b>6</b>
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	<b>OF 8</b>															



SECTION C-C

10+00	837.3	10+50	846.8	11+00	867.4	11+50	863.6	12+00	853.7	12+50	860.1	13+00	846.2	13+50	846.4	14+00	834.4	14+50	832.3	15+00	829.9	15+50	809.3	16+00	784.4	16+50	776.2	17+00	769.0	17+50	769.0	18+00	788.0	18+50	852.3	19+00	849.1	19+50	847.6	20+00	847.3
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REVISIONS				
MK	DATE	BY	REVISION	CHK'D
3	3-28-13	J.G.S.	VARIOUS REVISIONS	J.W.H.
4	4-5-13	J.G.S.	ADD GROUND WATER ELEVATIONS	J.W.H.

**TOWN OF CEDARBURG**

OZAUKEE COUNTY WISCONSIN

**R. & R. QUARRY - C.T.H. "I"**

**Geological Cross-Sections**

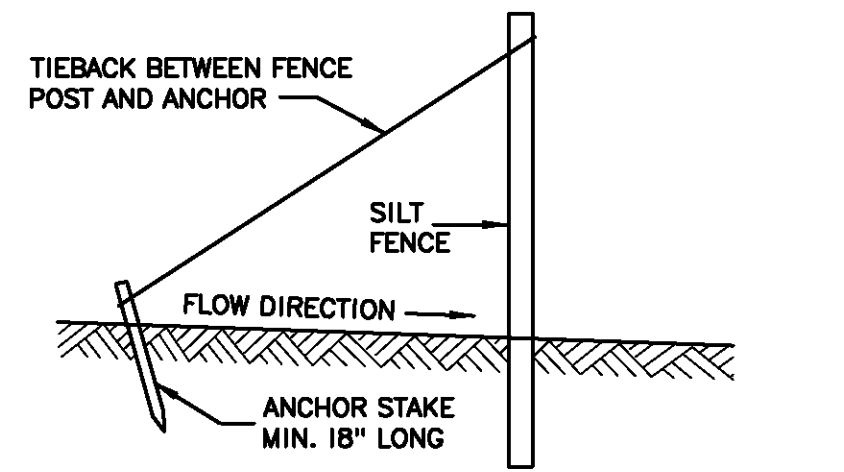
DESIGNED: J.W.H.	DRAWN: J.G.S.	CHECKED: D.E.O.	SHEET <b>7</b> OF <b>8</b>
DATE: 7-10-2012	SCALE: HOR. 1"=50' VERT. 1"=10'		
APPROVED:	PROJECT: <b>LS-3350</b>		

