



Access Road 3 Storm Water Permit Application

**Prepared for:
Gogebic Taconite, LLC**

June 30, 2014



COLEMAN ENGINEERING COMPANY

635 CIRCLE DRIVE, IRON MOUNTAIN, MI 49801 200 EAST AYER STREET, IRONWOOD, MI 49938
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Section 5: Pre-Application Resource Screening

Screening your project site for the presence of sensitive natural or cultural resources before applying for a permit can assist you in planning and designing your project to avoid or minimize impacts to these resources. Please identify any screening you have already completed and attach any supporting documentation to your application. If sensitive resources are identified during the permit review, it may result in delays in processing your application and/or project re-design.

Waterways: Provide the name(s) of closest waterbodies:

Wetlands: Has the project site been assessed for the presence of wetlands? Yes No

If yes, select all sources of information used and attach supporting report or documentation:

- Wisconsin Wetland Inventory
Wetland Locator Tool - http://dnr.wi.gov/topic/wetlands/locating.html
Wetland Delineation by consultant
NRCS Soils Map
DNR Wetland Identification letter - http://dnr.wi.gov/topic/wetlands/identification.html
DNR Wetland Confirmation letter - http://dnr.wi.gov/topic/wetlands/identification.html
Army Corps of Engineers Concurrence letter
Other:

Are wetlands proposed to be filled, excavated or disturbed during construction or as part of this project? Yes No

Endangered or Threatened Resources:

Has the presence of endangered or threatened resources been evaluated by the DNR Bureau of Natural Heritage Conservation? Yes No

If yes, select how review was completed and attach supporting report or documentation:

- DNR Bureau of Natural Heritage Conservation Letter
Certified Consultant

Section 6: Project Information (attach additional sheets as necessary)

Duration: 07/21/2014 12/31/2014
Anticipated Project Start Date (mm/dd/yyyy) Anticipated Project End Date (mm/dd/yyyy)

Photos: Provide photographs of the "before" condition. See Attachment 4
Date of Photographs

Project Purpose and Need: 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 5

Section 7: Certification and 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 certify that the project will be in compliance with all permit conditions. 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.

Signature of Landowner / Authorized Representative - For Stormwater applications, signature of landowner is required. Authorized representative is not sufficient. Date Signed

Timothy J. Myers
Printed Name of Landowner / Authorized Representative

Authorized Person
Title 2

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 Gogebic Taconite (GTAC) Access Road 3 Maintenance Project	County Iron
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Type of Development Project

- Residential
 Commercial/Industrial
 Transportation
 Utility
 Agriculture

Total Area of Construction Site (acres): 2.55 Total Estimated Disturbed area (acres): 2.55

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

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

Name of local agencies with authority to review the project

None

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 6

Predominant Soil Types (list surface and subsurface soils)

The surface soil consists of about 3 inches of organic soil underlain by ballast rock fill. The ballast rock fill consists of 3-inch minus open graded stone. The soil below the ballast rock consists of predominantly glacial silty sand with gravel underlain by bedrock.

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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Drawing C-1 - C-16
2. Erosion and sediment control best management practices plan is prepared in accordance with s. NR 216.46(6), Wis. Adm. Code.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Drawings C-2 - C-16
3. Compliance with mandatory controls: a. Design meets the 80% reduction of sediment goal.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
b. Tracking control practices are located at entrances and exits.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Entrance is located adjacent to an unpaved road	
c. Inlet protection is provided.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Drawing C-2 - C-16
d. BMPs are installed on disturbed areas.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Drawings C-2 - C-16
e. BMPs are installed to prevent discharge of sediment from drainage ways.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Drawings C-2 - 16
f. Dewatering plan is provided in the event that dewatering is needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Dewatering will not be necessary.	3

Attachment A - Construction Erosion and Sediment Control

Form 3500-052A (R 9/12)

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Project Name Gogebic Taconite (GTAC) Access Road 3 Maintenance Pr 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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No stockpiles will be required. Soils placed in road berm will be seeded.	
h. Building and waste material is properly handled to prevent runoff of material into waters of the state*.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No building or waste material.	
i. Wash water from vehicle and wheel washing is treated before entering waters of the state.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Vehicles will not be washed on-site.	
j. Existing vegetation is maintained whenever possible, especially when adjacent to surface waters.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		EC & SW Management Plan
k. Soil compaction is minimized and topsoil is preserved.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Project addresses road maintenance on an existing road.	
l. Land disturbing construction activity on slopes of 20% or more is minimized.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No slopes steeper than 20%.	
m. Spill prevention and response procedures have been developed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		EC & SW Management Plan
n. BMPs are located so that treatment occurs before runoff enters waters of the state*.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Drawings C-2 - C-16
4. No solid material is discharged in violation of chs. 30 or 31 Wis. Stats., or 33 USC 1344 permits.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
5. Dissipation of velocity at outfalls to assure non-erosive flow is provided.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Drawing C-2 - C-16
6. Inspection schedule and record keeping is in accordance with s. NR 216.46(9), Wis. Adm. Code.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		EC & SW Management Plan
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Attachment A - Construction Erosion and Sediment Control

Form 3500-052A (R 9/12)

Page 3 of 3

Project Name Gogebic Taconite (GTAC) Access Road 3 Maintenance Pr 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 #
<input type="checkbox"/> Channel Erosion Mat	1053	<input checked="" type="checkbox"/> Mulching for Construction Sites	1058
<input type="checkbox"/> Construction Site Diversion	1066	<input type="checkbox"/> Non-Channel Erosion Mat	1052
<input type="checkbox"/> Ditch Check	1062	<input checked="" type="checkbox"/> Seeding for Construction Site Erosion Control	1059
<input type="checkbox"/> Dust Control on Construction Sites	1068	<input type="checkbox"/> Stone Tracking Pad and Tire Washing	1057
<input type="checkbox"/> Land Application of Anionic Polyacrylamide	1050	<input type="checkbox"/> Temporary Grading Practices for Erosion Control	1067
		<input type="checkbox"/> Vegetative Buffer for Construction Sites	1054
Sediment Control Practices	Technical Standard #	Sediment Control Practices (cont.)	Technical Standard #
<input type="checkbox"/> Dewatering	1061	<input type="checkbox"/> Silt Curtain*	1070
<input type="checkbox"/> Sediment Bale Barrier (Non-Channel)	1055	<input checked="" type="checkbox"/> Silt Fence	1056
<input type="checkbox"/> Ditch Check	1062	<input type="checkbox"/> Storm Drain Inlet Protection for Construction Sites	1060
<input type="checkbox"/> Sediment Basin	1064	<input type="checkbox"/> Turbidity Barriers*	1069
<input checked="" type="checkbox"/> Sediment Trap	1063	<input type="checkbox"/> Water Application of Polymers	1051

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

Comments

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: Gogebic Taconite (GTAC) Access Road 3 Maintenance Project County: 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): 2.55 Total Estimated Disturbed area (acres): 2.55

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	Chief Engineer	
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)

See Attachment 7

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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		C-2 - C-16
2. BMPs are located on-site and prior to waters of the state.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		C-2 - C-16
3. If an off-site BMP is used, a letter or permission and details about the design of the practice is attached .	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No off-site BMPs are used.	
4. A long-term maintenance agreement is attached .	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No long-term BMPs.	
5. Infiltration BMPs and ponds are adequately separated from wells: a. 400 ft. from a community well and	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No infiltration BMPs proposed.	
b. In accordance with s. NR 812.08, Wis. Adm. Code for non-community or private wells	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No infiltration BMPs.	
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 is 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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Exempt from NR 151.122 through NR 151.125	
7. The site meets the applicable TSS reduction goal of s. NR 151.122 or 151.242, Wis. Adm. Code. TSS reduction is _____%.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Exempt	6

Attachment B - Post-Construction Storm Water Management

Form 3500-052B (R 12/12)

Page 2 of 3

Project Name Gogebic Taconite (GTAC) Access Road 3 Maintenance Pr 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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Exempt	
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Exempt	
10. Pretreatment is provided before infiltration of runoff from parking lots or commercial, industrial, and institutional roads.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Exempt	
11. A summary of the results of the site evaluation, similar to Step D in Technical Standard 1002, is attached.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Exempt	
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A transportation corridor will be installed adjacent to wetland to avoid impact. Refer to Typical Drawing C-2 showing detail at approximate Station 16+50 to 21+52.	
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No on-site fueling will occur.	
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Exempt	
15. The Storm Water Management Plan has been submitted to and is in compliance with local requirements. Date of local compliance letter: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No local agency has authority to review.	
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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

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:

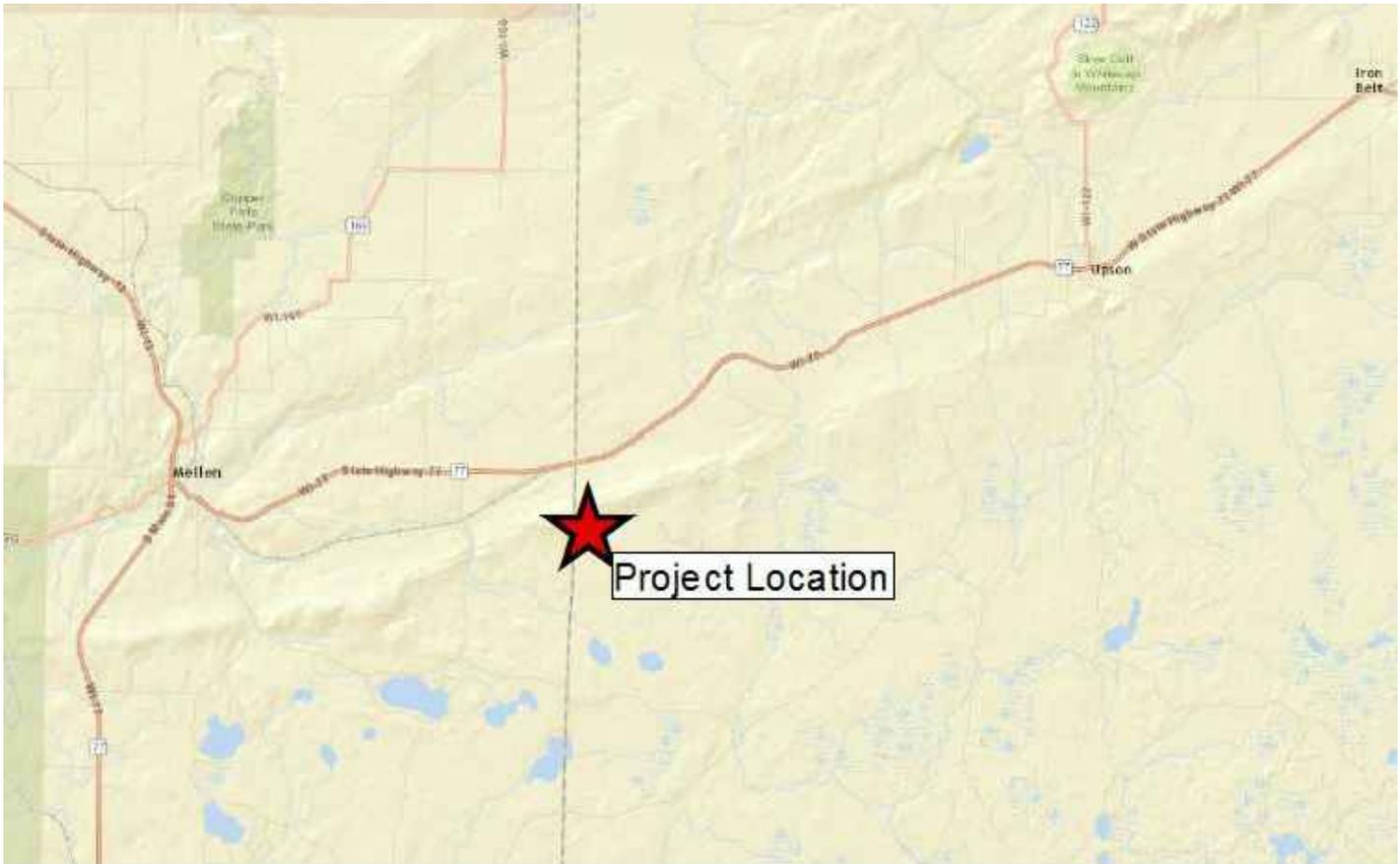
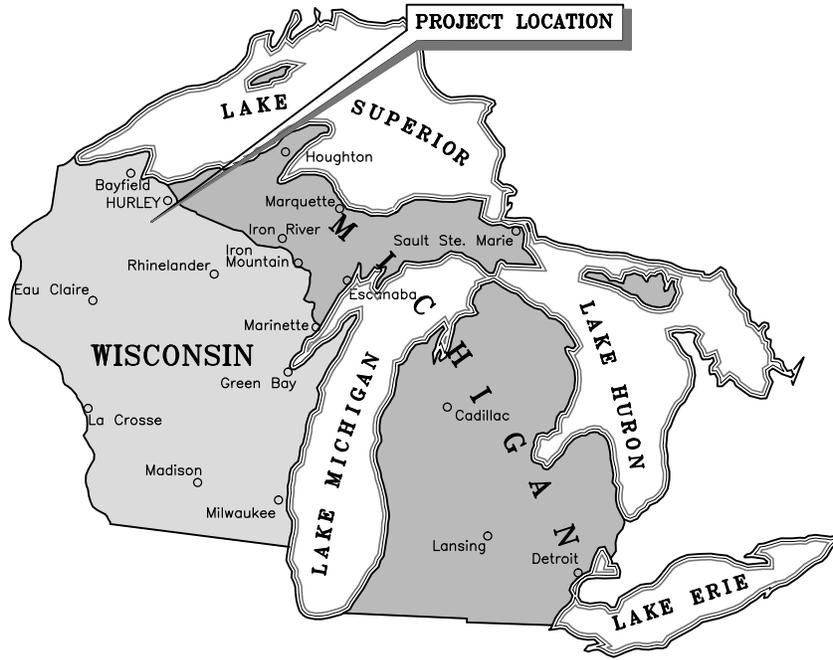
Technical Standard # or other reference

- | | |
|--|----------------------------|
| <input type="checkbox"/> Bioretention for Infiltration | 1004 |
| <input type="checkbox"/> Compost | S100 |
| <input type="checkbox"/> Infiltration Basin | 1003 |
| <input type="checkbox"/> Proprietary Storm Water Sedimentation Devices | 1006 |
| <input type="checkbox"/> Rain Gardens | DNR Publication PUB-WT-776 |
| <input type="checkbox"/> Site Evaluation for Storm Water Infiltration | 1002 |
| <input type="checkbox"/> Vegetated Infiltration Swales | 1005 |
| <input type="checkbox"/> Wet Detention Pond | 1001 |

Project Name Gogebic Taconite (GTAC) Access Road 3 Maintenance Pr

County Iron

Comments

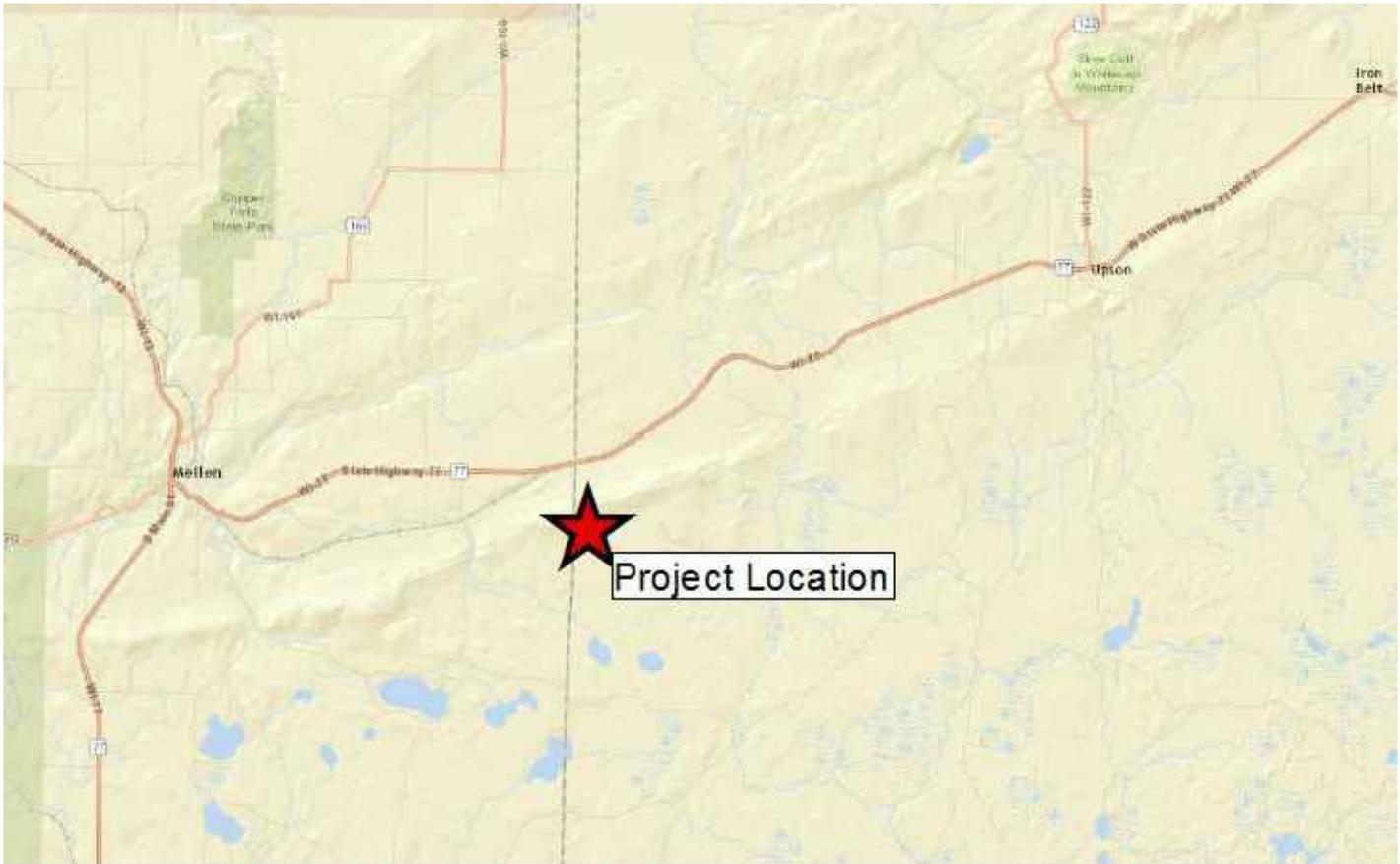
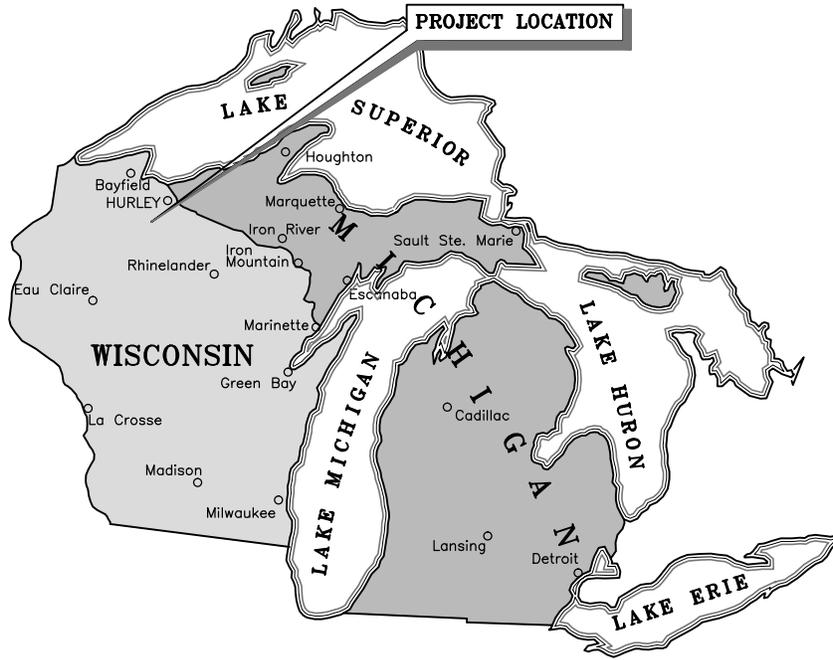


COLEMAN ENGINEERING COMPANY
 635 CIRCLE DRIVE – IRON MOUNTAIN, MICHIGAN 49801 (906) 774-3440
 200 EAST AYER STREET – IRONWOOD, MICHIGAN 49938 (906) 932-5048

PROJECT AREA LOCATION
GOGEBIC TACONITE
 UPSON, WISCONSIN

CADD DRAWING
 CAD14027_PERMIT FIGURES
 DATE: 2/6/2014

FIGURE
1



COLEMAN ENGINEERING COMPANY
 635 CIRCLE DRIVE – IRON MOUNTAIN, MICHIGAN 49801 (906) 774-3440
 200 EAST AYER STREET – IRONWOOD, MICHIGAN 49938 (906) 932-5048

PROJECT AREA LOCATION
GOGEBIC TACONITE
 UPSON, WISCONSIN

CADD DRAWING
 CAD14027_PERMIT FIGURES
 DATE: 2/6/2014

FIGURE
1

Attachment 1 – WRAPP, Section 1: Landowner Information

Per NR 216.002(15) of the Wisconsin Administrative 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.

P.O. Box 1266

Virginia, MN 55792

Phone: (218) 749-1291

Phone: (218) 749-1294

Contact Person: Terry Villa, Land Agent

Email Address: tvilla@rggs.us

Attachment 2 – WRAPP, Section 5: Pre-Application Resource Screening – Wetland Delineation Report

Attachment 2 – WRAPP, Section 5: Pre-Application Resource Screening – Wetland Delineation Report

The Wetland Delineation Report was submitted to the WDNR by Gogebic Taconite, LLC in the initial submittal dated February 7, 2014.

**Attachment 3 – WRAPP, Section 5: Pre-Application Resource Screening – Endangered
Resource Review**

Attachment 3 – WRAPP, Section 5: Pre-Application Resource Screening – Endangered Resource Review

The Endangered Resource Report was submitted to the WDNR by BARR Engineering Company and has been approved.

Hay Bale Dike at approximate STATION 8+80



Hay Bale Dike at approximate STATION 9+90



Hay Bale Dike at approximate STATION 10+55



Hay Bale Dike at approximate STATION 13+00



Hay Bale Dike at approximate STATION 14+00



Hay Bale Dike at approximate STATION 16+70



Hay Bale Dike at approximate STATION 17+80



Hay Bale Dike at approximate STATION 23+90



Hay Bale Dike at approximate STATION 25+95



Hay Bale Dike at approximate STATION 37+20



Hay Bale Dike at approximate STATION 38+25



Hay Bale Dike at approximate STATION 39+90



Hay Bale Dike at approximate STATION 42+50



Hay Bale Dike at approximate STATION 43+50



Hay Bale Dike at approximate STATION 45+25



Existing 4-inch Diameter PVC Pipe Culvert at approximate STATION 45+50 Inlet End



Existing 4-inch Diameter PVC Culvert at approximate STATION 45+50 Discharge End



Existing 24-inch Diameter Culvert at approximate STATION 48+05 Inlet End



Existing 24-inch Diameter Culvert at approximate STATION 48+05 Outlet End



Hay Bale Dike at approximate STATION 51+50



Proposed Culvert Location approximate STATION 16+00 looking west



Proposed Culvert Location approximate STATION 16+00 Inlet Location



Proposed Culvert Location approximate STATION 16+00 Outlet Location



Proposed Culvert Location approximate STATION 27+50 looking west



Proposed Culvert Location approximate STATION 27+50 Inlet View



Proposed Culvert Location approximate STATION 27+50 Outlet View



Proposed Culvert Location approximate STATION 31+75 Road View



Proposed Culvert Location approximate STATION 31+75 Inlet Area



Proposed Culvert Location approximate STATION 31+75 Outlet



Proposed Culvert Location approximate STATION 43+35 Looking West



Proposed Culvert Location approximate STATION 43+35 Inlet View



Proposed Culvert Location approximate STATION 43+35 Outlet View



Attachment 5 – WRAPP, Section 6: Project Information – Project Purpose and Need

Project Purpose and Need

Gogebic Taconite, LLC (GTAC) proposes to use Access Road 3 to temporarily conduct site monitoring and data collection. The proposed project consists of grading approximately 6,181 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 in the early 1900's. The ballast has been buried by over 100 years of vegetation creating about 3 inches of organic soil above the ballast.

The project location map is shown on Figure 1: Project Location Map. Access Road 3 and the construction limits are shown on Figure 2.

The project will consist of grading off the organic soil and creating a ditch along the upland side of the road. The excess soil from the road grading and ditch excavation will be used to construct a berm on the down slope side of the road. This design will create a soil balance; therefore, no excess soil will need to be stockpiled or removed from the site. In addition, several culverts will be installed as shown on the design drawings. The project will also consist of constructing a timber mat section of roadway and installing concrete block retaining wall for a section of the roadway.

The purpose of the project is to allow access to monitoring and sampling sites during the permitting phase of the project to provide the necessary data so the GTAC is able to determine how to construct an environmentally safe mine. The need for the project is to remove the organic soil to allow for better access and reduce the potential of tracking existing material off site. In addition, this project will greatly improve the drainage reducing the amount of sediment discharging from the site.

Attachment 6 – Attachment A, Description of Construction Activity

Attachment 6 – Attachment A, Description of Construction Activity

Construction Activity

The proposed construction activities consist of:

- Constructing a ditch on the upland side of the existing road.
- Removing the upper organic soil from the existing road base.
- Constructing a berm on the downslope side of the existing road.
- Installing several culverts along the existing road to improve drainage.
- Constructing drainage sumps at the inlet ends of the culverts.
- Constructing a timber mat section of roadway.
- Installing concrete block retaining wall in a section of roadway.

Ditch Construction

The project consists of constructing a 0.5 foot deep ditch on the upland side of the existing road. See Drawing Number C-2 for a typical drawing of the proposed ditch. The intent of this activity is to intercept surface runoff from upland areas before it drains into the roadbed thus reducing sediment loading. The ditch will be constructed along the entire length of the construction limits, with a few exceptions for intersecting roads. The material cut from the ditch will be transferred across the roadbed and later used as fill material for the new berm.

Removing Organic Soil

Approximately, over the past 100 years vegetation has buried the existing ballast rock that was used to construct a railroad grade for the old Tyler Forks Mine. 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.

The grade currently has about 3 inches of organic soil over the ballast that is causing drainage and access issues when wet. The organic soil and excess soil from the ditch cut will be used for the new berm.

Constructing the Berm

The existing soil material that is on the road and the excess soil from the ditch excavation will be used to construct a berm. The dimensions of the berm will vary. The intent is to use all excess cut material on site so that no stockpiles or soil removal off site will be needed. Refer to

Drawing Number C-2 for the typical detail. The berm will be stabilized from erosion by seeding and mulching.

Culvert Installation

Several culverts will be installed along the construction limits to improve drainage. The culvert locations were selected based on utilizing existing drainage swales and design spacing. Culvert sizing has been performed using HydroCAD software. HydroCAD is a comprehensive software package that enables hydrologists to evaluate and analyze the volume and the rate of runoff from a watershed and to design the size and location of the culverts so they will be effective in handling the runoff volumes. The design criterion uses 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 designs were performed on a case by case basis. The culvert excavation will be carefully constructed as to limit the extent of the excavation on either side of the culverts.

Constructing Sediment Traps

Sediment traps will be constructed at the inlet end of the culvert pipes to provide an opportunity for sediment to settle out of the storm water prior to entering the culvert pipe. Refer to WDNR Technical Standard 1063 for a typical section of the sediment traps. Again, the excess soil from the sediment traps will be used in the construction of a berm.

