GTAC
GOGEBIC TACONITE

July 9, 2013

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

Dear Mr. Johnson:

Re: Stormwater Permit Application
Access Road 3 Grading
Wisconsin DNR Rules NR216.51

Gogebic Taconite, LLC submits to your agency a Stormwater Permit Application for a road grading project. Access Road No. 3 is located on an abandoned railroad grade that originates from the 1880's. The road has a history of being used for logging activities.

The project proposes to grade the soils material that has built up over the ballast material. This will reduce the amount of muddy conditions that occur with wheeled traffic on the road following rainfall events. Three culverts are proposed to provide a means to pass runoff past the road. Each culvert is located in upland areas with no definable streams or wetlands.

It should be noted that the proposed activity will not impact wetlands or historic sites since all activity will occur on previously disturbed roads.

Included, you will find the following completed forms and documents:

- Application Fee in the amount of $140.00
- Water Resources Application for Project Permits – Form 3500-053
- Attachment – Construction Erosion and Sediment Control
- Attachment – Post Construction Storm Water Management

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,

Timothy J Myers

Timothy J Myers
Manager Engineering

Associated Bank

CASHIER'S CHECK - CUSTOMER COPY

2005506124

DATE: 07/03/13

PAY *One Hundred Forty and 00/100ths Dollars*

***$140.00

TO THE ORDER OF ***Wisconsin DNR***
Storm water app fees

NON-NEGOTIABLE

REMITTER: TIMOTHY MYERS

THIS DOCUMENT CONTAINS SECURITY FEATURES INCLUDING THERMOCHROMIC INK, ARTIFICIAL WATERMARK, DETAILS ON BACK.
IF YOU DO NOT SEE THESE SECURITY FEATURES, DO NOT CASH THE CHECK.

Associated Bank

CASHIER'S CHECK

2005506124

79-57
759

$140.00

→→→ DOLLAR ONE FOUR ZERO PERIOD ZERO ZERO →→→

DATE: 07/03/13

PAY *One Hundred Forty and 00/100ths Dollars*

***$140.00

TO THE ORDER OF ***Wisconsin DNR***
Storm water app fees

M1502 (10/10)

AUTHORIZED SIGNATURE

REMITTER: TIMOTHY MYERS

⑈2005506124⑈ ⑆075900575⑆ 9000003 4⑈

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Water Resources Application for Project Permits

Form 3500-053 (R 08/09) Page 1

Use this form for (check all that apply):

☐ Work in public waters (DNR – ch. 30, Wis. Stats.)
☐ Work in waters of the U.S (Corps of Engineers)
☐ Permit for Wetland Fill (DNR or Corps of Engineers)
☒ Storm water NOI – New land disturbing construction activity
☐ Storm water NOI – Renewal FIN #
☐ Dam projects (DNR or Corps of Engineers)

Read all instructions provided before completing. If additional space is needed, attach additional pages.

Notice: This form is used to apply for coverage under the state construction site storm water runoff general permit, and to apply for a state or federal permit or certification for waterway and wetland projects or dam projects. This application form is authorized by chs 30 and 31, Wis. Stats, for Alterations to Public Waterways, ch. 281, Wis. Stats, for Wetland Fill and s. 283.33, Wis. Stats., for Storm Water Discharges. Personally identifiable information on this form may be used for other program purposes and may be made available to requestors under Wisconsin's Public Records laws and be posted on the Department website. This form and any required attachments constitute the permit application. Failure to complete and submit this application form may result in a fine and/or imprisonment or forfeiture under the provisions of applicable laws.

Section 1: Applicant Information

Applicant Name (Indiv., Org. or Entity)	Authorized Representative	Title	
Gogebic Taconite, LLC	**Timothy J Myers**	**Manager - Engineering**	
Mailing Address	City	State	Postal Code
402 Silver Street	**Hurley**	**WI**	**54534**
E-mail address	Telephone Number (include area code)	Fax Number (include area code)	
tmyers@gogebictaconite.com	**715 561-2601**	**715 561-2604**	

Section 2: Landowner Information (if different than Applicant)

Name (Organization or Entity)	Contact Person	Title	
SEE ATTACHMENT TO SECTION 2			
Mailing Address	City	State	Postal Code
E-mail address	Telephone Number (include area code)	Fax Number (include area code)	

Section 3: Other Contact Information (check one):

☐ Consultant or Plan Preparer ☐ Contractor ☐ Agent ☐ Other | If Other, specify:

Name (Organization or Entity)	Contact Person	Title	
NOT APPLICABLE			
Mailing Address	City	State	Postal Code
E-mail address	Telephone Number (include area code)	Fax Number (include area code)	

Section 4: Project or Site Location

Site Name (if any)	County	Municipality
Access Road 3 Grading	**Iron**	
Location Address/Description		☐ City ☐ Village ☐ Township
SEE ATTACHMENT TO SECTION 4		

Section 5: Location Information

Create a map depicting the perimeter of the construction site (land disturbance) and relationship to nearby water resources using the Surface Water Data Viewer http://dnr.wi.gov/org/water/data_viewer.htm or a 7.5-minute series topographic map. You can print the map and then draw the location on the map.

Provide the section, range, township information and if available, the Latitude and Longitude information.

PLSS (Public Land Survey System) **Method**

Quarter-Quarter		Quarter		Section	Township	Range	Direction	
☐ NW	☐ NE	☐ NW	☐ NE		N		☐ E ☐ W	If this site is not wholly contained on the quarter-quarter section, more description:
☐ SW	☐ SE	☐ SW	☐ SE					

Applicant/Project Name: Access **Road 3 Grading** | County: **Iron**

Latitude and Longitude Method (if available)

	Degrees	Minutes	Seconds	Method of Determining
Latitude				☐ GPS ☐ DNR's Surface Water Data Viewer ☐ Other (specify):
Longitude				

Section 6: Waterways and Wetlands (see Instructions about potential additional application requirements)

Name (description if unnamed) of closest waterbodies	Type	Special status
SEE ATTACHMENT TO SECTION 6	☐ Lake ☐ Stream	☐ ORW/ERW ☐ 303(d) listed

Yes No Wetlands:

☐ ☒ Wetlands will be filled, excavated, or disturbed during construction or as part of this project.

The presence of wetlands has been evaluated using: (check all that apply)

☒ Wisconsin Wetlands Inventory ☐ Wetland Delineation (attach report)

☐ Wetland Locator Tool http://dnr.wi.gov/wetlands/locating.html ☐ Soils (NRCS maps) ☒ Other (specify)All disturbances located on existing roads

Section 7: Project Information (Attach additional sheets as necessary)

Duration:	Anticipated Project Start Date (month/day/year)	Projected Project End Date (month/year)
	July 8, 2013	November 1, 2014

Photos: Provide photographs of the "before" condition. Date of Photographs: July 2013

Narrative of the Project:

Provide a one to two paragraph description of the proposed project, including land and water alterations and intended use(s) of the project.

SEE ATTACHMENT TO SECTION 7

Section 8: Attachments and Permit Access (Include appropriate attachments for each proposed activity.)

The following attachments, together with this form, constitute this permit application: (include all that apply)

Attachment Name(s)

☒ I have obtained a copy of the construction site storm water runoff general permit from the department's Internet site. http://dnr.wi.gov/runoff/pdf/stormwater/permits/construction/construction_permit_S067831-3.pdf

Section 9: Certification & Permission

Certification: I hereby certify that I am the owner or authorized representative of the owner of the property which is the subject of this Permit Application. I certify that the information contained in this form and attachments is true and accurate. I understand that failure to comply with any or all of the provisions of the permit may result in permit revocation and a fine and/or imprisonment or forfeiture under the provisions of applicable laws.

Permission: I hereby give the Department permission to enter and inspect the property at reasonable times, to evaluate this notice and application, and to determine compliance with any resulting permit coverage.

Name of Owner/Authorized Representative (Print or Type)	Title	Telephone Number
Timothy J Myers	**Manager-Engineering**	**715 561-2601**
Signature *Timothy J Myers*		Date Signed *July 9, 2013*

LEAVE BLANK - AGENCY USE ONLY

Date Received	Fee Received	Construction Site ID#	Docket #	Corps #
	$			

Initial screening:
☐ Completeness ☐ Historic checked ☐ Rare species (NHI) checked ☐ Wetlands checked

State of Wisconsin
Department of Natural Resources
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

Attachment A - Construction Erosion and Sediment Control

Form 3500-052A (R 9/12)

This Attachment is to be used in conjunction with the **Water Resources Application for Project Permits** (Form 3500-053, rev 9/12) and will not be accepted if submitted separately. Use this form when there is land-disturbing activity of one acre or more or work in a waterway or wetland and the project is required to have an erosion and sediment control plan.

