



January 31, 2014

Wisconsin Department of Natural Resources  
WDNR Wausau Service Center  
ATTN: Brad Johnson  
5301 Rib Mountain Road  
Wausau, WI 54401

Mr. Johnson:

Re: Stormwater Permit Response  
Bulk Sampling Activity

This letter serves to transmit to your office responses to comments dated December 20, 2013.

We look forward to discussing the project in more detail with your staff. Any questions should be directed to our Hurley office at (715) 561-2601. Our mailing address is:

Gogebic Taconite, LLC  
402 Silver Street  
Hurley, WI 54534

Sincerely,

A handwritten signature in black ink that reads 'Timothy J. Myers'. The signature is written in a cursive style with a long horizontal stroke at the end.

Timothy J Myers  
Engineer

1. Please provide a detail of the Runaway Truck Protection Area.

**RESPONSE:** The Runaway Truck Protection Area is provided as a workplace safety feature.

The construction will consist of a pile of small sized stone placed along Access Road 3. The pile is configured so that it forms a vee shape. The shortest part of the vee faces the uphill side of Access Road 3. The pile becomes progressively larger in the downhill direction. The intent of the pile is to provide a form of energy dissipation to stop a vehicle if there is a problem with stopping.

A sketch accompanies this text to provide a concept. The dimensions and configuration of the pile may vary to fit field conditions.

2. Please include provisions to install rock check dams in the Moore Park Road ditch if flow is significant enough that scour or transport of sediment is observed.

**RESPONSE:** Moore Park Road is a public road and road check dams are not proposed along that road ditch. However, Access Road 3 will have a sediment sump at its intersection with Moore Park Road. That sediment sump has been sized to meet the requirements of the Stormwater regulations. Refer to the Plan View for Access Road 3 on Sheet C002.

The ditchline on Moore Park Road will receive the same amount of surface runoff as current conditions. There are no changes to the drainage area, types of runoff or disturbed acreage from current conditions to the proposed conditions. The addition of a sediment sump will improve the storage capacity of the system that will result in a reduced outflow reporting to the ditch on Moore Park Road.

3. Will improvements to Access Road 3 be permanent? If so, restoration details need to be addressed that discuss getting the side slopes of the berm vegetated. In addition, details on how the permanent structures (rip rap ditch/channel and sedimentation basin) will be maintained must be included.

**RESPONSE:** All of this project's mining related roads are generally assumed to be temporary and will undergo reclamation activities unless a post mining use is proposed. Since this stormwater plan is an improvement for maintaining the roads during exploration, bulk sampling and data gathering phase of a ferrous mining permit application, the life of the improvement will be during the life of the data collection phase of the project up to permit issuance decision.

Maintenance activities including vegetating the berm, removing sediments from basins and disposal of sediment will be performed until the mining permit is issued or the project ends.

At the end of our use of the road, the berms and ditches will be removed and the road will be taken back to forestry best management practices.

4. Please use the WDNR Sediment Trap Technical Standard (1063) to design your sedimentation control devices rather than the riprap sump detail in the current plan.

**RESPONSE:** The rip rap sump shown on Drawing C002 was proposed at the discharge of the culvert at Access Road 3 Station 4+62.

A sized sediment trap following guidelines from Technical Standard 1063 has been proposed at the termination of the road ditch for Access Road 3 at the entrance from Moore Park Road. Please refer to Drawing C002 Detail 1 – Plan: Access Road 3 for sizing details.

5. Will 3 inch riprap in the Access Road 3 road ditch be of sufficient size to reduce the velocity of the water given the length and slope? Do you have data or technical information that verifies your assertions? If not, I would advise you to install rock check dams and or use larger aggregate. Please use the Ditch Check Technical Standard (1062) to make sure whatever design you choose is appropriate for the length and slope of your ditch.

**RESPONSE:** The velocity sizing for the Access Road ditchline from Station 4+62 to Station 0+00 indicates that the maximum velocity will be 3.06 fps based on a 10 year 24 hour frequency storm event. The proposed ditch erosion protection will be sized rock rip rap consisting of approximately 9-inch diameter material.

6. Please verify whether a culvert exists in the old railroad grade downslope of Bulk Sample Site 5 (BS5).

**RESPONSE:** Field review of the area was performed during June and July. No culverts were located in the area of Bulk Sample Site 5.

7. Access Road 6, stations 7+00 to 15+00:

a. Since the contributing drainage area to this segment appears significant and indicates that a lot of water will be flowing downslope, please calculate the drainage basin area and determine whether the corresponding amount of water can be reasonably passed over the road at station 12+50 and at the terminus of the silt fence at approximately 6+80. Please evaluate whether riprap should be used here to slow the water down before it crosses the road.

**RESPONSE:** There is confusion on the drainage pattern for this project. First, the runoff from the upslope drainage areas are not proposed to travel across the road to leave the project through the silt fence. By placing base rock and a running course of commercial stone on top of the existing road bed and the proposed construction grade, the road running surface will be at least 9 inches higher than the ground level at the original ground interface. Water will trend to follow the open channel to relief points such as hay bale dikes or culverts to relieve the runoff from the system.

Second, the plan does not propose to use silt fence as a water diversion. The manufacturer's data indicates that the woven silt fence geotextile fabric is rated to pass 5 gallons per minute per square foot based on ASTM D-4491 standards. The silt fence will provide sediment protection for a very small portion of the project since the drainage will be diverted to the open channel ditches created by placing rock on the road base.

The reporting drainage area above the proposed culvert at 12+30 is 1.95 acres. Peak Surface Runoff has been calculated at 1.87 cubic feet per second for a 10 year 24 hour storm event. The Peak Surface Runoff for a 2 year 24 hour storm event would be 0.85 cubic feet per second.

The silt fence at 6+80 is not expected to divert drainage. The road ditch reports to a hay bale ditch on the south side of the road at Station 7+00 and the expected Peak Surface Runoff at that point has been calculated to be 1.44 cubic feet per second for a 10 year 24 hour storm event. The Peak Surface Runoff for a 2 year 24 hour storm event would be 0.52 cubic feet per second.

Refer to the drawing sets for more detail on these areas.

b. Station 12+50 is the low spot that will receive water from around 400 feet of roadway and an undefined drainage basin. Stormwater is proposed to discharge over the road in this area and right into the proposed safety berm. Based on conversations with your design engineers, a cut in the berm to pass this water was inadvertently omitted. Please provide a revised plan sheet that details this area and shows the opening in the berm. Also your analysis should serve to help you evaluate whether a culvert is warranted here.

**RESPONSE:** A culvert is proposed at Station 12+30 to follow the natural drainage patterns. All drainage is proposed to pass through the culvert and not cross over the road.

The reporting drainage area above the proposed culvert at 12+30 is 1.95 acres. Peak Surface Runoff has been calculated at 1.87 cubic feet per second based on a 10 year 24 hour storm event. The Peak Surface Runoff for a 2 year 24 hour storm event would be 0.85 cubic feet per second.

c. Please explore the possibility of installing upslope silt fence in this area to collect clean water and direct it to a culvert under the roadway. It will function as a clean water diversion and will significantly decrease the amount of water that comes into contact with the roadway and its sediment.

**RESPONSE:** The use of an upgradient silt fence to divert surface runoff away from the project is not proposed. By placing base rock and a running course of commercial stone on top of the existing road bed and the proposed construction grade, the road running surface will be at least 9 inches higher than the ground level at the original ground interface. Water will trend to follow the open channel to relief points such as hay bale dikes or culverts to relieve the runoff from the system.

Second, the plan does not propose to use silt fence as a water diversion. The manufacturer's data indicates that the woven silt fence geotextile fabric is rated to pass 5 gallons per minute per square foot based on ASTM D-4491 standards. The silt fence will provide sediment protection for a very small portion of the project since the drainage will be diverted to the open channel ditches created by placing rock on the road base.

8. Please provide a better detail of what is proposed for station 16+00 to 18+00. Specifically, it is unclear where water goes around the wetlands in this location. Further, on the south, left going uphill, it appears that the water will be directed all the way down the slope from 23+50 to around Station 17+00. Due to the proximity of the wetlands in this location, please verify whether the outfall from the silt fence will impact wetlands. I have essentially the same comment for the north side of the road except it has an even longer flowpath. I would advise a break in the silt fence at around station 18+50 to 19+00. A discharge in this location appears to completely miss wetlands and bleeds off some of your stormwater.

**RESPONSE: The area near Stations 16+00 to 18+00 has been provided in more detail on Sheet C010. The road grade has been modified to indicate that the road will drain away from the high point at Station 17+25. Surface runoff will exit the system through a hay bale dike at Station 18+50 and/or through the silt fence material.**

9. I am also trying to square Detail 4 with the reality that you will likely have to cut on the uphill side of the roadway and fill on the downhill side; if only to have a good place to lay down your roadbed. This may mean that your roadway footprint is considerably larger than 12 feet +/- (toe of slope will need to extend out a ways on downhill *side*). It further means that restoration will be a bit more involved than the simple removal of gravel and geotextile material. It also prevents an erosion control challenge when you are taking water across the road and down a longer, steeper, unvegetated slope. Please indicate areas of cut and fill on your plan set. Are you able to calculate fill slopes, how far the toe of slope extends and whether additional BMPs are warranted? It would seem that this information would allow you to determine where and whether culverts are a reasonable option.

**RESPONSE: Typical cross sections for different portions of the roads are provided as Sheet C011. The cross sections were chosen to illustrate the varying conditions along the proposed construction.**

**The plan proposes an approximate 12 feet wide road. In addition, there will be additional widths needed for berms and ditches and the installation of erosion control structures.**

**The road has been located to provide a minimal amount of cut and fill activities. Design considerations have included items such as following the existing ground surface contours to the extent possible and using existing roads whenever possible.**

10. Since it appears that a considerable amount of the area around the switchback will be discharging through Station 28+00, provisions will need to be made to make sure the BMPs designed to be implemented in BS2 are of sufficient size to accommodate the expected flow. Please conduct an analysis of the expected runoff volumes to determine the efficacy of the proposed sedimentation practices. In addition, please prepare a contingency plan for implementing additional BMPs should conditions warrant during construction. Again, based on the calculated flow, it may be advisable to install a culvert here to divert flow away from BS2.