Constructing Timber Mat Roadway

There are existing wetlands immediately adjacent to the existing road at approximate stations 16+50 to 21+52. The proposed typical section on sheet C-2 and the plan and profile sheets C-7 and C-8 show the placement of the timber mats in this area. The lower layer of mats is 4' wide x 8" thick x 16' long. With two of these 4' wide mats laid parallel to each other with a 4' gap in the middle, the mats form a 12' wide road. The mats are placed end to end except for three 2' wide longitudinal gaps that are left in the lower layer to permit water to pass between the mats. A second layer of mats, 3" thick x 12' wide x 8' long, will be placed on top of the first at the three crossing locations to produce a surface to drive on and span the three drainage gaps and the 4' wide longitudinal gap in the lower layer. In the areas outside of the three crossing locations, there will not be an upper second layer of mats. Instead, the center 4' strip will be filled with base aggregate dense to provide a driving surface for narrower vehicles.

Constructing Concrete Block Retainage for Roadway

Along the roadway at approximately Station 47+50 to 48+75, a low area in the existing road with wetlands on each side of the road will be crossed. An existing culvert transfers water between wetlands and will remain in place. In order to control storm water drainage on the road, the elevation at the low point will be raised to make water flow away from the middle of the roadway then put through a sediment trap prior to discharge.

Because of the presence of nearby wetlands, this fill will be placed between 2' x 2' x 6' concrete blocks placed as shown on plan sheets C-2 and C-13.

Erosion and Sediment Control BMPs

GTAC or GTAC's representative shall implement and maintain all best management practices (BMPs) specified in this construction site erosion control plan from the start of land disturbing construction activities until final stabilization of the construction site (per Section 3.1.1 of the Construction Storm Water General Permit). As defined in Section 6.2 of the Construction Storm Water General Permit, BMPs are "structural or non-structural measures, practices, techniques or devices employed to avoid or minimize soil, sediment or pollutants carried in runoff to waters of the state".

In accordance with Section 4.2.3 of the Construction Storm Water General Permit, the BMPs within this erosion control plan have been designed to prevent the discharge of sediment and other pollutants to the Tyler Forks River, and outstanding resource water, in excess of the background level within the water body.

The erosion and sediment control BMPs described in this section will be installed and maintained at the construction site to prevent pollutants from reaching waters of the state. In accordance with NR 151.11(8) of the Wisconsin Administrative Code:

- Erosion and sediment control practices will be constructed or installed before upgradient land disturbing activities begin.
- Erosion and sediment control practices will be maintained until final stabilization of the site has been achieved. Maintenance activities will include vegetating the berm, removing sediments from the basins and disposal of the sediments will be performed until the mining permit is issued and mine construction begins, or the project ends.
- Temporary stabilization activities will commence when land disturbing activities have temporarily ceased and will not resume for a period exceeding 14 calendar days.
- Final stabilization activities will commence when land disturbing activities have ceased and final grade has been reached on any portion of the site.

- BMPs that are no longer necessary for erosion and sediment control shall be removed.

Erosion Control BMPs

Erosion control BMPs are non-structural practices or structural measures employed to prevent erosion. The following structural erosion control BMPs will be implemented as part of this project:

BMP	WDNR Technical Standard	Definition <i>(per WDNR Technical Standard)</i>	Purpose <i>(per WDNR Technical Standard)</i>	Project-Specific Implementation
Mulching for Construction Sites	1058	Mulching is the application of organic material to the soil surface to protect it from raindrop impact and overland flow. Mulch covers the soil and absorbs the erosive impact of rainfall and reduces the flow velocity of runoff.	This practice may be used to: <ul style="list-style-type: none"> · Reduce soil erosion · Aid in seed germination and establishment of plant cover · Conserve soil moisture 	Apply mulch with temporary seeding to stabilize and protect areas where soils will be exposed for greater than 7 days.
				Apply mulch with permanent seeding to stabilize and protect disturbed areas after activities in that area have been completed and temporary impervious surfaces have been removed.
Seeding for Construction Site Erosion Control	1059	Planting seed to establish temporary or permanent vegetation for erosion control.	The purpose of temporary seeding is to reduce runoff and erosion until permanent vegetation or other erosion control practices can be established. The purpose of permanent seeding is to permanently stabilize areas of exposed soil.	Apply temporary seeding to stabilize areas where soils will be exposed for greater than 7 days, including soil stockpiles.
				Apply permanent seeding to stabilize disturbed areas after activities in that area have been completed and temporary impervious surfaces have been removed.

Additionally, the following non-structural erosion control BMPs will be implemented as appropriate:

- Existing vegetation will be preserved where feasible.
- Topsoil will be preserved to the extent practicable.
- Land disturbing activities will be staged to limit exposed soils areas subject to erosion.
- Soil compaction shall be minimized to the extent practicable.
- Disturbed portions of the construction site will be stabilized as soon as practicable.
- Permanent stabilization practices shall be installed as soon as possible after final grading.

Sediment Control BMPs

Sediment control BMPs are non-structural practices or structural measures employed to prevent sediment from leaving the site. The selected BMPs have been chosen to meet the sediment control requirements of NR 151.11 (6m) of the Wisconsin Administrative Code: specifically, the BMPs by design and placement will allow for discharge for no more than 5 tons per acre per year of the sediment load carried in runoff from initial grading to final stabilization.

The following structural sediment control BMPs will be implemented as part of this project:

BMP	WDNR Technical Standard	Definition <i>(per WDNR Technical Standard)</i>	Purpose <i>(per WDNR Technical Standard)</i>	Project-Specific Implementation
Silt Fence	1056	Silt Fence is a temporary sediment barrier of entrenched permeable geotextile fabric designed to intercept and slow the flow of sediment-laden sheet flow runoff from small areas of disturbed soil.	The purpose of this practice is to reduce slope length of the disturbed area and to intercept and retain transported sediment from disturbed areas.	Install silt fence along the upland side of the road the entire length of the project prior to any soil disturbance activities. Refer to Drawing C-5 through C-22.
Sediment Trap	1063	A temporary sediment control device formed by excavation and/or embankment to intercept sediment-laden runoff and to retain the sediment.	To detain sediment-laden runoff from disturbed areas for sufficient time to allow the majority of the sediment to settle out.	Install sediment trap at the inlet side of the culverts to allow sediment to settle prior to entering the culvert immediately after the installation of the culvert.
Energy Dissipater	N/A	N/A	N/A	Install energy dissipater at the outlet ends of the culvert pipe to slow the stormwater velocity, fan out the water over a wider area and prevent downstream erosion. Refer to the typical detail on Drawing C-3.

Vehicle tracking of sediment from the construction site onto roads and other paved surfaces is not expected to be an issue. The areas of exposed soils on the project site will be located adjacent to the nearest public road, Moore Park Road, which is a gravel road and over 1.4 miles from the nearest paved surface (Highway 77). Moore Park Road and Highway 77 will be monitored for signs of tracked sediment and any sediment tracked off-site will be promptly removed. If vehicle tracking of sediment is found to be a recurring issue, additional BMPs will be installed as appropriate.

Attachment 7 – Attachment A, Description of Post-Construction Activity

Attachment 7 – Attachment A, Description of Post-Construction Activity

Post-Construction Activity

All of the 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 a portion of Access Road 3 during the 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 the mine permit issuance decision. At that point, the improvements from this permit will be incorporated into and superseded by the requirements of the ferrous mining stormwater permit.

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

The post-construction impervious surfaces will be equal to the pre-construction impervious surfaces and will consist of the existing impervious access roads. No new post-construction impervious surfaces will be created by this project.

**Gogebic Taconite
Access Road 3
Maintenance Project**

**Erosion Control and Storm Water
Management Plan**

**To comply with the Wisconsin Construction Storm
Water General Permit (WPDES Permit No. WI-
S067831-4)**

**Prepared for:
Gogebic Taconite, LLC**

June 30, 2014



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Gogebic Taconite Access Road 3
Erosion Control and Storm Water Management Plan

to comply with the
Wisconsin Storm Water General Permit (WPDES Permit No. WI-S067831-4)

June 30, 2014

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 - Attachment A – Construction Erosion and Sediment Control (Form 3500-052A)
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- Silt Fence (1056)
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 - Seeding for Construction Site Erosion Control (1059)
 - Sediment Trap (1063)
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- Construction Site Inspection Report (Form 3400-187)
- Appendix E Maintenance Forms and Records
- Appendix F Record of Plan Amendments
- Appendix G Notice of Termination (Form 3400-162)

1.0 Project Description

1.1 Project Summary

Project Name: Access Road 3 Maintenance Project

Project Location:

County: Iron County
City/Town/Village: Town of Anderson
Public Land Survey
System (PLSS): Sections 32 and 33, Township 45 North, Range 1 West

Contained in NW1/4 of SE1/4, NE1/4 of SE1/4, SW1/4 of SE1/4, SE1/4 of SE1/4, Section 32, and the SE1/4 of NW1/4, SW1/4 of NE1/4, NE1/4 of SW1/4, NW1/4 of SW1/4, SW1/4 of SW1/4, Section 33.

Latitude: 46.3379 Longitude: 90.4931

Project Duration:

Anticipated Project	Anticipated Project
Start Date: July 2014	End Date: December 2014

Project Size:

Total Area of Construction Site: Appox. 2.55 acres
Total Estimated Disturbed Area: Approx. 2.55 acres

Contact Information:

Organization: Gogebic Taconite, LLC
Mailing Address: 402 Silver Street
City: Hurley State: WI Zip Code: 54534
Contact Person: Timothy J. Myers Title: Chief Engineer
Email Address: tmyers@gogebictaconite.com
Phone Number: (715) 561-2601 Alt. Number: (715) 561-2604

1.2 Project Purpose and Need

Gogebic Taconite, LLC (GTAC) proposes to use Access Road 3 to temporarily conduct site monitoring and data collection. The proposed project consists of grading approximately 6,181 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 in the early 1900's. The ballast has been buried by over 100 years of vegetation creating about 3 inches of organic soil above the ballast.

The project location map is shown on Figure 1: Project Location Map. Access Road 3 and the construction limits are shown on Figure 2.

The project will consist of grading off the organic soil and creating a ditch along the upland side of the road. The excess soil from the road grading and ditch excavation will be used to construct a berm on the down slope side of the road. This design will create a soil balance; therefore, no soil will need to be stockpiled or removed from the site. In addition, several culverts will be installed as shown on the design drawings. The project will also consist of constructing a timber mat section of roadway and installing concrete block retaining wall for a section of the roadway.

The purpose of the project is to allow access to the monitoring and sampling sites during the permitting phase of the project to provide the necessary data so that GTAC can determine how to construct an environmentally safe mine. The need for the project is to remove the organic soil to allow for better access and reduce the potential of tracking existing material off site. In addition, this project will greatly improve the drainage reducing the amount of sediment discharging from the site.

2.0 Erosion Control Plan

2.1 Construction Activity

The proposed construction activities consist of:

- Constructing a ditch on the upland side of the existing road.
- Removing the upper organic soil from the existing road base.
- Constructing a berm on the downslope side of the existing road.
- Installing several culverts along the existing road to improve drainage.
- Constructing drainage sumps at the inlet ends of the culverts.
- Constructing a timber mat section of roadway.
- Installing concrete block retaining wall in a section of roadway.

2.1.1 Construction Sequencing

1. Install silt fence.
- 2a. Installing several culverts along the existing road to improve drainage.
- 2b. Constructing sediment traps and energy dissipater at the inlet and outlets ends of the culverts.
- 3a. Constructing a ditch on the upland side of the existing road.
- 3b. Removing the upper organic soil from the existing road base.
- 3c. Constructing a berm on the downslope side of the existing road.
4. Constructing a timber mat section of roadway.
5. Installing concrete block retaining wall in a section of roadway.

As shown above, 2a and 2b will be completed simultaneously and is the same with 3a, 3b, 3c.

2.1.2 Total Area of Disturbance

The total area of the construction site that is expected to be disturbed by the land disturbing construction activities is 2.55 acres.

2.1.3 Receiving Waters

The majority of the runoff from the project site infiltrates into the ground prior to reaching receiving waterbody. Some runoff from the project site may reach an unnamed stream or an unnamed wetland area. The project is located within the watershed of the Tyler Forks River. During larger runoff events, it is possible that storm water runoff from the project site could reach the Tyler Forks River either via overland flow or and an unnamed tributary. The Tyler Forks River is classified as outstanding resource water (ORW). Figure 2 depicts the project location in relation to surrounding waterbodies.

2.1.4 Site Maps

In accordance with Section 3.1.5 of the Construction Storm Water General Permit, the figures associated with this Plan include the following items:

Table 4: Location of Required Site Map Items	
Required Item(s)	Figure(s) / Drawing(s)
Pre-existing topography and drainage patterns, roads and surface waters.	Figure 3: USGS Topographic Map (surrounding topography and surface waters)
Drainage patterns and approximate slopes anticipated after major grading activities.	Drawings C-3-C-16 (access road drainage patterns and topography) Drawings C-4-C-16 (existing and proposed road profiles) (Note: Only one set of drainage arrows is depicted because pre and post construction drainage patterns will be similar)
Boundaries of the construction site.	Figures 2 & 3 and Drawings C-3 through C-16
Areas of soil disturbance.	
Location of major structural and non-structural controls identified in the construction site erosion control plan.	Drawings C-3 through C-16
Location of areas where stabilization practices will be employed.	Drawings C-3 through C-16
Areas that will be vegetated following land disturbing construction activities.	
Area and location of wetland acreage on the construction site and locations where storm water is discharged to a surface water or wetland within one-quarter mile downstream of the construction site.	Drawings C-3 through C-16
Areas that will be used for infiltration of post-construction storm water runoff.	Not Applicable; infiltration of post-construction storm water runoff is not required
An alphanumeric or equivalent coordinate system for the entire construction site.	C3-C16 (depicts road stationing)
Additional items necessary to depict site-specific conditions.	Figure 3 USGS Topographic Map Figure 4: NRCS Soil Survey Map Drawings C-3 through C-16

2.2 Erosion and Sediment Control BMPs

GTAC or GTAC's representative shall implement and maintain all best management practices (BMPs) specified in this construction site erosion control plan from the start of land disturbing construction activities and continue until final stabilization of the construction site (per Section 3.1.1 of the Construction Storm Water General Permit). As defined in Section 6.2 of the Construction Storm Water General Permit, BMPs are "structural or non-structural measures, practices, techniques or devices employed to avoid or minimize soil, sediment or pollutants carried in runoff to waters of the state".

In accordance with Section 4.2.3 of the Construction Storm Water General Permit, the BMPs within this erosion control plan have been designed to prevent the discharge of sediment and other pollutants to the Tyler Forks River, and outstanding resource water, in excess of the background level within the water body.

The erosion and sediment control BMPs described in this section will be installed and maintained at the construction site to prevent pollutants from reaching waters of the state. In accordance with NR 151.11(8) of the Wisconsin Administrative Code:

- Erosion and sediment control practices will be constructed or installed before upgradient land disturbing activities begin.
- Erosion and sediment control practices will be maintained until final stabilization of the site has been achieved. Maintenance activities will include vegetating the berm, removing sediments from the basins and disposal of the sediments will be performed until the mining permit is issued and mine construction begins or the project ends.
- Temporary stabilization activities will commence when land disturbing activities have temporarily ceased and will not resume for a period exceeding 14 calendar days.
- Final stabilization activities will commence when land disturbing activities have ceased and final grade has been reached on any portion of the site.
- BMPs that are no longer necessary for erosion and sediment control shall be removed.

2.2.1 Erosion Control BMPs

Erosion control BMPs are non-structural practices or structural measures employed to prevent erosion. The following structural erosion control BMPs will be implemented as part of this project:

BMP	WDNR Technical Standard	Definition <i>(per WDNR Technical Standard)</i>	Purpose <i>(per WDNR Technical Standard)</i>	Project-Specific Implementation
Mulching for Construction Sites	1058	Mulching is the application of organic material to the soil surface to protect it from raindrop impact and overland flow. Mulch covers the soil and absorbs the erosive impact of rainfall and reduces the flow velocity of runoff.	This practice may be used to: <ul style="list-style-type: none"> · Reduce soil erosion · Aid in seed germination and establishment of plant cover · Conserve soil moisture 	Apply mulch with temporary seeding to stabilize and protect areas where soils will be exposed for greater than 7 days.
				Apply mulch with permanent seeding to stabilize and protect disturbed areas after activities in that area have been completed and temporary impervious surfaces have been removed.
Seeding for Construction Site Erosion Control	1059	Planting seed to establish temporary or permanent vegetation for erosion control.	The purpose of temporary seeding is to reduce runoff and erosion until permanent vegetation of other erosion control practices can be established. The purpose of permanent seeding is to permanently stabilize areas of exposed soil.	Apply temporary seeding to stabilize areas where soils will be exposed for greater than 7 days, including soil stockpiles.
				Apply permanent seeding to stabilize disturbed areas after activities in that area have been completed and temporary impervious surfaces have been removed.

Additionally, the following non-structural erosion control BMPs will be implemented as appropriate:

- Existing vegetation will be preserved where feasible.
- Topsoil will be preserved to the extent practicable.
- Land disturbing activities will be staged to limit exposed soils areas subject to erosion.
- Soil compaction shall be minimized to the extent practicable.
- Disturbed portions of the construction site will be stabilized as soon as practicable.
- Permanent stabilization practices shall be installed as soon as possible after final grading.

2.2.2 Sediment Control BMPs

Sediment control BMPs are non-structural practices or structural measures employed to prevent sediment from leaving the site. The selected BMPs have been chosen to meet the sediment control requirements of NR 151.11 (6m) of the Wisconsin Administrative Code: specifically, the BMPs by design and placement will allow for discharge for no more than 5 tons per acre per year of the sediment load carried in runoff from initial grading to final stabilization.

The following structural sediment control BMPs will be implemented as part of this project:

BMP	WDNR Technical Standard	Definition <i>(per WDNR Technical Standard)</i>	Purpose <i>(per WDNR Technical Standard)</i>	Project-Specific Implementation
Silt Fence	1056	Silt Fence is a temporary sediment barrier of entrenched permeable geotextile fabric designed to intercept and slow the flow of sediment-laden sheet flow runoff from small areas of disturbed soil.	The purpose of this practice is to reduce slope length of the disturbed area and to intercept and retain transported sediment from disturbed areas.	Install silt fence along the upland side of the road the entire length of the project prior to any soil disturbance activities. Refer to Drawing C-5 through C-22.
Sediment Trap	1063	A temporary sediment control device formed by excavation and/or embankment to intercept sediment-laden runoff and to retain the sediment.	To detain sediment-laden runoff from disturbed areas for sufficient time to allow the majority of the sediment to settle out.	Install sediment trap at the inlet side of the culverts to allow sediment to settle prior to entering the culvert immediately after the installation of the culvert.
Energy Dissipater	N/A	N/A	N/A	Install energy dissipater at the outlet ends of the culvert pipe to slow the stormwater velocity, fan out the water over a wider area and prevent downstream erosion. Refer to the typical detail on Drawing C-3.

Vehicle tracking of sediment from the construction site onto roads and other paved surfaces is not expected to be an issue. The areas of exposed soils on the project site will be located adjacent to the nearest public road, Moore Park Road, which is a gravel road and over 1.4 miles from the nearest paved surface (Highway 77). Moore Park Road and Highway 77 will be monitored for signs of tracked sediment and any sediment tracked off-site will be promptly removed. If vehicle tracking of sediment is found to be a recurring issue, additional BMPs will be installed as appropriate.

2.2.3 BMP Maintenance

In accordance with Section 4.5.2 of the Construction Storm Water General Permit, BMPs will be repaired or replaced as necessary within 24 hours of an inspection or notification indicating that the repair or replacement is needed.

BMP maintenance shall be in accordance with the WDNR Technical Standards (refer to Appendix C).

For structural BMPs not based on technical standards:

- Stockpile stabilization measures (temporary seeding and mulch and/or coverage with a tarp) will be monitored for effectiveness and repaired as necessary.
- The riprap installed for ditch stabilization will be monitored for effectiveness and repaired as necessary.
- The riprap-lined sumps will be monitored for effectiveness and repaired as necessary. If a sediment layer accumulates on top of the riprap, it will be removed.

Document BMP maintenance activities in Appendix E: Maintenance Forms and Records.

2.2.4 Responsible Contractor(s)

The contractor(s) and/or subcontractor(s) that will install and maintain the erosion and sediment control BMPs will be identified here once selected.

2.3 Site Inspections

In compliance with Section 4.5.1 of the Construction Storm Water General Permit, GTAC or GTAC's designee will conduct the following construction site inspections:

- Weekly inspections of implemented erosion and sediment controls.
- Inspections of erosion and sediment controls within 24 hours after a rainfall event of 0.5 inches or greater. A "rainfall event" may be considered to be the total amount of rainfall recorded in any continuous 24-hour period.

Weekly inspection reports will be completed and maintained at the construction site. Per Section 4.5.3 of the Construction Storm Water General Permit, the weekly inspection reports will include:

- The date, time and exact location of the inspection.
- The name of the individual who performed the inspection.
- An assessment of the condition of erosion and sediment controls.
- A description of any erosion and sediment control installation or maintenance performed in response to the inspection.
- A description of the present phase of construction at the site.

Inspection reports may be documented using the WDNR's Construction Site Inspection Report form (a copy of which can be found in Appendix D: Inspection Forms and Records).

2.4 Spill Prevention and Response

Spill Prevention:

- Chemical and other compounds and materials present at the project site will be used and stored in accordance with manufacturer instructions.
- All waste materials will be properly handled, stored in covered containers, and disposed of off-site in accordance with applicable regulations.
- Care will be taken to prevent spills, including implementation of good housekeeping measures and minimization of the quantity of chemicals brought on-site.
- All equipment will be properly maintained in accordance with manufacturer instructions and monitored for signs of leaks.
- An adequate supply of absorbent mats (or other absorbent material) and other spill response supplies will be stored on-site at all times and an appropriate disposal method will be available for recovered spilled materials.

Spill Response:

- Spill Reporting: Immediately notify the WDNR via the 24-hour spill hotline (1-800-943-0003) if a spill or accidental release of any material or substance results in the discharge of pollutants to the waters of the state.
- In the event of a spill, measures will be taken to minimize discharge to waters of the state, including groundwater.
- All chemical, oil/gasoline, and hydraulic fluid spills shall be cleaned up as soon as possible.
- In accordance with Section 5.22 of the Construction Storm Water General Permit, upon becoming aware of any permit noncompliance that may endanger public health or the environment, the GTAC shall report this information by a telephone call to the Department regional storm water specialist within 24 hours. A written report describing the noncompliance shall be submitted to the Department regional storm water specialist within 5 days after GTAC became aware of the noncompliance. The Department may

waive the written report on a case-by-case basis based on the oral report received within 24 hours. The written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

2.5 Site Restoration and Final Stabilization

Restoration of disturbed areas, including implementation of permanent stabilization measures, will commence when land disturbing activities have ceased and final grade has been reached on any portion of the site.

Final stabilization must be achieved prior to termination of coverage under the Construction Storm Water General Permit. Final stabilization will be considered achieved when “all land disturbing construction activities at the construction site have been completed” and “a uniform perennial vegetative cover has been established with a density of at least 70% of the cover for the unpaved areas and areas not covered by permanent structures or that employ equivalent permanent stabilization measures” (per Section 6.6 of the Construction Storm Water General Permit).

Site restoration and stabilization of the material staging area, temporary access road, and areas where temporary berms were installed shall include as appropriate:

- Remove gravel and geotextile fabric from temporary access road sections.
- Regrade the disturbed area to blend with surrounding topography, include the reuse of any stockpiled soil.
- Replace any stockpiled topsoil.
- Remove all equipment, accumulated sediment, and other materials.
- Remove all temporary synthetic BMPs (such as silt fence) and temporary structural BMPs (such as temporary berms), except those that will provide sediment control during stabilization.
- Seed and mulch disturbed areas in accordance with WDNR Technical Standards 1059 and 1058.
 - The proposed seed mix will contain a mixture of:
 - 68% Common Oats
 - 14% Annual Rye
 - 4% Timothy
 - 7% Virginia Wild Rye 7% Canadian Wild Rye
 - 0.25% Black-eyed Susan
 - Seeds will be planted no deeper than 1/8-inch at 73.25 pounds per acre. The seed bed will be loosened to 4 inches of depth.
 - Mulching material may consist of native materials and/or straw or hay in an air-dry condition, wood excelsior fiber, or wood chips.

- Mulch shall be spread at a thickness of ½ to 1 ½ inches.
- Apply fertilizer as deemed appropriate based on soil nutrient analysis.
- Pull back stockpiled sediment and brush/slash and spread over disturbed areas.
- Encourage regrowth of natural vegetation.
- Reseed and mulch as necessary until final stabilization has been achieved.
- After final stabilization has been achieved, remove any remaining temporary synthetic BMPs (such as silt fence) and temporary structural BMPs (such as temporary berms).

3.0 Storm Water Management Plan

This section is a site-specific storm water management plan developed in accordance with the requirements of Section 3.1 of WPDES Permit No. WI-S067831-4 (the Construction Storm Water General Permit) and NR 216.47 of the Wisconsin Administrative Code. As defined in Section 6.19 of the Construction Storm Water General Permit, a storm water management plan is “a comprehensive plan designed to reduce the discharge of pollutants from storm water, after the site has undergone final stabilization, following completion of the construction activity”.

3.1 Post-Construction Activity

All of the 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 storm water plan is an improvement for maintaining a portion of Access Road 3 during the 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 the mine permit issuance decision. At that point, the improvements from this permit will be incorporated into and superseded by the requirements of the ferrous mining stormwater permit.

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

The post-construction impervious surfaces will be equal to the pre-construction impervious surfaces and will consist of the existing impervious access roads. No new post-construction impervious surfaces will be created by this project.

3.2 Compliance with Post-Construction Performance Standards

Based on the aforementioned information about the proposed project and in accordance with NR 151.121(2)(a), this project site is exempt from the post-construction standards of NR 151.122 through 151.128, with the exemption of NR 151.125, the protective areas performance standard.

3.2.1 Protective Areas Performance Standard (NR 151.125)

A protective area is defined as “an area of land that commences at the top of the channel of lakes, streams and rivers, or at the delineated boundary of wetlands, and that is the greatest of the following widths, as measured horizontally from the top of the channel or delineated wetland boundary to the closest impervious surface” (per NR 151.125(1)).

The project will occur within the watershed of the Tyler Forks River, which is classified as an outstanding resource water; however, the project site is located much greater than 75 feet from the river and thus meets the protective areas performance standard for outstanding resources waters and exceptional resource waters of 75 feet (per NR 151.125(1)(a)).

Portions of the access roads will be located within 50 feet of a wetland area and thus are within the protective area for those wetlands (per NR 151.125(1)(d)). No permanent impervious surfaces will be constructed within a wetland protective area and thus no related permanent controls are necessary.

4.0 Record Management

4.1 Record Retention during Construction

In accordance with Section 4.6.1 of the Construction Storm Water General Permit, GTAC will retain:

- Records of all construction site inspections.
- Copies of all reports and plans required by the Permit.
- Records of all data used to obtain coverage under the Permit.

During the life of the project, the Erosion Control and Storm Water Management Plans and associated amendments will be stored at the construction site in the construction trailer until termination of permit coverage (per Section 4.6.1.1 of the Construction Storm Water General Permit).

In accordance with Section 2.3 of the Construction Storm Water General Permit, GTAC will post the permit certificate received from the WDNR in a conspicuous place on the construction site.

Upon request by the WDNR, GTAC must be able to provide a copy of the Erosion Control and Storm Water Management Plans, construction site inspections and any additional data requested within 5 working days (per Section 4.6.3 of the Construction Storm Water General Permit).

4.2 Plan Amendments

In accordance with Section 3.3.1 of the Construction Storm Water General Permit, GTAC shall amend the Erosion Control and Storm Water Management Plan if either of the following occurs:

- There is a change in design, construction operation or maintenance at the construction site, which has the reasonable potential for the discharge of pollutants and which has not otherwise been addressed in the Erosion Control and Storm Water Management Plan.
- The actions required by the Erosion Control and Storm Water Management Plan fail to reduce the impacts of pollutants carried by construction site storm water runoff.

If WDNR has reviewed the Erosion Control and Storm Water Management Plan prior to the amendment of the Plan, GTAC shall notify the WDNR at least 5 days prior to amending the Plan (per Section 3.3.2 of the Construction Storm Water General Permit).