Project Characteristics

Project Name	County
Access Road 3 Grading	Iron

Type of Development Project

☐ Residential ☒ Commercial/Industrial ☐ Transportation ☐ Utility ☐ Agriculture

Total Area of Construction Site (acres): 2.02 Total Estimated Disturbed area (acres): 2.02

Persons or Entities Involved (Entity or person responsible for installation and maintenance of the erosion and sediment control practices.)

Name (Organization or Entity)	Contact Person	Title	
Gogebic Taconite, LLC	Timothy J Myers	Manager - Engineering	
Mailing Address	**City**	**State**	**ZIP Code**
402 Silver Street	Hurley	WI	54534
Email Address	**Phone Number (incl.area code)**	**FAX Number (incl. area code)**	
tmyers@gogebictaconite.com	(715) 561-2601	(715) 561-2605	

Name of local agencies with authority to review the project

Description of Construction Activity

Describe the construction activity. Include a description of the site, nature of construction activity, sequence of work, and proposed structural and soil stabilization best management practices (BMPs)

See Attachment to Form 3500-053 Section 7

Predominant Soil Types (list surface and subsurface soils)

Existing road grade with silt loam material

Erosion and Sediment Control Plan

Plan and Implementation Requirements	Yes	No	N/A	Explanation for No and NA (identify any exemptions)	Plan Sheet Location (page #)
1. Site map is prepared in accordance with s. NR 216.46(5), Wis. Adm. Code	☒	☐	☐		
2. Erosion and sediment control best management practices plan is prepared in accordance with s. NR 216.46(6), Wis. Adm. Code.	☒	☐	☐		
3. Compliance with mandatory controls: a. Design meets the 80% reduction of sediment goal.	☐	☐	☒	Road areas supplied with silt fence	
b. Tracking control practices are located at entrances and exits.	☐	☐	☒	Entrance is located on unpaved public road	
c. Inlet protection is provided.	☐	☐	☒	18-inch road culverts proposed	
d. BMPs are installed on disturbed areas.	☒	☐	☐		
e. BMPs are installed to prevent discharge of sediment from drainage ways.	☒	☐	☐		
f. Dewatering plan is provided in the event that dewatering is needed.	☐	☐	☒	Project addresses road maintenance	

Project Name Access Road 3 Grading County Iron

Plan and Implementation Requirements	Yes	No	N/A	Explanation for No and NA (identify any exemptions)	Plan Sheet Location (page #)
g. Soil stockpiles that exist for more than 7 days are controlled.	☐	☒	☐	Soils placed in road berm and will be seeded	
h. Building and waste material is properly handled to prevent runoff of material into waters of the state*.	☐	☐	☒	No building activities in this project	
i. Wash water from vehicle and wheel washing is treated before entering waters of the state.	☐	☐	☒	No vehicle wash is proposed.	
j. Existing vegetation is maintained whenever possible, especially when adjacent to surface waters.	☒	☐	☐		
k. Soil compaction is minimized and topsoil is preserved.	☐	☐	☒	Project addresses road maintenance on an existing road	
l. Land disturbing construction activity on slopes of 20% or more is minimized.	☒	☐	☐		
m. Spill prevention and response procedures have been developed.	☒	☐	☐		
n. BMPs are located so that treatment occurs before runoff enters waters of the state*.	☒	☐	☐		
4. No solid material is discharged in violation of chs. 30 or 31 Wis. Stats., or 33 USC 1344 permits.	☒	☐	☐		
5. Dissipation of velocity at outfalls to assure non-erosive flow is provided.	☒	☐	☐		
6. Inspection schedule and record keeping is in accordance with s. NR 216.46(9), Wis. Adm. Code.	☒	☐	☐		
7. A model was used to estimate compliance with the 80% sediment reduction and a summary of input and output and model version is attached.	☐	☐	☒	Until RUSLE 2 is available, the response is N/A for DNR submittals.	
8. The Erosion Control Plan has been submitted to and is in compliance with any requirements of local authorities.	☒	☐	☐		
9. This acknowledges that a copy of the Construction Site Erosion Control Plan has been prepared, will be kept on site, and made available upon request.	☒	☐	☐		

Project Name Access Road 3 Grading County Iron

Technical Standards Employed (check all that apply) Website: http://dnr.wi.gov/topic/stormwater/standards/const_standards.html

Where the applicant specifies a technical standard, the applicant agrees to adhere to the criteria prescribed in the standard. Where a best management practice is proposed for which there is no technical standard or the technical standard is not used in whole, references on effectiveness in meeting the performance standard must be provided.

Erosion and Stabilization Practices	Technical Standard #	Erosion and Stabilization Practices	Technical Standard #
☐ Channel Erosion Mat	1053	☒ Mulching for Construction Sites	1058
☐ Construction Site Diversion	1066	☐ Non-Channel Erosion Mat	1052
☐ Ditch Check	1062	☒ Seeding for Construction Site Erosion Control	1059
☐ Dust Control on Construction Sites	1068	☐ Stone Tracking Pad and Tire Washing	1057
☐ Land Application of Anionic Polyacrylamide	1050	☐ Temporary Grading Practices for Erosion Control	1067
		☐ Vegetative Buffer for Construction Sites	1054

Sediment Control Practices	Technical Standard #	Sediment Control Practices (cont.)	Technical Standard #
☐ Dewatering	1061	☐ Silt Curtain*	1070
☒ Sediment Bale Barrier (Non-Channel)	1055	☒ Silt Fence	1056
☐ Ditch Check	1062	☐ Storm Drain Inlet Protection for Construction Sites	1060
☐ Sediment Basin	1064	☐ Turbidity Barriers*	1069
☐ Sediment Trap	1063	☐ Water Application of Polymers	1051

*unless BMPs that are in-stream controls or materials such as bridge footings are needed

Comments

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Attachment B - Post-Construction Storm Water Management

Form 3500-052B (R 12/12)

This Attachment is to be used in conjunction with the **Water Resources Application for Project Permits** (Form 3500-053, R 9/12) and will not be accepted if submitted separately. Use this form when there is land disturbing activity of one acre or more and the project is required to have a post-construction storm water management plan under ch. NR 216, Wis. Adm. Code. This form is **not** required for work in a waterway or wetland.

Project Characteristics

Project Name	County
Access Road 3	Iron

Type of Development Project

☐ In-fill ☒ Redevelopment ☐ New Development

Impervious Area (as a percent of total land disturbance): Before Construction: 0 % After Construction: 0 %

Total Area of Construction Site (acres): 2.02 Total Estimated Disturbed area (acres): 2.02

Persons or Entities Involved - Entity or person responsible for installation and maintenance of the erosion and sediment control practices

Name (Organization or Entity)	Contact Person	Title
Gogebic Taconite, LLC	Timothy J. Myers	Manager - Engineering

Mailing Address	City	State	ZIP Code
402 Silver Street	Hurley	WI	54534

Email Address	Phone Number (incl. area code)	FAX Number (incl. area code)
tmyers@gogebictaconite.com	(715) 561-2601	(715) 561-2605

Description of Post-Construction Activity

Describe the post-construction activity. Include a description of the development site with any site limitations, proposed combination of structural best management practices (BMPs) to control pollutants, peak flow, volume and drainage areas to practices)

Post Construction activity will consist of removing the drainage sumps and surface water diversions. Since all activity is confined on existing roads, each site will be returned to its previous use as a road with no increase in exposed parking lots or roads.

Storm Water Management Plan

Plan and Implementation Requirements	Yes	No	N/A	Explanation for No and NA (identify any exemptions)	Plan Sheet Location (page#)
1. All BMPs will be installed by the time the construction site is considered stabilized.	☒	☐	☐		
2. BMPs are located on-site and prior to waters of the state.	☒	☐	☐		
3. If an off-site BMP is used, a letter or permission and details about the design of the practice is **attached**.	☐	☐	☒	No off-site BMP will be used.	
4. A long-term maintenance agreement is **attached**.	☐	☐	☒		
5. Infiltration BMPs and ponds are adequately separated from wells: a. 400 ft. from a community well and	☐	☐	☒	No wells within 400 feet of activity	
b. In accordance with s. NR 812.08, Wis. Adm. Code for non-community or private wells	☐	☐	☒	No wells within 400 feet of activity	
6. The site is required to meet the performance standards of ss. NR 151.122 to 151.128 or 151.242 to 151.249, Wis. Adm. Code. (If the answer i no for all performance standards, explain why and skip questions 7-14.) Transportation projects under Subchapter IV must still meet the performance standard, NR 151.245, Wis. Adm. Code. NOTE: a post-construction storm water management plan is still required.	☐	☐	☒		
7. The site meets the applicable TSS reduction goal of s. NR 151.122 or 151.242, Wis. Adm. Code. TSS reduction is _____%.	☐	☐	☒		