**RESPONSE: Similar to the response to Item 7.a above, the answer to this comment lies in the construction method for the road. A minimum of 9 inches of rock on the road base will create an open ditch between the road base and the original ground. This drainage feature will report to a sump supplied with a hay bale dike discharge area to remove settleable solids before leaving the drainage system.**

Surface Runoff has been diverted off Access Road 6 at Station 29+50. A peak runoff of 0.7 cubic feet per second based on a 10 year 24 hour storm event will be controlled through a hay bale sump. The Peak Surface Runoff for a 2 year 24 hour storm event would be 0.33 cubic feet per second. This runoff will not report to Bulk Sample Site 2.

At Station 28+00, the safety berm termination will have a minimal amount of runoff reporting to Bulk Sample Site 2. The majority of the runoff from the road will report towards the ditch formed at the edge of the road gravel and original ground and will be diverted to the culvert at Station 22+00.

The reporting drainage area above the proposed culvert at 22+00 is 1.75 acres. Peak Surface Runoff has been calculated at 1.69 cubic feet per second based on a 10 year 24 hour storm event. The Peak Surface Runoff for a 2 year 24 hour storm event would be 0.98 cubic feet per second.

11. Please provide a detail of the Truck Passing Lane.

**RESPONSE:** The truck passing lane consists of widening the road surface to two lanes (approximately 24 feet wide) to allow approaching traffic to allow opposing traffic to pass. A detail of the truck passing lane is provided within Sheet C010.

12. More detail is needed on the safety and wetland protection berms. Specifically:

- a. How are they terminated?
- b. Since water will be essentially channelized at the outfall of the berms you will need to make sure those areas are armored so the channelized flow is not erosive. Alternatively you could use Sedimentation Basins in these areas.
- c. Please provide plans that clearly provide the detail necessary (zoom in) to evaluate the water flow around the berms.

**RESPONSE:** Similar to the response to Item 7.a above, the answer to this comment lies in the construction method for the road. A minimum of 9 inches of rock on the road base will create an open ditch between the road base and the original ground. This drainage feature will report to a sump supplied with a hay bale dike discharge area to remove settleable solids before leaving the drainage system.

The safety and wetland protection berms will not require erosion protection at their termination since most drainage reports away from the berms towards ditches. The exception is found at Station 18+35 where the berm is diverting drainage towards silt fences and hay bale dikes. Surface runoff has been calculated at 1.26 cubic feet per second based on a 10 year 24 hour storm event. The Peak Surface Runoff for a 2 year 24 hour storm event would be 0.80 cubic feet per second.

13. Please use the Sedimentation Basin Technical Standard rather than the hay bales with sump detail proposed for BSI.

**RESPONSE:** The Sedimentation Basin Technical Standard is designed for drainage areas of 5 to 100 acres. The total disturbed area including roads for Bulk Sample Site 1 is 0.88 acres. The drainage area reporting to the north end of the Bulk Sample Site consists of 0.12 acres with a peak runoff of 0.66 cubic feet per second based on a 10 year 24 hour storm event. The Peak Runoff from a 2 year 24 hour storm is 0.39 cubic feet per second. The natural depression and the hay bale dike will contain this flow.

The Technical Standard #1062 for a drainage area of less than 1 acre suggests the use of ditch checks. The drainage area of the bulk sample excavation is 0.12 acres. This drainage design provides the use of a hay bale dike plus a natural depression measured at 378 cubic feet which exceeds the requirements of Technical Standard #1062.

14. Due to the proximity of the wetland north of BSI, you are advised to develop contingencies to install additional erosion controls if those implemented are insufficient to control sediment.

**RESPONSE:** In the event that the provided sediment control is not adequate to control runoff from Bulk Sample Site 1, lines of silt fence will be installed between the wetland areas and the project area to trap sediment before it would enter the wetlands.

It should be noted that Bulk Sample Site 1 is provided with more than the required sediment control found in the stormwater program.

15. During Bulk sampling activities, you are advised to excavate the lower part of the sampling area first so that a depressional area will be created for the storage of runoff water.

**RESPONSE:** Where practicable, excavations will be made with the intent of providing additional sediment control. However, activities such as running equipment in the lowest portion of the project would add more sediment load to any runoff. The sequence will be developed to create as much drainage storage as possible before allowing runoff to exit the activity.

16. Please update the plans to highlight the points of discharge.

**RESPONSE:** Refer to the drawing set for drainage patterns and sediment control.

17. Per the site map requirements of s. NR 216.46(5) Wis. Adm. Code, please provide a site map that contains all the requisite elements. Specifically, I am unable to locate a site map that identifies wetland and surface waters within a quarter mile of the construction site.

**RESPONSE:** Figure 2 in the Wetland Delineation Report is provided with the Wisconsin Wetland Inventory data.

18. Your plan reads as if the construction activities and therefore the implementation of erosion controls and ultimately restoration will occur when the ground is not frozen. If work is to be conducted in winter, a different suite of best management practices will likely need to be implemented. These alternatives need to be discussed at length. In addition, snow removal activities may need to be addressed. Please also discuss the possibility of starting construction and then having to stop for a length of time should road limit bans be put on Moore Park Road.

**RESPONSE:** Winter activity provides a substantially different approach than warm weather construction. If the bulk sampling activity can occur during frozen conditions, concerns such as surface runoff during excavation activities can be minimized.

Road access to Bulk Sample Sites 1 and 2 could be achieved by utilizing the existing roads that served the 1960 bulk sampling activity. Access Road 3 would be utilized to provide access to the public road system.

However, the winter excavation activity would be stopped at a time to avoid the spring thaw conditions.

19. Please indicate where construction will occur on slopes of 20% or greater.

**RESPONSE:** Please refer to the surface contours on the mapping. No existing slopes greater than 20% are found within the work area.

20. Extremely long runs of silt fence, especially those on slopes, tend to cause stormwater to pick up speed, be erosive, and ultimately cause the silt fence to fail. Periodic diversions into sedimentation basins or other BMPs will need to be employed here to address this significant issue.

**RESPONSE:** Similar to the response to Item 7.c, the plan does not propose to use silt fence as a water diversion. The manufacturer's data indicates that the woven silt fence geotextile fabric is rated to pass 5 gallons per minute per square foot based on ASTM D-4491 standards. The silt fence will provide sediment protection for a very small portion of the project since the drainage will be diverted to the open channel ditches created by placing rock on the road base.

Please refer to the revised maps. Culverts, silt fence and hay bale dikes are proposed to relieve runoff.

21. On the plan it is unclear where water will discharge at Station 36+80. Based on conversations with your engineer, it is your intention to take the water south. If so, you will need to protect the downslope wetland (Wetland 7) with a BMP like silt fence. Please fix this in the plan and provide a detail.

**RESPONSE:** Refer to Sheet C007. Silt fence is proposed around the north perimeter of the wetland. Runoff is allowed to exit the road through a hay bale sump.

22. Your application indicates an anticipated construction duration of 16 months. To the best of your ability, please narrow down your timeline or qualify your decision.

**RESPONSE:** Due to the unknown length of time to obtain agency and local government approvals, the timeline provides flexibility to perform the work during winter or summer periods. To prevent numerous plan changes due to the unknown review and approval periods, a longer work period is proposed. However, once the work begins, the bulk sampling activity is anticipated to take about 6 weeks to complete.

23. Section 2.1.2.2 of the narrative plan says "improvements will generally consist of the addition of gravel with or without geotextile". Please clarify this statement as it seems that gravel removal and restoration of the temporary roadway will be accomplished better if geotextile prevents gravel from mixing with native soils.

**RESPONSE:** One of the purposes for using geotextile material is to provide a separation media for recovering the road gravel for the reclamation activities. Areas may not need geotextile where the existing road base is adequate to support the level of transportation activity. On areas of native soils, geotextile material will be used.

24. Your narrative says that you will be using commercial gravel. Commercial gravel contains a significant amount of fines. You are advised to rethink that and instead use a larger aggregate product with less fines. I also disagree with the contention in Section 2.2.2 that commercial gravel will provide tracking control; as it will not.

**RESPONSE:** The proposed road construction will consist of a base course of approximate 2-inch diameter rock followed by a running course of crushed stone. The larger stone provides greater stability and the crushed stone is provided to fill the voids between the larger rocks to create a stable road surface.

Tracking onto Moores Park Road should not be a concern since the Access Roads will be constructed similar to the public road's surface. Also, the excavation areas are located a significant distance from the project entrance and mud tracking by trucks would be expected to be relieved by the time the vehicles arrive at Moores Park Road.

25. In Section 2.5, erosion control matting is proposed to be used on slopes 3:1 or steeper. Please indicate where erosion control matting will be used.

**RESPONSE:** There are no known areas where 30% slopes would be encountered. The erosion control matting is proposed as Best Management Practice in the event that 30% slopes are encountered.

26. In Section 2.1.1, "topsoil is to be segregated and reserved for future use". Please provide detail on the segregation that is going to be done. The Section further says, "bedrock is to be cleared of extraneous material". Please provide detail on what extraneous material is expected to be encountered and how it will be cleared.

**RESPONSE:** Topsoil from the road construction will be used to construct the berms along the road. At the reclamation phase, the topsoil would be graded to cover the final surface.

Topsoil is not expected in the Bulk Sample Sites since these are areas of previous disturbance. Any topsoil would have been mixed with subsoil and bedrock materials during the 1960 bulk sampling activity.

Bedrock would be cleared of extraneous materials if blasting activities would be required. This activity is intended to reduce the amount of non-ore material in the rock sample for a better representative example of ore that would be produced during active mining.

27. Will you need to screen rock prior to removal? If so, where will over and under sized material be stored? I assume it will be a different area than the topsoil piles. Indicate on plans and figures.

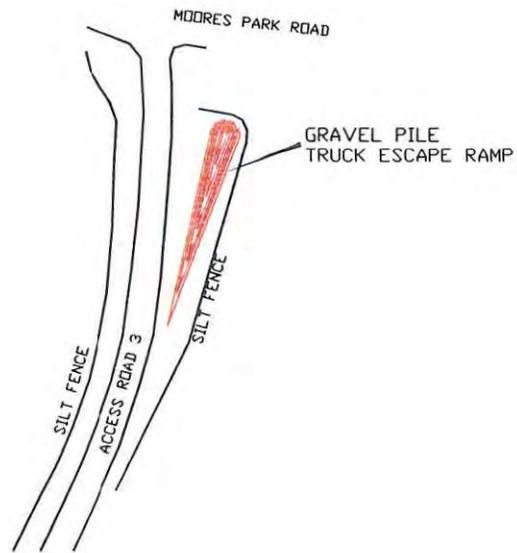
**RESPONSE:** The material is stored within the boundaries of the bulk sample areas. The proposed screening would prevent the haulage of soils materials mixed with the rock samples.