**A. GENERAL NOTES**

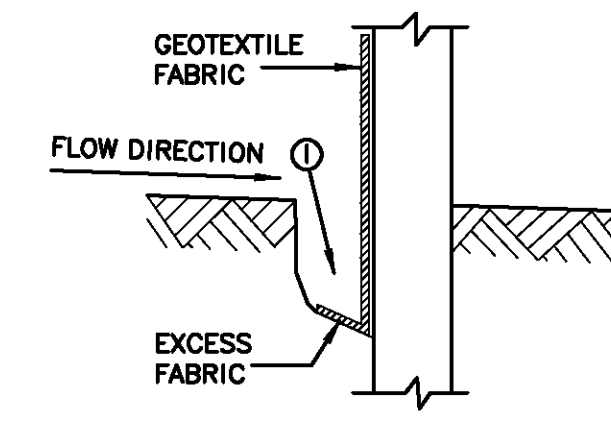
1. All required reclamation work operations shall conform to the requirements of the following.
  - a. Town of Cedarburg and Ozaukee County Codes and Ordinances.
  - b. Wisconsin Administrative Code - NR135
  - c. Wisconsin D.O.T. 2012 Standard Specifications for Highway and Structure Construction
  - d. Wisconsin D.N.R. Technical Standards
2. The Owner and/or Operator shall be responsible for permit acquisitions and related costs thereto.
3. The Contractor shall install and maintain the following temporary B.M.P.'s in accordance with current Wisconsin D.N.R. Technical Standards.
  - a. Silt fencing per WDNR Tech. Std. 1056
  - b. Gravel access road shall serve as tracking pad
  - c. Seeding per WDNR Tech. Std. 1056 for Construction Sites
4. Grading and embankment work operations of fill materials shall be in accordance with Section 207 of the State D.O.T. Specifications.
5. Placement of approved fill materials shall be in 12-inch to 15-inch lifts. Compaction may be completed with grading equipment and truck traffic. Proof rolling shall be completed by loaded dump trucks.
6. All filling below the D.N.R. established and agreed upon ground water elevation of 810.0 shall be CLEAN FILL ONLY.
7. Topsoil shall be placed across the grading area to a minimum depth of 12-inches and in accordance with NR 135.10 and NR 135.11. Topsoil materials shall conform to Section 625 of State D.O.T. Specifications.
8. Soil cap shall be placed across the grading area, directly below the top soil layer to a minimum depth of 24-inches and shall consist of soils comparable or in like kind with Hochheim Loam, as referenced in the United States Department of Agriculture Soil Conservation Service report Dated September, 1970.
9. Re-vegetation shall be in accordance with Sections 625, 627, and 630 of Wisconsin DOT 2012 Standard Specifications for Highway and Structure Construction
10. Safety fencing shall be installed as shown on Sheets 3 and 4 of the plans. Fencing shall be 6' high chainlink with "KEEP OUT" signs posted every 50' along the length of the fence and maintained throughout reclamation of the quarry.
11. On site water testing was performed on 6-7-2012. Please reference reports dated 6-8-2012 and 6-12-2012, prepared by Synergy Environmental Lab, Inc. (See report included with reclamation plan)
12. Storm water runoff shall be maintained and directed to the Southeast corner of the site. This area will be utilized to store surface water throughout the filling operations. Surface water mitigation will be accomplished through evaporation and infiltration. At such time that the filling operation nears completion and a dewatering becomes necessary, a set of plans, designed by a licensed Engineer, shall be provided to Ozaukee County Land and Water Management & the Wisconsin Department of Natural Resources for their approval.