Project Name Access Road 3 County Iron

Plan and Implementation Requirements	Yes	No	N/A	Explanation for No and NA (identify any exemptions)	Plan Sheet Location (page#)
8. The site meets the applicable peak flow control goal of s. NR 151.123 or 151.243, Wis. Adm. Code.	☒	☐	☐		
9. The site meets the applicable infiltration goal of s. NR 151.124 or 151.244, Wis. Adm. Code. i. Design infiltration rate used is _____in/hr. ii. Percent of pre-development infiltration volume infiltrated is _____%. iii. Area dedicated to infiltration is _____% of the project area.	☐	☐	☒		
10. Pretreatment is provided before infiltration of runoff from parking lots or commercial, industrial, and institutional roads.	☐	☐	☒		
11. A summary of the results of the site evaluation, similar to Step D in Technical Standard 1002, **is attached**.	☐	☐	☒		
12. A protective area is established or maintained in accordance with s. NR 151.125 or 151.245, Wis. Adm. Code. Minimum protective area width is _____ft.	☐	☐	☒		
13. For fueling and vehicle maintenance areas, the plan meets the no visible sheen goal of s. NR 151.126 or 151.246, Wis. Adm. Code.	☐	☐	☒	No vehicle fueling areas.	
14. Modeling was used to estimate compliance with the TSS, peak flow, and/or infiltration requirements and a summary of input, output and model version **is attached.**	☐	☒	☐		
15. The Storm Water Management Plan has been submitted to and is in compliance with local requirements. Date of local compliance letter: _____	☐	☐	☒		
16. This acknowledges that a copy of the Storm Water Management Plan has been prepared, will be kept on site, and made available upon request	☒	☐	☐		

Technical Standards Employed (check all that apply) Website: http://dnr.wi.gov/topic/stormwater/standards/posconst_standards.html

Where the applicant specifies a technical standard, the applicant agrees to adhere to the criteria prescribed in the standard. Where a best management practice is proposed for which there is no technical standard or the technical standard is not used in whole, references on effectiveness in meeting the performance standard must be provided.

TSS Reduction, Peak Flow Control, Infiltration Practices:	Technical Standard # or other reference
☐ Bioretention for Infiltration	1004
☐ Compost	S100
☐ Infiltration Basin	1003
☐ Proprietary Storm Water Sedimentation Devices	1006
☐ Rain Gardens	DNR Publication PUB-WT-776
☐ Site Evaluation for Storm Water Infiltration	1002
☐ Vegetated Infiltration Swales	1005
☐ Wet Detention Pond	1001

Comments

Section 2 – Form 3500-053
Attachment for Landowner Information

In reference to NR216.002(15) Wis Adm Code: Landowner is defined as "any person holding fee title, an easement or other interest in the property that allows the person to undertake land disturbing construction activity on the property."

Gogebic Taconite, LLC has entered into separate Options to Lease with the Surface Property Owners for the project. These Option Agreements authorize Gogebic Taconite, LLC to apply for permits and licenses necessary to evaluate the mineral reserve.

The Surface Property Owners for the project are:

RGGS Land & Minerals, Ltd., L.P.
PO Box 1266
Virginia, MN 55792
Phone: (218) 749-1291
Fax: (218) 749-1294
Contact Person: Terry Vilas, Land Agent
Email address: tvilas@rggs.us

Section 4 – Form 3500-053
Attachment for Project or Site Location

The Site Name is GTac Access Road 3.

The Site Location is located in Iron County in Sections 32 and 33 of Township 45 North, Range 1 West.

Section 6 – Form 3500-053
Attachment for Waterways and Wetlands

Name (Description if unnamed) of closest water bodies:

Tyler's Fork River	Stream	ORW/ERW
Javorsky Creek of the Tylers Fork River	Stream	ORW/ERW
Dunn Creek of the Tylers Fork River	Stream	ORW/ERW

No wetlands will be filled, excavated or disturbed during construction or part of this project.

The presence of wetlands has been evaluated using:

Wisconsin Wetlands Inventory
Other – Maintaining activity to existing roads

NOTE: See Site Map for project location in relation to streams and wetlands.

Section 7 – Form 3500-053
Attachment for Project Information

Narrative of the Project

OVERVIEW

This project will consist of grading approximately 6,000 lineal feet of road. The majority of the road was constructed in the 1880's as a railroad grade to the Tyler Forks Mine. The rail has been removed since the early 1900's. The ballast has been buried by over 100 years of vegetation and the resulting soils building.

The project proposes to grade the soils material off the ballast to create a berm on the downslope side of the road. The downslope areas are protected from runoff by silt fencing and hay bale dikes. The goal of the grading is to move the soil to form a berm and to access the original railroad ballast. In the section of the road from Station 51+00 to 60+00, soils material will be pushed to a former forestry log landing located near Station 51+50. These soils will be available for possible future use in other projects in the vicinity. The soils will be stockpiled and revegetated.

Additional work will include the installation of three culverts. These culverts would allow runoff to pass under the road. This will result in the reduction of sediment load from the road.

SITING

The project site is located in Iron County, Wisconsin. The project area has been commercially forested in the past. Access Road No. 3 is well documented as being constructed in the 1880's.

Site preparation would include stockpiling any topsoil material from the drill site area. Since the sites are located on existing disturbances, it is anticipated that no topsoil will be encountered. The site will be provided with grading and drainage control as described below.

EROSION AND SEDIMENT CONTROL – BEST MANAGEMENT PRACTICES : ACCESS ROAD 3

The project has had silt fence and hay bale dikes previously installed. The proposed maintenance work will consist of grading, ditching and culvert installation. Each culvert will be provided with an 80 cubic foot capacity Sedimentation Sump on the inlet side of the installation. The purpose of the sump is to collect sediment prior to entering the culvert.

Culvert sizing has been performed using SedCad software. From the US Department of the Interior, Office of Surface Mining TIPS website: "SedCad is a comprehensive software package that enable hydrologists to evaluate and analyze the volume and the rate of runoff from a watershed and to design the size and location of mine sedimentation ponds and diversions so that these structures will be

effective in handling the runoff volumes." The software has been used by the Office of Surface Mining since 1988. The design criteria has used a 10 year- 24 hour storm occurrence to calculate runoff. The 10 year 24 hour storm event for Iron County is 3.80 inches. The specific culvert design was performed on the largest watershed as a worst case scenario. Each of the culvert sites are proposed to meet the requirements of the 16+60 installation.

SITE SPECIFIC ACTIVITIES

Culvert Installation at Access Road Station 16+60.

An 18-inch diameter corrugated metal pipe (CMP) is proposed to be installed at Station 16+60. The purpose of this culvert is to provide a drainage path from an upslope side of the former railroad grade to the downslope side. This section of the railroad grade remains saturated due to the pooled water immediately upslope. The areas on both sides of the railroad grade are indicated as wetland areas on the Wisconsin Wetland Inventory.

The culvert will be installed as to maintain the water elevations presently found in the area. The culvert inlet elevation will be protected by a drainage sump. The discharge elevation will be at ground level. The culvert installation will prevent overtopping the access road from surface runoff from precipitation events.

The drainage area reporting to this culvert would be 12.47 acres.

Culvert Installation at Access Road Station 25+45.

An 18-inch diameter corrugated metal pipe (CMP) is proposed to be installed at Station 25+45. The purpose of this culvert is to provide a drainage path from an upland area to a downslope upland area. There are no defined drainage channels in this area.

Surface runoff has been intercepted by Access Road No. 3 in the area identified from Station 31+26 to Station 25+45. The runoff travels along the roadbed before finding drainage relief areas. With the recent installation of silt fence and hay bale dikes, the surface runoff continues to follow the roadbed. This proposal includes the construction of a toe ditch with the collected runoff reporting to the proposed culvert. The toe ditch construction will be limited by Managed Forest Land regulations as to where trees may be removed.

The toe ditch will be developed with heavy equipment such as a bulldozer and material will be graded towards the silt fence.

The drainage area reporting to this culvert would be 10.45 acres.

Culvert Installation at Access Road Station 31+26.

An 18-inch diameter corrugated metal pipe (CMP) is proposed to be installed at Station 31+26. The purpose of this culvert is to provide a drainage path from an upland area to a downslope upland area. There are no defined drainage channels in this area.

Surface runoff has been intercepted by Access Road No. 3 in the area identified from Station 42+00 to Station 31+26. This culvert would provide an area to relieve any drainage along the railroad grade.

The drainage area reporting to this culvert would be 8.40 acres.

Culvert Installation at Access Road Station 42+95

An 18-inch diameter corrugated metal pipe (CMP) is proposed to be installed at Station 42+95. The purpose of this culvert is to provide a drainage path from an upslope side of the former railroad grade to the downslope side. The configuration of the drainage area above this culvert site consists of 12.50 acres. The length of Access Road No. 3 that reports to this culvert is small in comparison to the drainage area (only 250 lineal feet).

The drainage area reporting to this culvert is 10.38 acres.

Road Grading Activities (General)

The railroad grade that Access Road No. 3 is situated on originates from mining activity from the 1880's. The rail was removed over 100 years ago and vegetation patterns have deposited soil materials on top of the railroad ballast.