28. Will restoration activities include restoring the site back to current conditions or will Access Road 6 be left in place, minus gravel and fabric, as a logging road?

**RESPONSE:** The proposal is to remove the gravel road base and geotextile material. The berms will be removed and the disturbance will be revegetated.

29. In light of the number of comments above, please make sure the narrative plan jives with changes made to the drawings and figures.

**RESPONSE:** The Bulk Sample Sheets B001 to B004 have been revised to provide greater clarity. The Access Road Sheets C001 to C009 have been updated to provide a better demonstration of the proposed drainage patterns and drainage control measures. Access Road Sheets C010 and C011 have been created to provide more detail in cross sections and the road area at Station 17+00.

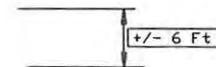


NOTE: THE DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS



PLAN VIEW

SHAPED GRAVEL PILE



PROFILE VIEW

GENERAL ARRANGEMENT  
 GRAVEL PILE TRUCK ESCAPE RAMP  
 ACCESS ROAD 3  
 NOT TO SCALE

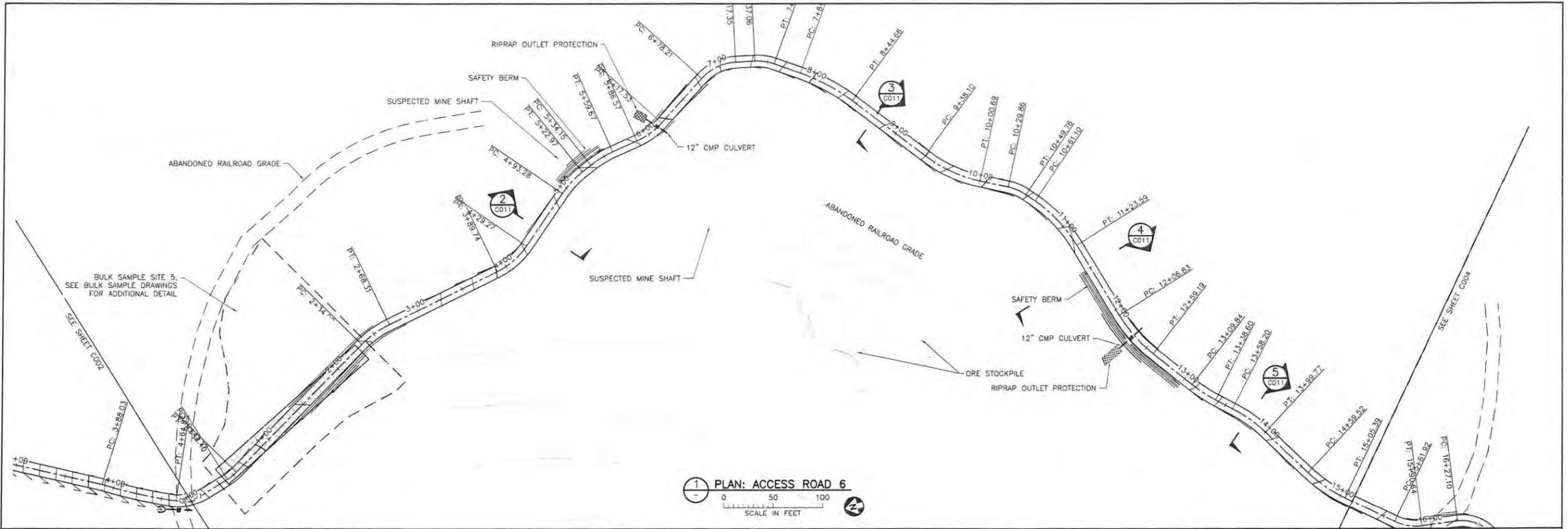
<b>Bulk Sample Plan Storm Water Discharges</b>				
Bulk Sample Site	Discharge Point	Drainage Area (acres)	Peak Runoff (cfs)	
			2-year, 24-hr Storm Event	10-year, 24-hr Storm Event
1	Existing Basin with Hay Bales	0.12	0.39	0.66
2	Northern Hay Bales	0.03	0.10	0.17
	Eastern Hay Bales	0.42	1.40	2.36

Culvert	Discharge Point	Drainage Area (acres)	Peak Runoff (cfs)	
			2-year, 24-hr Storm Event	10-year, 24-hr Storm Event
1	Access Road 3 @ 4+62	3.27	1.21	3.38
2	Access Road 6 @ 6+15	3.78	0.45	1.61
3	Access Road 6 @ 12+30	1.95	0.85	1.87
4	Access Road 6 @ 22+00	1.75	0.98	1.69

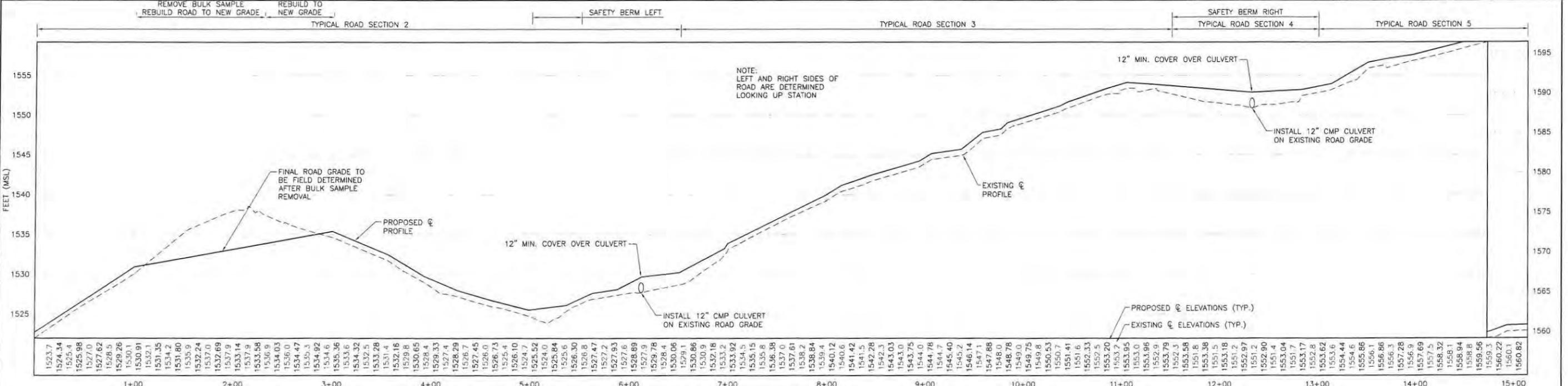
Haybale Dike	Discharge Point	Drainage Area (acres)	Peak Runoff (cfs)	
			2-year, 24-hr Storm Event	10-year, 24-hr Storm Event
1	Access Road 6 @ 7+00	1.60	0.52	1.44
2	Access Road 6 @ 18+35	0.08	0.29	0.46
3	Access Road 6 @ 20+40	0.07	0.29	0.45
4	Access Road 6 @ 29+50	0.73	0.33	0.70
5	Access Road 6 @ 32+50	0.20	0.76	1.19
6	Access Road 6 @ 36+80	0.21	0.80	1.26







1 PLAN: ACCESS ROAD 6  
SCALE IN FEET



2 PROFILE: ACCESS ROAD 6  
SCALE AS SHOWN

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NO.	BY	CHK	APP	DATE	REVISION DESCRIPTION

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DATE RELEASED	

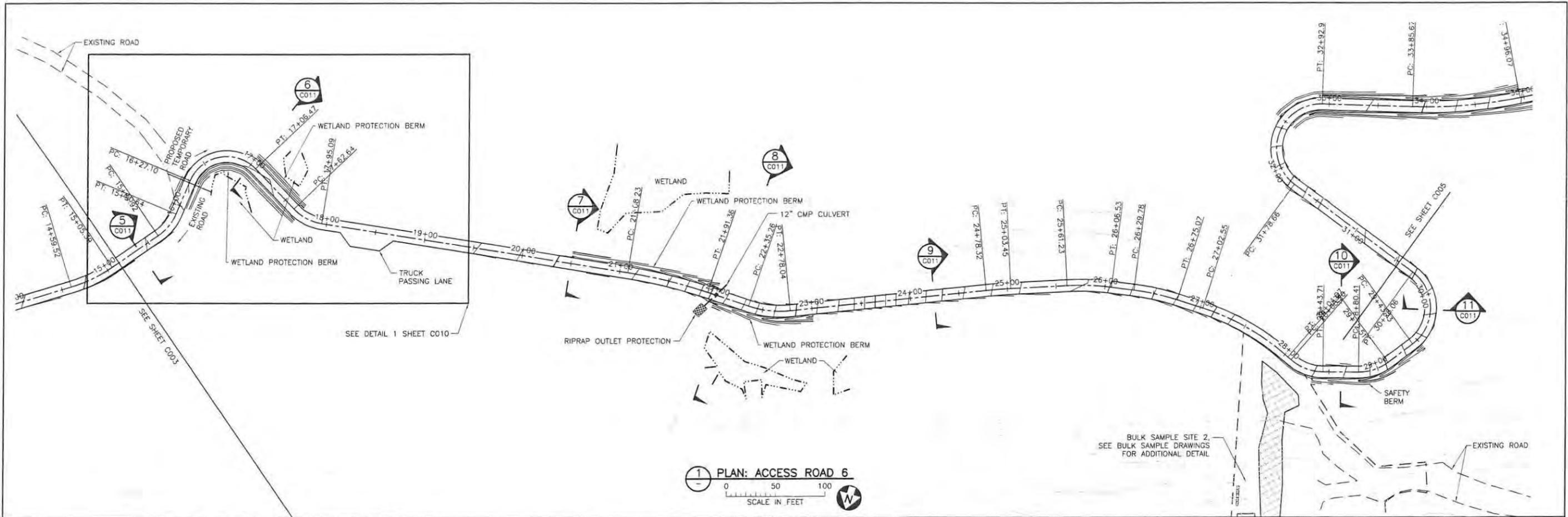
**BARR**  
 Corporate Headquarters:  
 Minneapolis, Minnesota  
 Ph: 1-800-632-2277