Document amendments to this Plan are located in “Appendix F: Record of Plan Amendments”.

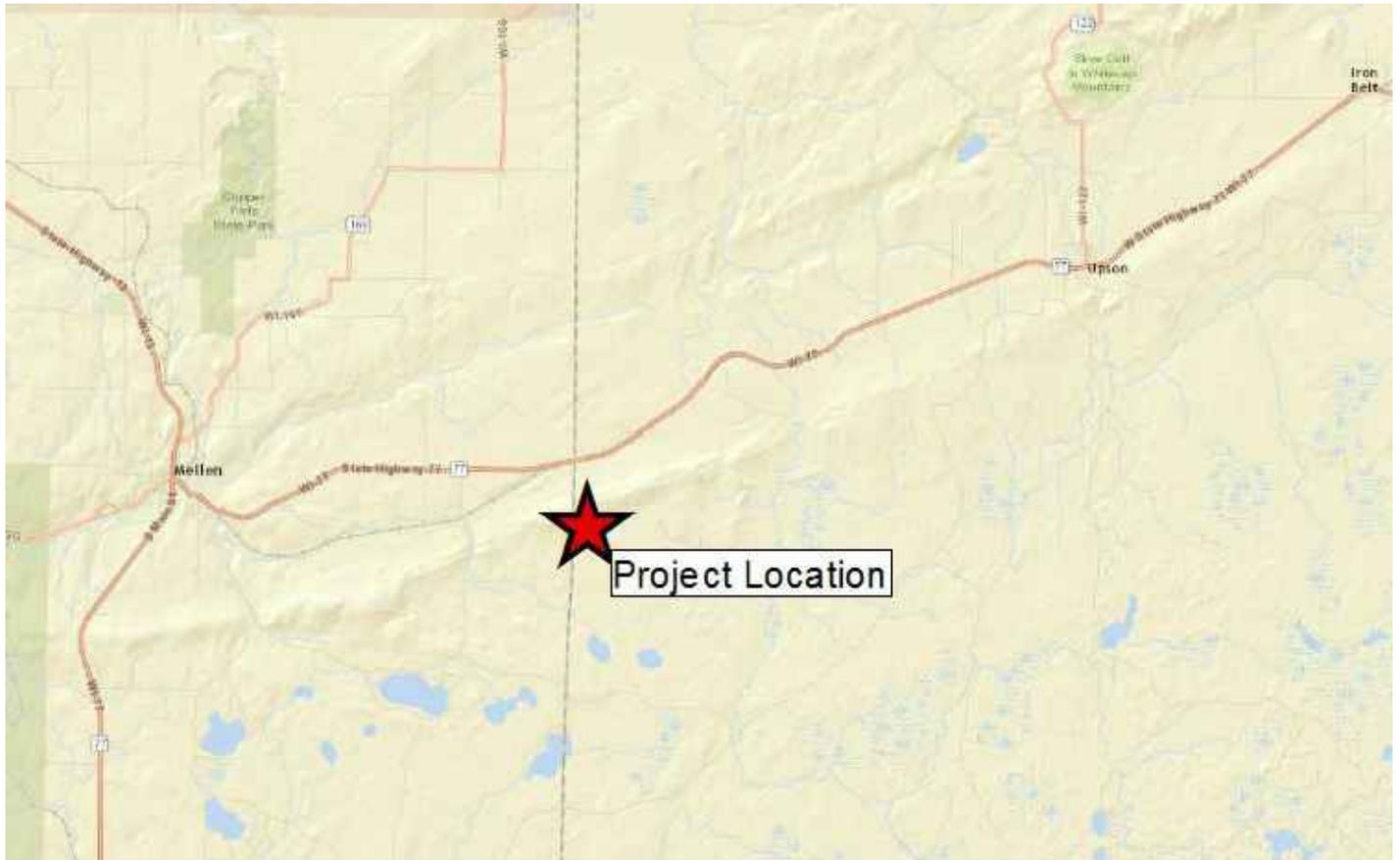
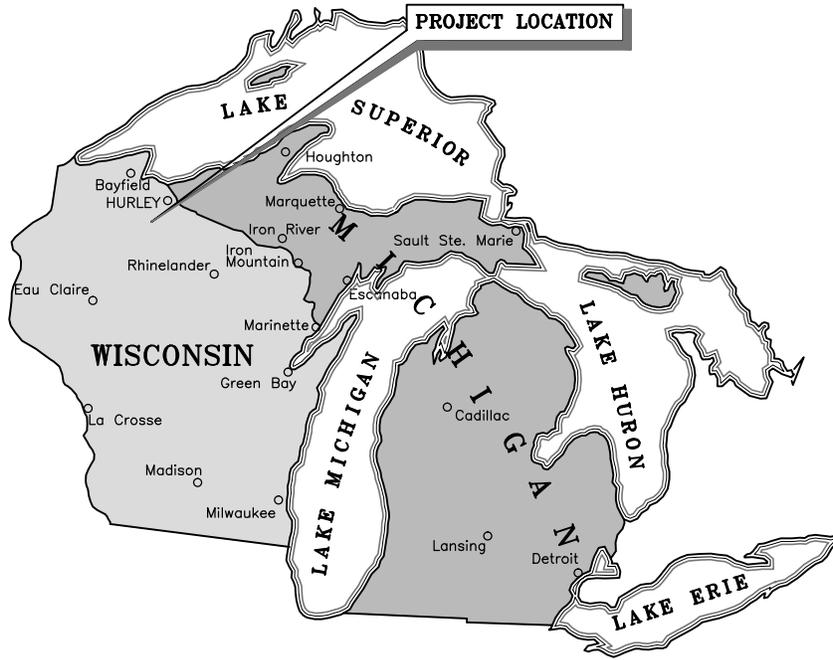
4.3 Notice of Termination

In accordance with Section 2.9.1 of the Construction Storm Water General Permit, GTAC shall submit a Notice of Termination form to the WDNR within 45 days after a construction site has undergone final stabilization, temporary erosion control best management practices (BMPs) have been removed and all land disturbing construction activities that required coverage under this permit have ceased. A copy of the WDNR’s Notice of Termination form is attached in Appendix G: Notice of Termination (Form 3400-162).

4.4 Post-Construction Record Retention

All reports required by Subchapter III of Chapter NR 216 of the Wisconsin Administrative Code and all information submitted to obtain permit coverage, including the Erosion Control and Storm Water Management Plans, amendments, and background information used in their preparation, shall be retained by GTAC for a period of at least 3 years from the date of Notice of Termination (per Section 4.6.1.2 of the Construction Storm Water General Permit).

Upon request by the WDNR, GTAC must be able to provide a copy of the Erosion Control and Storm Water Management Plans, construction site inspections and any additional data requested within 5 days (per Section 4.6.3 of the Construction Storm Water General Permit).



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 200 EAST AYER STREET – IRONWOOD, MICHIGAN 49938 (906) 932-5048

PROJECT AREA LOCATION
GOGEBIC TACONITE
 UPSON, WISCONSIN

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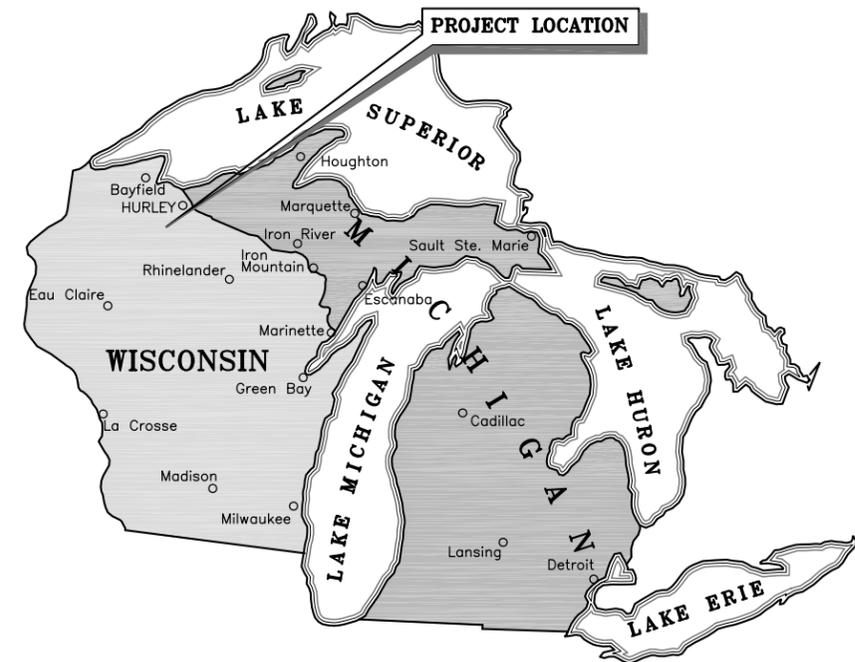
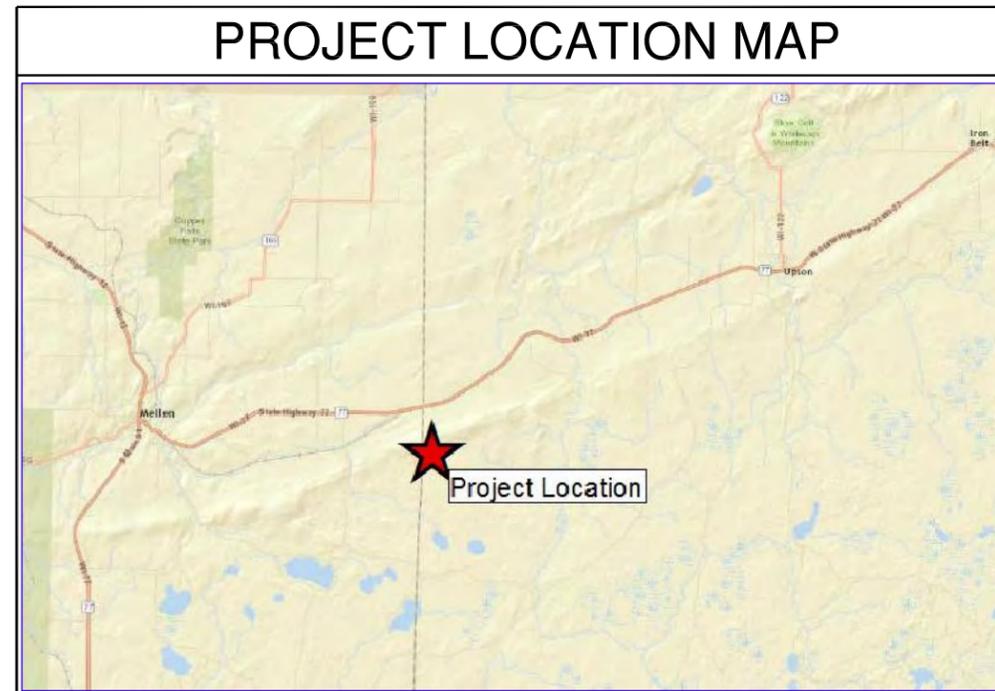
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FIGURE
1

GOGEBIC TACONITE, LLC

ACCESS ROAD 3

STORM WATER PLAN



SHEET INDEX	
SHEET C-1	COVER SHEET
SHEET C-2	TYPICAL SECTIONS AND DETAILS
SHEET C-3	OVERALL PLAN VIEW
SHEET C-4	PLAN AND PROFILE - ACCESS ROAD 3
SHEET C-5	PLAN AND PROFILE - ACCESS ROAD 3
SHEET C-6	PLAN AND PROFILE - ACCESS ROAD 3
SHEET C-7	PLAN AND PROFILE - ACCESS ROAD 3
SHEET C-8	PLAN AND PROFILE - ACCESS ROAD 3
SHEET C-9	PLAN AND PROFILE - ACCESS ROAD 3
SHEET C-10	PLAN AND PROFILE - ACCESS ROAD 3
SHEET C-11	PLAN AND PROFILE - ACCESS ROAD 3
SHEET C-12	PLAN AND PROFILE - ACCESS ROAD 3
SHEET C-13	PLAN AND PROFILE - ACCESS ROAD 3
SHEET C-14	PLAN AND PROFILE - ACCESS ROAD 3
SHEET C-15	PLAN AND PROFILE - ACCESS ROAD 3
SHEET C-16	PLAN AND PROFILE - ACCESS ROAD 3

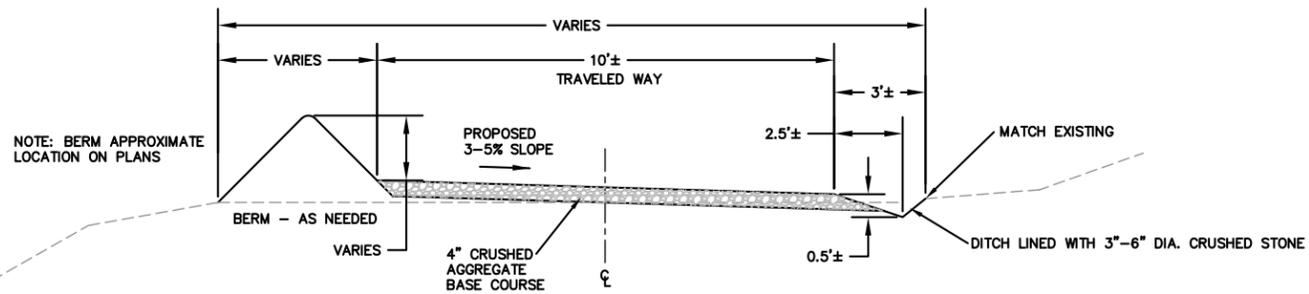


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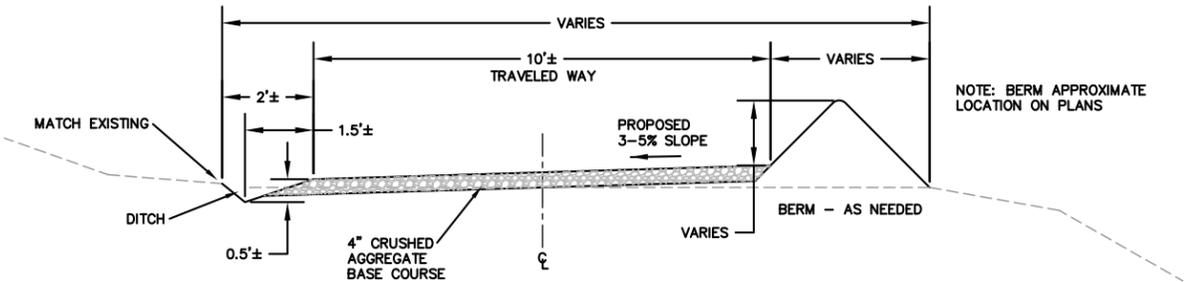
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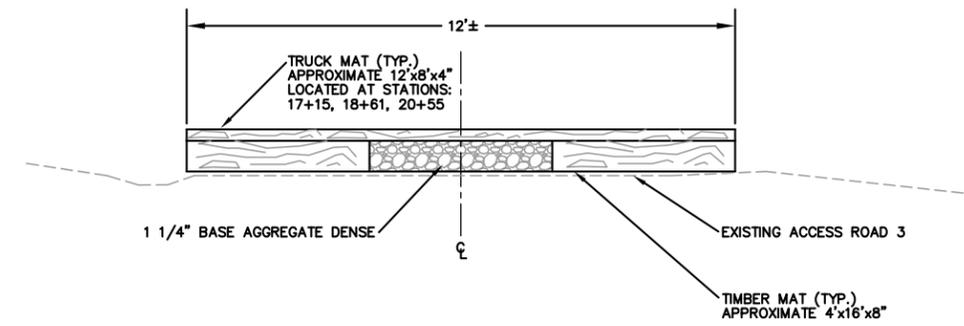




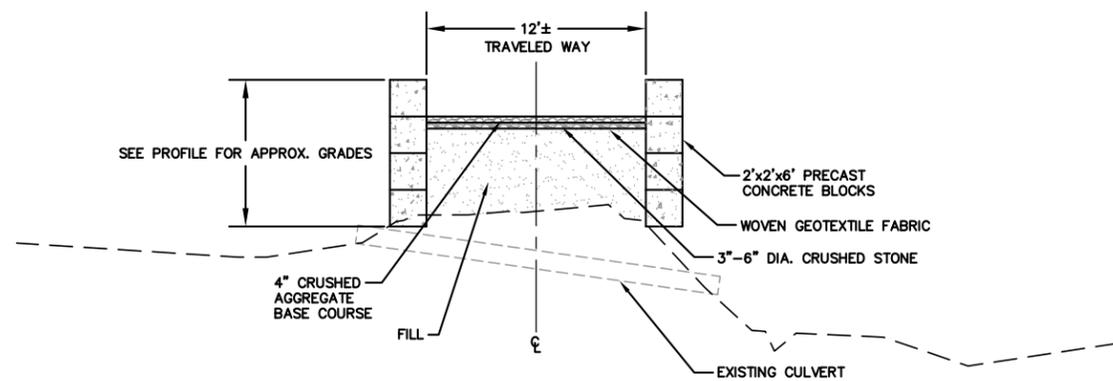
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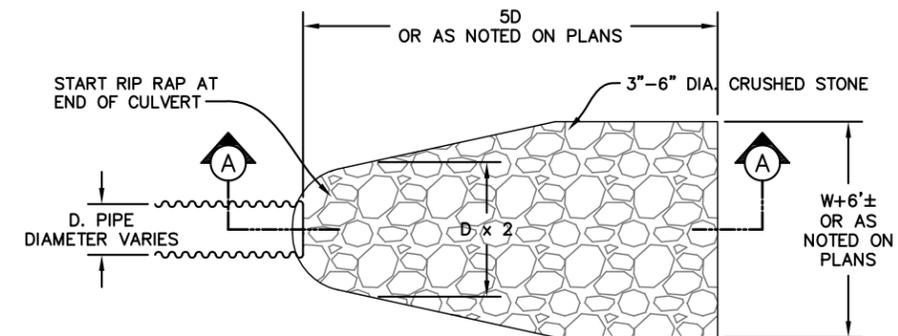
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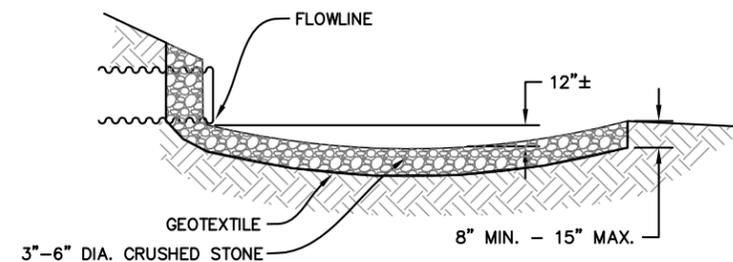
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PLAN VIEW

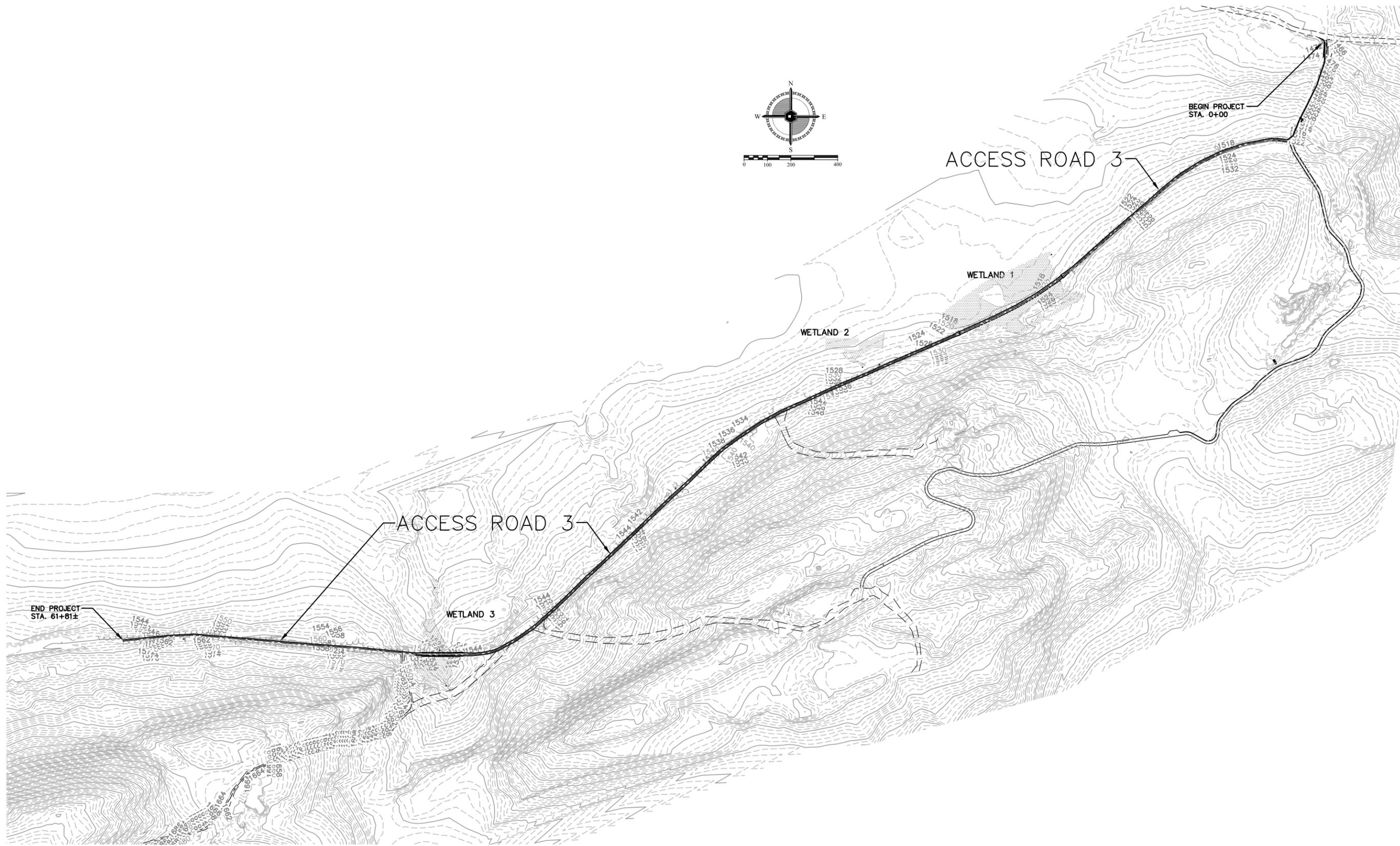


SECTION A-A

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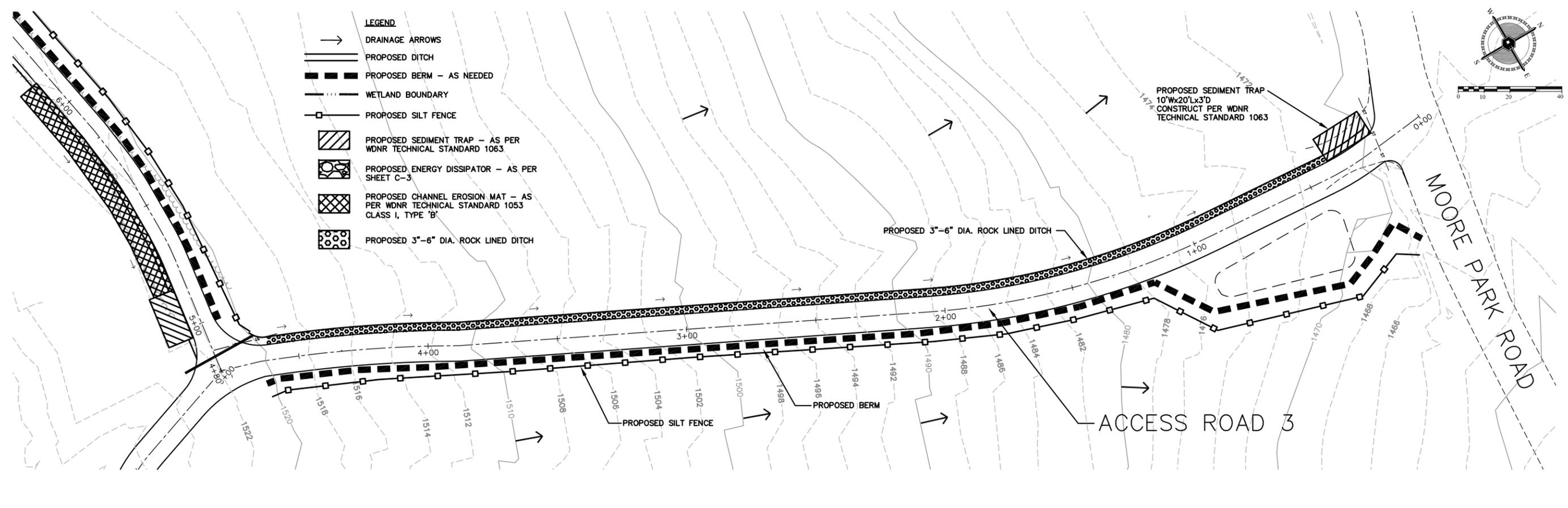
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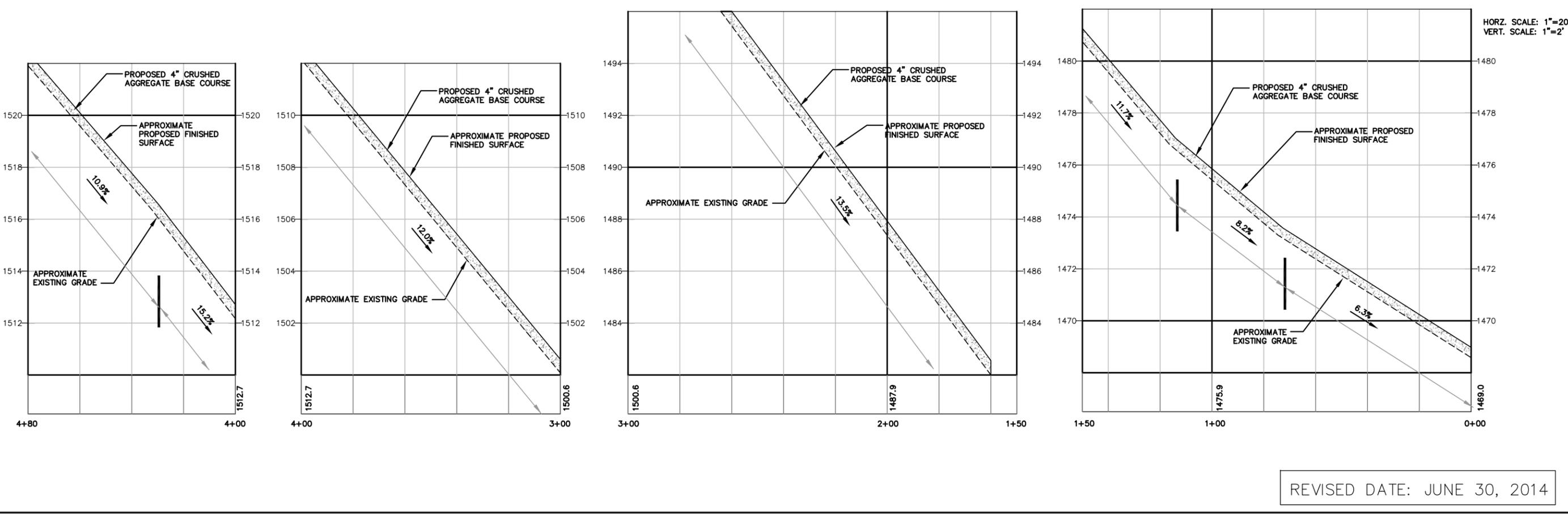
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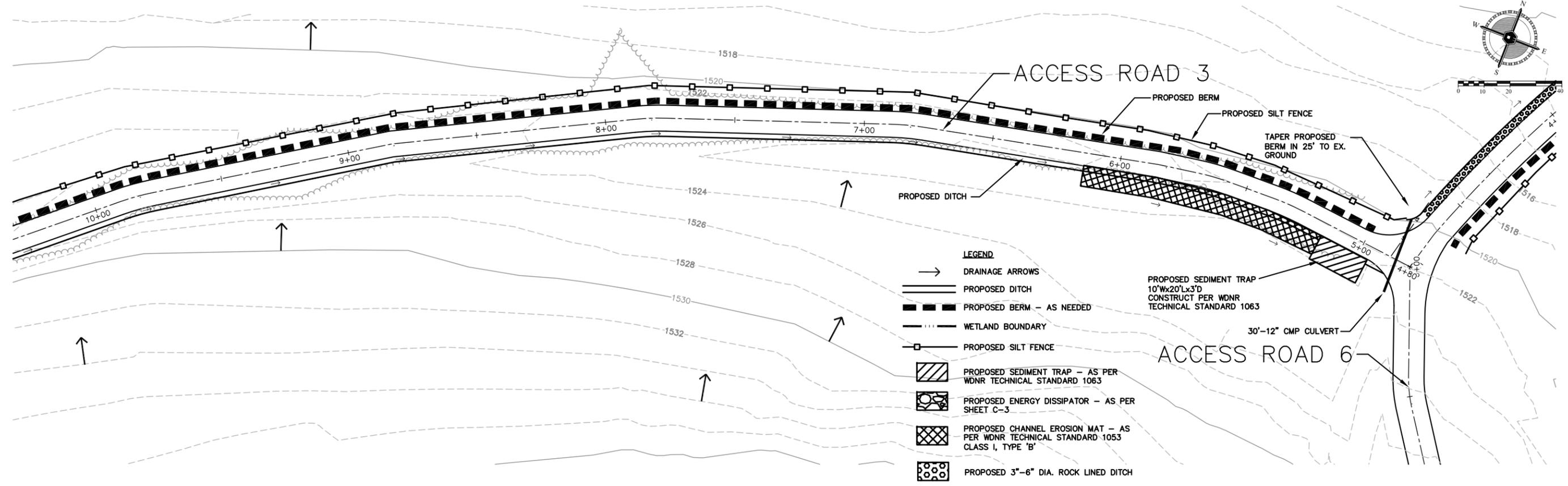