Road Grading will be performed to remove soil materials from the railroad ballast. The intent of this activity is to provide a more durable running surface for the infrequent traffic on the road and to remove a source of soil that creates sediment loading with vehicle traffic.

Graded material will be pushed towards the silt fence and maintained as a berm. These materials may be collected and reused for future reclamation activities on the property. The bermed soil materials will be stabilized from erosion by seeding and mulching.

Ditching will be established in select areas by heavy equipment such as a bull dozer . The intent of this activity is to intercept surface runoff from upland areas before it drains along the roadbed thus reducing sediment loading. Some areas (such as areas with standing timber) will not be accessible to the heavy equipment due to the Managed Forest Land requirements.

NR 216.46(6)a – *Description of any interim and permanent stabilization practices, including a schedule for implementing the practices. The erosion control plan shall ensure that existing vegetation is preserved where attainable and that disturbed portions of the construction site are stabilized.*

RESPONSE: The road maintenance project will provide additional drainage control on an existing road. Minimal excavation will be performed for the inlet and outlet areas of the culverts. Seeding and mulching activities will be performed after the culvert has been installed.

NR 216.46(6)b – *Description of any structural practices to divert flow away from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from the construction site. Unless specifically approved in writing, structural measures shall be installed in upland soils.*

RESPONSE: The road maintenance project's purpose is to direct flow away from road surfaces and to remove soils to reach a durable road surface.

NR216.46(6)c – *Management of overland flow at all areas of the construction site, unless otherwise controlled by outfall controls.*

RESPONSE: Ditching will be performed to divert flow off road surfaces and direct the flow to outlet structures.

NR216.46(6)d – *Trapping of sediment in channelized flow.*

RESPONSE: Sumps are provided at each outlet structure.

NR216.46(6)e – *Staging land disturbing construction activities to limit exposed soil areas subject to erosion.*

RESPONSE: Not Applicable. All activity is located on existing roads.

NR216.46(6)f – *Protection of downslope drainage inlets where they occur.*

RESPONSE: Not Applicable. New culvert installation will provide drainage from upland features to upland features. No downslope drainage inlets have been identified.

NR216.46(6)g – *Minimization of tracking at all vehicle and equipment entry and exit locations of the construction site.*

RESPONSE: The project entrances are located on Moores Park Road in Iron County. This public road is unpaved. So any entry and exit is from an unpaved road to an unpaved road.

NR216.46(6)h – *Clean up of off-site sediment deposits.*

RESPONSE: Off-site sediment deposits are not anticipated. If a sediment deposit is identified, it will be removed and the site will be stabilized and seeded.

NR216.46(6)i – *Proper disposal of building and waste material.*

RESPONSE: No structures are proposed. Therefore, no building materials will be brought to the site. Any waste material generated will be removed from the site and disposed of in regulated disposal facilities.

NR216.46(6)j – *Stabilization of drainage ways.*

RESPONSE: Drainage ways are not anticipated to be impacted by this activity.

NR 216.46(6)k – *Installation of permanent stabilization practices as soon as possible after final grading.*

RESPONSE: The proposed disturbances are on existing roads. The disturbances will be stabilized after final grading.

NR216.46(6)l – *Minimization of dust to the maximum extent practicable.*

RESPONSE: The roadbed for Access Road 3 remains damp long after a rainfall event. Several factors contribute to maintaining a damp road bed including: 1) The road is located in a forested setting, 2) There is a tree canopy over the majority of the road, 3) The roadbed soils include clay material.

Post Construction Activity will consist of seeding and mulching the berm areas and culvert installation areas.

Typical Culvert Design
10-Yr 24-Hr Storm Event

Larry Shea

Alliance Consulting, Inc.
124 Philpott Lane
Beaver, W.V. 25813

Phone: 304-255-0491
Email: lshea@aci-wv.com

General Information

Storm Information:

Storm Type:	NRCS Type I
Design Storm:	10 yr - 24 hr
Rainfall Depth:	3.800 inches

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Culvert	#1	==>	End	0.000	0.000	

#1
Culvert

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)
#1	12.810	12.810	7.26	1.43

Structure Detail:

Structure #1 (Culvert)

Culvert Inputs:

Length (ft)	Slope (%)	Manning's n	Max. Headwater (ft)	Tailwater (ft)	Entrance Loss Coef. (Ke)
60.00	2.00	0.0240	2.25	0.00	0.90

Culvert Results:

Design Discharge = 7.26 cfs

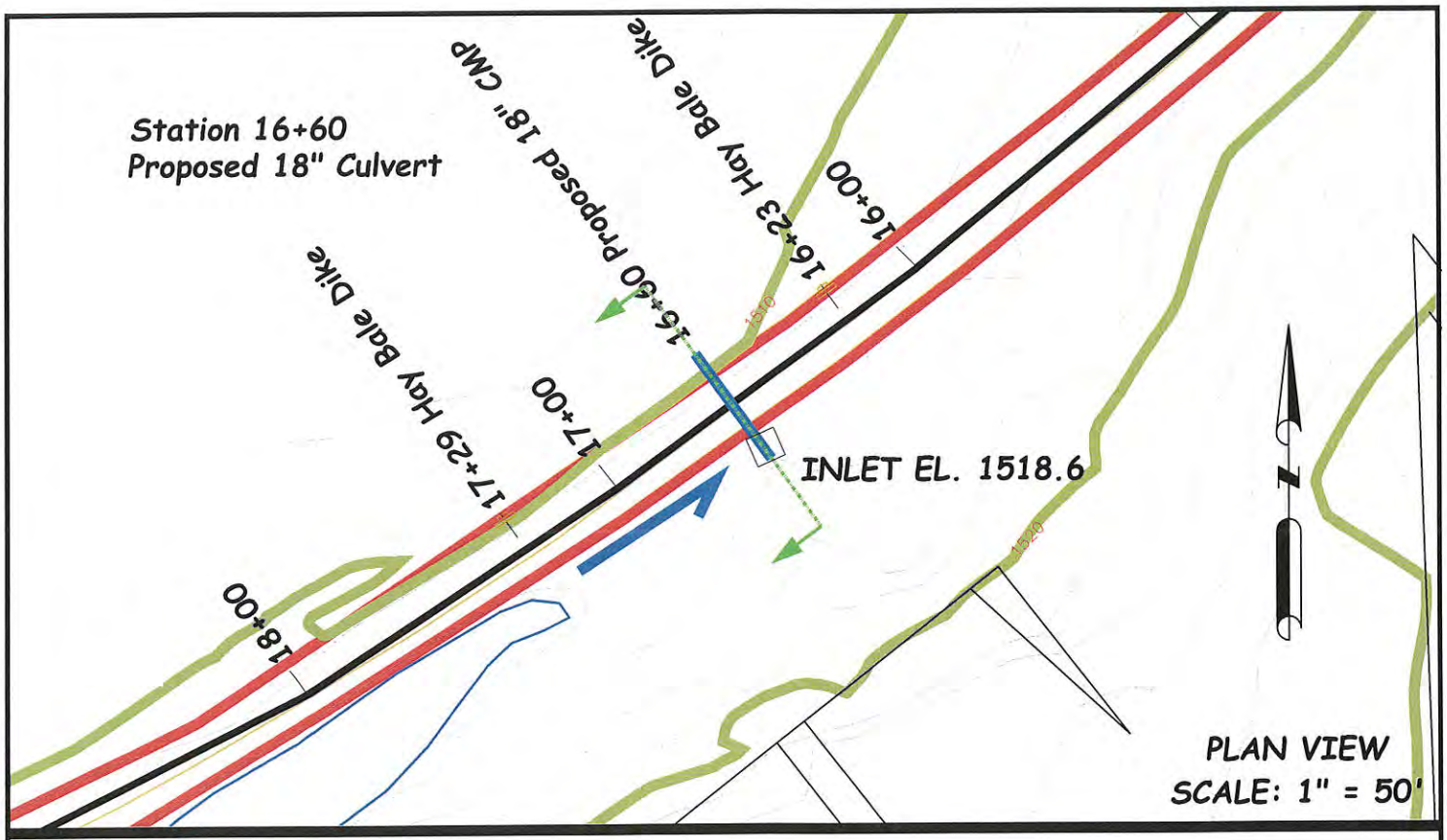
Minimum pipe diameter: 1 - 18 inch pipe(s) required