Project Office:  
 BARR ENGINEERING CO.  
 4700 WEST 77TH STREET  
 MINNEAPOLIS, MN.  
 55435-4803  
 Ph: 1-800-632-2277  
 Fax: (952) 832-2691  
 www.barr.com

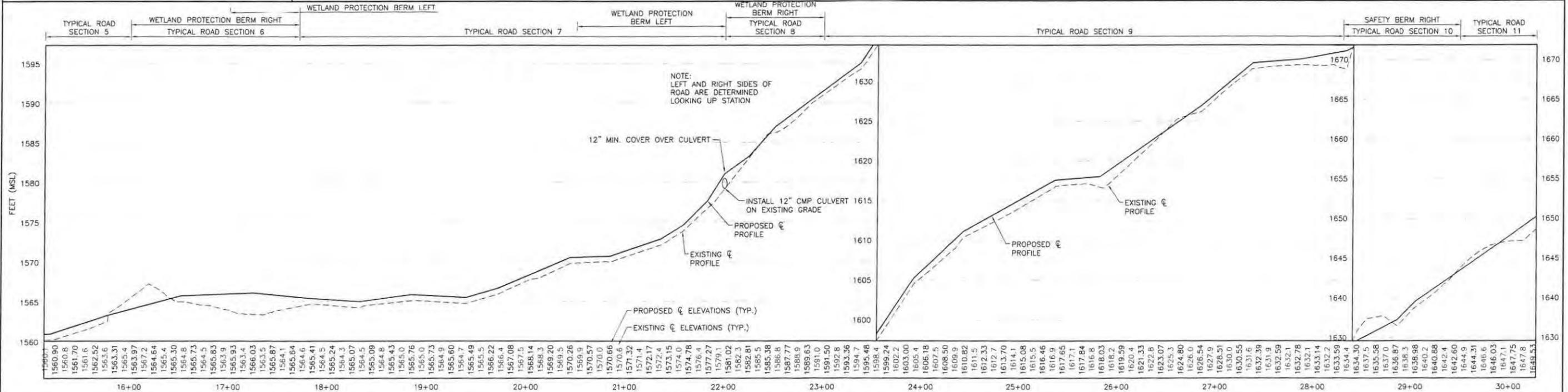
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Drawn	MDS
Checked	MTJ
Designed	MTJ
Approved	

**GOGEBIC TACONITE**  
 402 SILVER STREET, HURLEY, WI

<b>BULK SAMPLING PROJECT</b>		BARR PROJECT No. <b>49261006.03</b>
ACCESS ROAD 6 PLAN & PROFILE		CLIENT PROJECT No. 
DWG. No. <b>C003</b>	REV. No. <b>D</b>	



1 PLAN: ACCESS ROAD 6  
SCALE IN FEET



2 PROFILE: ACCESS ROAD 6  
SCALE AS SHOWN

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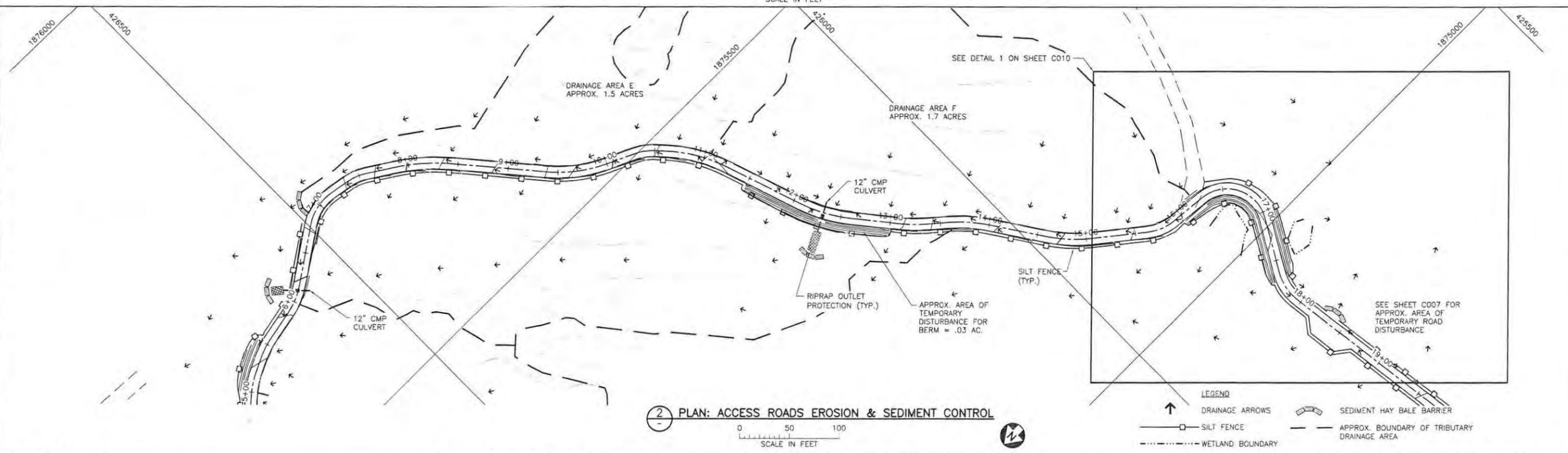
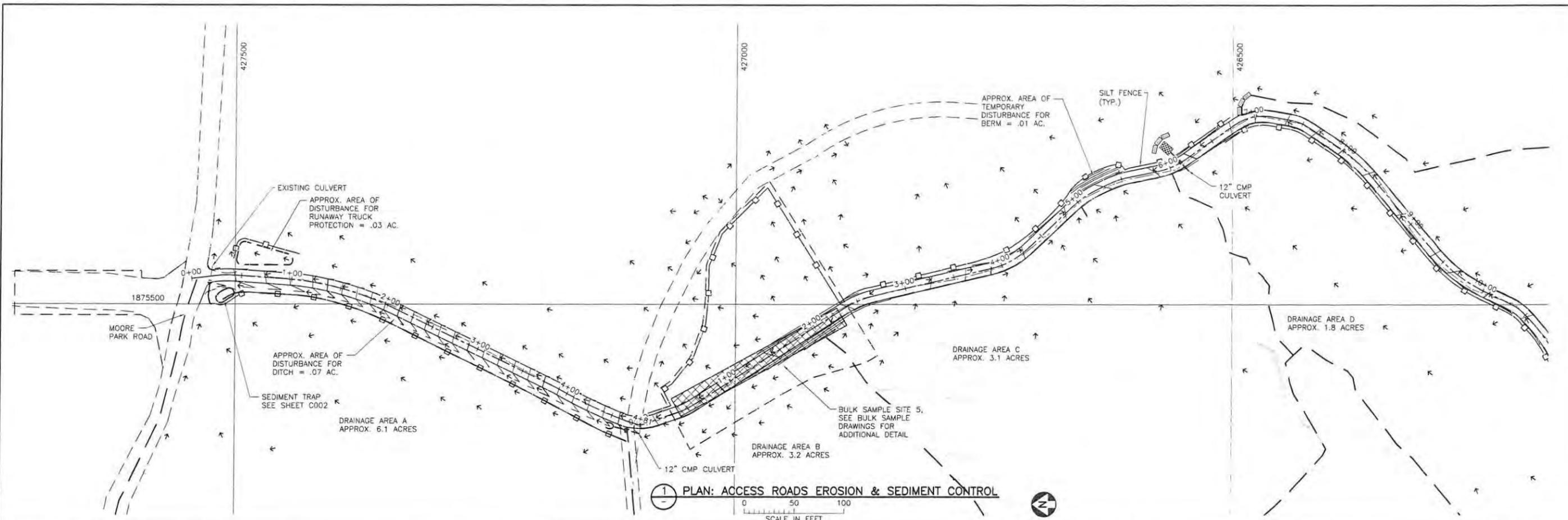
**BARR**  
 Project Office:  
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 Corporate Headquarters  
 Minneapolis, Minnesota  
 Ph: 1-800-632-2277  
 Fax: (612) 832-2601  
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Date	11-12-2013
Drawn	MDS
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Designed	MTJ
Approved	

GOGEBIC TACONITE  
 402 SILVER STREET, HURLEY, WI

BULK SAMPLING PROJECT		BARR PROJECT No.
ACCESS ROAD 6 PLAN & PROFILE		49261006.03
DWG. No.		REV. No.
C004	D	





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DATE RELEASED							

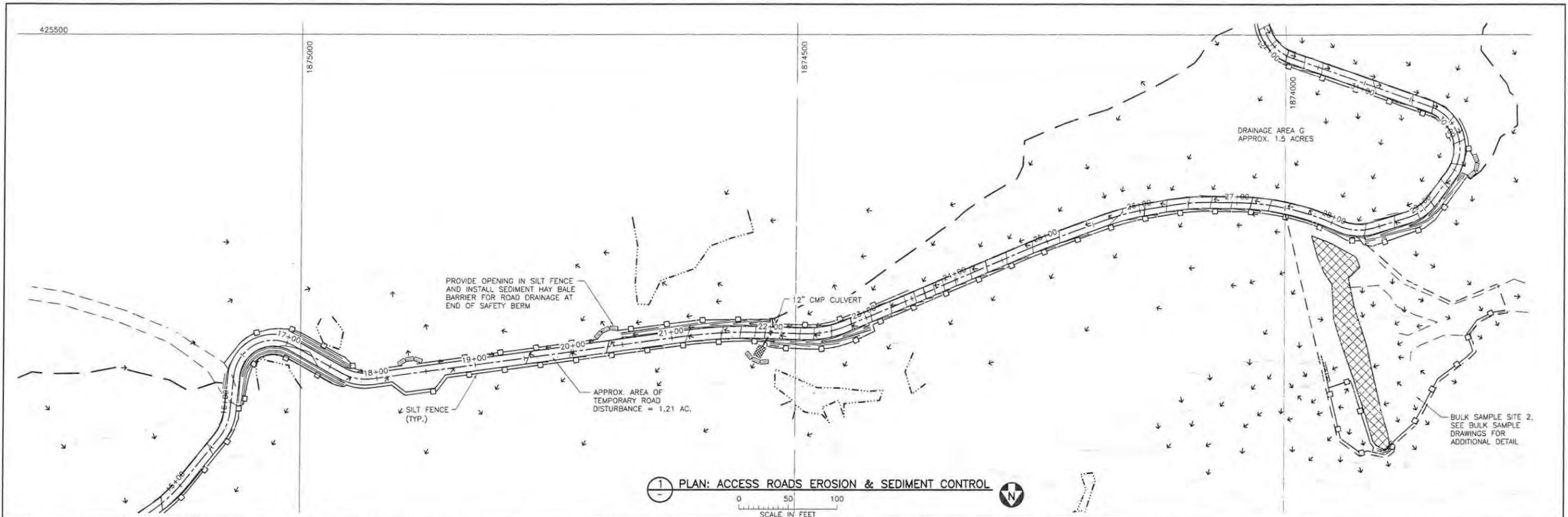
**BARR**  
 Project Office:  
 BARR ENGINEERING CO.  
 4700 WEST 77TH STREET  
 MINNEAPOLIS, MN.  
 55435-4803  
 Corporate Headquarters:  
 Minneapolis, Minnesota  
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 Ph: (952) 832-2601  
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Scale	AS SHOWN
Date	11-12-2013
Drawn	MDS
Checked	JMH3
Designed	JMH3
Approved	