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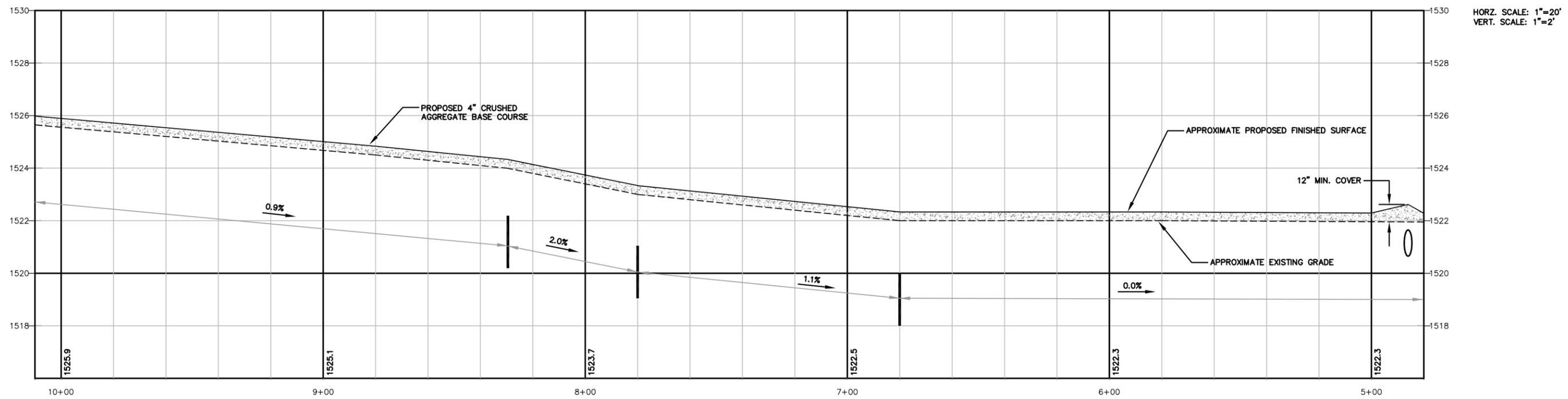


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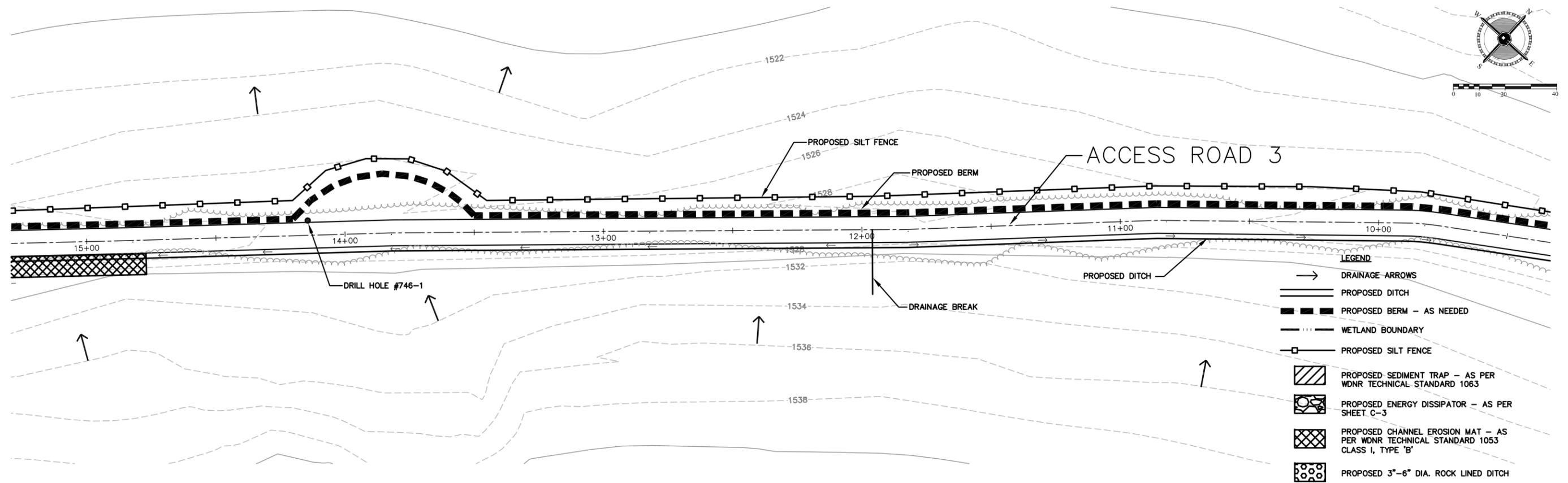


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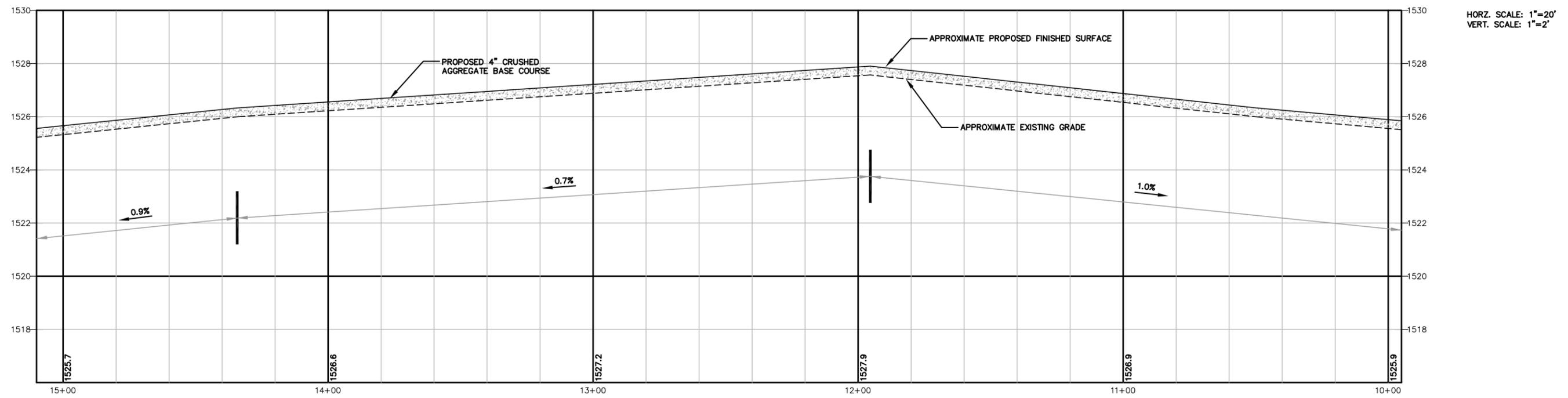


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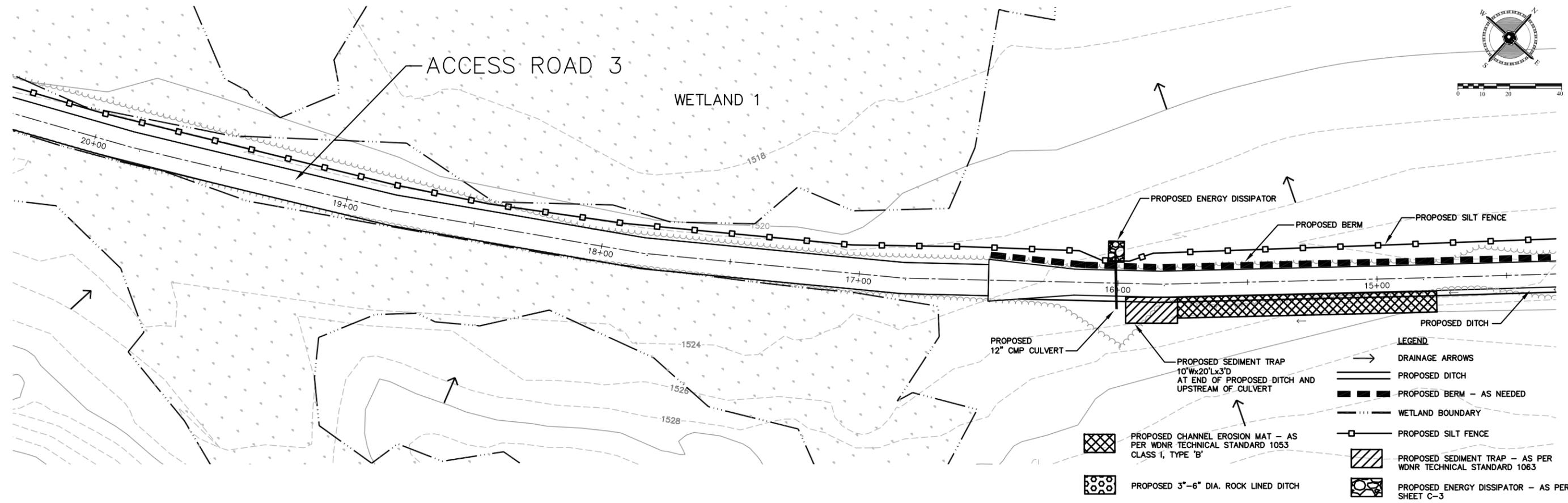
COLEMAN ENGINEERING COMPANY
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 200 EAST AVE. STREET • IRONWOOD, MI 49908 • PHONE 906-932-5048

SHEET NAME: PLAN AND PROFILE

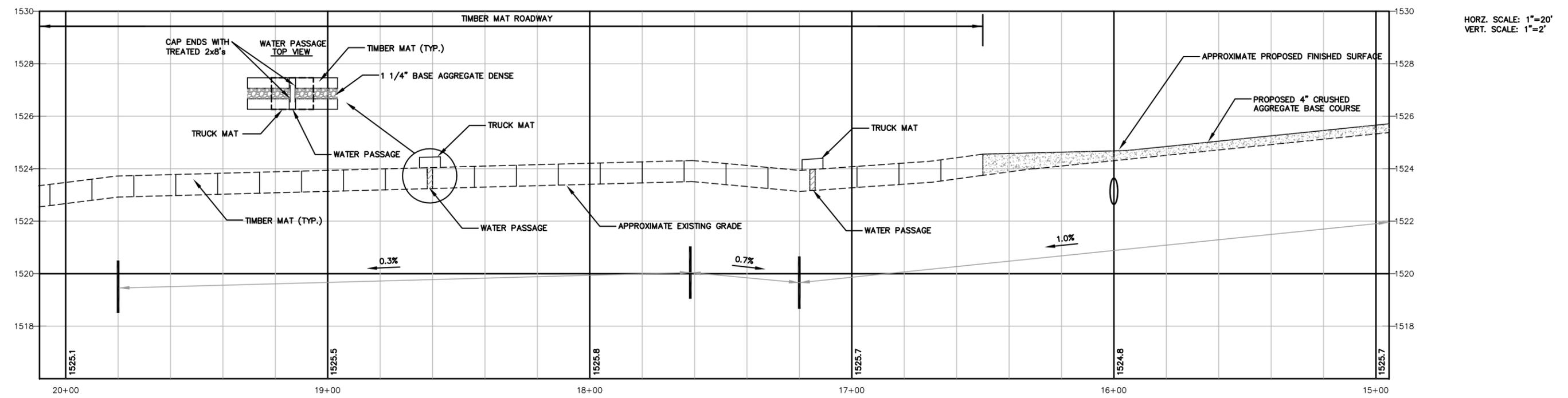
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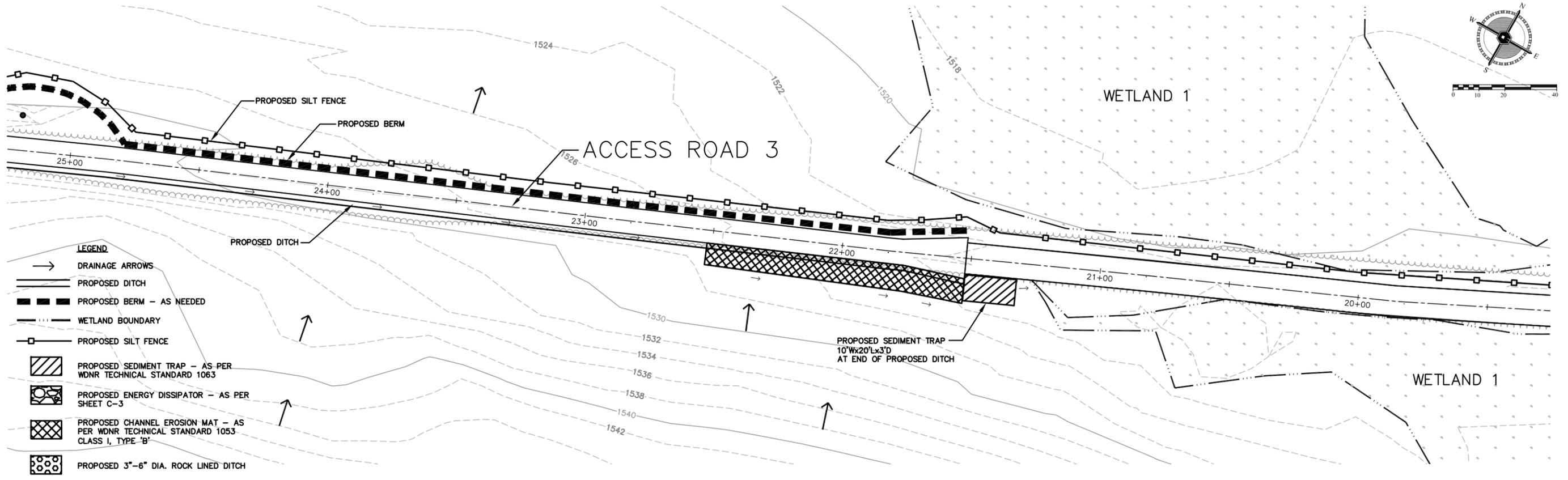
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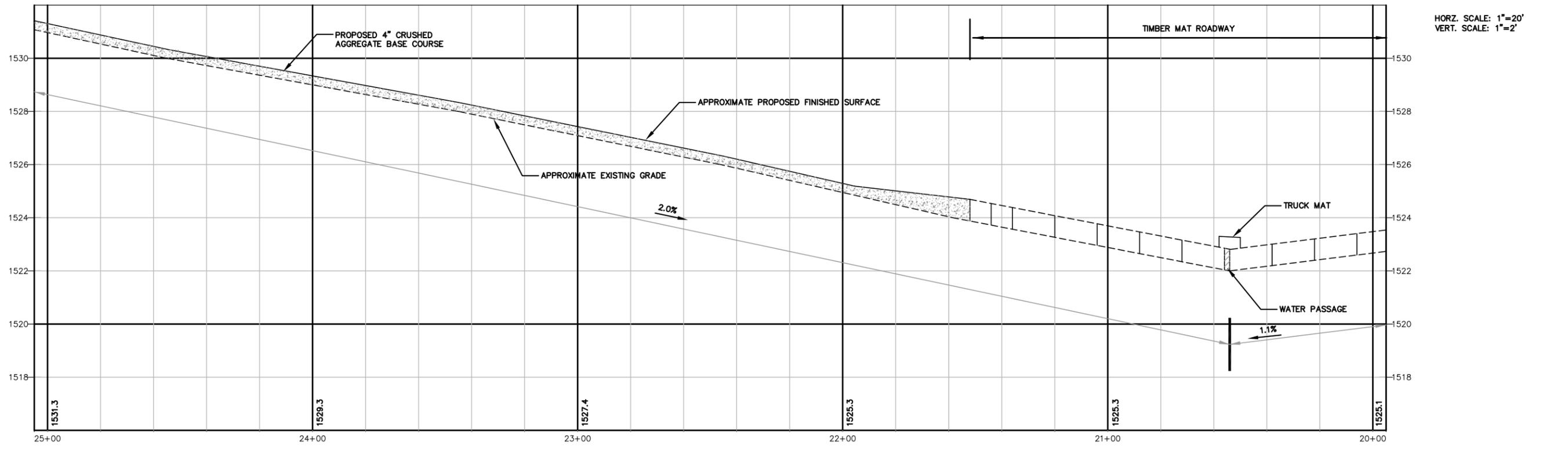
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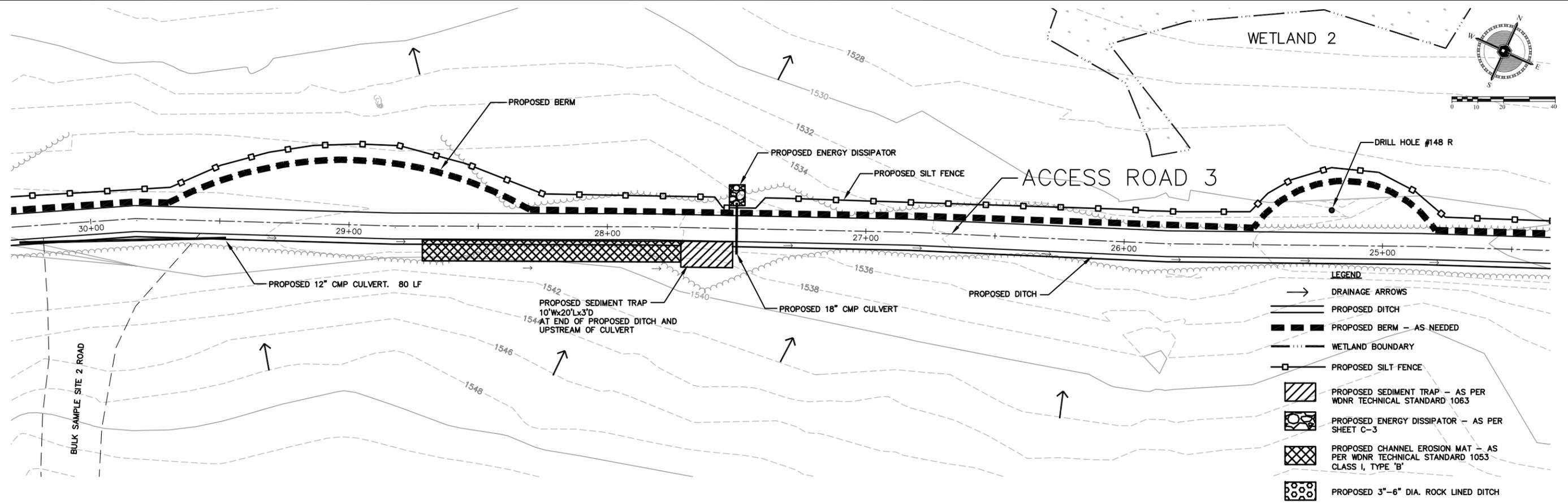
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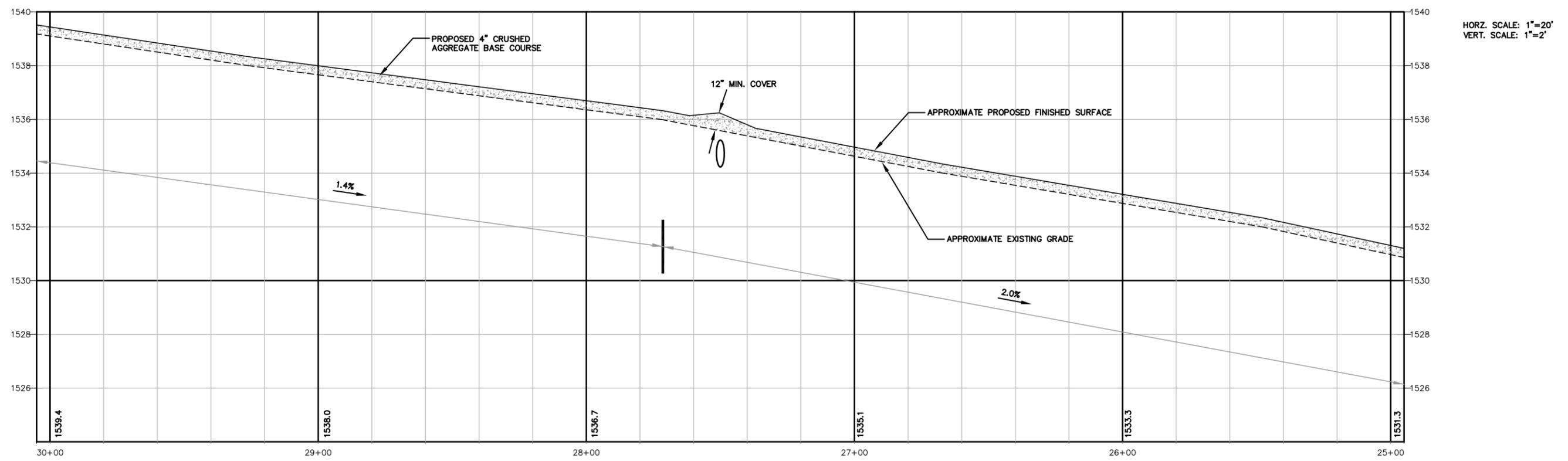


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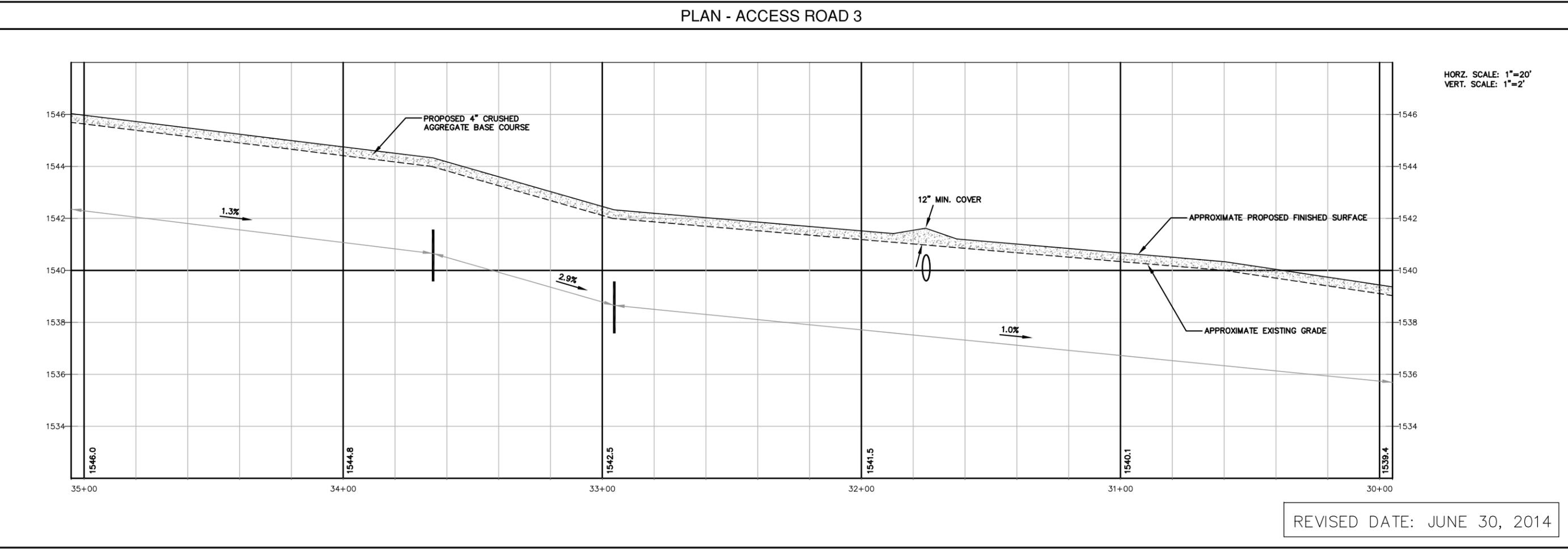
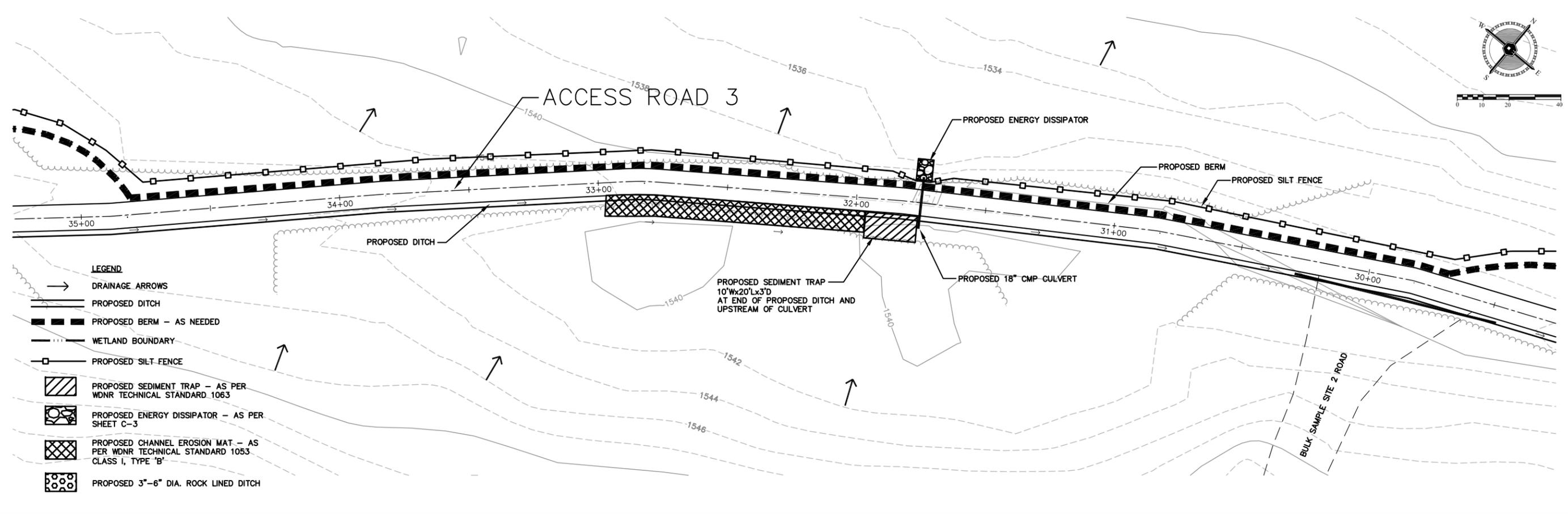
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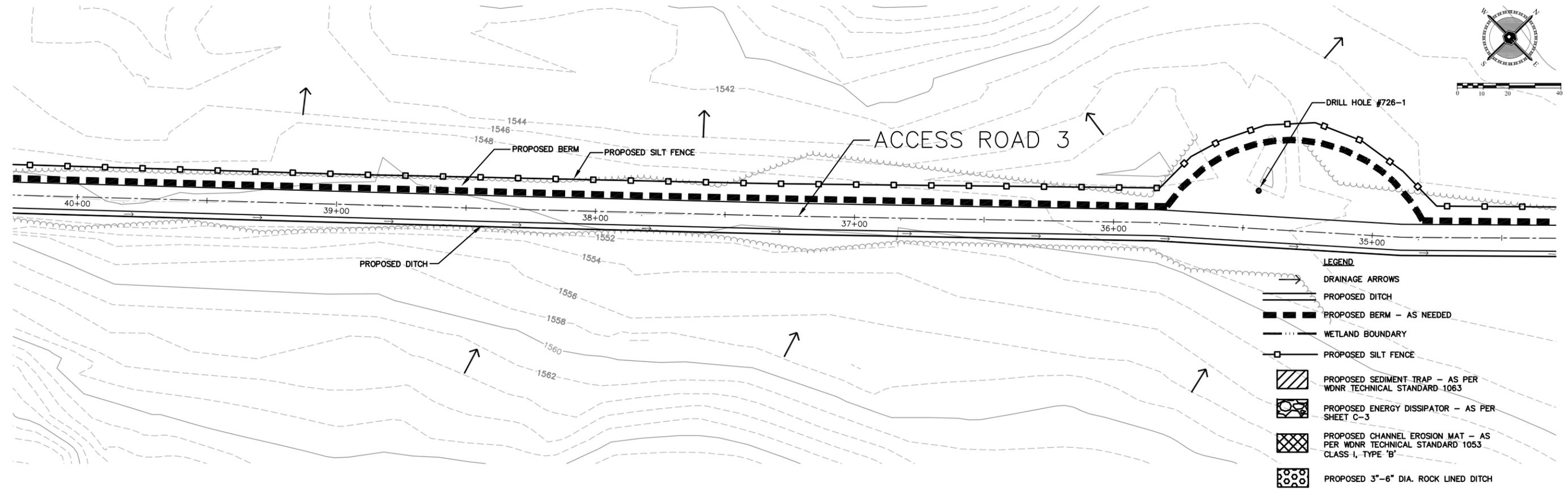
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 200 EAST AYER STREET • BIRMINGHAM, MI 48208 • PHONE: 906-932-8048
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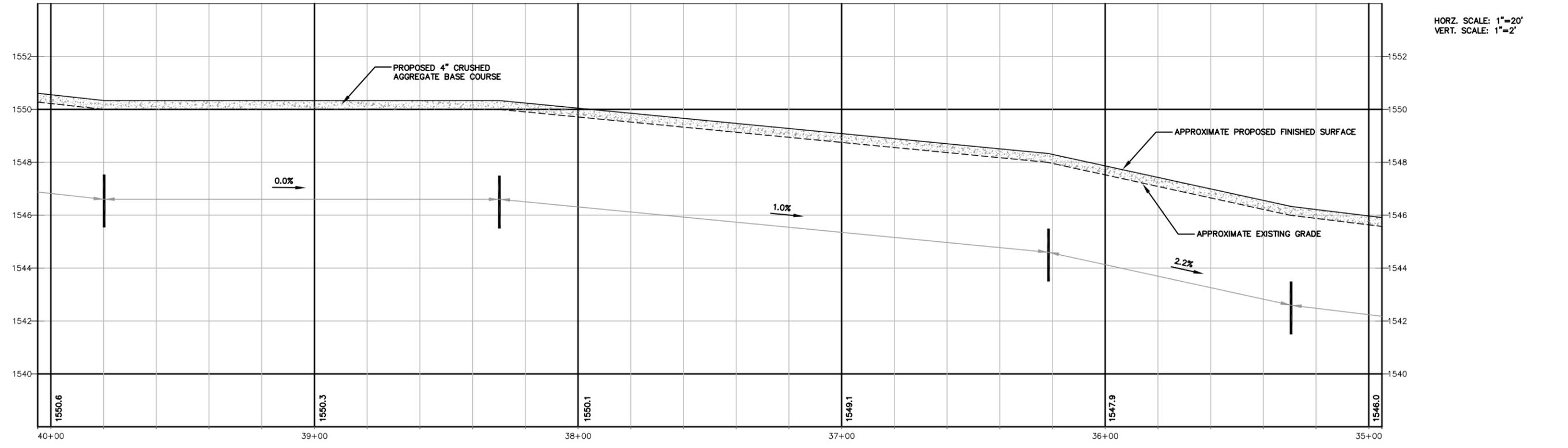