**B. RECLAMATION MEASURES**

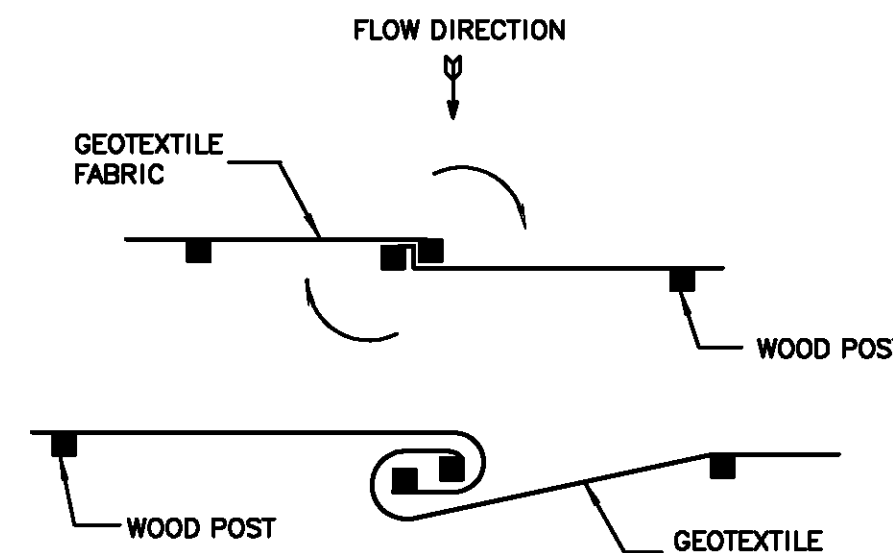
1. The reclamation measures and plan shall conform to the requirements of NR 135.19.
2. Proposed earthwork and reclamation shall be as follows and as shown on Plan Sheets 4 and 5 of the Plans.
  - a. High walls will be eliminated with the proposed earthwork.
  - b. Finished slope angles generally vary from 1% to 2%, with slopes of drainage swales at 2 1/2 % to 4%. The interim reclamation grading plan as shown on Sheet 5 of the Plans has 3:1 side slopes at the northerly limits of the reclamation area. These 3:1 slopes are required to blend the final grading contours with existing post-mining lands.
  - c. Existing safety/screening berms shall be used as part of the fill for this reclamation plan at such point in the filling process that they are no longer needed for safety measures.
  - d. Prior to the placement of topsoil, all graded surfaces will be scarified for effective topsoil adhesion.
  - e. Rough and final grading will be completed such that ponding of water will be eliminated on the reclaimed surface.
  - f. All topsoil will be placed to match the proposed finished grades and contours of the grading plans.
  - g. Reference: February 16, 2005 Memorandum as prepared by Environmental & Development Solutions and as approved by the Town of Cedarburg and R & R Excavating & Bulldozing representative. The Memorandum of Understanding outlines the protocol for filling operations at the site. (See memorandum included with reclamation plan)
  - h. Slopes shall not exceed 3:1 for this reclamation plan
3. Topsoil construction shall be as follows.
  - a. Erosion and sedimentation Best Management Practices (B.M.P.) shall be installed and constructed prior to topsoil removal/stripping.
  - b. The Contractor shall remove all topsoil and store topsoil materials onsite and as directed by the project inspector.
  - c. All topsoil storage piles shall receive erosion control protection measures as required. Additional protection shall include re-vegetation seeding and mulching. Seeding shall be restricted to natural prairie seed mixtures.
  - d. Topsoil will be redistributed onto the graded site in accordance with Section 625 of the D.O.T. Standard Specifications.
4. The re-vegetation plan shall be completed as follows.
  - a. All graded areas shall be re-vegetated and stabilized as soon as possible after site grading operations.
  - b. Seed materials shall be nursery grade and free of contamination by weed species.
  - c. Seed mixtures shall be as follows.
    - 1.) Seed Mixture #3 per: A Guide to Developing Reclamation Plans for Nonmetallic Mining Sites in Wisconsin Appendix C for wildlife and passive recreation. Seed rate application shall be as recommended in said reference or suppliers recommendations based on site conditions.
    - 2.) Seed Mixture #2 & #3 per: A Guide to Developing Reclamation Plans for Nonmetallic Mining Sites in Wisconsin Appendix C for stabilization, wildlife, grazing, and passive reclamation. Seed rate application shall be as recommended in said reference or suppliers recommendations based on site conditions.
    - 3.) It is estimated that successful reclamation shall take 2-3 growing years to reach the success standard of 70% uniform vegetative growth as described below.
  - d. Seed application shall take place anytime during the growing season pending suitable soil conditions. Seed application shall not take place between July 1 and August 15; immediately after a rainfall event; during windy conditions; or when ground conditions are dry.
  - e. Seeding applications shall conform to the requirements of said reference material or suppliers recommendations based on site conditions.
  - f. For the 3:1 slopes in the interim reclamation grading, hydroseeding, may be used. This procedure shall conform to the requirements of Section 627 of the D.O.T. Specifications. (Slope stabilization shall include the installation of jute mat/netting per Section 628 of the D.O.T. Specifications.
  - g. Mulching of all seeded areas shall be applied at a rate of between 1.0 and 1.5 tons per acre. All mulching materials and construction methods shall conform to the requirements of Section 627 D.O.T. Standard Specifications.
5. Standards for re-vegetation shall be as follows.
  - a. Re-vegetation success shall be determined based on the percent vegetative cover. Methods and Standard for said success shall consist of a 1 meter square or equivalent plot with a uniform vegetative cover of no less than 70% of said plot.
  - b. Inspections onsite by County personnel and Owner representative shall take place.
  - c. Reports that include quantifiable data on re-vegetation shall be provided by the Owner or Owner's agent to the County.
6. The following erosion control plan shall be implemented as part of the reclamation plan.
  - a. After topsoil removal and stock piling, each area/stockpile shall have a perimeter silt fence installation with appropriate temporary seed mixture application.
  - b. Silt fencing shall be installed as shown on Sheets 3 and 4 of the Plans and at such time that the filling operations have raised the grade enough to require the need for runoff protection.
  - c. Seeding and mulching operations shall be completed as soon as possible after grading operations.
  - d. The reclamation site shall be monitored, inspected, and maintained until vegetative cover is fully established.