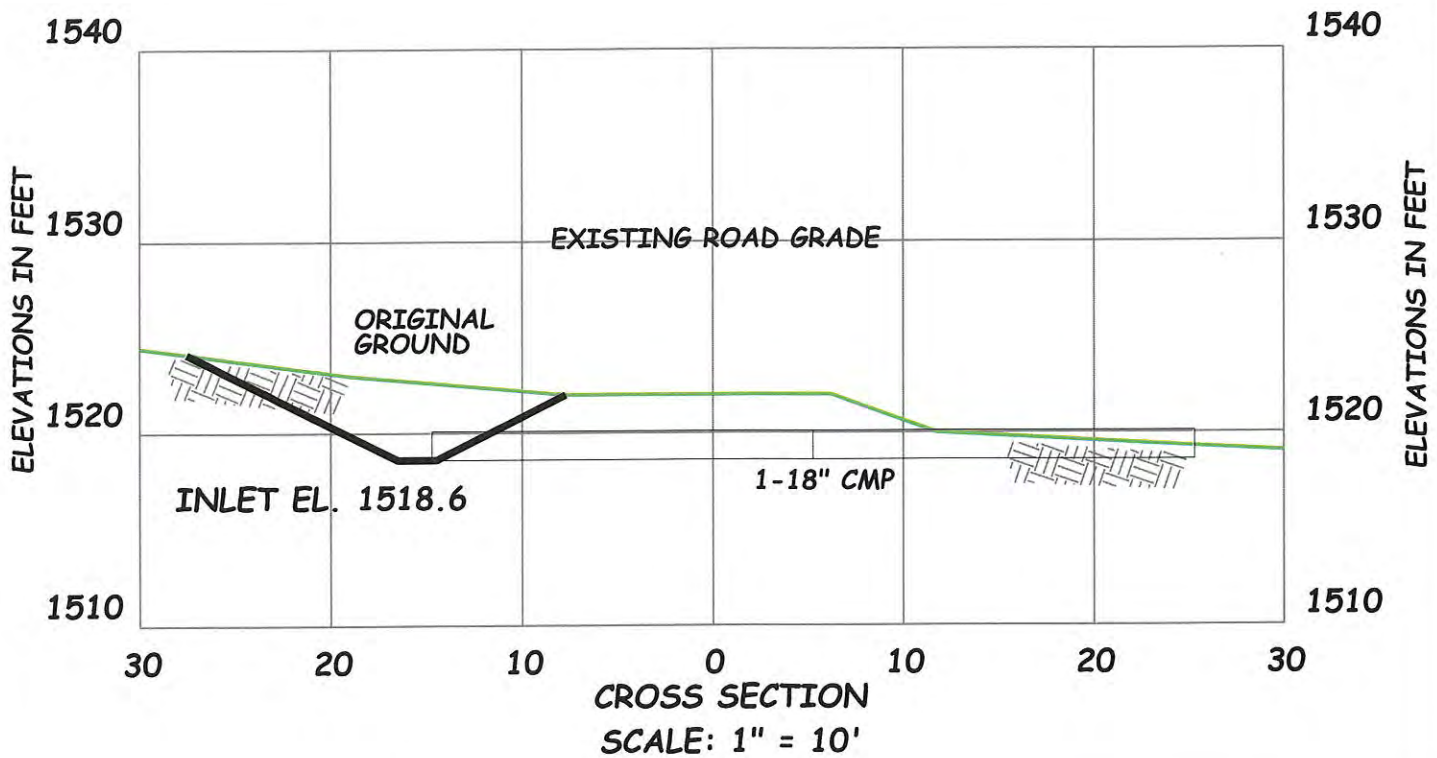
Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	12.810	0.177	0.000	0.000	77.000	M	7.26	1.434
	Σ	**12.810**						**7.26**	**1.434**

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	1. Forest with heavy ground litter	25.00	107.50	430.00	1.260	0.094
		8. Large gullies, diversions, and low flowing streams	1.00	9.00	900.00	3.000	0.083
#1	**1**	**Time of Concentration:**					**0.177**