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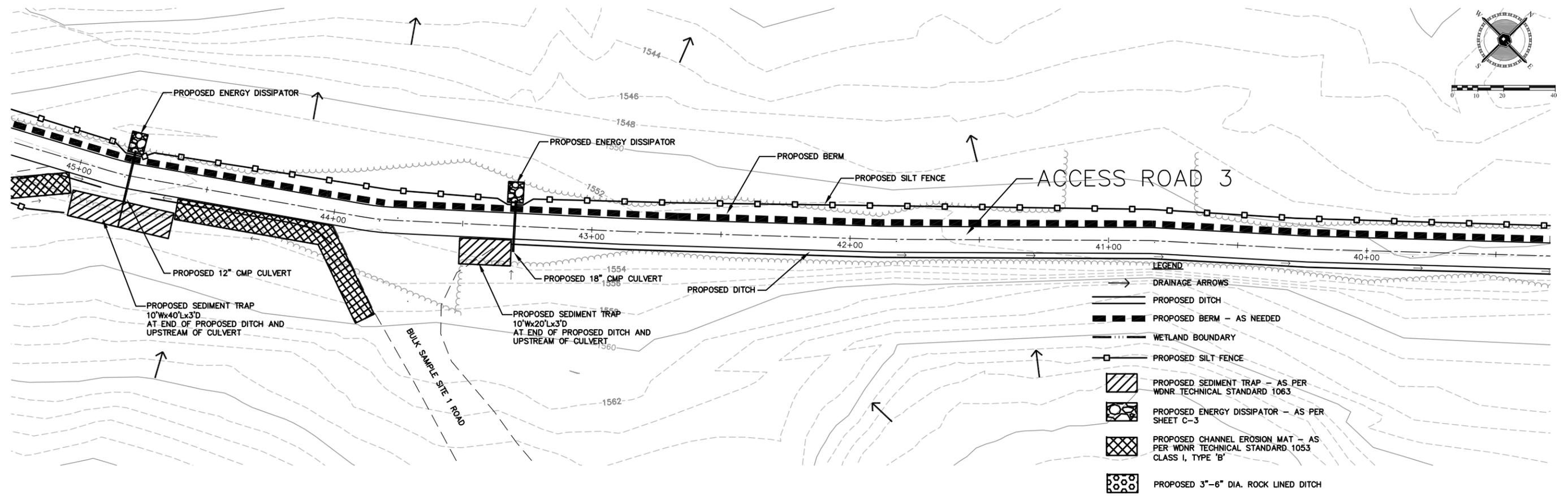
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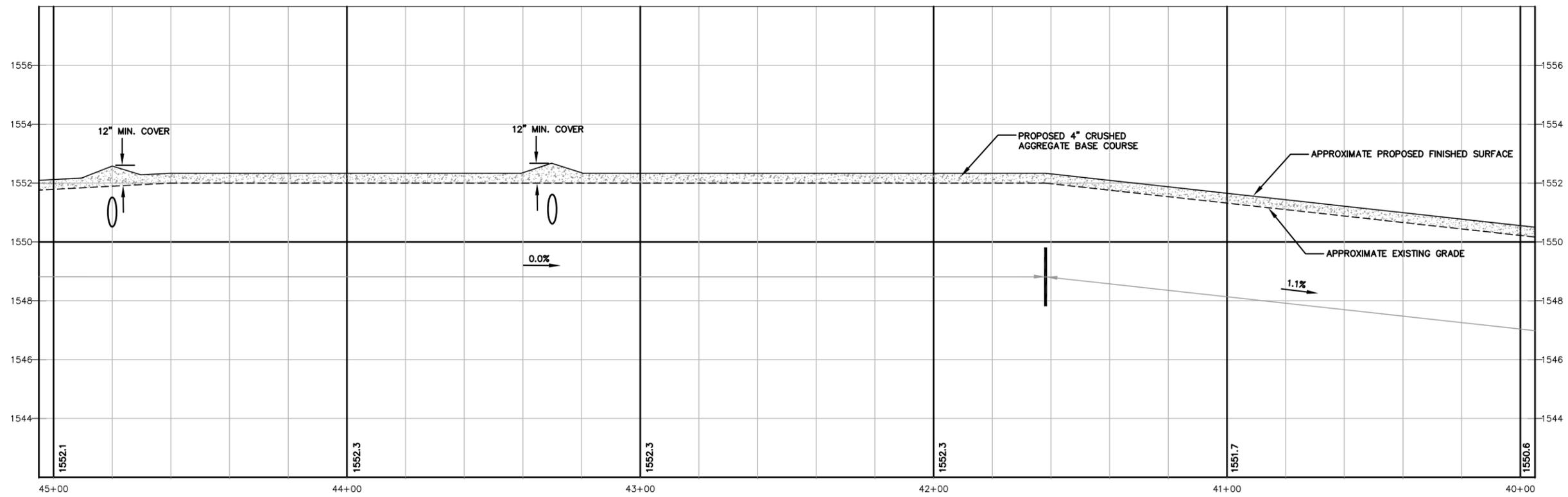
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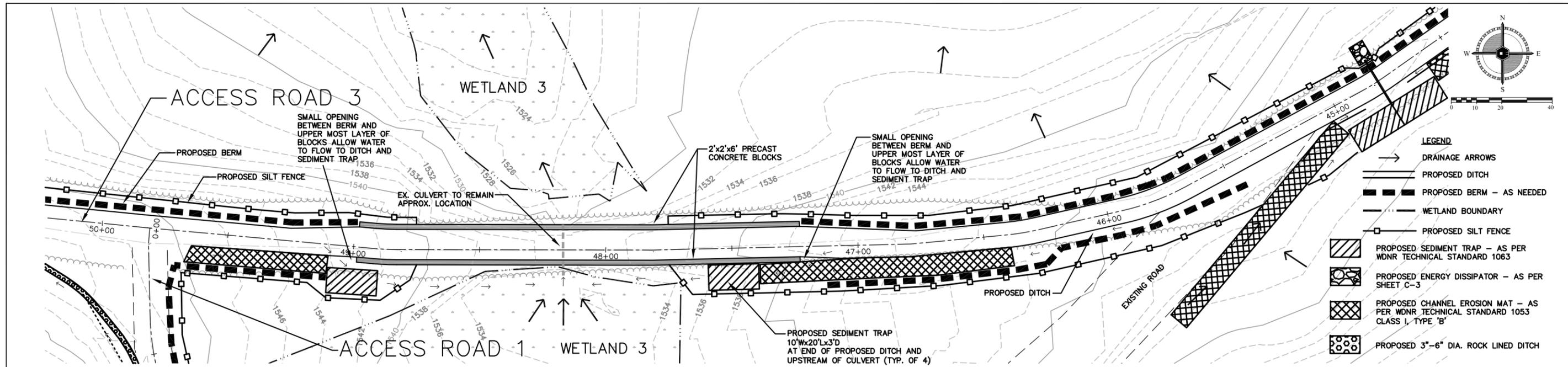
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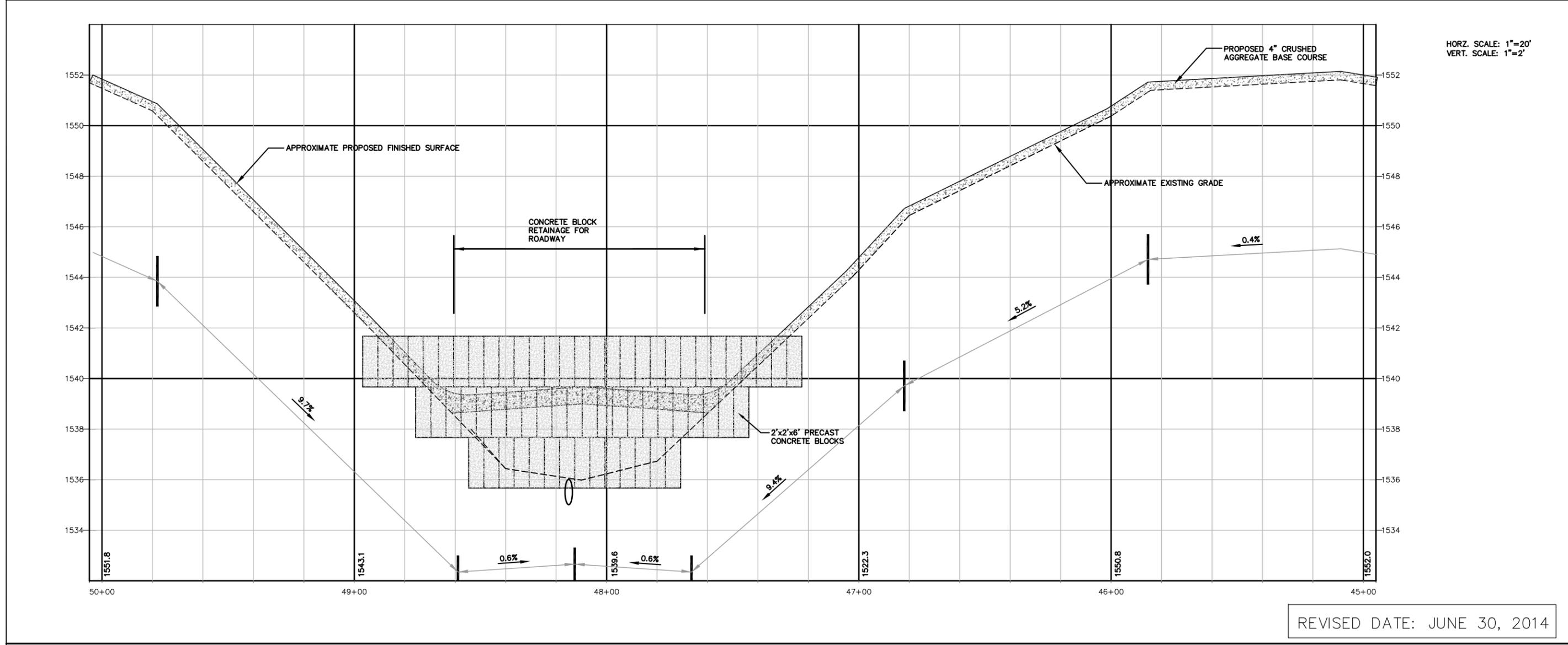
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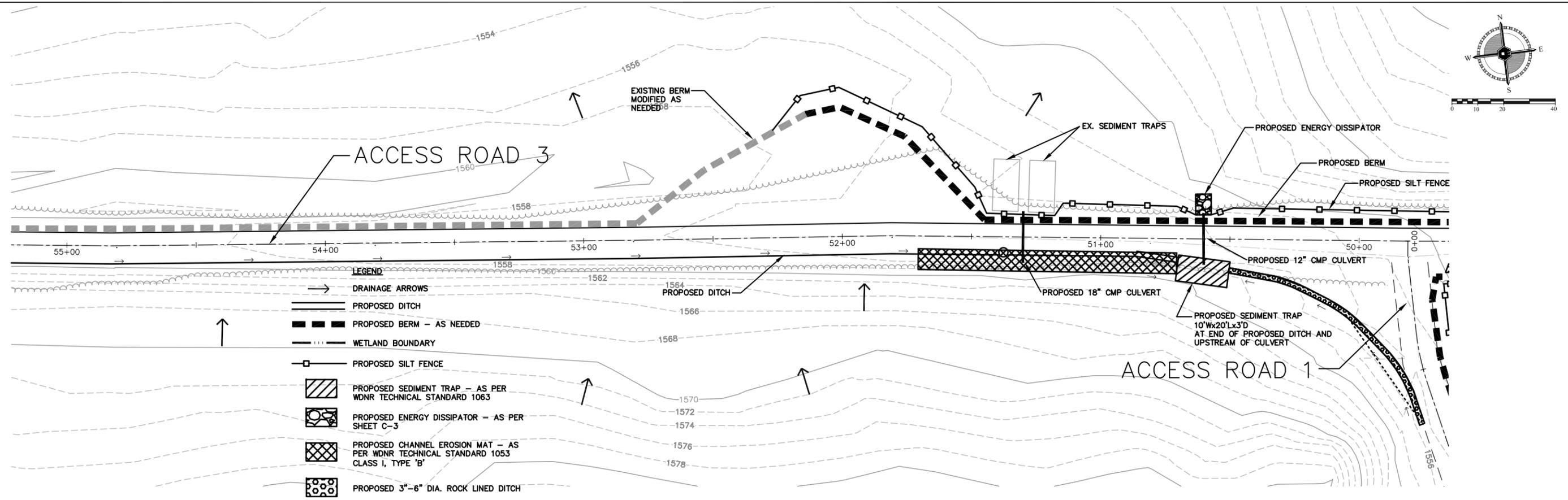
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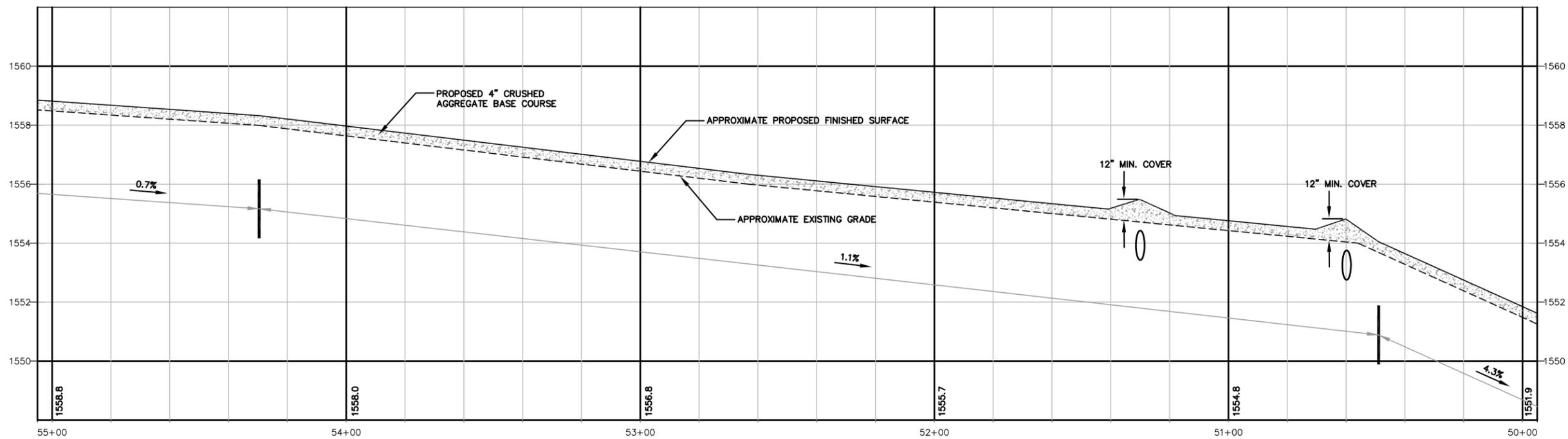
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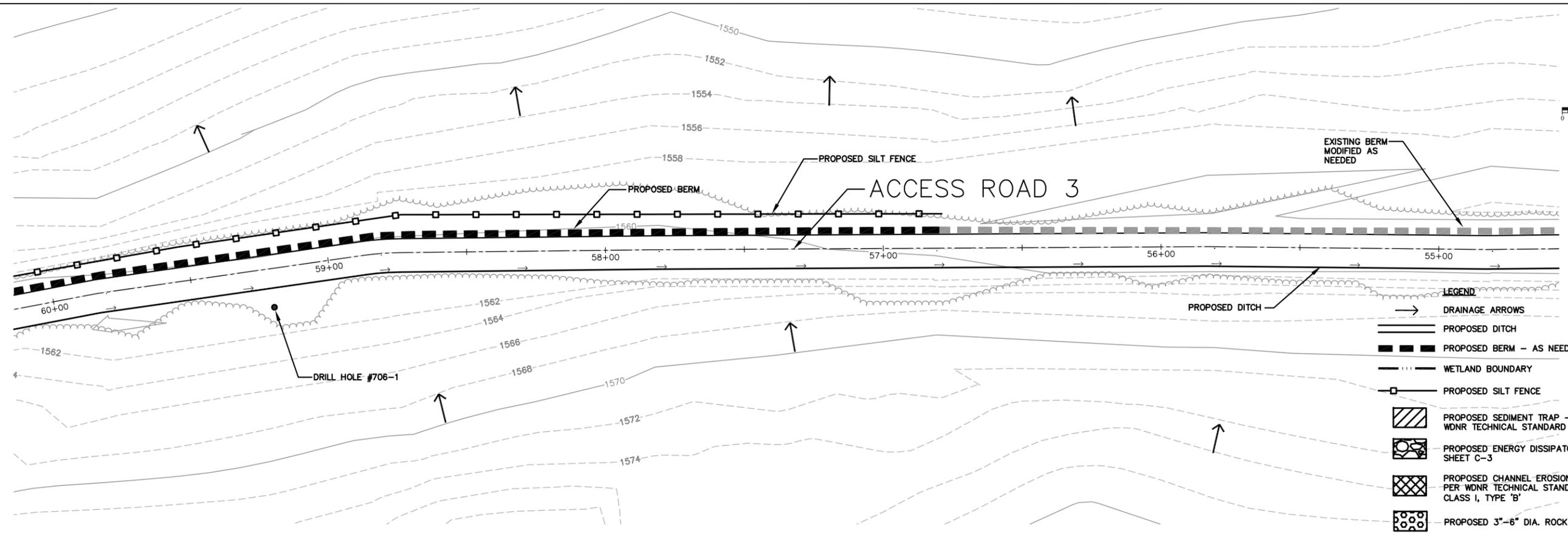
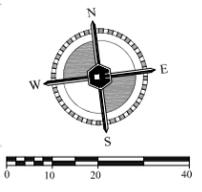


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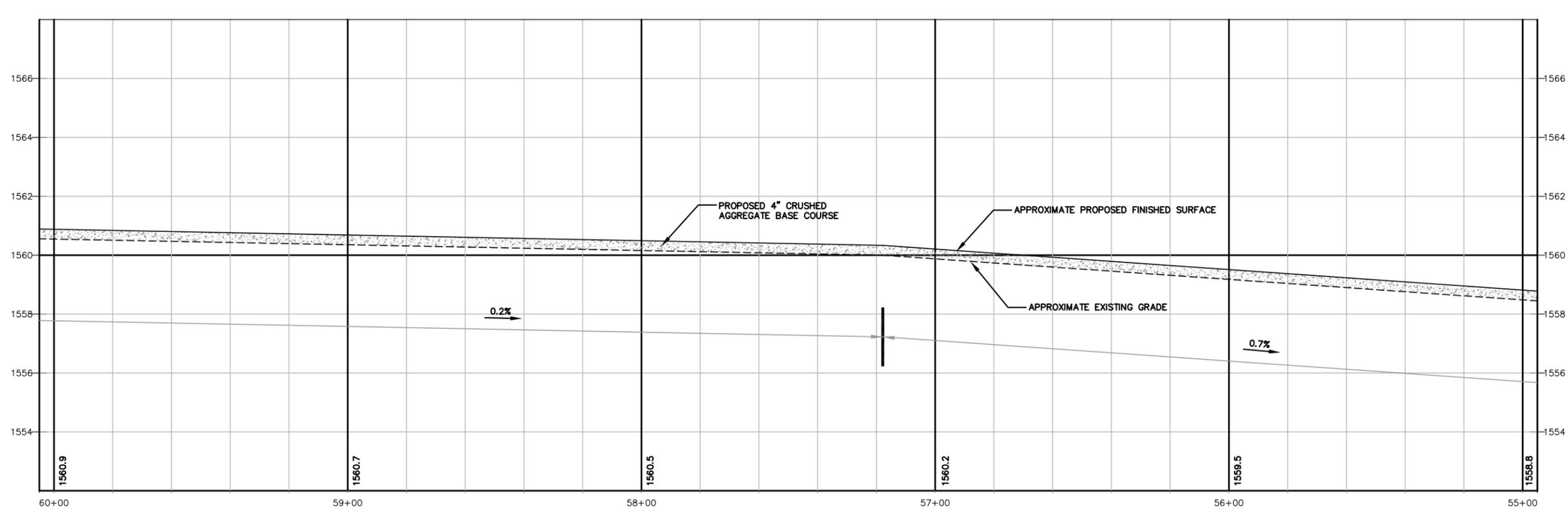
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- LEGEND**
- DRAINAGE ARROWS
 - PROPOSED DITCH
 - ▬▬▬ PROPOSED BERM - AS NEEDED
 - - - - WETLAND BOUNDARY
 - PROPOSED SILT FENCE
 - ▨ PROPOSED SEDIMENT TRAP - AS PER WDNR TECHNICAL STANDARD 1063
 - ⊗ PROPOSED ENERGY DISSIPATOR - AS PER SHEET C-3
 - ⊗ PROPOSED CHANNEL EROSION MAT - AS PER WDNR TECHNICAL STANDARD 1053 CLASS I, TYPE 'B'
 - ⊗ PROPOSED 3"-6" DIA. ROCK LINED DITCH