**GOGEBIC TACONITE**  
 402 SILVER STREET, HURLEY, WI

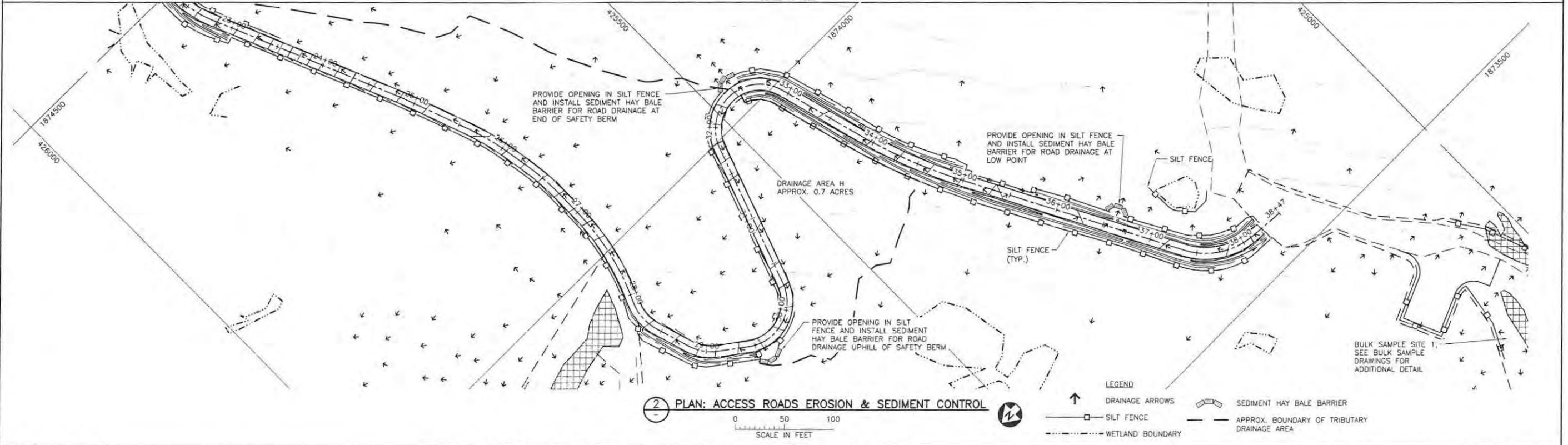
**BULK SAMPLING PROJECT**  
 ACCESS ROAD 3 & 6  
 EROSION AND SEDIMENT CONTROL PLAN

BARR PROJECT No	49261006.03
CLIENT PROJECT No.	
DWG. No.	C006
REV. No.	D



1 PLAN: ACCESS ROADS EROSION & SEDIMENT CONTROL

0 50 100  
SCALE IN FEET



2 PLAN: ACCESS ROADS EROSION & SEDIMENT CONTROL

0 50 100  
SCALE IN FEET

- LEGEND
- ↑ DRAINAGE ARROWS
  - SILT FENCE
  - ▭ SEDIMENT HAY BALE BARRIER
  - APPROX. BOUNDARY OF TRIBUTARY DRAINAGE AREA
  - - - - - WETLAND BOUNDARY

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NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

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BID							
CONSTRUCTION							
RELEASED TO/FOR	A	B	C	D	O	1	2
DATE RELEASED							

**BARR**

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 BARR ENGINEERING CO.  
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 55435-4803

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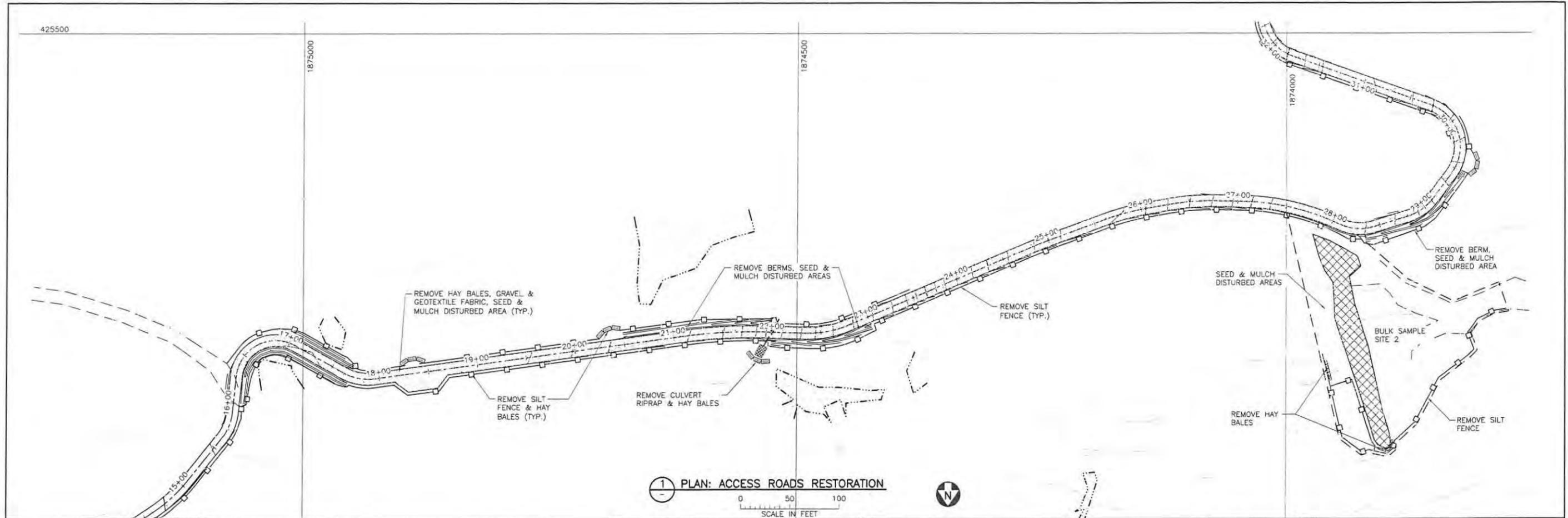
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GOGEBIC TACONITE  
 402 SILVER STREET, HURLEY, WI

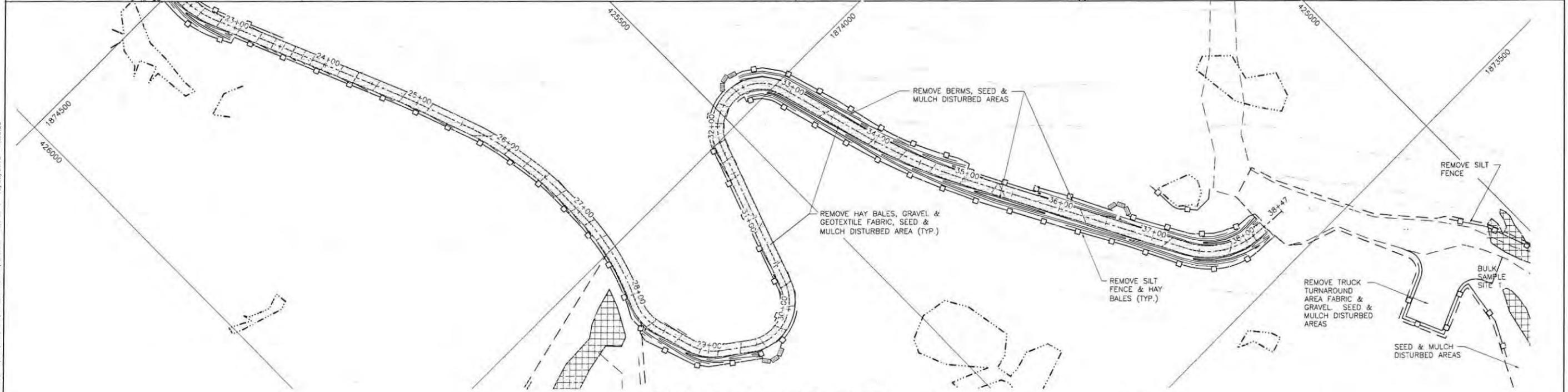
BULK SAMPLING PROJECT	
ACCESS ROAD 6 EROSION AND SEDIMENT CONTROL PLAN	
BARR PROJECT No. 49261006.03	CLIENT PROJECT No.
DWG. No. C007	REV. No. D



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1 PLAN: ACCESS ROADS RESTORATION



2 PLAN: ACCESS ROADS RESTORATION

- LEGEND
- SILT FENCE
  - SEDIMENT HAY BALE BARRIER
  - - - - - WETLAND BOUNDARY

NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION

CLIENT	1-12-13	1-2-13	1/25/13	2/4/14			
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CONSTRUCTION							
RELEASED TO/FOR	A	B	C	D	O	1	2
DATE RELEASED							