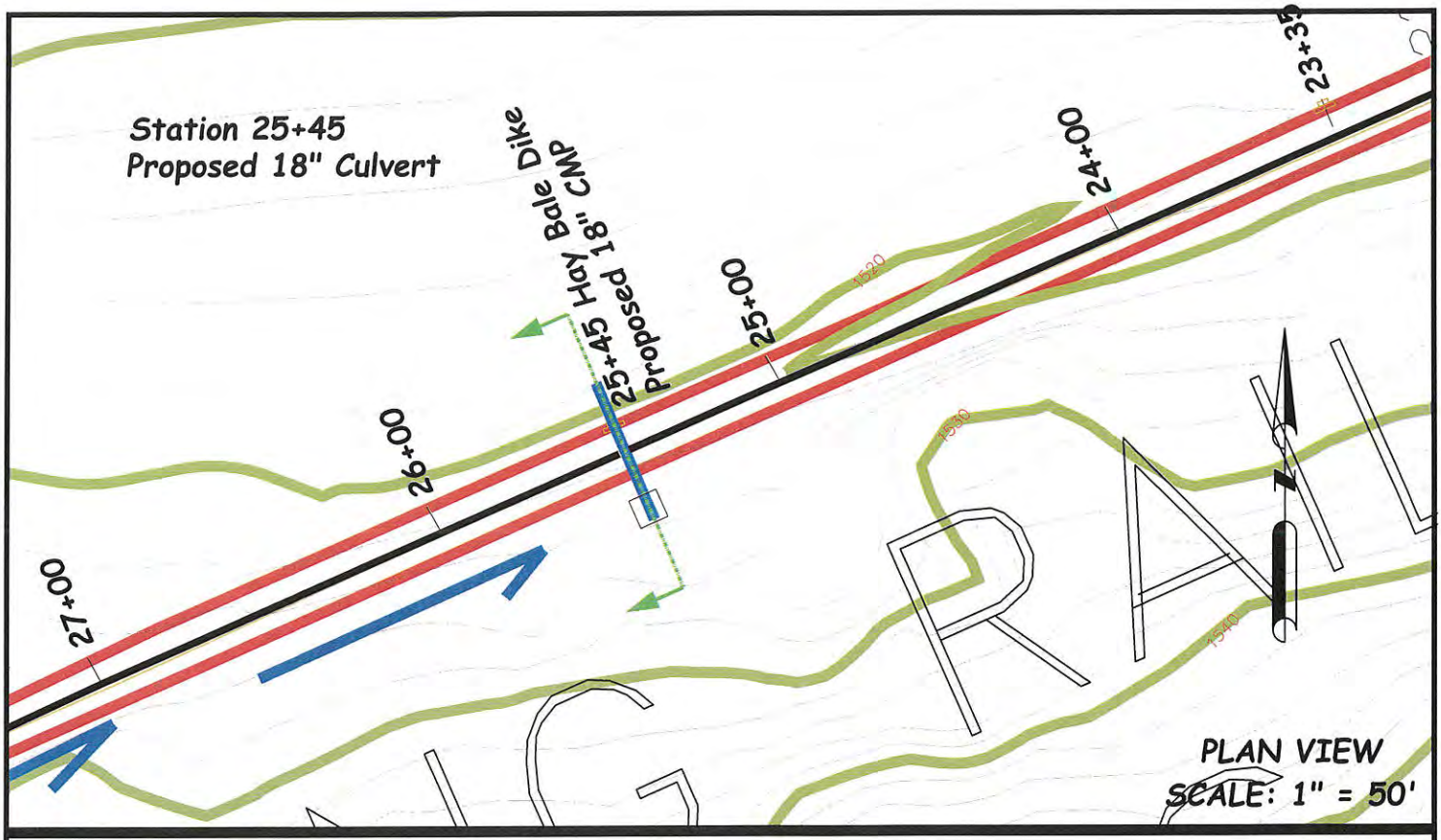
Gogebic Taconite, LLC

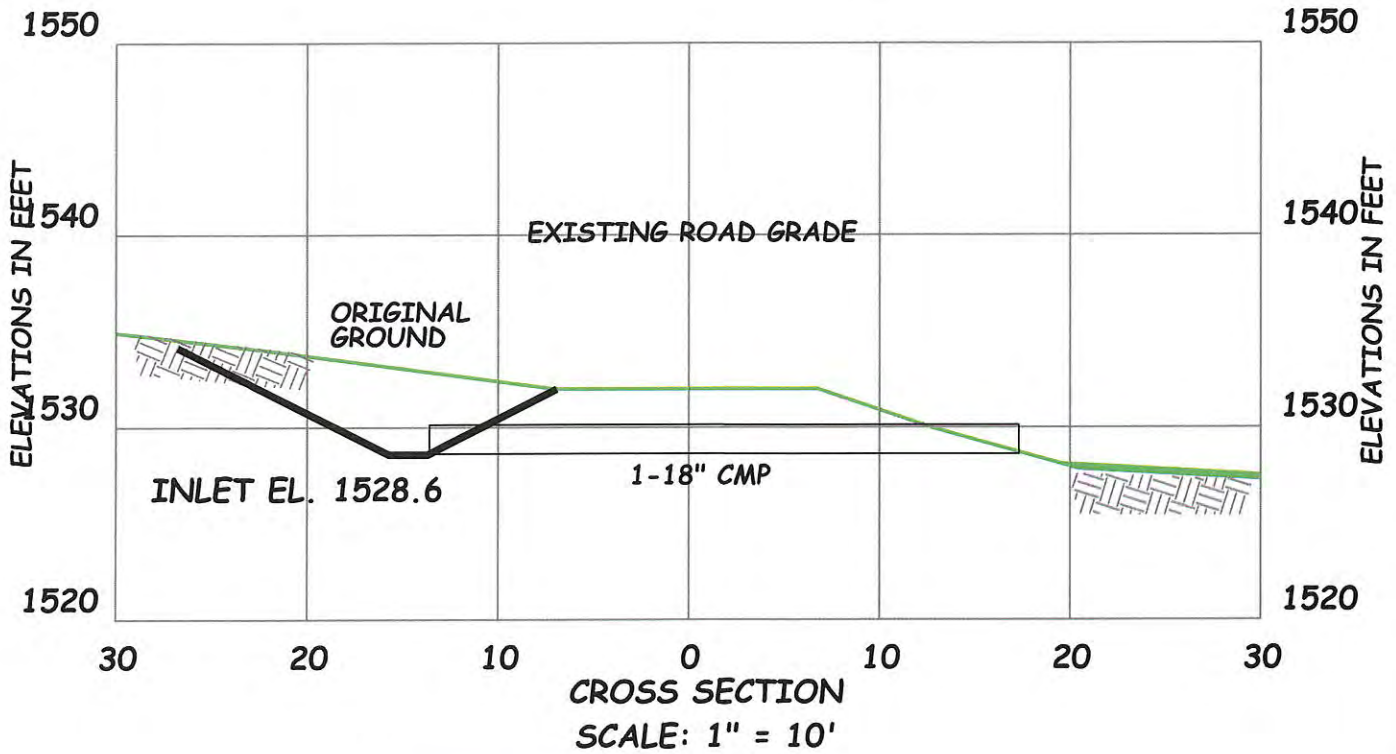
402 Silver Street, Hurley, WI 54534

ACCESS ROAD 3

PROPOSED CULVERT AT ROAD STATION 16+60

DATE: 7/08/2013 SCALE: AS NOTED





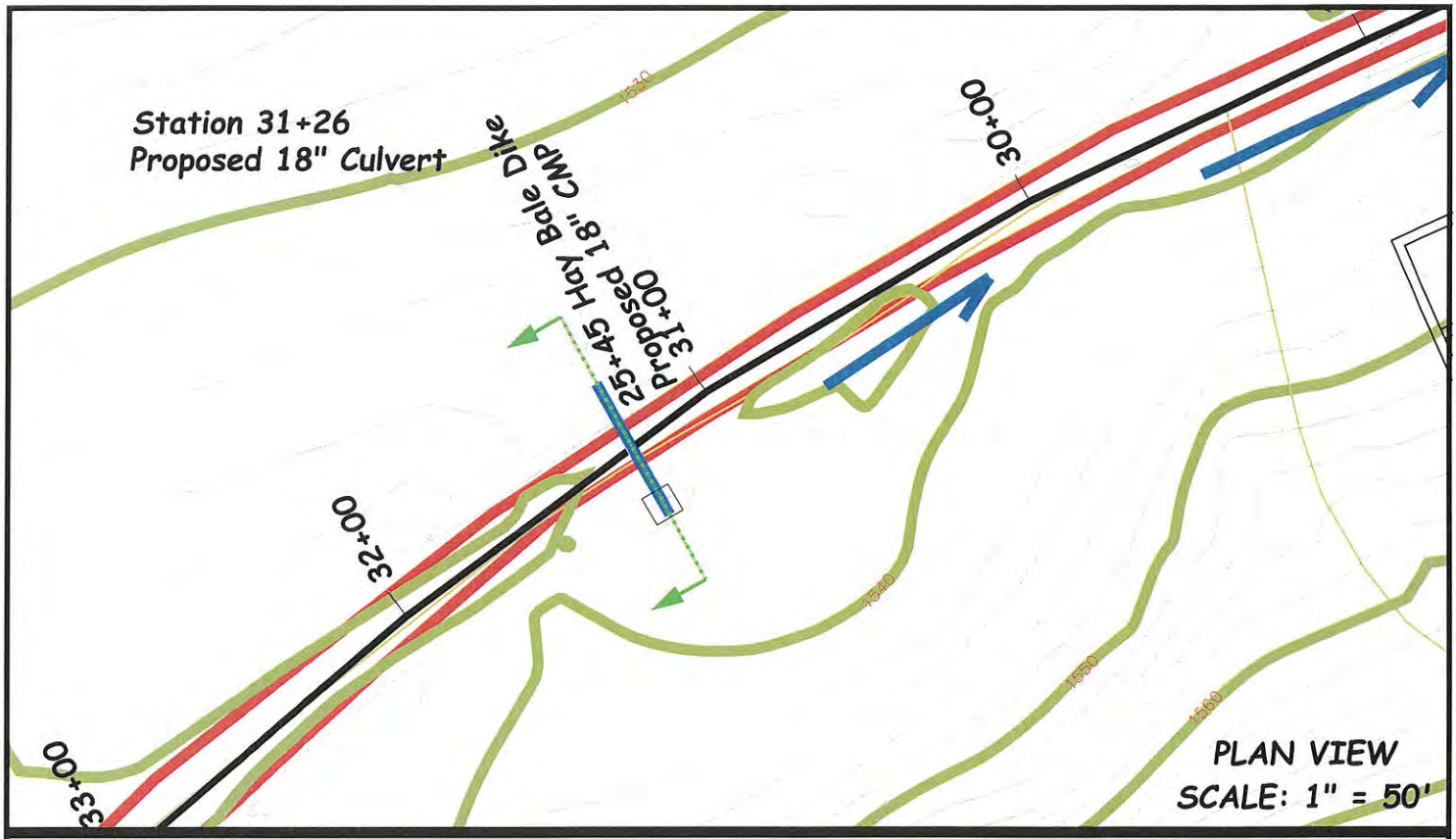
Gogebic Taconite, LLC

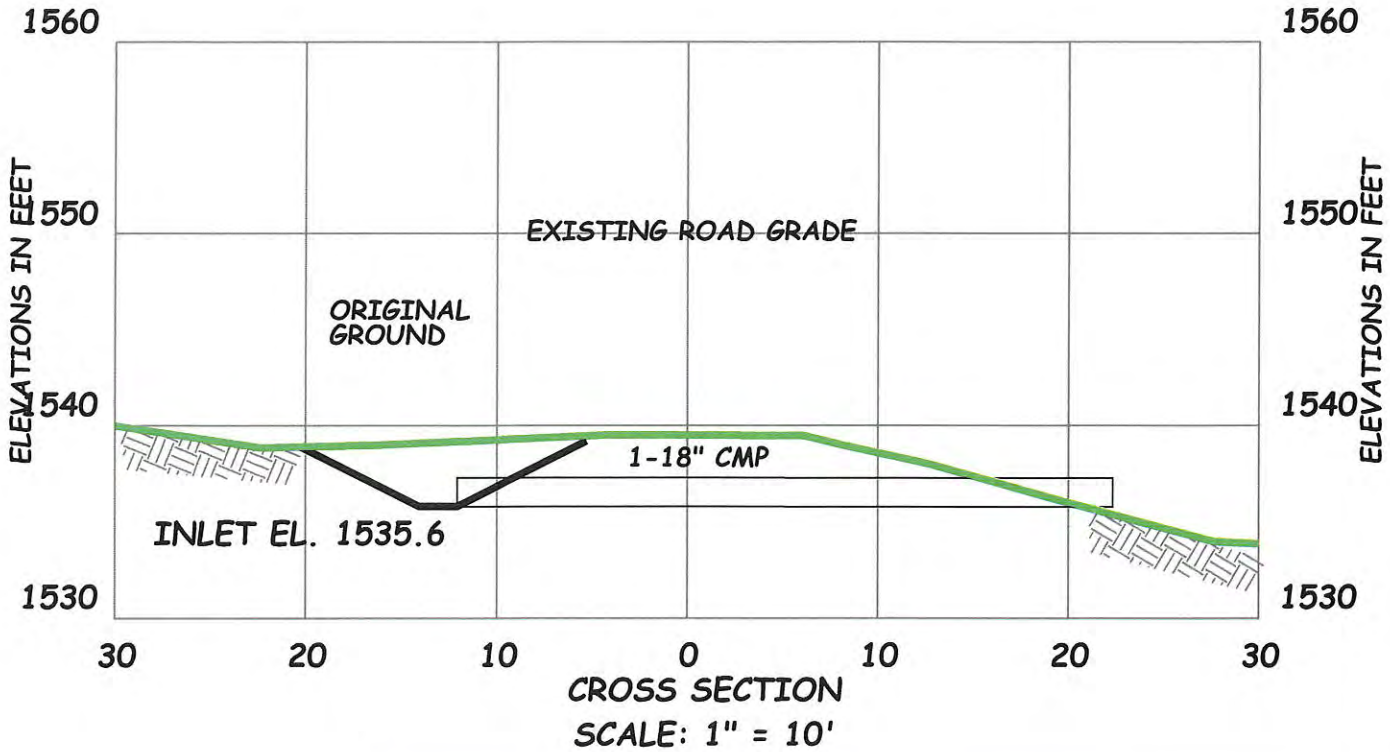
402 Silver Street, Hurley, WI 54534

ACCESS ROAD 3

PROPOSED CULVERT AT ROAD STATION 25+45

DATE: 7/08/2013 SCALE: AS NOTED





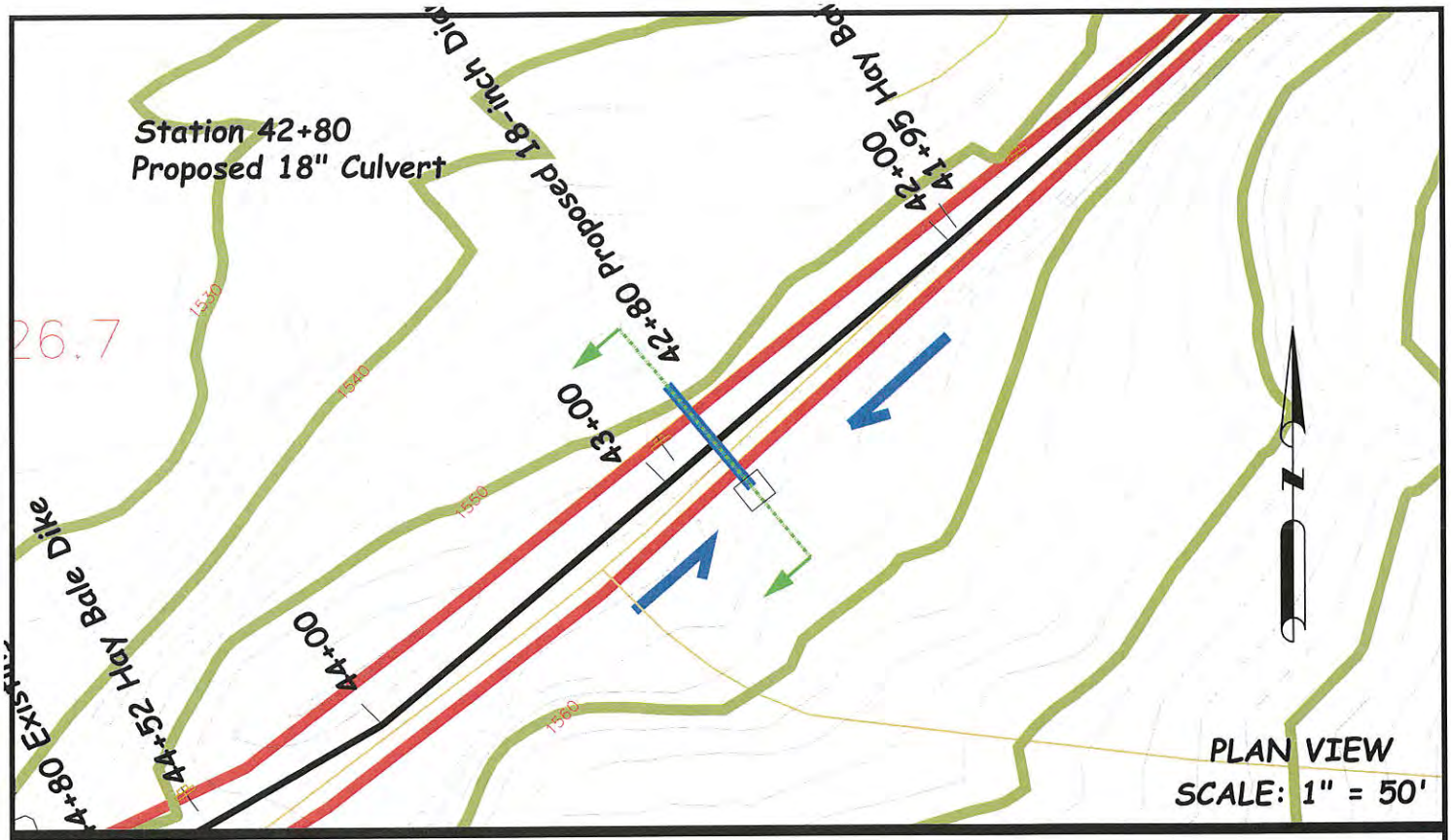
Gogebic Taconite, LLC

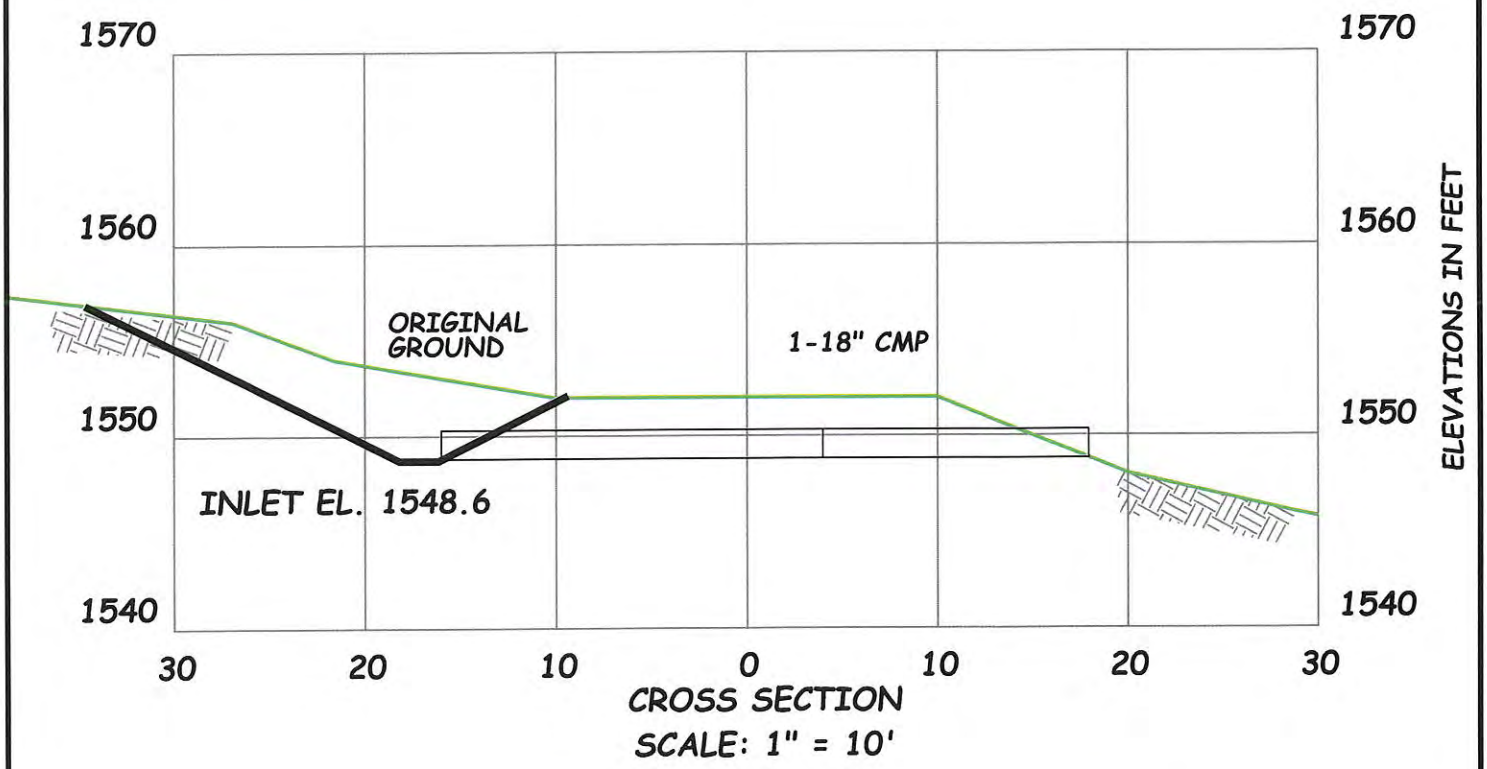
402 Silver Street, Hurley, WI 54534

ACCESS ROAD 3

PROPOSED CULVERT AT ROAD STATION 31+26

DATE: 7/08/2013 SCALE: AS NOTED





Gogebic Taconite, LLC

402 Silver Street, Hurley, WI 54534

ACCESS ROAD 3

PROPOSED CULVERT AT ROAD STATION 42+80

DATE: 7/08/2013 SCALE: AS NOTED

Hay Bale Dike at 8+13

Hay Bale Dike at Station 9+04

Hay Bale Dike at Station 10+17

Hay Bale Dike at Station 12+62

Hay Bale Dike at Station 13+60