PLAN - ACCESS ROAD 3

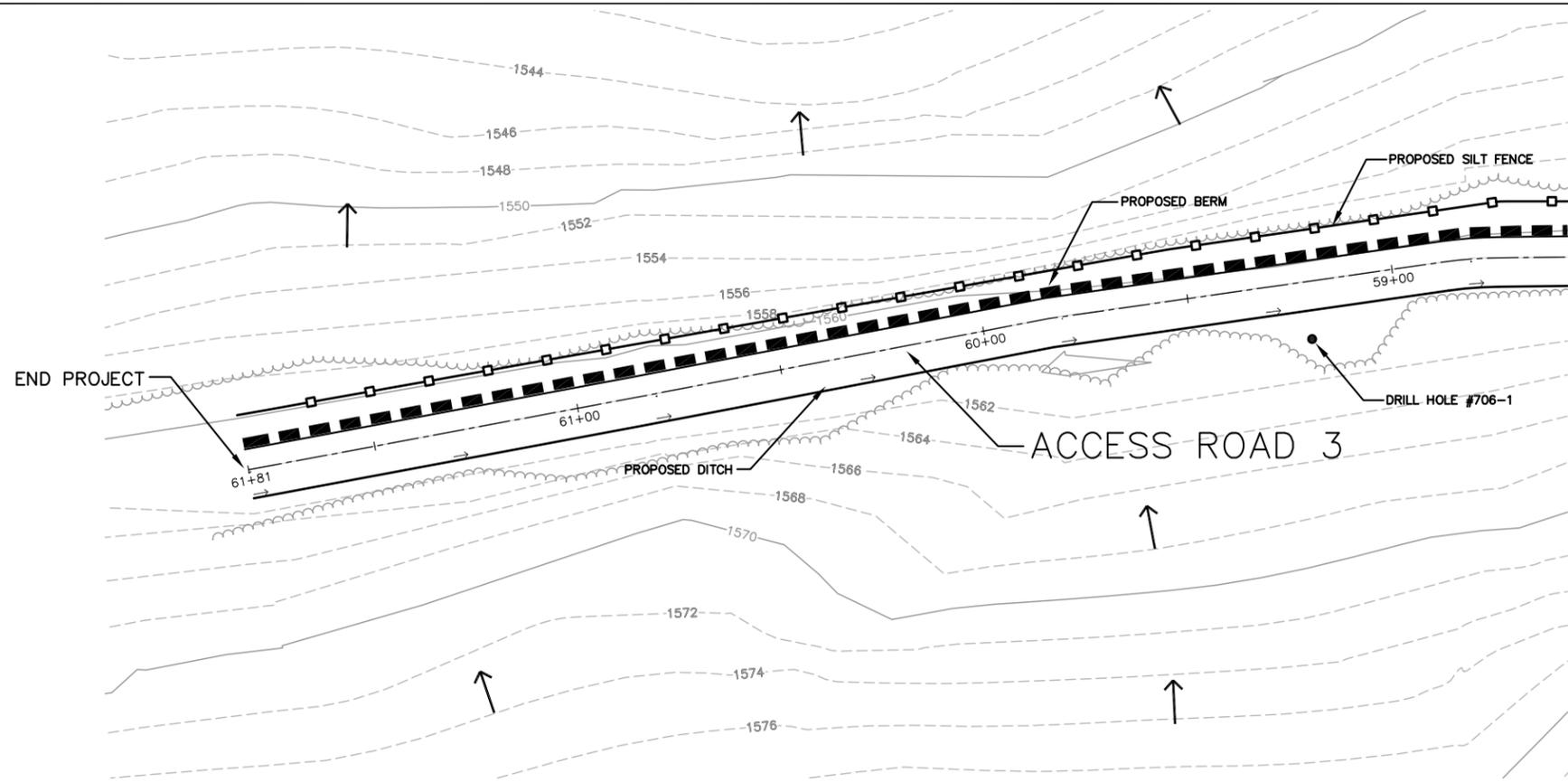


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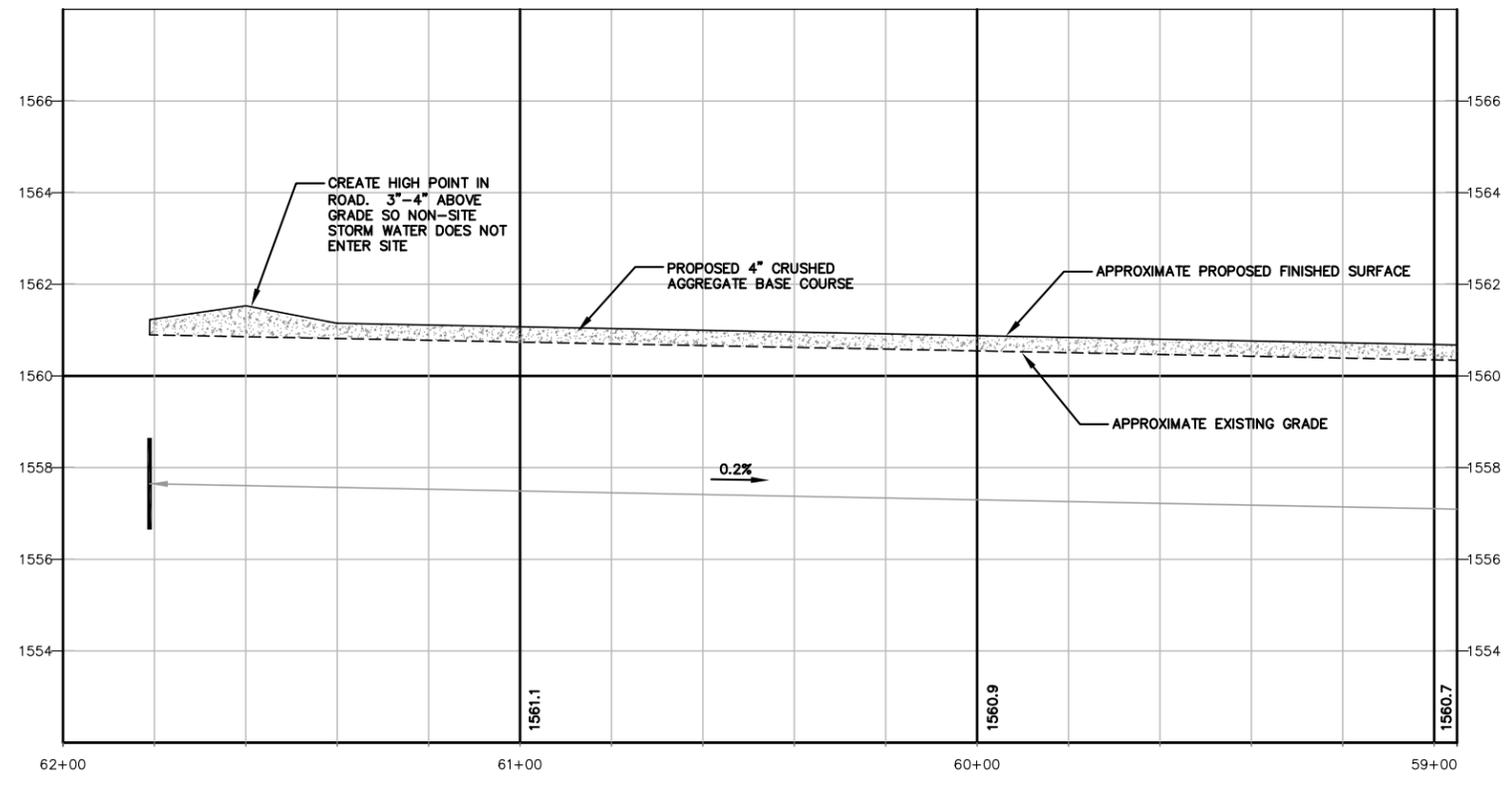
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- LEGEND**
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 - PROPOSED DITCH
 - ▬ PROPOSED BERM - AS NEEDED
 - - - WETLAND BOUNDARY
 - PROPOSED SILT FENCE
 - ▨ PROPOSED SEDIMENT TRAP - AS PER WDNR TECHNICAL STANDARD 1063
 - ⊗ PROPOSED ENERGY DISSIPATOR - AS PER SHEET C-3
 - ⊗ PROPOSED CHANNEL EROSION MAT - AS PER WDNR TECHNICAL STANDARD 1053 CLASS I, TYPE "B"
 - ⊗ PROPOSED LIGHT RIP RAP LINED DITCH - AS PER WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION SECTION 606

PLAN - ACCESS ROAD 3



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PROFILE

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***STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES***

**GENERAL PERMIT TO DISCHARGE UNDER THE
WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM
WPDES Permit No. WI-S067831-4**

In compliance with the provisions of ch. 283, Wis. Stats., and chs. NR 151 and 216, Wis. Adm. Code, landowners engaged in land disturbing construction activities including clearing, grading and excavating activities are permitted to discharge

CONSTRUCTION SITE STORM WATER RUNOFF

to waters of the state in accordance with the conditions set forth in this permit.

Unless notified by the Department of Natural Resources to the contrary, the effective date of coverage under this permit is 14 working days after an applicant's complete Notice of Intent (NOI) has been received by the Department of Natural Resources.

Permit coverage continues until submittal of a Notice of Termination for a project and terminates upon written confirmation by the Department of Natural Resources. **The maximum period of permit coverage for any project is limited to 3 years per NOI.** Therefore, permit coverage terminates unless another NOI for the original project including application fee is submitted to retain coverage under this permit or a reissued version of this permit.

State of Wisconsin Department of Natural Resources
For the Secretary

By Susan Sylvester
Susan Sylvester, Acting Director
Bureau of Watershed Management
Division of Water

9/30/11
Date Permit Signed/Issued

EXPIRATION DATE: September 30, 2016

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1. APPLICABILITY CRITERIA	3
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1. APPLICABILITY CRITERIA

1.1 Eligibility

1.1.1 Subject to the provisions of Sections 1.1.3, 1.1.4 and 1.2.1 through 1.2.5:

1.1.1.1 Pursuant to the applicability criteria in s. NR 216.42, Wis. Adm. Code, this general Wisconsin Pollutant Discharge Elimination System (WPDES) permit is applicable to all new and existing storm water discharges from land disturbing construction activity occurring after the effective date of this permit until permit coverage is terminated in accordance with Section 2.9 or automatically terminates under Section 2.10. Construction activities eligible for coverage by this permit are those that involve land disturbing construction activity affecting one acre or more of land. This permit also is applicable to discharges of pit/trench dewatering at construction sites covered under this permit. Examples of some dewatering activities that may be regulated by this permit include dewatering of construction pits, sewer extension construction, pipe trenches, and other similar operations. Discharges from dewatering wells regulated under ch. NR 812, Wis. Adm. Code, that cannot be effectively treated by on-site sediment control best management practices without compromising the effectiveness of those controls for the treatment of storm water runoff are not covered by this permit.

1.1.1.2 The Department may require the landowner of any storm water discharge associated with land disturbing construction activity to apply for and obtain a storm water discharge permit if the storm water discharge is contributing to the violation of a water quality standard or contributing significant pollution to waters of the state.

1.1.2 This permit authorizes storm water discharges from land disturbing construction activities that may become mixed with other storm or wastewater discharges. Subject to compliance with the terms and conditions of this permit, storm water discharges from temporary support activities such as concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, and borrow areas are authorized under this permit provided that the support activity is directly related to and part of the construction site covered under this permit. This permit does not authorize a support activity that is a commercial operation serving multiple unrelated construction sites and that operates beyond the completion of the permitted construction site associated with the support activity. Other storm water or wastewater discharges that require coverage under another general or individual WPDES permit are not authorized under this permit.

1.1.3 Storm water discharges associated with industrial activity that are subject to an industrial storm water WPDES permit or which are issued an individual WPDES construction site storm water discharge permit are not authorized by this permit. For example, non-metallic mining is an industrial activity that includes land disturbance as a normal part of its operation and such land disturbance is regulated under an industrial storm water permit for that activity. If an industrial facility underwent construction or expanded its operations and land disturbance is not a normal part of its operations, then coverage under this permit would be applicable.

1.1.4 This general permit does not apply to construction sites otherwise eligible for this permit where the Wisconsin Department of Natural Resources (the Department) determines, pursuant to s. NR 216.51(5), Wis. Adm. Code, that coverage under an individual WPDES storm water discharge permit is more appropriate. The Department may require individual permit coverage for storm water discharge from a construction site otherwise eligible for coverage under this permit if any of the following occur:

1.1.4.1 The storm water discharge from a construction site is determined to be a significant source of pollution and more appropriately regulated by an individual WPDES storm water discharge permit.

1.1.4.2 The storm water discharge from a construction site is not in compliance with the terms and conditions of this general permit or subch. III of ch. NR 216, Wis. Adm. Code.

1.1.4.3 A change occurs in the availability of demonstrated technology or BMPs for the control or abatement of pollutants from the storm water discharge.

1.1.4.4 Effluent limitations or standards are promulgated for a storm water discharge from the construction site different from the conditions contained in ch. 216, Wis. Adm. Code.

1.2 Exclusions

The following are not eligible for coverage under this permit:

1.2.1 Storm water discharges from Indian activities within Indian Country.

Note: Permit coverage is required from the United States Environmental Protection Agency for construction site storm water discharges within Indian County and information on such permitting is available at: <http://cfpub1.epa.gov/npdes/stormwater/cgp.cfm>

1.2.2 Land disturbing construction activity and associated storm water discharges that affect wetlands, unless the Department determines that the land disturbing construction activity and associated storm water discharges comply with the wetland water quality standards provisions in ch. NR 103, Wis. Adm. Code.

1.2.3 Land disturbing construction activity and associated storm water discharges that affect endangered and threatened resources, unless the Department determines that the land disturbing construction activity and associated storm water discharges comply with the endangered and threatened resource protection requirements of s. 29.604, Wis. Stats., and ch. NR 27, Wis. Adm. Code.

1.2.4 Land disturbing construction activity and associated storm water discharges that affect any historic property that is listed property, or on the inventory or on the list of locally designated historic places under s. 44.45, Wis. Stats., unless the Department determines that the land disturbing construction activity and associated storm water discharges will not have an adverse effect on any historic property pursuant to s. 44.40 (3), Wis. Stats.

1.2.5 Discharges that the Department, prior to authorization of coverage under this permit, determines will cause or have reasonable potential to cause or contribute to an excursion above any applicable water quality standard. Where such determinations have been made prior to authorization, the Department may notify the applicant that an individual permit application is necessary. However, the Department may authorize coverage under this permit where the erosion control and storm water management plan required under this permit will include appropriate controls and implementation procedures designed to bring the storm water discharge into compliance with water quality standards.

1.3 Authorization

1.3.1 A landowner planning a land disturbing construction activity of one acre or more must submit a completed Notice of Intent (NOI) to the Department or to an authorized local program approved under s. NR 216.415, Wis. Adm. Code, in accordance with the requirements of Section 2.1 of this permit to be authorized to discharge storm water under this permit.

Note: The Department may approve an authorized local program if the requirements of s. NR 216.415, Wis. Adm. Code, are met. The Department will maintain a list of authorized local programs on its Internet site.

1.3.2 Only a landowner or person who becomes a qualified landowner, and who submits an NOI in compliance with Section 2. of this permit is authorized to discharge storm water from a land disturbing construction activity of one acre or more under the terms and conditions of this permit.

1.3.3 Storm water discharges from construction sites that are regulated, reviewed and approved by other Department programs and determined by the Department to meet the requirements of subch. III of ch. NR 216, Wis. Adm. Code, may be deemed by the Department to be covered by this permit and shall comply with the conditions of this permit.

1.4 More than One General Permit Can Apply

This permit may be issued to existing holders of general or individual WPDES permits, resulting in multiple WPDES permits for some sites. Facilities having other permits which do not regulate storm water discharges from land disturbing construction activities shall be subject to this permit when construction activities will disturb one acre or more of land at the site. However, storm water discharges from land disturbing construction activity associated with the normal operation of an industrial facility does not require coverage under this permit when it is regulated under an industrial storm water permit pursuant to subch. II of NR 216, Wis. Adm. Code.

1.5 Transfers

A person who has submitted a completed NOI and does not intend to control the permitted activities on the site may transfer authorization under this permit to the landowner who will control the permitted activities. The transfer shall occur upon written notification, signed by both the current permittee and the proposed permittee and sent via certified or registered mail to the Department. Unless the Department notifies the permittee to the contrary, the Department will recognize this permit coverage transfer upon receipt of written notification. The Department may require additional information to be filed prior to granting the transfer of permit coverage. The Department may, if appropriate, require an application for an individual WPDES storm water discharge permit.

Note: Transfer of permit coverage may not occur where the original landowner still owns a portion of the construction site that requires permit coverage. Where multiple landowners are required to have construction site permit coverage, each must file an NOI with the Department. Multiple landowners may utilize the same erosion control and storm water management plans if the plans address the specific needs of the construction site that they own.

1.6 Public Access to Information including Notices of Intent

Construction site NOIs that are submitted to the Department are entered into the Department's database and will be automatically listed on the Department's website.

Note: NOIs received are posted on the Department's website at:
<http://www.dnr.state.wi.us/runoff/stormwater/permits/>

Notices of Intent and any associated information submitted to the Department for a construction site regulated under this permit are maintained at Department regional offices. The appropriate Department regional storm water staff person may be contacted to obtain access to such information.

Note: Department storm water program contacts are listed on the Department's website at: <http://dnr.wi.gov/runoff/stormwater/contact.htm>. Alternatively, you may contact the storm water program at (608) 267-7694 for assistance in determining the appropriate regional storm water contact.

2. NOTICE OF INTENT AND TERMINATION REQUIREMENTS

2.1 Application Procedures

2.1.1 Persons required to obtain coverage under this permit for storm water discharge from a construction site shall submit a completed NOI to the Department or to an authorized local program in accordance with the requirements of subch. III of ch. NR 216, Wis. Adm. Code. The Department must receive the completed NOI in accordance with the requirements of this section at least 14 working days prior to commencing any land disturbing construction activities unless the Department gives prior authorization. The Department may withhold permit coverage beyond 14 working days in order to request additional information or to review project compliance with erosion control, storm water management, wetland protection, endangered and threatened resources or historic property requirements. A NOI shall be submitted on forms supplied by the Department or electronically using an Internet-based application process if the Department is capable of accepting the NOI in this manner.

Note: The Department's NOI form (also known as the Water Resources Application for Project Permits or WRAPP) may be obtained through the Department storm water Internet site at: <http://dnr.wi.gov/runoff/stormwater/constrforms.htm>, Department regional offices or by writing to the Wisconsin DNR, Storm Water Program – WT/3, Box 7921, Madison, Wisconsin 53707-7921.

2.1.2 An application fee shall be paid to the Department in accordance with s. NR 216.43(2), Wis. Adm. Code. However, application fees are not paid to the Department for applications filed for projects that are authorized by an authorized local program in accordance with s. NR 216.415, Wis. Adm. Code.

2.1.3 The NOI form shall be signed in accordance with Section 5.15 of this permit.

2.2 Application Retention

A copy of the NOI or other documentation that storm water discharges from the site are covered under a construction site storm water discharge permit shall be kept with the erosion control and storm water management plans on the construction site and with the landowner.

2.3 Permit Certificate

The permittee shall post the permit certificate (DNR Publication # WT-813 rev. 10/06) in a conspicuous place on the construction site. The Department will send the permit certificate to the permittee with the letter of permit coverage. An authorized local program under s. NR 216.415, Wis. Adm. Code, may make its own permit certificate or equivalent notice for posting.

2.4 Failure to Notify

Persons who fail to notify the Department of their intent to be covered under this permit, and who discharge storm water runoff to waters of the state associated with land disturbing construction activities of one acre or more, are in violation of ch. 283, Wis. Stats., ch. NR 216, Wis. Adm. Code, and the federal Clean Water Act. Failure to obtain permit coverage may result in forfeitures of up to \$10,000 per day, pursuant to s. 283.91(2), Stats.

2.5 Incomplete Notice of Intent

Within 14 working days after the date the Department receives the NOI, the Department may require an applicant to submit data necessary to complete any deficient NOI or may require the applicant to submit a complete new NOI when the deficiencies are extensive or the appropriate form has not been used.

2.6 Date Coverage Effective

Unless notified by the Department to the contrary, applicants who submit a complete NOI in accordance with the provisions of subch. III of ch. NR 216, Wis. Adm. Code, are authorized to discharge storm water from land disturbing construction sites under the terms and conditions of this permit 14 working days after the date the Department receives the NOI. The Department may require the landowner to submit erosion control and storm water management plans for review. The Department may deny coverage under this permit and require submittal of an application for an individual WPDES permit based on a review of the completed NOI or other information.

2.7 Where to Submit

The NOI instructs the applicant on the appropriate Department office to which a completed NOI shall be submitted. An NOI may be submitted electronically using an Internet-based application process if the Department is capable of accepting the NOI in this manner.

2.8 Use of Information

All information contained in the NOI other than that specified as confidential by the Department shall be available to the public for inspection and copying. All confidential information, so identified by the applicant, shall be submitted separately. Confidential treatment will be considered only for information identified in documents separate from nonconfidential information, which meets the requirements of s. 283.55(2)(c), Wis. Stats., and for which written application for confidentiality has been made pursuant to s. NR 2.19, Wis. Adm. Code.

2.9 Notice of Termination

Landowners of construction sites regulated by the Department shall comply with this Section 2.9.

2.9.1 Within 45 days after a construction site has undergone final stabilization, temporary erosion control best management practices (BMPs) have been removed and all land disturbing construction activities that required coverage under this permit have ceased, the permittee shall submit a signed Notice of Termination to the Department.

2.9.2 The Notice of Termination shall be submitted on forms available from the Department. Data submitted in the Notice of Termination forms shall be used as a basis for terminating coverage under this permit. An NOT may be submitted electronically using an Internet-based application process if the Department is capable of accepting the NOT in this manner.

Note: Notice of Termination forms may be obtained through the Department storm water Internet site at: <http://dnr.wi.gov/runoff/stormwater/constrforms.htm>, Department regional offices or by writing to the Wisconsin DNR, Storm Water Program – WT/3, Box 7921, Madison, Wisconsin 53707-7921.

2.9.3 The Notice of Termination shall be mailed to the appropriate regional office indicated on the Notice of Termination form. An NOT may be submitted electronically using an Internet-based application process if the Department is capable of accepting the NOT in this manner.

2.9.4 Notice of Termination forms shall be signed in accordance with Section 5.15 of this permit.

2.9.5 Termination of coverage under this permit shall be effective upon the Department's written confirmation of permit termination to the permittee.

2.10 Automatic Termination

The maximum period of permit coverage for any project is limited to 3 years per Notice of Intent. Therefore, permit coverage terminates 3 years after coverage commences, unless another Notice of Intent for the original project, including application fee, is submitted to retain coverage under this permit or a reissued version of this permit.

3. EROSION CONTROL AND STORM WATER MANAGEMENT PLANS

3.1 Erosion Control Plan Requirements

Landowners of construction sites regulated by the Department shall comply with this Section 3.1.

Note: The requirements of Sections 4.2 to 4.4 of this permit apply to erosion control and storm water management plans for all construction sites regulated under this permit.

3.1.1 The permittee shall develop a site-specific construction site erosion control plan for each construction site regulated under subch. III of ch. NR 216, Wis. Adm. Code. The permittee or the permittee's representative shall implement and maintain as required by this permit and subch. III of NR 216, Wis. Adm. Code, all BMPs specified in the construction site erosion control plan from the start of land disturbing construction activities until final stabilization of the construction site.

3.1.2 The construction site erosion control plan shall meet the applicable performance standard in either s. NR 151.11, Wis. Adm. Code, for construction sites that are not transportation facilities or s. NR 151.23, Wis. Adm. Code, for transportation facility construction sites. If BMPs cannot be designed and implemented to meet the sediment reduction performance standard, the construction site erosion control plan shall include a written and site-specific explanation of why the performance standard is not attainable.

Note: Department-approved erosion and sediment control technical standards can be obtained through the Department storm water Internet site at: <http://dnr.wi.gov/runoff/stormwater/techstds.htm>, or contact the Department storm water program in the Bureau of Watershed Management at (608) 267-7694 to get information on how to obtain the erosion and sediment control technical standards.

3.1.3 The erosion control plan shall be completed prior to the submittal of a NOI for coverage under this permit and shall be amended in accordance with Section 3.3.

3.1.4 The construction site erosion control plan shall include, at a minimum, the following items:

3.1.4.1 Description of the construction site and the nature of the land disturbing construction activity, including representation of the limits of land disturbance on a USGS 7.5-minute series topographical map.

3.1.4.2 Description of the intended timing and sequence of major land disturbing construction activities for major portions of the construction site, such as grubbing, excavating, or grading.

3.1.4.3 Estimates of the total area of the construction site and the total area of the construction site that is expected to be disturbed by land disturbing construction activities.

3.1.4.4 Available data describing the surface soil as well as subsoils.

3.1.4.5 Name of immediate named receiving water from the United States Geological Survey 7.5-minute series topographic maps, and whether the receiving water is an outstanding resource water (ORW), exceptional resource water (ERW) or an impaired water.

Note: An updated list of Wisconsin impaired water bodies is available on the Department's Internet site at: <http://dnr.wi.gov/org/water/wm/wqs/303d/303d.html>. ORWs and ERWs are listed in ss. NR 102.10 and 102.11, Wis. Adm. Code. ORWs and ERWs are also listed on the Department's Internet site at: <http://dnr.wi.gov/org/water/wm/wqs/orwerw/>

3.1.5 The construction site erosion control plan shall include a site map with the following items:

3.1.5.1 Pre-existing topography and drainage patterns, roads and surface waters.

3.1.5.2 Boundaries of the construction site.

3.1.5.3 Drainage patterns and approximate slopes anticipated after major grading activities.

3.1.5.4 Areas of soil disturbance.

3.1.5.5 Location of major structural and non-structural controls identified in the construction site erosion control plan.

3.1.5.6 Location of areas where stabilization practices will be employed.

3.1.5.7 Areas that will be vegetated following land disturbing construction activities.

3.1.5.8 Area and location of wetland acreage on the construction site and locations where storm water is discharged to a surface water or wetland within one-quarter mile downstream of the construction site.

3.1.5.9 Areas that will be used for infiltration of post-construction storm water runoff.

3.1.5.10 An alphanumeric or equivalent coordinate system for the entire construction site.

3.1.5.11 Additional items necessary to depict site-specific conditions.

3.1.6 The construction site erosion control plan shall include a description of appropriate erosion and sediment control BMPs that will be installed and maintained at the construction site to prevent pollutants from reaching waters of the state. The construction site erosion control plan shall clearly describe the appropriate erosion and sediment control BMPs for each major land disturbing construction activity and the timing during the period of land disturbing construction activity that the erosion and sediment control BMPs will be implemented. Erosion and sediment control BMPs shall be implemented in accordance with either s. NR 151.11(8), Wis. Adm. Code, for construction sites that are not transportation facilities or s. NR 151.23(6), Wis. Adm. Code, for transportation facility construction sites. The description of erosion and sediment control BMPs shall include the following minimum requirements:

3.1.6.1 Description of the expected level of sediment control on the construction site that achieves compliance with s. NR 151.11 or 151.23, Wis. Adm. Code, where applicable.

3.1.6.2 Description of interim and permanent stabilization practices, including a schedule for implementing the practices. The construction site erosion control plan shall ensure that existing vegetation is preserved where feasible and that disturbed portions of the construction site are stabilized as soon as practicable.

3.1.6.3 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.

3.1.6.4 Management of overland flow at all areas of the construction site, unless otherwise controlled by outfall controls.

3.1.6.5 Trapping of sediment in channelized flow.

3.1.6.6 Staging land disturbing construction activities to limit exposed soil areas subject to erosion.

3.1.6.7 Protection of downslope drainage inlets where they occur.

3.1.6.8 Prevent tracking of sediment from the construction site onto roads and other paved surfaces.

3.1.6.9 Prevent the discharge of sediment as part of site de-watering.

3.1.6.10 Protect separate storm drain inlet structures from receiving sediment.

3.1.6.11 Clean up of off-site sediment deposits.

3.1.6.12 Stabilization of drainage ways.

3.1.6.13 Prevent the discharge of sediment eroding from soil stockpiles existing for more than 7 days.

3.1.6.14 Prevent the transport by runoff into waters of the state of untreated wash water from vehicle and wheel washing.

3.1.6.15 Installation of permanent stabilization practices as soon as possible after final grading.

3.1.6.16 Description of erosion and sediment control practices put in place for the winter to prevent soil from leaving the construction site during periods of winter and spring thaw and rains.

3.1.6.17 Use and storage of chemicals, cement and other compounds and materials used on the construction site shall be managed during the construction period to prevent their transport by runoff into waters of the state.

3.1.6.18 Minimization of dust to the maximum extent practicable.

3.1.6.19 Minimization of soil compaction and preservation of topsoil.

3.1.6.20 Minimization of land disturbing construction activity on slopes of 20% or more.

3.1.6.21 Spill prevention and response procedures.

3.1.6.22 Additional items necessary to address site-specific conditions.

3.1.7 Sediment control BMPs shall be constructed and placed in operation prior to runoff entering waters of the state.

Note: While regional treatment facilities are appropriate for control of post-construction pollutants they should not be used for construction site sediment removal.

3.1.8 No solid materials, including building materials, may be discharged in violation of chs. 30 and 31, Wis. Stats., or 33 USC 1344 or a U.S. Army Corps of Engineers Section 404 permit issued under 33 USC 1344.

3.1.9 Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive flow from the structure to a watercourse so that the natural physical and biological characteristics and functions of the watercourse are maintained and protected.

3.1.10 Runoff settling basins and pit/trench dewatering settling basins, if used, shall be constructed and operated in accordance with good engineering practices and design standards, and as follows:

3.1.10.1 Basins shall discharge to a vegetated or otherwise stabilized area protected from erosion. The principal spillway shall discharge at the bottom of the embankment.

3.1.10.2 When the accumulated sediment reaches one-half the height of the sediment control structure, or one-half the depth of the permanent pool, the sediment shall be removed. Materials removed from basins shall be properly disposed of in a manner that will not pollute waters of the state.

3.1.10.3 Consideration should be given to installing fences around construction site settling basins for human safety.

3.1.11 All maintenance shall be done in accordance with technical standards developed pursuant to subch. V of ch. NR 151, Wis. Adm. Code. Where measures are not in accordance with the technical standards, a description of the procedures used to maintain effective operating

conditions of vegetation, erosion and sediment control measures and other protective measures shall be identified in the erosion control plan.