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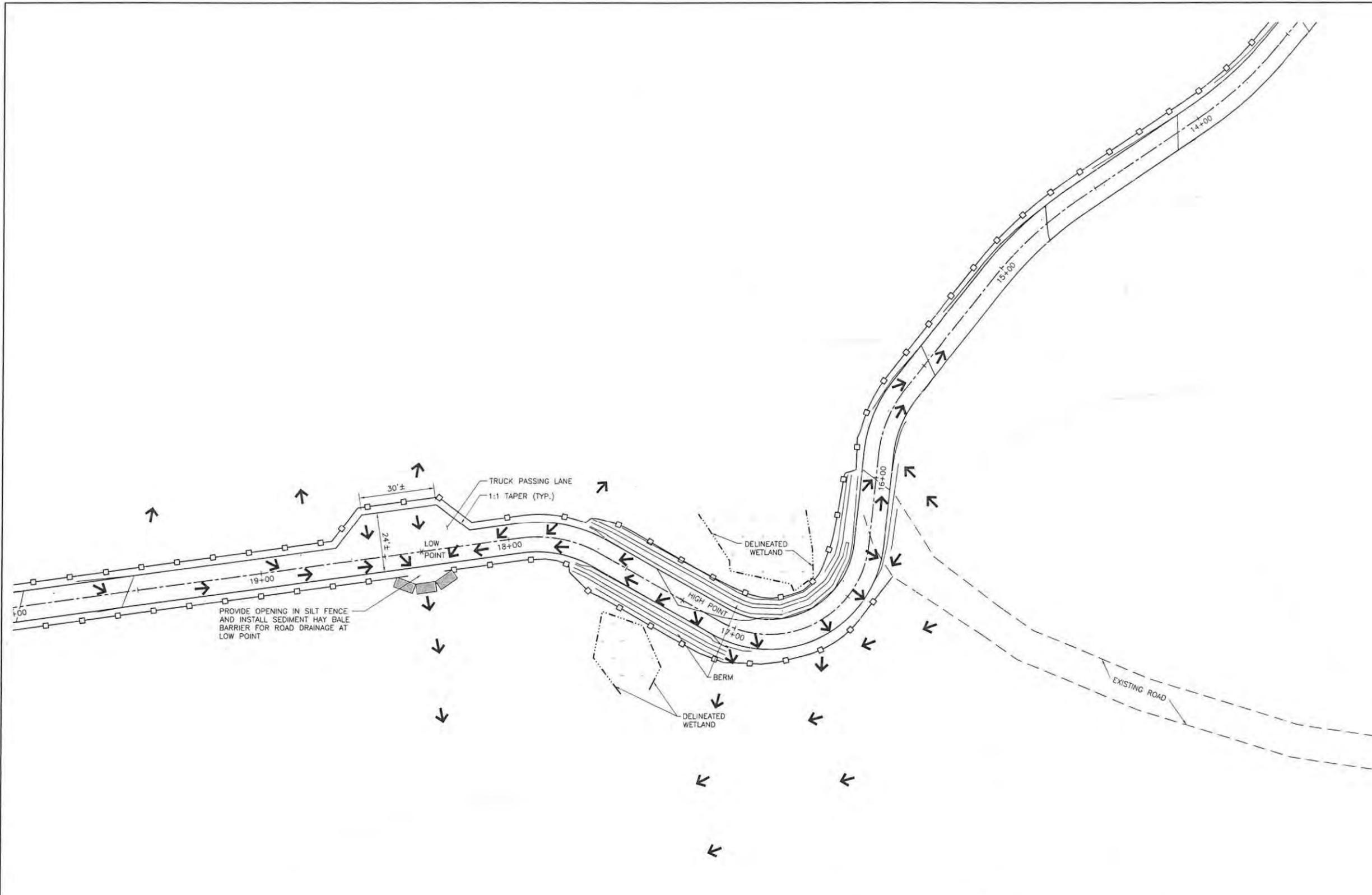
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Designed	JMH3
Approved	

GOGEBIC TACONITE  
 402 SILVER STREET, HURLEY, WI

BULK SAMPLING PROJECT  
 ACCESS ROAD 6  
 RESTORATION PLAN

BARR PROJECT No.	49261006.03
CLIENT PROJECT No.	
DWG. No.	C009
REV. No.	D

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1 PLAN: PLAN DETAIL  
 0 20 40  
 SCALE IN FEET

LEGEND  
 ↑ DRAINAGE ARROWS  
 □ SILT FENCE  
 --- WETLAND BOUNDARY  
 [Symbol] SEDIMENT HAY BALE BARRIER

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

CLIENT	1/24/14						
BID							
CONSTRUCTION							
RELEASED TO/FOR	A	B	C	0	1	2	3
DATE RELEASED							

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 55435-4803  
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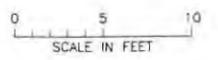
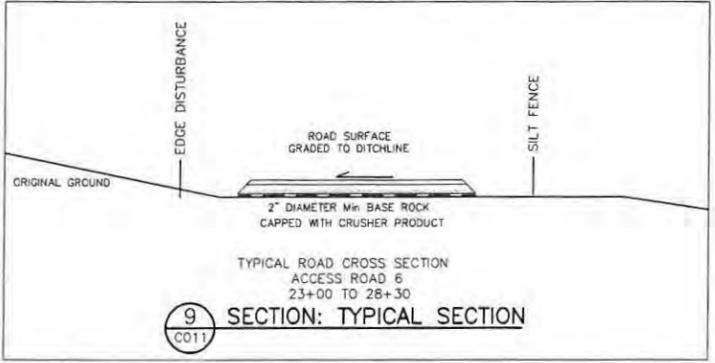
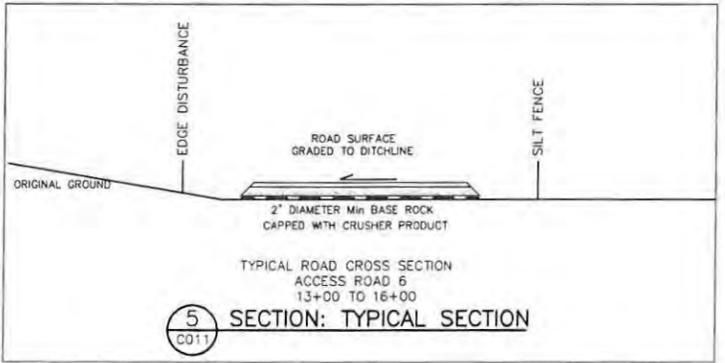
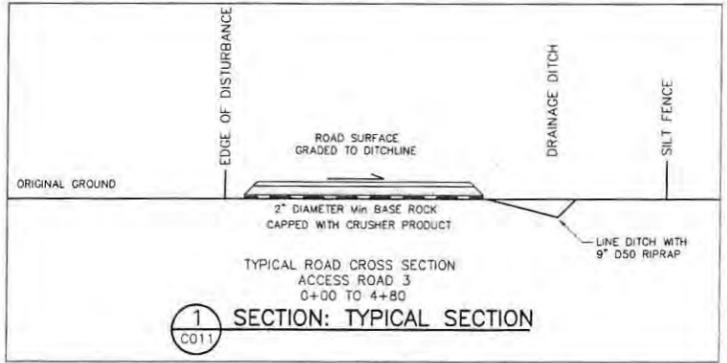
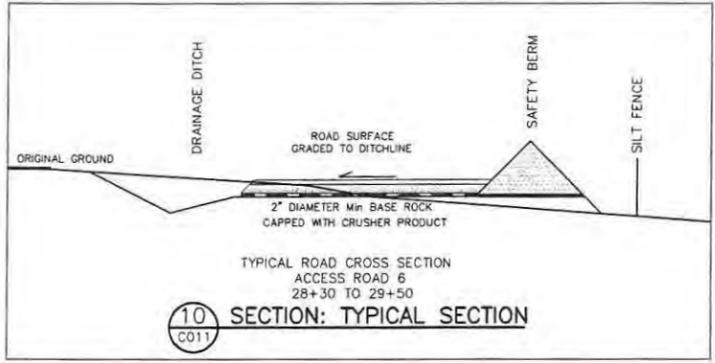
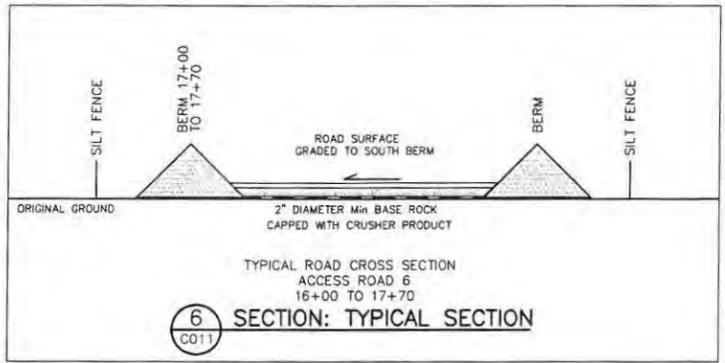
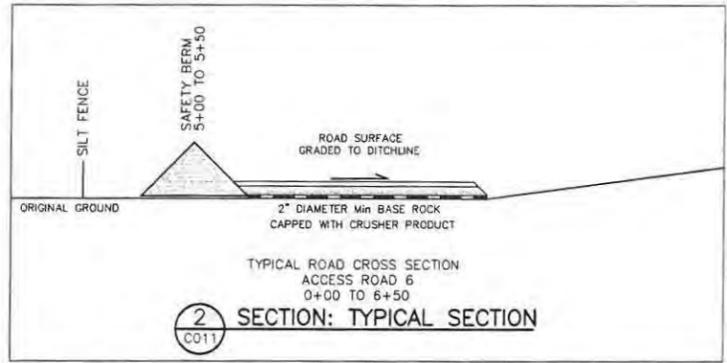
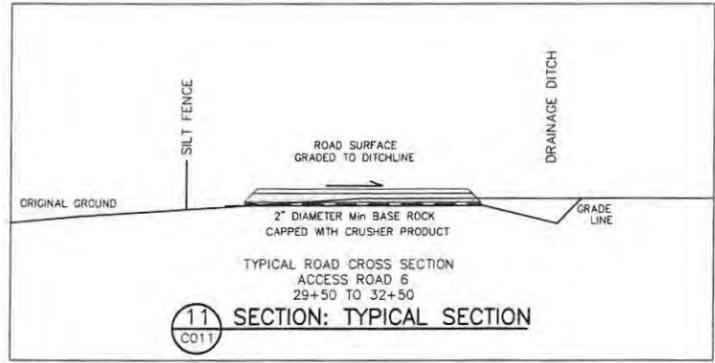
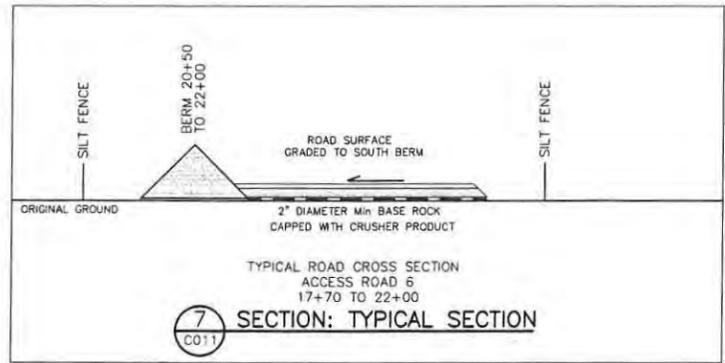
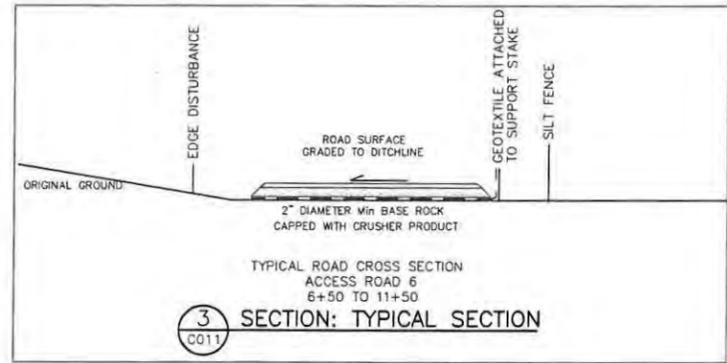
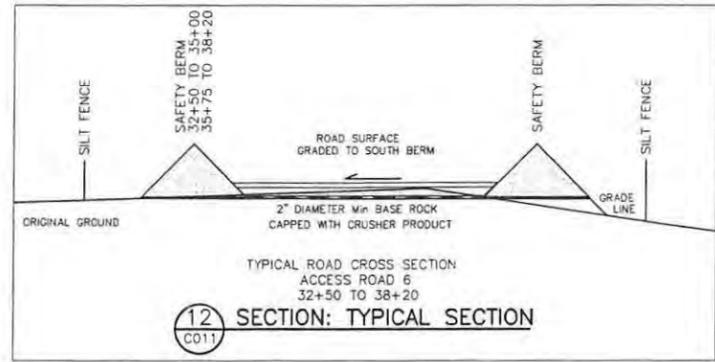
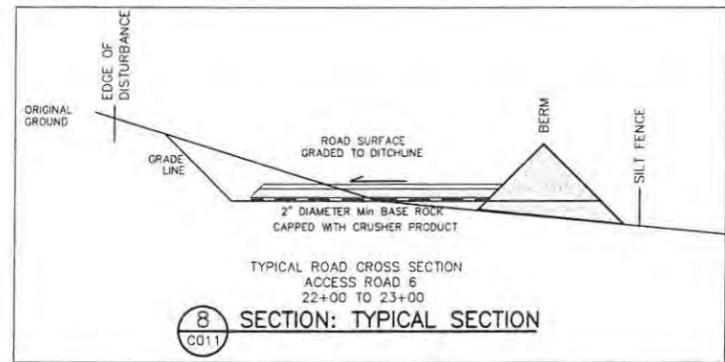
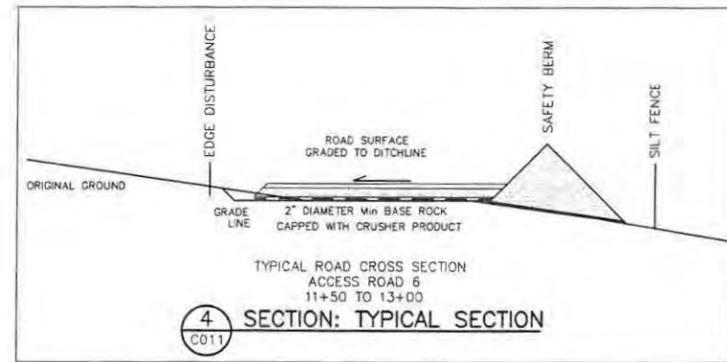
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Date	
Drawn	MDS
Checked	MTJ
Designed	MTJ
Approved	MTJ