Hay Bale Dike at Station 16+23

Hay Bale Dike at Station 17+29

Hay Bale Dike at Station 23+35

Hay Bale Dike at Station 25+45

Hay Bale Dike at Station 36+70

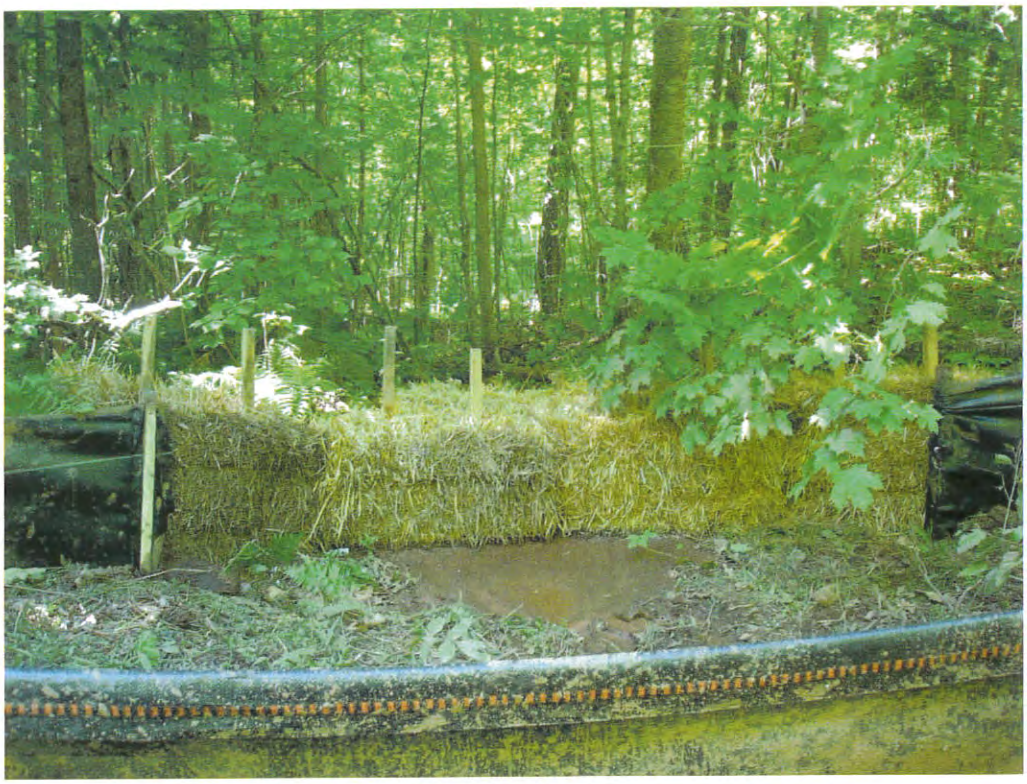
Hay Bale Dike at Station 37+72

Hay Bale Dike at Station 39+45

Hay Bale Dike at Station 41+70

Hay Bale Dike at Station 42+80

Hay Bale Dike at Station 44+52



Existing 4-inch Diameter PVC Pipe Culvert at Station 44+80 Inlet End

Existing 4-inch Diameter PVC Culvert at Station 44+80 Discharge End

Existing 24-inch Diameter Culvert at Station 47+60 Inlet End

Existing 24-inch Diameter Culvert at Station 47+60 Outlet End

Hay Bale Dike at Station 50+93

Proposed Culvert Location 16+60 looking west

Proposed Culvert Location 16+60 Inlet Location

Proposed Culvert Location 16+60 Outlet Location

Proposed Culvert Location 25+45 looking west

Proposed Culvert Location 25+45 Inlet View

Proposed Culvert Location 25+45 Outlet View

Proposed Culvert Location 31+26 Road View

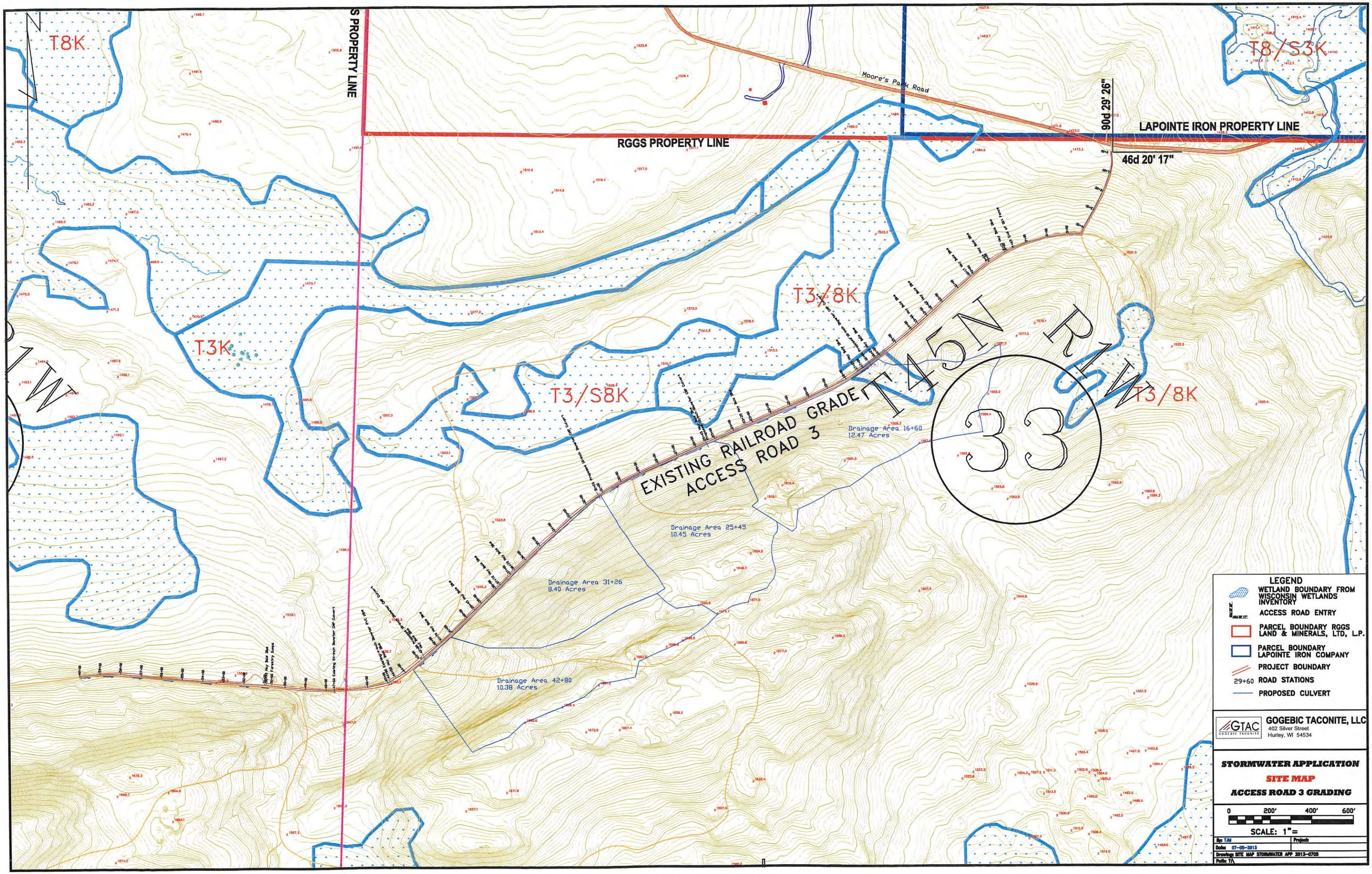