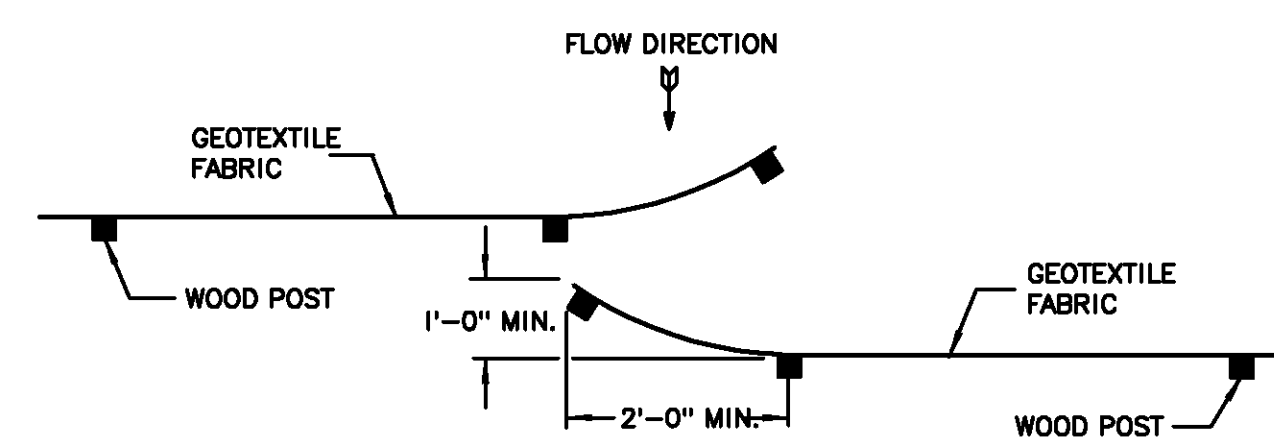
SILT FENCE TIE BACK (WHEN ADDITIONAL SUPPORT REQUIRED)