Note: The storm water technical standards are available on the Department Internet site at: <http://dnr.wi.gov/runoff/stormwater/techstds.htm>.

3.1.12 The construction site erosion control plan shall clearly identify the contractor(s) and subcontractor(s) that will install and maintain erosion and sediment control measures. This information may be added to the plan after the NOI has been submitted to Department. It shall be included in the plan prior to the commencement of land disturbing construction activities.

3.2 Storm Water Management Plan Requirements

3.2.1 Pollution caused by storm water discharges from the site after construction is completed, including rooftops, parking lots, roadways and the maintenance of grassed areas shall be addressed by a storm water management plan. A storm water management plan shall be developed prior to submitting a NOI to the Department.

Note: The requirements of Sections 4.2 to 4.4 of this permit apply to erosion control and storm water management plans for all construction sites regulated under this permit.

3.2.2 The storm water management plan shall meet the applicable performance standards in ch. NR 151, Wis. Adm. Code, as follows:

3.2.2.1 For construction sites that are not transportation facilities, meet the applicable performance standards in either s. NR 151.12, Wis. Adm. Code, or ss. NR 151.121 through NR 151.128, Wis. Adm. Code.

3.2.2.2 For transportation facility construction sites, meet the applicable performance standards in either s. NR 151.24, Wis. Adm. Code, or ss. NR 151.241 through NR 151.249, Wis. Adm. Code.

3.2.3 The storm water management plan shall include a description of the BMPs that will be installed during the construction process to control total suspended solids and peak flow, enhance infiltration, maintain or restore protective areas and to reduce petroleum in runoff that will occur after construction operations have been completed. Storm water BMPs shall be in accordance with applicable state and local regulations.

3.2.4 When permanent infiltration systems are used, appropriate on-site testing shall be conducted to determine if seasonal high groundwater elevation or top of bedrock is within 5 feet of the bottom of the proposed infiltration system.

3.2.5 Storm water BMPs shall be adequately separated from wells to prevent contamination of drinking water, and the following minimum separation distances shall be met:

3.2.5.1 Storm water infiltration systems and ponds shall be located at least 400 feet from a well serving a community water system unless the Department concurs that a lesser separation distance would provide adequate protection of a well from contamination.

3.2.5.2 Storm water BMPs shall be located with a minimum separation distance from any well serving a non-community or private water system as listed within s. NR 812.08, Wis. Adm. Code.

Note: Chapter NR 815, Wis. Adm. Code, regulates injection wells including storm water injection wells. Construction or use of a well to dispose of storm water directly into groundwater is prohibited under s. NR 815.11(5), Wis. Adm. Code.

3.2.6 For any permanent structures, provisions shall be made for long-term maintenance with the municipality or other responsible party. For an NOI submitted to the Department, a copy of the signed long-term maintenance agreement shall be submitted to the Department with the NOI unless the Department agrees that it may be submitted by an alternative date prior to termination of permit coverage. The Department may withhold permit coverage until the long-term maintenance agreement is submitted to the Department.

Note: The long-term maintenance agreement is an important requirement and the Department wants to ensure that appropriate steps are being taken to secure the agreement. For regional treatment structures, the Department encourages the landowner to obtain a municipal agreement for long-term maintenance of regional treatment structures. Long-term storm water BMPs should be maintained after permit termination in accordance with the maintenance agreement and NR 216.005, Wis. Adm. Code.

3.2.7 BMPs to control impacts from storm water runoff include infiltration systems, wet detention ponds, constructed wetlands, grassed swales, vegetative protective areas, reduced imperviousness, beneficial reuse such as irrigation or toilet flushing, combinations of these practices, or other methods which do not cause significant adverse impact on the receiving surface water or groundwater. The storm water management plan shall include an explanation of the technical basis used to select the BMPs.

Note: Department-approved storm water management technical standards can be obtained through the through the Department storm water Internet site at: <http://dnr.wi.gov/runoff/stormwater/techstds.htm>, or contact the Department storm water program in the Bureau of Watershed Management at (608) 267-7694 to get information on how to obtain storm water management standards.

3.3 Amendments

3.3.1 The permittee shall amend the erosion control and storm water management plans if either of the following occurs:

3.3.1.1 There is a change in design, construction, operation or maintenance at the construction site, which has the reasonable potential for the discharge of pollutants and which has not otherwise been addressed in the erosion control and storm water management plans.

3.3.1.2 The actions required by the erosion control and storm water management plans fail to reduce the impacts of pollutants carried by construction site storm water runoff.

3.3.2 For construction sites for which there has been earlier Department review of the erosion control and storm water management plans, if the permittee identifies changes needed in either plan, the permittee shall notify the Department at least 5 working days prior to making the changes in the plan.

3.3.3 The Department may, upon request of a permittee or upon finding of just cause, modify the compliance and reporting schedules or any requirement of a storm water discharge permit.

4. WATER QUALITY STANDARDS, MONITORING AND RECORDS

4.1 Water Quality Standards

This permit specifies the conditions under which storm water may be discharged to waters of the state for the purpose of achieving water quality standards contained in chs. NR 102 through 105, NR 140, and NR 207, Wis. Adm. Code. For the term of this permit, compliance with water quality standards will be addressed by adherence to general narrative-type storm water discharge limitations and implementation of the erosion control and storm water management plans and best management practices. A permittee with a construction site covered under this permit shall select, install, implement and maintain best management practices as necessary to meet applicable water quality standards. Unless notified by the Department in writing to the contrary, compliance with the applicable performance standards of subch. III or IV of ch. NR 151, Wis. Adm. Code, shall be deemed as stringent as necessary to ensure that storm water discharges covered by this permit do not cause or contribute to an excursion above any applicable water quality standard.

4.2 Outstanding and Exceptional Resource Waters

4.2.1 Before beginning land-disturbing construction activity, the permittee shall determine whether any part of its construction or post-construction site storm water will discharge to an outstanding resource water (ORW) or exceptional resource water (ERW) as defined in ch. NR 102, Wis. Adm. Code.

Note: The Department recommends that an applicant for permit coverage check for ORWs and ERWs during project planning prior to submitting an NOI. ORWs and ERWs are listed in ss. NR 102.10 and 102.11, Wis. Adm. Code. A list of ORWs and ERWs may also be found on the Department's Internet site at:

<http://dnr.wi.gov/org/water/wm/wqs/orwerw/>

4.2.2 The permittee may not establish a new storm water discharge of pollutants to an ORW or an ERW unless the erosion control and storm water management plans required under Section 3. of this permit meets the requirements of 4.2.3 of this permit.

4.2.2.1 "New storm water discharge" means a storm water discharge that would first occur after the permittee's start date of coverage under this permit to a surface water to which the construction or post-construction site did not previously discharge storm water.

4.2.3 The permittee's erosion control and storm water management plans required under this permit shall be designed to prevent the discharge of sediment and other pollutants to any ORW or ERW in excess of the background level within the water body. Unless notified by the Department in writing to the contrary, compliance with the applicable performance standards of subch. III or IV of ch. NR 151, Wis. Adm. Code, shall be deemed to be compliance with the requirements of this section. If the Department has sufficient site-specific data to determine that the permittee's construction or post-construction site storm water will discharge a pollutant in excess of the background level within an ORW or ERW, then the Department shall notify the permittee in writing that the permittee must include a written section in the erosion control and storm water management plans that discusses and identifies the management practices and control measures the permittee will implement to prevent the discharge of any pollutant in excess of the background level within the water body. This section of the permittee's plans shall specifically identify control measures and practices that will collectively be used to prevent the discharge of a pollutant in excess of the background level within the water body.

Note: Reducing or eliminating surface water discharges to an ORW or ERW by infiltrating runoff is a method to help prevent the discharge of pollutants to an ORW or ERW in excess of background levels. It is expected that post-construction storm water management practices will be designed to maintain or increase infiltration rates for the site as compared to pre-development infiltration rates for areas that discharge to any ORW or ERW. However, prohibitions, exclusions, or exemptions from infiltrating runoff may apply to runoff from potential sources of contamination or into areas that are prone to groundwater contamination as identified in s. NR 151.12(5)(c)5. and 6., Wis. Adm. Code, or s. NR 151.124(3) and (4), Wis. Adm. Code. Infiltration systems must be designed to comply with the groundwater quality standards contained in ch. NR 140, Wis. Adm. Code.

4.2.4 Protective areas of no less than 75 feet shall be maintained adjacent to any ORW and ERW as required under ss. NR 151.12 (5)(d), NR 151.125, 151.24(6), or NR 151.245, Wis. Adm. Code.

4.3 Fish and Aquatic Life Waters

4.3.1 Before beginning land-disturbing construction activity, the permittee shall determine whether any part of its construction or post-construction site storm water will discharge to a fish and aquatic life water as defined in s. NR 102.13, Wis. Adm. Code.

Note: The Department recommends that an applicant for permit coverage check for fish and aquatic life waters during project planning prior to submitting an NOI. Most receiving waters of the state are classified as a fish and aquatic life water and this classification includes all surface waters of the state except ORWs, ERWs, Great Lakes system waters and variance water identified within ss. NR 104.05 to 104.10, Wis. Adm. Code.

4.3.2 The permittee may not establish a new storm water discharge of pollutants to a fish and aquatic life water unless the erosion control and storm water management plans required under Section 3. of this permit is designed to prevent the significant lowering of water quality of any fish and aquatic life water. Significant lowering of water quality is defined within ch. NR 207, Wis. Adm. Code. Unless notified by the Department in writing to the contrary, compliance with the applicable performance standards of subch. III or IV of ch. NR 151, Wis. Adm. Code, shall be deemed to be compliance with the requirements of this section.

4.3.2.1 "New storm water discharge" has the meaning given in Section 4.2.2.1 of this permit.

4.4 Impaired Water Bodies and Total Maximum Daily Load Requirements

4.4.1 "Pollutant(s) of concern" means a pollutant that is contributing to the impairment of a water body.

4.4.2 Before beginning land-disturbing construction activity, the permittee shall determine whether any part of its construction or post-construction site storm water will discharge to an impaired water body listed in accordance with section 303(d)(1) of the federal Clean Water Act, 33 USC §1313(d)(1)(C), and the implementing regulation of the US Environmental Protection Agency, 40 CFR §130.7(c)(1). Impaired waters are those that are not meeting applicable water quality standards.

Note: The Department recommends that an applicant for permit coverage check for impaired waters during project planning prior to submitting an NOI. The section 303 (d) list of Wisconsin impaired surface water bodies may be obtained by contacting the Department or by searching for the section 303 (d) list on the Department's Internet site. The Department updates the section 303 (d) list approximately every two years. The updated list is effective upon approval by EPA. The link to the section 303 (d) list is: <http://dnr.wi.gov/org/water/wm/wqs/303d/>

4.4.3 A permittee that will discharge a pollutant of concern via storm water to an impaired water body shall include a written section in the erosion control and storm water management plans that specifically identifies control measures and management practices that will collectively be used to reduce, with the goal of eliminating, the storm water discharge of pollutant(s) of concern that contribute to the impairment of the water body and explain why these control measures and management practices were chosen as opposed to other alternatives. Unless notified by the Department in writing to the contrary, compliance with the applicable performance standards of subch. III or IV of ch. NR 151, Wis. Adm. Code, shall be deemed to be compliance with the requirements of this section.

4.4.4 The permittee may not establish a new storm water discharge of a pollutant of concern to an impaired water body or increase an existing discharge of a pollutant of concern to an impaired water body unless the new or increased discharge causes the receiving water to meet applicable water quality standards, or the discharge is consistent with an EPA approved total maximum daily load (TMDL) allocation for the impaired water body. Unless notified by the Department in writing to the contrary, compliance with the applicable performance standards of subch. III or IV of ch. NR 151, Wis. Adm. Code, shall be deemed to be compliance with the requirements of this section.

4.4.4.1 "New storm water discharge" has the meaning given in Section 4.2.2.1 of this permit.

4.4.5 Before beginning land-disturbing construction activity, the permittee shall determine whether any part of its construction or post-construction site storm water will discharge a pollutant of concern via storm water to a water body included in a State and Federal approved TMDL. If so, the permittee shall assess whether the TMDL wasteload allocation for the facility's discharge will be met through the existing erosion control and storm water management plans and compliance with the applicable performance standards of subch. III or IV of ch. NR 151, Wis. Adm. Code, or whether changes to the plans are necessary.

Note: The Department recommends that an applicant for permit coverage check for approved TMDLs during project planning prior to submitting an NOI. State and Federal approved TMDLs can be identified by contacting the Department, or by searching for the State and Federal approved TMDL list on the Department Internet site. The link to identify the list of State and Federal approved Final TMDLs is:

http://dnr.wi.gov/org/water/wm/wqs/303d/Approved_TMDLs.html

4.4.6 After determining whether the construction or post-construction site storm water discharge is included in an EPA approved TMDL and determining that any TMDL wasteload allocation for the construction or post-construction site's discharge is not being met, the permittee shall amend the erosion control and storm water management plans. The amended plans shall include the necessary control measures to meet the requirements of the EPA approved TMDL wasteload allocation for the construction or post-construction site. If a specific wasteload allocation has not been assigned to the construction or post-construction site under a TMDL,

compliance with the applicable performance standards of subch. III or IV of ch. NR 151, Wis. Adm. Code, and this permit shall be deemed to be compliance with the TMDL.

4.5 Inspections and Maintenance

The permittee shall:

4.5.1 Conduct the following construction site inspections:

4.5.1.1 Weekly inspections of implemented erosion and sediment controls; and

4.5.1.2 Inspections of erosion and sediment controls within 24 hours after a rainfall event of 0.5 inches or greater. A "rainfall event" may be considered to be the total amount of rainfall recorded in any continuous 24-hour period.

4.5.2 Repair or replace erosion and sediment control BMPs as necessary within 24 hours of an inspection or notification indicating that repair or replacement is needed.

4.5.3 Maintain, at the construction site or via an Internet site, weekly written reports of all inspections conducted by or for the permittee. If an Internet site method is used, the landowner shall provide the Internet address to the Department prior to its use. Weekly inspection reports shall include all of the following:

4.5.3.1 The date, time and exact location of the inspection.

4.5.3.2 The name of the individual who performed the inspection.

4.5.3.3 An assessment of the condition of erosion and sediment controls.

4.5.3.4 A description of any erosion and sediment control installation or maintenance performed in response to the inspection.

4.5.3.5 A description of the present phase of construction at the site.

Note: The Department has developed a model inspection report that includes the above items and it is available through the Department's storm water Internet site at:
<http://dnr.wi.gov/runoff/stormwater/constrforms.htm>

4.5.4 Submit the information maintained in accordance with Section 4.5.3 to the Department upon request.

4.6 Records

4.6.1 The permittee shall retain records of all construction site inspections, copies of all reports and plans required by this permit, and records of all data used to obtain coverage under this permit. Minimum periods of retention are as follows:

4.6.1.1 If there is a secure location, such as a construction site trailer, the erosion control and storm water management plans and amendments to the erosion control and storm water management plans shall be retained at the construction site until permit coverage is terminated.

4.6.1.2 All reports required by subch. III of ch. NR 216, Wis. Adm. Code, or information submitted to obtain coverage under this permit, including the erosion control and storm water management plans, amendments, and background information used in their preparation, shall be kept by the permittee for a period of at least 3 years from the date of Notice of Termination.

4.6.2 A landowner operating a construction site under approved municipal erosion and sediment plans, grading plans, or storm water management plans shall also submit signed copies of the NOI to the local agency approving the plans. If storm water from the construction site discharges to a municipal separate storm sewer system that is operating pursuant to a municipal storm water discharge permit issued pursuant to subch. I of ch. NR 216, Wis. Adm. Code, then a signed copy of the NOI shall also be sent to the operator of the system.

4.6.3 Upon request by the Department the permittee shall provide a copy of the erosion control and storm water management plans, construction site inspections and any additional data requested, within 5 working days to the Department, to the operator of the municipal storm sewer system that receives the discharge, and any municipal agency approving erosion and sediment plans, grading plans or storm water management plans. Additional information may be requested by the Department for resource waters that require additional protection such as outstanding or exceptional resource waters, or other sensitive water resources.

4.7 Compliance with Other Applicable Regulations

4.7.1 The erosion control and storm water management plans shall document other applicable municipal regulatory provisions, compliance with which will also meet the requirements of this permit. If these municipal provisions are more stringent than those provisions appearing in this permit issued pursuant to subch. III of ch. NR 216, Wis. Adm. Code, the erosion control and storm water management plans shall also include a description of how compliance with the municipal provisions will be achieved.

4.7.2 The erosion control and storm water management plans shall comply with applicable state plumbing regulations.

4.8 Department Actions

4.8.1 The Department may notify the permittee at any time that the erosion control and storm water management plans do not meet one or more of the minimum requirements of subch. III of ch. NR 216, Wis. Adm. Code, or this permit, for reducing and preventing the discharge of pollutants. The notification shall identify those provisions that are not being met by the erosion control and storm water management plan, and identify which provisions of the plan require modification in order to meet the requirements. Within the time frame identified by the Department in its notification, the permittee shall make the required changes to the erosion control and storm water management plans, perform all actions required by the revised plans, and submit to the Department a written certification that the requested changes have been made and implemented, and such other information the Department requires. The Department may revoke coverage under this permit for failure to comply with this section or it may take action under s. 283.89, Wis. Stats., or both. The landowner of a construction site where the Department has revoked coverage under this permit may not discharge storm water to waters of the state from the construction site unless an individual WPDES permit for storm water discharge is issued to the landowner.

4.8.2 The Department shall withdraw a construction site from coverage under this permit and issue an individual WPDES permit upon written request of the discharger. This permit authorizing storm water discharges from the construction site remains in effect until the Department acts on such a request and issues a specific individual WPDES permit.

4.8.3 The Department may deny coverage under this permit and require submittal of an application for an individual WPDES storm water discharge permit based on a review of the completed NOI or other relevant information. The landowner of a construction site denied or revoked coverage under this permit may not discharge storm water to waters of the state from the construction site until an individual WPDES permit for storm water discharge is issued to the landowner.

4.8.4 The Department may require the landowner of any storm water discharge covered by this permit, to apply for and obtain an individual WPDES storm water discharge permit if any of the following occur:

4.8.4.1 The storm water discharge is determined to be a significant source of pollution and more appropriately regulated by an individual WPDES storm water discharge permit.

4.8.4.2 The storm water discharge is not in compliance with the terms and conditions of subch. III of ch. NR 216, Wis. Adm. Code, or of this permit.

4.8.4.3 A change occurs in the availability of demonstrated technology or BMPs for the control or abatement of pollutants from the storm water discharge.

4.8.4.4 Effluent limitations or standards are promulgated for a storm water discharge that is different than the conditions contained in subch. III of ch. NR 216, Wis. Adm. Code.

4.8.5 Any person may submit a written request to the Department that it take action under Section 4.8.4 above.

5. STANDARD CONDITIONS

The conditions in s. NR 205.07(1) and (3), Wis. Adm. Code, are incorporated by reference in this permit. The permittee shall be responsible for meeting these requirements, except for s. NR 205.07(1)(n), which does not apply to facilities covered under general permits. Some of these requirements are outlined below in Sections 5.1 through 5.25 of this permit. Requirements not specifically outlined below can be found in s. NR 205.07(1) and (3), Wis. Adm. Code.

5.1 Spill Reporting: The permittee shall immediately notify the Department in accordance with ch. NR 706, Wis. Adm. Code, in the event that a spill or accidental release of any material or substance results in the discharge of pollutants to the waters of the state. The Department shall be notified via the 24-hour spill hotline (1-800-943-0003).

5.2 Non-storm Water Discharges: All discharges authorized by this permit shall be composed entirely of storm water associated with land disturbing construction activity, as defined in ch. NR 216, Wis. Adm. Code, or storm water and/or groundwater from excavations and/or pit dewatering.

Note: Other direct and indirect waste discharge to waters of the state is prohibited unless covered by another WPDES permit.

5.3 Work near Surface Waters and Wetlands: Any work performed in wetland areas or within areas subject to local floodplain and shoreland regulations must be in compliance with all applicable county and/or local ordinances. All applicable state permits and/or contracts required by Chapters 30, 31, and 87, Wis. Stats., (or Wisconsin Administrative Code adopted under these laws, including ch. NR 103) and applicable federal permits must be obtained as necessary.

5.4 Work near Wells: Adequate separation distances from wells shall be maintained for storm water BMPs including ponds, storm sewers, and infiltration structures as necessary in accordance with chs. NR 811 and 812, Wis. Adm. Code.

5.5 Duty to Comply: Any act of noncompliance with this permit is a violation of this permit and is grounds for enforcement action or withdrawal of permit coverage under this permit and issuance of an individual permit. If the permittee files a request for an individual WPDES permit or a notification of planned changes or anticipated noncompliance, this action by itself does not relieve the permittee of any permit condition.

5.6 Enforcement Action: The Department is authorized under s. 283.89 and 283.91, Wis. Stats., to utilize citations or referrals to the Department of Justice to enforce the conditions of this permit. Violation of a condition of this permit is subject to a fine of up to \$10,000 per day of the violation.

5.7 Continuation of the Expired General Permit: The Department's goal is to reissue this general permit prior to its expiration date. However, if that does not occur, s. NR 205.08(9), Wis. Adm. Code, specifies that an application for reissuance of the permit will be considered to have been submitted for all of the dischargers in the class or category covered by this general permit. The class application for general permit reissuance allows the conditions and requirements of the expired permit to remain in effect until the permit is reissued or revoked.

5.8 Duty to halt or reduce activity: Upon failure or impairment of BMPs identified in the erosion control and storm water management plan, the permittee shall, to the extent practical and necessary to maintain permit compliance, modify or curtail operations until the BMPs are restored or an alternative method of erosion and storm water control is provided.

5.9 Other Information: When the permittee becomes aware that he or she failed to submit any relevant facts in an application for permit coverage or included incorrect information in plans or reports submitted to the Department, the permittee shall promptly submit such facts or corrected information to the Department.

5.10 Permit actions: As provided in s. 283.53, Wis. Stats., after notice and opportunity for a hearing this permit may be modified or revoked and reissued for cause.

5.11 Modifications to Permit Requirements: The Department may, upon request of a permittee and/or upon finding of just cause, grant modifications to the compliance and reporting schedules or any requirements of this permit. If the Department took this step at its discretion, it would change this general permit following required public noticing and the change would apply to all dischargers covered under this permit.

5.12 Duty to Mitigate: The permittee shall take all reasonable steps to minimize or prevent any adverse impacts on the waters of the state resulting from noncompliance with this permit.

5.13 Proper Operation and Maintenance: The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with this permit and the erosion control and storm water

management plan. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with conditions of this permit.

5.14 Duty to Provide Information. The permittee shall furnish the Department, within a reasonable time, any information that the Department may request to determine whether cause exists for modifying, revoking, or reissuing this permit or to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records or reports required to be kept by the permittee.

5.15 Certification and Signature Requirements: The Notice of Intent for coverage under this permit, the Notice of Termination, and all reports or information submitted to the Department as required by this permit shall be signed by the permittee as follows:

5.15.1 For a corporation, by a responsible corporate officer including president, secretary, treasurer, vice president, manager, or a duly authorized representative having overall responsibility for the operation covered by this permit.

5.15.2 For a unit of government, by a ranking elected official or other duly authorized representative.

5.15.3 For a limited liability company, by a manager.

5.15.4 For a partnership, by a general partner; and for a sole proprietorship, by the proprietor.

5.16 Liabilities under Other Laws: Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under section 311 of the federal Clean Water Act (CWA), any applicable federal, state or local law or regulation under authority preserved by section 510 of the CWA.

5.17 Property Rights: This permit does not convey any property rights of any sort, or any exclusive privilege. This permit does not authorize any injury or damage to private property or any invasion of personal rights, or any infringement of federal, state or local laws or regulations.

5.18 Severability: The provisions of this permit are severable, and if any provisions of this permit or the application of any provision of this permit to any circumstance is held invalid the remainder of this permit shall not be affected thereby.

5.19 Transfers: Coverage under this permit is not transferable to any person except after notice to the Department in accordance with Section 1.5 of this permit.

5.20 Inspection and Entry: The permittee shall allow authorized representatives of the Department, upon the presentation of credentials, to:

5.20.1 Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records are required to be maintained under the conditions of this permit.

5.20.2 Have access to and copy, at reasonable times, any records required under the conditions of this permit.

5.20.3 Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit.

5.20.4 Sample or monitor at reasonable times, for the purposes of assuring permit compliance, any substances or parameters at any location.

5.21 Submitting Records: Unless otherwise specified, any reports submitted to the Department shall be submitted to the appropriate Department regional storm water contact or to Wisconsin DNR, Storm Water Program – WT/3, P.O. Box 7921, Madison, WI 53707-7921.

5.22 Noncompliance: Upon becoming aware of any permit noncompliance that may endanger public health or the environment, the permittee shall report this information by a telephone call to the Department regional storm water specialist within 24 hours. A written report describing the noncompliance shall be submitted to the Department regional storm water specialist within 5 days after the permittee became aware of the noncompliance. The Department may waive the written report on a case-by-case basis based on the oral report received within 24 hours. The written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

5.23 Enforcement: Any violation of s. 283.33, Wis. Stats., ch. NR 216, Wis. Adm. Code, or this permit is enforceable under s. 283.89, Wis. Stats.

5.24 Removed Substances: Solids, sludges, filter backwash or other pollutants removed from or resulting from treatment or control of storm water shall be stored and disposed of in a manner to prevent any pollutant from the materials from entering the waters of the state, and to comply with all applicable federal, state, and local regulations.

5.25 Attainment of Water Quality Standards after Authorization: At any time after authorization, the Department may determine that the discharge of storm water from a permittee's construction site may cause, have the reasonable potential to cause, or contribute to an excursion of any applicable water quality standard. If such determination is made, the Department may require the permittee to do one of the following:

5.25.1 Develop and implement an action plan to adequately address the identified water quality concern.

5.25.2 Submit an individual permit application.

6. DEFINITIONS

Definitions for some of the terms found in this permit are as follows:

6.1 Authorized Local Program means a municipality that has received approval from the Department pursuant to s. NR 216.415, Wis. Adm. Code, to administer the Department's construction site permit program within its jurisdiction.

6.2 Best Management Practices or BMPs means structural or non-structural measures, practices, techniques or devices employed to avoid or minimize soil, sediment or pollutants carried in runoff to waters of the state.

6.3 Construction Site means an area upon which one or more land disturbing construction activities occur that in total will disturb one acre or more of land, including areas that are part of a larger common plan of development or sale where multiple separate and distinct land disturbing construction activities may be taking place at different times on different schedules but under one plan such that the total disturbed area is one acre or more.

6.4 Department means the State of Wisconsin Department of Natural Resources.

6.5 Erosion means the process by which the land's surface is worn away by the action of wind, water, ice or gravity.

6.6 Final Stabilization means that all land disturbing construction activities at the construction site have been completed and that a uniform perennial vegetative cover has been established with a density of at least 70% of the cover for the unpaved areas and areas not covered by permanent structures or that employ equivalent permanent stabilization measures.

6.7 Infiltration means the entry and movement of precipitation or runoff into or through soil.

6.8 Infiltration System means a device or practice such as a basin, trench, rain garden or swale designed specifically to encourage infiltration, but does not include natural infiltration in pervious surfaces such as lawns, redirecting of rooftop downspouts onto lawns or minimal infiltration from practices, such as swales or road side channels designed for conveyance and pollutant removal only.

6.9 Land Disturbing Construction Activity means any man-made alteration of the land surface resulting in a change in the topography or existing vegetative or non-vegetative soil cover that may result in storm water runoff and lead to increased soil erosion and movement of sediment into waters of the state. Land disturbing construction activity includes, but is not limited to, clearing and grubbing, demolition, excavating, pit trench dewatering, filling and grading activities.

6.10 Landowner means any person holding fee title, an easement or other interest in property that allows the person to undertake land disturbing construction activity on the property.

6.11 Municipality means any city, town, village, county, county utility district, town sanitary district, town utility district, school district or metropolitan sewage district or any other public entity created pursuant to law and having authority to collect, treat or dispose of sewage, industrial wastes, storm water or other wastes.