Proposed Culvert Location 31+26 Inlet Area

Proposed Culvert Location 31+26 Outlet

Proposed Culvert Location 42+80 Looking West

Proposed Culvert Location 42+80 Inlet View

Proposed Culvert Location 42+80 Outlet View


T8K
T8/S3K
T3K
T3/8K
T3/S8K
T3/8K
S PROPERTY LINE
RGGS PROPERTY LINE
LAPOINTE IRON PROPERTY LINE
Moore's Park Road
90d 29' 26"
46d 20' 17"
T45N R17W
33
EXISTING RAILROAD GRADE
ACCESS ROAD 3
Drainage Area 16+60
12.47 Acres
Drainage Area 25+45
10.45 Acres
Drainage Area 31+26
8.40 Acres
Drainage Area 42+80
10.38 Acres
LEGEND
WETLAND BOUNDARY FROM WISCONSIN WETLANDS INVENTORY
ACCESS ROAD ENTRY
PARCEL BOUNDARY RGGS LAND & MINERALS, LTD, L.P.
PARCEL BOUNDARY LAPOINTE IRON COMPANY
PROJECT BOUNDARY
29+60 ROAD STATIONS
PROPOSED CULVERT
GTAC
GOGEBIC TACONITE
GOGEBIC TACONITE, LLC
402 Silver Street
Hurley, WI 54534
STORMWATER APPLICATION
SITE MAP
ACCESS ROAD 3 GRADING
0 200' 400' 600'
SCALE: 1" =
By: TJM
Date: 07-05-2013
Drawing: SITE MAP STORMWATER APP 2013-0705
Path: T:\