GOGEBIC TACONITE  
 402 SILVER STREET, HURLEY, WI

BULK SAMPING PROJCT  
 ACCESS ROAD 6  
 WETLAND AREA DETAIL NEAR STA. 17+00

BARR PROJECT No.	49231006.03
CLIENT PROJECT No.	
DWG. No.	C010
REV. No.	A

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NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION

CLIENT	BID	CONSTRUCTION	RELEASED TO/FOR	DATE RELEASED

**BARR** Engineering Co.  
 Project Office:  
 BARR ENGINEERING CO.  
 4700 WEST 77TH STREET  
 MINNEAPOLIS, MN.  
 55435-4803  
 Corporate Headquarters:  
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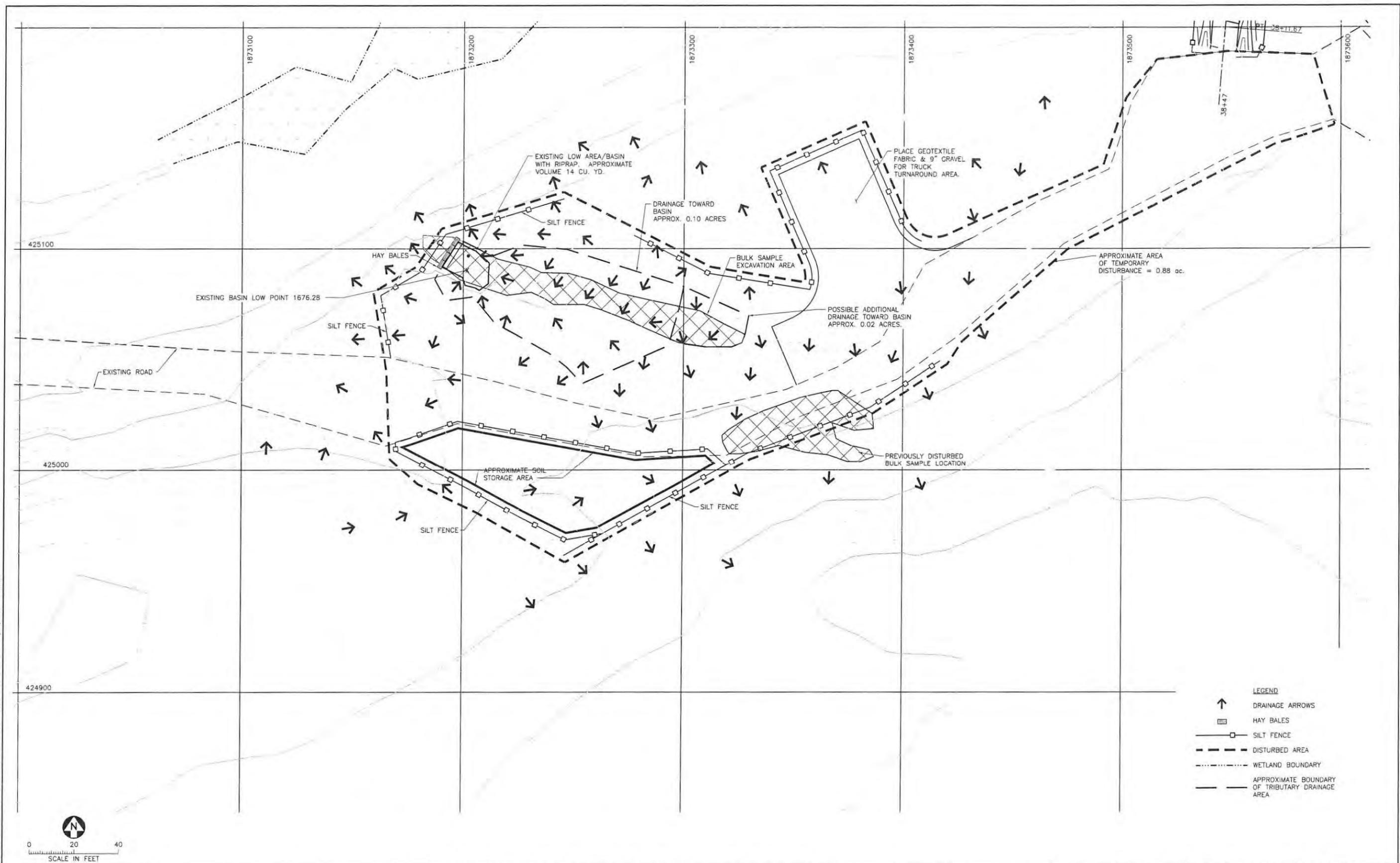
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Date	
Drawn	MDS
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Designed	MTJ
Approved	MTJ

**GOGEBIC TACONITE**  
 402 SILVER STREET, HURLEY, WI

**BULK SAMPLING PROJECT**  
 ACCESS ROAD 3 & 6  
 TYPICAL ROAD SECTIONS

BARR PROJECT No.	49261006.03
CLIENT PROJECT No.	
DWG. No.	C011
REV. No.	