TRENCH DETAIL



TWIST METHOD

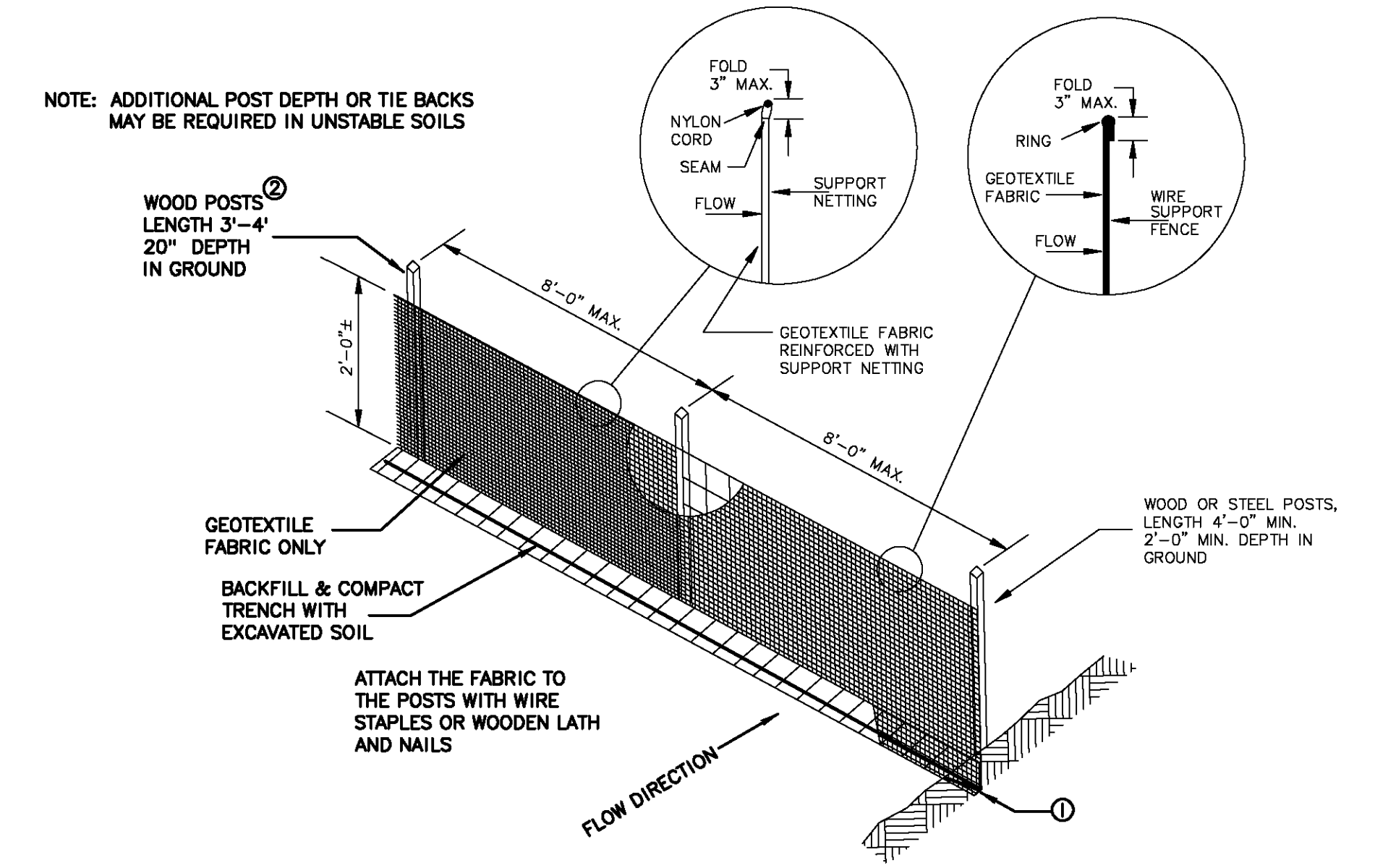


HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE

**GENERAL NOTES – SILT FENCE**

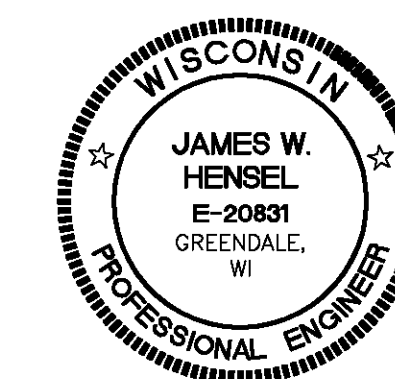
1. TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
2. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
3. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL. IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



SILT FENCE

**Erosion Control Maintenance Plan**

1. Install and maintain temporary B.M.P.'s during the duration of the project. Remove all fencing only after vegetation is established onsite and after final Town approval of all onsite restoration. Final stabilization is defined as an established uniform perennial vegetative cover with an overall site density of at least 80%.
2. All temporary and permanent B.M.P.'s shall be inspected for conformance and proper operation after all rainfall events of 0.5 inches or greater within a 24 hour period. The owners representative shall repair and/or replace said B.M.P.'s as soon as possible where necessary.
3. All BMP's shall be inspected and maintained in accordance with current DNR Technical Standards.
4. Any sediment tracked onto a public road should be removed by mechanical means, not flushing, before the end of each working day.



**TOWN OF CEDARBURG**  
 OZAUKEE COUNTY WISCONSIN  
**R. & R. QUARRY – C.T.H. "I"**

**Site Reclamation Details**

REVISIONS				DESIGNED:	DRAWN:	CHECKED:	SHEET
MK	DATE	BY	REVISION	J.W.H.	J.G.S.	D.E.O.	8
▲	3-28-13	J.G.S.	VARIOUS REVISIONS				OF 8
▲	4-5-13	J.G.S.	CLEAN FILL NOTE				
				DATE:	SCALE:		
				7-10-2012	-----		
				APPROVED:	PROJECT:	LS-3350	

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 (262) 241-9400 • FAX (262) 241-8337





THIS CERTIFIES THAT A

# NON-METALLIC RECLAMATION PERMIT

Has Been Issued To:

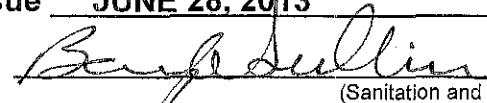
Owner: R & R EXCAVATING & BULLDOZING, INC.

Non-Metallic Mining Operator: SAME

Site Location: WEST SIDE OF HWY I (SHEBOYGAN ROAD)

Legal Description:

Part of the SE 1/4 of NE 1/4 of Section 22 In The Township 10 N-Range 21 E, Town of CEDARBURG; Parcel Identification Number 03-022-04-000.00 Date of Issue JUNE 28, 2013

  
(Sanitation and Health Specialist)

Any changes of planned project or change in ownership must be reported to the Ozaukee County Department of Land and Water Management or this permit may be revoked.

## POST ON PREMISES IN PLAIN VIEW

121 W. MAIN STREET, P.O. BOX 994, PORT WASHINGTON, WI 53074-0994  
Phone: (262) 284 8313 Metro: (262) 238-8313 Fax: (262) 284-8367 Metro Fax: (262) 238-8367