CADD USER: Mark D. Scherer FILE: M:\DESIGN\49261006\03\4926100603\_BULK SITE 1.DWG PLOT SCALE: 1:1 PLOT DATE: 1/28/2014 2:41 PM  
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- LEGEND**
- ↑ DRAINAGE ARROWS
  - ▣ HAY BALES
  - SILT FENCE
  - - - - - DISTURBED AREA
  - · - · - · WETLAND BOUNDARY
  - - - - - APPROXIMATE BOUNDARY OF TRIBUTARY DRAINAGE AREA

NO.	BY	CHK	APP	DATE	REVISION DESCRIPTION

CLIENT	1/22/13	1/26/13	1/24/14
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CONSTRUCTION			
RELEASED TO/FOR	A	B	C
DATE RELEASED	0	1	2
	3		

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 55435-4803  
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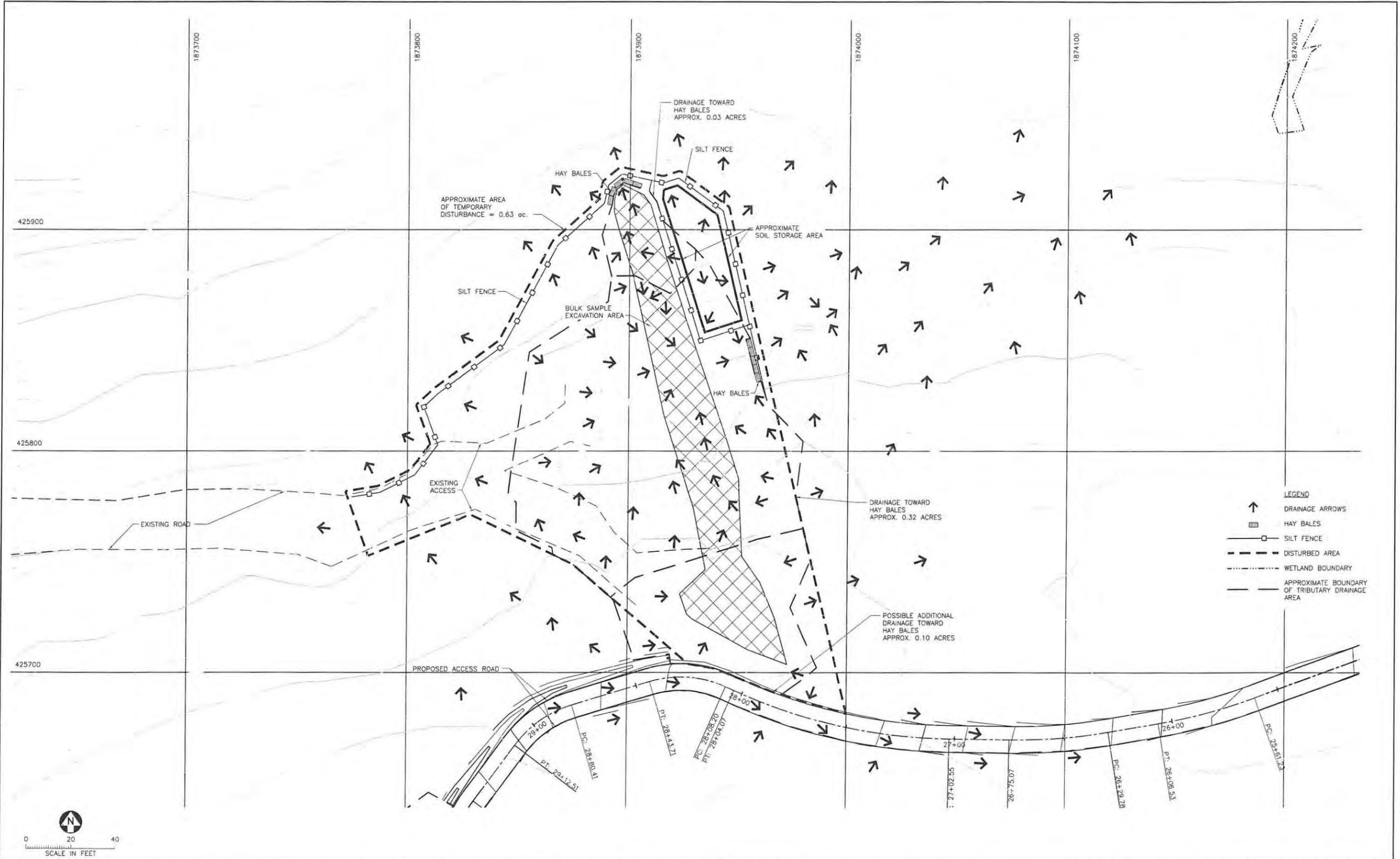
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Date	11/22/13
Drawn	MDS
Checked	JMH3
Designed	JMH3
Approved	

**GOGEBIC TACONITE**  
 402 SILVER STREET, HURLEY, WI

**BULK SAMPLING PROJECT**  
 BULK SAMPLE SITE 1  
 EROSION AND SEDIMENT CONTROL PLAN

BARR PROJECT No.	49261006.03
CLIENT PROJECT No.	
DWG. No.	B001
REV. No.	C

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NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

CLIENT	1/22/13	1/28/13	2/4/13			
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CONSTRUCTION						
RELEASED TO/FOR	A	B	C	0	1	2
DATE RELEASED						

**BARR**  
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Scale: AS SHOWN  
 Date: 11/22/13  
 Drawn: MDS  
 Checked: JMH3  
 Designed: JMH3  
 Approved:  

**GOGEBIC TACONITE**  
 402 SILVER STREET, HURLEY, WI.

**BULK SAMPLING PROJECT**

**BULK SAMPLE SITE 2**  
**EROSION AND SEDIMENT CONTROL PLAN**

BARR PROJECT No. <b>49261006.03</b>	REV No <b>C</b>
CLIENT PROJECT No. 	DWG. No. <b>B002</b>

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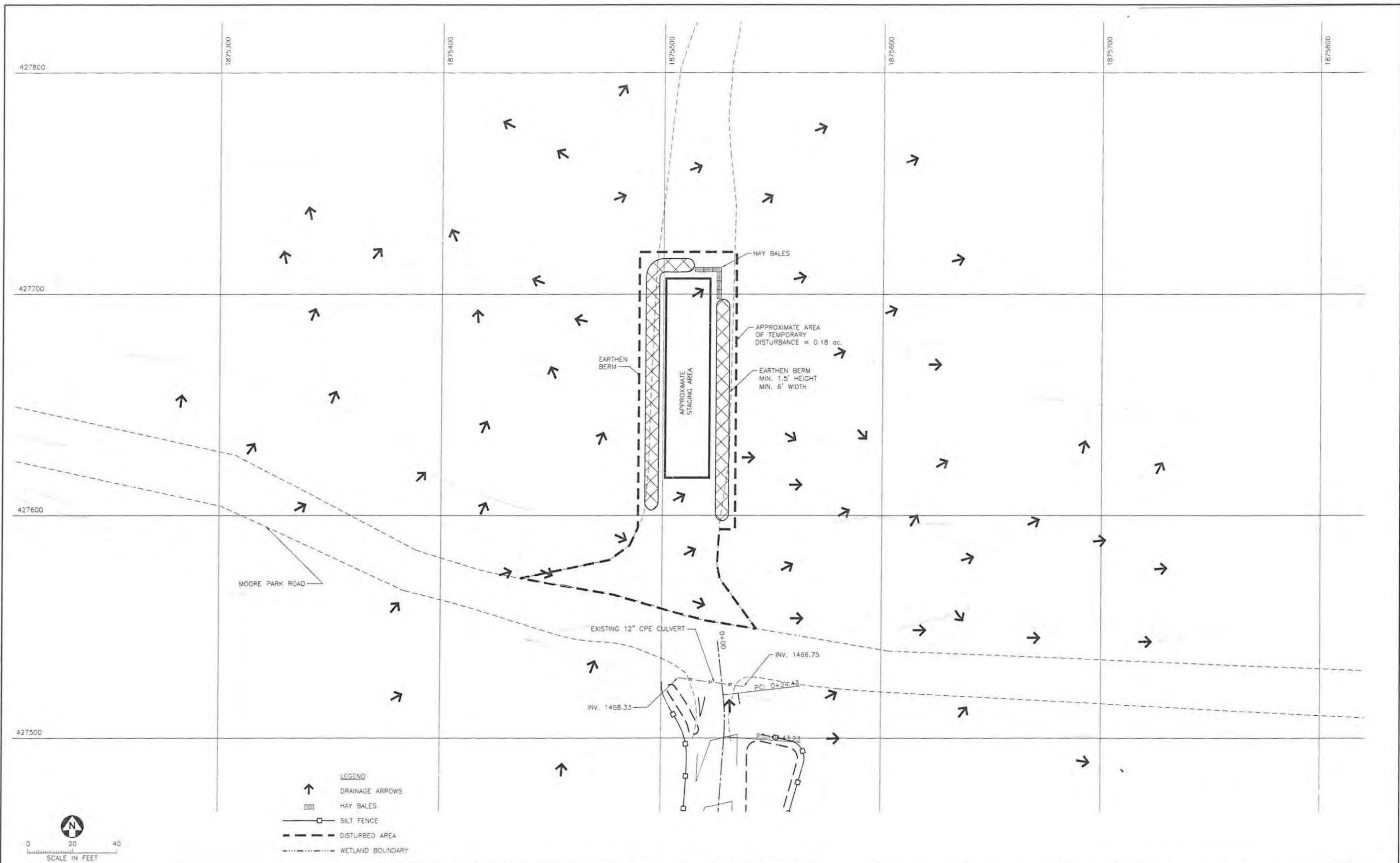


- LEGEND**
- ↑ DRAINAGE ARROWS
  - ▣ HAY BALES
  - SILT FENCE
  - - - - - DISTURBED AREA
  - · - · - · - WETLAND BOUNDARY
  - - - - - APPROXIMATE BOUNDARY OF TRIBUTARY DRAINAGE AREA



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- LEGEND**
- ↑ DRAINAGE ARROWS
  - ▣ HAY BALES
  - SILT FENCE
  - - - - - DISTURBED AREA
  - ..... WETLAND BOUNDARY



		CLIENT		11/22/13 11/26/13		<b>BARR</b> Corporate Headquarters Minneapolis, Minnesota Ph: 1-800-632-2277	Project Office:		Scale		<b>GOGEBIC TACONITE</b> 402 SILVER STREET, HURLEY, WI		<b>BULK SAMPLING PROJECT</b>		BARR PROJECT No.		
		CONSTRUCTION					BARR ENGINEERING CO. 4700 WEST 77TH STREET MINNEAPOLIS, MN. 55435-4803 Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com		AS SHOWN						49261006.03		
NO.		BY	CHK	APP	DATE	RELEASED TO/FOR	A	B	C	O	1	2	3	<b>MATERIAL STAGING AREA</b> <b>EROSION AND SEDIMENT CONTROL PLAN</b>		DWG. No.	REV. No.
REVISION DESCRIPTION						DATE RELEASED						B004				B	