6.12 Notice of Intent or NOI means the Department form that must be completed and sent to the Department to obtain coverage under this permit.

6.13 Performance Standard means a narrative or measurable number specifying the minimum acceptable outcome for a facility or practice.

6.14 Permittee means a person who has applied for and received WPDES permit coverage for storm water discharge under NR 216, Wis. Adm. Code, and this permit.

6.15 Sediment means settleable solid material that is transported by runoff, suspended within runoff or deposited by runoff away from its original location.

6.16 Significant contributor means a person who discharges to waters of the state pollutants that contribute to or have the reasonable potential to contribute to an exceedence of a water quality

standard.

6.17 Stabilize means the process of making a site steadfast or firm, minimizing soil movement by the use of practices such as mulching and seeding, sodding, landscaping, paving, graveling or other appropriate measures.

6.18 Storm Water means runoff from precipitation including rain, snow, ice melt or similar water that moves on the land surface via sheet or channelized flow.

6.19 Storm Water Management Plan means a comprehensive plan designed to reduce the discharge of pollutants from storm water, after the site has undergone final stabilization, following completion of the construction activity.

6.20 Waters of the State means those portions of Lake Michigan and Lake Superior within the boundaries of Wisconsin, all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, water courses, drainage systems and other surface water or groundwater, natural or artificial, public or private within the state or under its jurisdiction, except those waters which are entirely confined and retained completely upon the property of a person.

6.21 Working Day means any day except Saturday and Sunday and holidays designated in s. 230.35(4)(a), Wis. Stats.

6.22 WPDES Permit means a Wisconsin Pollutant Discharge Elimination System permit issued pursuant to ch. 283, Wis. Stats.

Appendix B – Construction Storm Water General Permit Application

Silt Fence

(1056)

Wisconsin Department of Natural Resources
Conservation Practice Standard

I. Definition

Silt fence is a temporary sediment barrier of entrenched permeable geotextile fabric designed to intercept and slow the flow of sediment-laden sheet flow runoff from small areas of disturbed soil.

II. Purpose

The purpose of this practice is to reduce slope length of the disturbed area and to intercept and retain transported sediment from disturbed areas.

III. Conditions Where Practice Applies

A. This standard applies to the following applications:

1. Erosion occurs in the form of *sheet and rill erosion*¹. There is no concentration of water flowing to the barrier (*channel erosion*).
2. Where adjacent areas need protection from sediment-laden runoff.
3. Where effectiveness is required for one year or less.
4. Where conditions allow for silt fence to be properly entrenched and staked as outlined in the Criteria Section V.

B. Under no circumstance shall silt fence be used in the following applications:

1. Below the ordinary high watermark or placed perpendicular to flow in streams, swales, ditches or any place where flow is concentrated.
2. Where the maximum gradient upslope of the fence is greater than 50% (2:1).

IV. Federal, State, and Local Laws

Users of this standard shall be aware of applicable federal, state, and local laws, rules, regulations, or permit requirements governing the use and placement of silt fence. This standard does not contain the text of federal, state, or local laws.

V. Criteria

This section establishes the minimum standards for design, installation and performance requirements.

A. Placement

1. When installed as a stand-alone practice on a slope, silt fence shall be placed on the contour. The parallel spacing shall not exceed the maximum slope lengths for the appropriate slope as specified in Table 1.

Slope	Fence Spacing
< 2%	100 feet
2 to 5%	75 feet
5 to 10%	50 feet
10 to 33%	25 feet
> 33%	20 feet

2. Silt fences shall not be placed perpendicular to the contour.
3. The ends of the fence shall be extended upslope to prevent water from flowing around the ends of the fence.

B. Height – Installed silt fences shall be a minimum 14 inches high and shall not exceed 28 inches in height measured from the installed ground elevation.

¹ Words in the standard that are shown in italics are described in X. Definitions. The words are italicized the first time they are used in the text.

C. Support – Silt fences shall be supported by either steel or wood supports as specified below:

1. Wood supports
 - a. The full height of the silt fence shall be supported by 1 1/8 inches by 1 1/8 inches air or kiln dried posts of hickory or oak.
 - b. The silt fence fabric shall be stapled, using at least 0.5-inch staples, to the upslope side of the posts in at least 3 places.
 - c. The posts shall be a minimum of 3 feet long for 24-inch silt fence and a minimum of 4 feet for 36-inch silt fence fabric.

2. Steel supports

- a. The full height of the silt fence shall be supported by steel posts at least 5 feet long with a strength of 1.33 pounds per foot and have projections for the attachment of fasteners.
- b. The silt fence fabric shall be attached in at least three places on the upslope side with 50 pound plastic tie straps or wire fasteners. To prevent damage to the fabric from fastener, the protruding ends shall be pointed away from the fabric.

3. The maximum spacing of posts for non-woven silt fence shall be 3 feet and for woven fabric 8 feet.

4. Silt fence shall have a support cord.

5. Where joints are necessary, each end of the fabric shall be securely fastened to a post. The posts shall then be wrapped around each other to produce a stable, secure joint or shall be overlapped the distance between two posts.

6. A minimum of 20 inches of the post shall extend into the ground after installation.

D. Anchoring – Silt fence shall be anchored by spreading at least 8 inches of the fabric in a 4 inch wide by 6 inch deep trench, or 6 inch deep V-trench on the upslope side of the fence. The trench shall be backfilled and compacted. Trenches shall not be excavated wider and deeper than necessary for proper installation.

On the terminal ends of silt fence the fabric shall be wrapped around the post such that the staples are not visible.

E. Geotextile Fabric Specifications – The geotextile fabric consists of either woven or non-woven polyester, polypropylene, stabilized nylon, polyethylene, or polyvinylidene chloride. Non-woven fabric may be needle punched, heat bonded, resin bonded, or combinations thereof. All fabric shall meet the following requirements as specified in Table 2.

Test Requirement	Method	Value ¹
Minimum grab tensile strength in the machine direction	ASTM D 4632	120 lbs. (550 N)
Minimum grab tensile strength in the cross machine direction	ASTM D 4632	100 lbs. (450 N)
Maximum apparent opening size equivalent standard sieve	ASTM D 4751	No. 30 (600 μm)
Minimum permittivity	ASTM D 4491	0.05 scc ⁻¹
Minimum ultraviolet stability percent of strength retained after 500 hours of exposure	ASTM D 4355	70%

(WisDOT Standard Specifications for Road and Bridge Construction, 2001)

¹ All numerical values represent minimum / maximum average roll values. (For example, the average minimum test results on any roll in a lot should meet or exceed the minimum specified values.)

Silt fence shall have a maximum flow rate of 10-gallons/minute/square foot at 50mm constant head as determined by multiplying permittivity in 1/second as determined by ASTM D-4491 by a conversion factor of 74.

F. Removal – Silt fences shall be removed once the disturbed area is permanently stabilized and no longer susceptible to erosion.

VI. Considerations

- A. Improper placement as well as improper installation and maintenance of silt fences will significantly decrease the effectiveness of this practice.

Silt fences should be considered for trapping sediment where sheet and rill erosion may be expected to occur in small drainage areas. Silt fences should not be placed in areas of concentrated flow.

- B. Silt fences should be installed prior to disturbing the upslope area.
- C. Silt fences should not be used to define the boundaries of the entire project. Silt fence should be placed only in areas where it is applicable due to its cost and the fact that it is not biodegradable. For example, silt fence should not be placed in locations where the natural overland flow is from an undisturbed area into disturbed areas of the project. It should also not be used as a diversion.
- D. Silt fence should not be used in areas where the silt fence is at a higher elevation than the disturbed area.
- E. When placing silt fence near trees, care should be taken to minimize damage to the root system. Avoid compaction and root cutting within 1.5 feet multiplied by the inch diameter of the tree (for example: for 10-inch trees keep out a 15-foot radius from the trunk). Refer to UWEX publication Preserving Trees During Construction for more information.
- F. To protect silt fence from damage in areas of active construction or heavy traffic, silt fence should be flagged, marked, or highlighted to improve visibility.
- G. Silt fence effectiveness is generally increased when used in conjunction with other upslope erosion control practices. To further strengthen the silt fence, straw / hay bales can be placed on the down slope side.
- H. To help ensure effectiveness, silt fence should be inspected and repaired as necessary prior to forecasted rain events.

- I. Where installation with wood posts is difficult, such as when hard or frozen ground is encountered, the use of steel post is recommended.
- J. Silt fence can be mechanically installed with a plow type device provided that the silt fence is trenched in a manner such that equivalent performance is achieved to that specified in Section V.D.

VII. Plans and Specifications

- A. Plans and specifications for installing silt fence shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. The plans and specifications shall address the following:
 1. Location of silt fence
 2. Contributory drainage area
 3. Schedules
 4. Material specification conforming to standard
 5. Standard drawings and installation details
 6. Restoration after removal
- B. All plans, standard detail drawings, or specifications shall include schedule for installation, inspection, and maintenance. The responsible party shall be identified.

VIII. Operation and Maintenance

- A. Silt fences shall at a minimum be inspected weekly and within 24 hours after every precipitation event that produces 0.5 inches of rain or more during a 24 hour period.
- B. Damaged or decomposed fences, undercutting, or flow channels around the end of barriers shall be repaired or corrected.
- C. Sediment shall be properly disposed of once the deposits reach $\frac{1}{2}$ the height of the fence.

IX. References

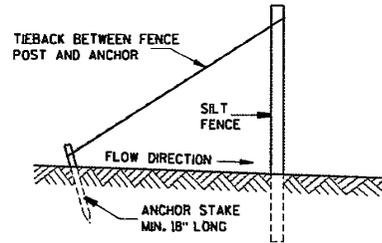
X. Definitions

Channel Erosion (III.A.1): The deepening and widening of a channel due to soil loss caused by flowing water. As rills become larger and flows begin to concentrate, soil detachment occurs primarily as a result of shear.

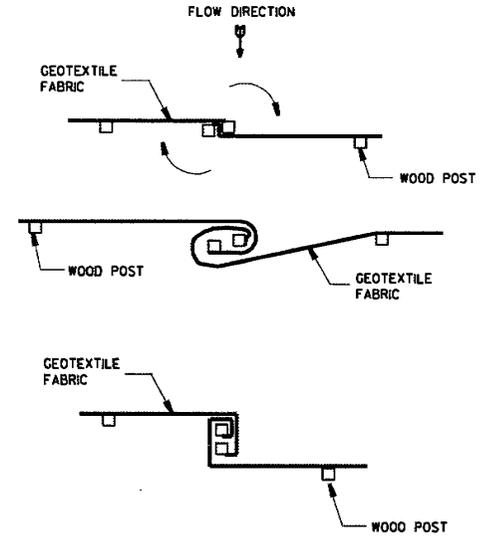
Sheet and Rill Erosion (III.A.1): Sheet and rill erosion is the removal of soil by the action of rainfall and shallow overland runoff. It is the first stage in water erosion. As flow becomes more concentrated rills occur. As soil detachment continues or flow increases, rills will become wider and deeper forming gullies.

GENERAL NOTES

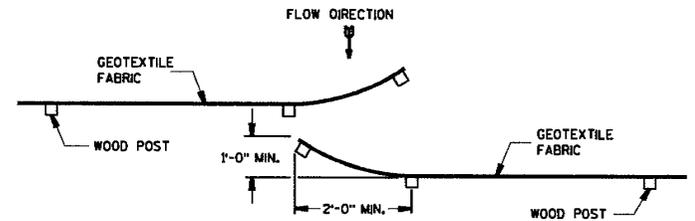
- ① TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ② WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ③ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE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



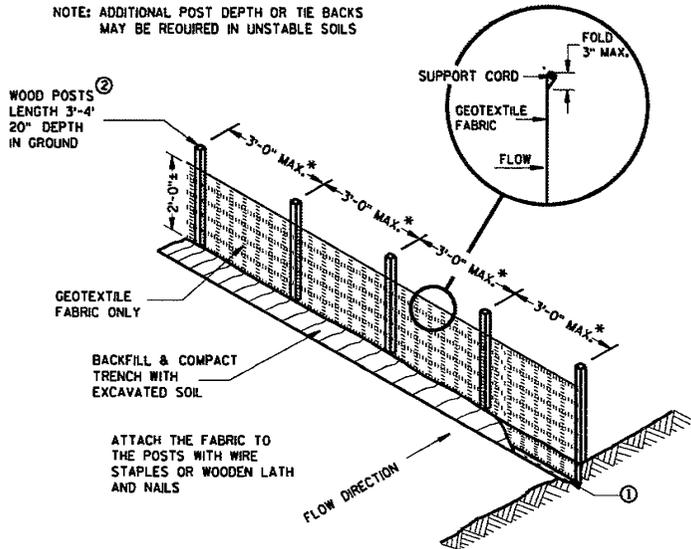
SILT FENCE TIE BACK
(WHEN ADDITIONAL SUPPORT REQUIRED)



TWIST METHOD

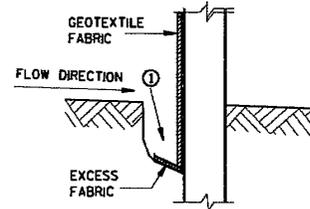


HOOK METHOD
JOINING TWO LENGTHS OF SILT FENCE ④



*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE



TRENCH DETAIL

This drawing based on Wisconsin Department of Transportation Standard Detail Drawing 8 E 9-6.

SILT FENCE

Mulching For Construction Sites (1058)

Wisconsin Department of Natural Resources
Conservation Practice Standard

I. Definition

Mulching is the application of organic material to the soil surface to protect it from raindrop impact and overland flow. Mulch covers the soil and absorbs the erosive impact of rainfall and reduces the flow velocity of runoff.

II. Purpose

This practice may be used to:

- Reduce soil erosion
- Aid in seed germination and establishment of plant cover
- Conserve soil moisture

III. Conditions Where Practice Applies

This practice may be applied on exposed soils as a temporary control where soil grading or landscaping has taken place or in conjunction with temporary or permanent seeding. Mulching is generally not appropriate in areas of concentrated flow.

IV. Federal, State, and Local Laws

Users of this standard shall comply with applicable federal, state and local laws, rules, regulations or permit requirements governing mulching. This standard does not contain the text of federal, state, or local laws.

V. Criteria

This section establishes the minimum standards for design, installation and performance requirements.

A. Site Preparation:

Soil surface shall be prepared prior to the application of mulch in order to achieve the desired purpose and to ensure optimum contact between soil and mulch. All areas to be mulched shall be reasonably free of rills and gullies.

B. Materials:

Mulch shall consist of natural biodegradable material such as plant residue (including but not limited to straw, hay, wood chips, bark and wood cellulose fiber), or other equivalent materials of sufficient dimension (depth or thickness) and durability to achieve the intended effect for the required time period.

Mulch shall be environmentally harmless to wildlife and plants. Materials such as gravel, plastic, fabric, sawdust, municipal solid waste, *solid waste byproducts*¹, shredded paper, and non-biodegradable products shall not be used.

Mulch shall be free of diseased plant residue (i.e. oak wilt), *noxious weed* seeds, harmful chemical residues, heavy metals, hydrocarbons and other known environmental toxicants.

Marsh hay shall not be used as mulch in lowland areas but may be used on upland sites to prevent the spread of invasive, non-native species (i.e. reed canary grass) commonly found in marsh hay.

Straw and hay mulch that will be crimped shall have a minimum fiber length of 6 inches.

Wood chips or wood bark shall only be used for sites that are not seeded.

C. Application Rate:

1. Mulch shall cover a minimum of 80% of the soil surface for unseeded areas. For seeded areas, mulch shall be placed loose and open enough to allow some sunlight to penetrate and air to circulate but still cover a minimum of 70% of the soil surface.
2. Mulch shall be applied at a uniform rate of 1½ to 2 tons per acre for sites that are seeded, and 2 to 3 tons per acre for sites that are not seeded. This application results in a layer of ½ to 1½ inches thick for seeded sites, and 1½ to 3 inches thick for sites not seeded.
3. Wood chips or wood bark shall be applied at a rate of 6 to 9 tons per acre to achieve a minimum of 80% ground cover. This application should result in a layer of wood chips or wood bark ½ to 1½ inches thick.

D. Mulch Anchoring Methods

Anchoring of mulch shall be based on the type of mulch applied, site conditions, and accomplished by one of the following techniques:

1. Crimping

Immediately after spreading, the mulch shall be anchored by a mulch crimper or equivalent device consisting of a series of dull flat discs with notched edges spaced approximately 8 inches apart. The mulch shall be impressed in the soil to a depth of 1 to 3 inches.

2. Polypropylene Plastic, or Biodegradable Netting

Apply plastic netting over mulch application and staple according to manufacturer's recommendations.

3. Tackifier

Tackifier shall be sprayed in conjunction with mulch or immediately

after the mulch has been placed. Tackifiers must be selected from those that meet the WisDOT Erosion Control Product Acceptability List (PAL). Asphalt based products shall not be applied.

The tackifiers shall be applied at the following minimum application rates per acre:

- a. Latex-Base: mix 15 gallons of adhesive (or the manufacturer's recommended rate which ever is greater) and a minimum of 250 pounds of recycled newsprint (pulp) as a tracer with 375 gallons of water.
- b. Guar Gum: mix 50 pounds of dry adhesive (or the manufacturer's recommended rate which ever is greater) and a minimum of 250 pounds of recycled newsprint (pulp) as tracer with 1,300 gallons of water.
- e. Other Tackifiers: (Hydrophilic Polymers) mix 100 pounds of dry adhesive (or the manufacturer's recommended rate which ever is greater) and a minimum of 250 pounds of recycled newsprint (pulp) as a tracer with 1,300 gallons of water.

VI. Considerations

- A. Wood products typically absorb available soil nitrogen as they degrade, thus making it unavailable for seed.
- B. The use of mulch behind curb and gutter may not be desirable unless anchored by netting, because air turbulence from nearby traffic can displace the mulch. Consider the use of erosion mat or sod as an alternative.
- C. In areas where lawn type turf will be established, the use of tackifiers is the preferred anchoring method. Crimping will tend to leave an uneven surface and plastic netting can become displaced and entangled in mowing equipment.

- D. A heavier application of mulch may be desired to prevent seedlings from being damaged by frost.
- E. It may be beneficial to apply polyacrylimide in addition to mulch. Refer to WDNR Conservation Practice Standard (1050) Erosion Control Land Application of Anionic Polyacrylamide for information about the advantages and proper use of polymers.
- F. Concentrated flows above the site where mulch is applied should be diverted.
- G. Mulch should be placed within 24 hours of seeding.
- H. Mulching operations should not be performed during periods of excessively high winds that would preclude the proper placement of mulch.
- I. Materials such as gravel may be effective for erosion control but are not considered mulches.

VII. Plans and Specifications

- A. Plans and specifications for mulching shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. The plans and specifications shall address the following:
 - 1. Type of mulch used
 - 2. Application rate
 - 3. Timing of application
 - 4. Method of anchoring
- B. All plans, standard detail drawings, or specifications shall include schedules for installation, inspection, and maintenance. The responsible party shall be identified.

VIII. Operation and Maintenance

Mulch shall, at a minimum, be inspected weekly and within 24 hours after every precipitation event that produces 0.5 inches of rain or more during a 24 hour period.

Mulch that is displaced shall be reapplied and properly anchored. Maintenance shall be completed as soon as possible with consideration to site conditions.

IX. References

WisDOT’s Erosion Control Product Acceptability List (PAL) can be found on the WisDOT web site: <http://www.dot.wisconsin.gov/business/engrserv/pal.htm> Printed copies are no longer being distributed.

X. Definitions

Noxious weed (V.B): Any weed a governing body declares to be noxious within its respective boundaries. The State of Wisconsin list of noxious weeds can be found in Statute 66.0407.

Solid Waste Byproducts (V.B): Includes industrial, commercial, residential, and agricultural wastes that have been processed, incinerated, or composted and still contain inorganic wastes such as glass and metals and organic wastes including plastics, textiles, rubber, leather, and other miscellaneous organic wastes which may be toxic or hazardous in nature.

Seeding For Construction Site Erosion Control (1059)

Wisconsin Department of Natural Resources
Conservation Practice Standard

I. Definition

Planting seed to establish temporary or permanent vegetation for erosion control.

II. Purpose

The purpose of *temporary seeding*¹ is to reduce runoff and erosion until permanent vegetation or other erosion control practices can be established. The purpose of *permanent seeding* is to permanently stabilize areas of exposed soil.

III. Conditions Where Practice Applies

This practice applies to areas of exposed soil where the establishment of vegetation is desired. Temporary seeding applies to disturbed areas that will not be brought to final grade or on which land-disturbing activities will not be performed for a period greater than 30 days, and requires vegetative cover for less than one year. Permanent seeding applies to areas where perennial vegetative cover is needed.

IV. Federal, State and Local Laws

Users of this standard shall be aware of all applicable federal, state and local laws, rules, regulations or permit requirements governing seeding. This standard does not contain the text of federal, state or local laws.

V. Criteria

This section establishes the minimum standards for design, installation and performance requirements.

A. Site and Seedbed Preparation

Site preparation activities shall include:

1. Temporary Seeding
 - a. Temporary seeding requires a seedbed of loose soil to a minimum depth of 2 inches.
 - b. Fertilizer application is not generally required for temporary seeding. However, any application of fertilizer or lime shall be based on soil testing results.
 - c. The soil shall have a pH range of 5.5 to 8.0.
2. Permanent Seeding
 - a. *Topsoil* installation shall be completed prior to permanent seeding.
 - b. Permanent seeding requires a seedbed of loose topsoil to a minimum depth of 4 inches with the ability to support a *dense* vegetative cover.
 - c. Application rates of fertilizer or lime shall be based on soil testing results.
 - d. Prepare a tilled, fine, but firm seedbed. Remove rocks, twigs foreign material and clods over two inches that cannot be broken down.
 - e. The soil shall have a pH range of 5.5 to 8.0.

¹ Words in the standard that are shown in italics are described in X. Definitions. The words are italicized the first time they are used in the text.

B. Seeding

1. Seed Selection

- a. Seed mixtures that will produce dense vegetation shall be selected based on soil and site conditions and intended final use. Section IX References, lists sources containing suggested seed mixtures.
- b. All seed shall conform to the requirements of the Wisconsin Statutes and of the Administrative Code Chapter ATCP 20.01 regarding noxious weed seed content and labeling.
- c. Seed mixtures that contain potentially invasive species or species that may be harmful to native plant communities shall be avoided.
- d. Seed shall not be used later than one year after the test date that appears on the label.
- e. Seed shall be tested for purity, germination and noxious weed seed content and shall meet the minimum purity and germination requirements as prescribed in the current edition of Rules for Testing Seed, published by the Association of Official Seed Analysts.

2. Seed Rates

a. Temporary Seeding (Cover Crop)

Areas needing protection during periods when permanent seeding is not applied shall be seeded with annual species for temporary protection. See Table 1 for seeding rates of commonly used species. The residue from this crop may either be incorporated into the soil during seedbed preparation at the next permanent seeding period or left on the soil surface and the planting made as a no-till seeding.

Table 1 Temporary Seeding Species and Rates

Species	Lbs/Acre	Percent Purity
Oats	131 ¹	98
Cereal Rye	131 ²	97
Winter wheat	131 ²	95
Annual Ryegrass	80 ²	97

¹ Spring and summer seeding

² Fall seeding

b. Permanent Seeding

Rates shall be based on pounds or ounces of Pure Live Seed (PLS) per acre. Section IX contains some possible reference documents that provide seeding rates. Permanent seeding rates may be increased above the minimum rates shown in the reference documents to address land use and environmental conditions.

If a *nurse crop* is used in conjunction with permanent seeding, the nurse crop shall not hinder establishment of the permanent vegetation.

A nurse crop shall be applied at 50% its temporary seeding rate when applied with permanent seed.

3. Inoculation

Legume seed shall be inoculated in accordance with the manufacturer's recommendations. Inoculants shall not be mixed with liquid fertilizer.

4. Sowing

Seed grasses and legumes no more than ¼ inch deep. Distribute seed uniformly. Mixtures with low seeding rates require special care in sowing to achieve proper seed distribution.

Seed may be broadcast, drilled, or hydroseeded as appropriate for the site.

Seed when soil temperatures remain consistently above 53° F. *Dormant seed* when the soil temperature is consistently below 53° F (typically

Nov. 1st until snow cover). Seed shall not be applied on top of snow.

VI. Considerations

- A. Consider seeding at a lower rate and making two passes to ensure adequate coverage.
- B. Compacted soil areas may need special site preparation prior to seeding to mitigate compaction. This may be accomplished by chisel plowing to a depth of 12 inches along the contour after heavy equipment has left the site.
- C. Sod may be considered where adequate watering is available.
- D. When working in riparian areas refer to the NRCS Engineering Field Handbook, Chapter 16, Streambank and Shoreline Protection and Chapter 18, *Soil Bioengineering* for Upland Slope Protection and Erosion Reduction.
- E. A site assessment should be conducted to evaluate soil characteristics, topography, exposure to sunlight, proximity to natural plant communities, proximity to nuisance, noxious and/or invasive species, site history, moisture regime, climatic patterns, soil fertility, and previous herbicide applications.
- F. Use *introduced species* only in places where they will not spread into existing natural areas.
- G. Lightly roll or compact the area using suitable equipment when the seedbed is judged to be too loose, or if the seedbed contains clods that might reduce seed germination.
- H. See Section IX. References for suggested seed mixes (NRCS, WisDOT, UWEX) or use their equivalent.
- I. Turf seedlings should not be mowed until the stand is at least 6 inches tall. Do not mow closer than 3 inches during the first year of establishment.
- J. Seeding should not be done when the soil is too wet.

- K. Consider watering to help establish the seed. Water application rates shall be controlled to prevent runoff and erosion.
- L. Prairie plants may not effectively provide erosion control during their establishment period without a nurse crop.
- M. Topsoil originating from agricultural fields may contain residual chemicals. The seedbed should be free of residual herbicide or other contaminants that will prevent establishment and maintenance of vegetation. Testing for soil contaminants may be appropriate if there is doubt concerning the soil's quality.
- N. Consider using mulch or a nurse crop if selected species are not intended for quick germination. When mulching refer to WDNR Conservation Practice Standard Mulching for Construction Sites (1058).

VII. Plans and Specifications

Plans and specifications for seeding shall be in keeping with this standard and shall describe the requirements for applying this practice.

All plans, standard detail drawings, or specifications shall include schedule for installation, inspection, and maintenance. The responsible party shall be identified.

VIII. Operation and Maintenance

- A. During construction areas that have been seeded shall at a minimum be inspected weekly and within 24 hours after every precipitation event that produces 0.5 inches of rain or more during a 24-hour period. Inspect weekly during the growing season until vegetation is densely established or permit expires. Repair and reseed areas that have erosion damage as necessary.
- B. Limit vehicle traffic and other forms of compaction in areas that are seeded.
- C. A fertilizer program should begin with a soil test. Soil tests provide specific fertilizer recommendations for the site and can help to avoid over-application of fertilizers.

IX. References

A. Seed Selection References

United States Department of Agriculture – Natural Resource Conservation Service Field Office Technical Guide Section IV, Standard 342, Critical Area Planting.

UWEX Publication A3434 Lawn and Establishment & Renovation.

WisDOT, 2003. State of Wisconsin Standard Specifications For Highway and Structure Construction. Section 630, Seeding.

B. General References

Association of Official Seed Analysts, 2003. Rules for Testing Seed. <http://www.aosaseed.com>.

Metropolitan Council, 2003. Urban Small Sites Best Management Practice Manual, Chapter 3, Vegetative Methods 3-85 – 3-91. Minneapolis.

The State of Wisconsin list of noxious weeds can be found in Statute 66.0407.

United States Department of Agriculture – Natural Resources Conservation Service. Engineering Field Handbook, Chapters 16 and 18.

UWEX Publication GWQ002 Lawn & Garden Fertilizers.

Nurse Crop (V.B.2.b): Also known as a companion crop; is the application of temporary (annual) seed with permanent seed.

Permanent seeding (II) Seeding designed to minimize erosion for an indefinite period after land disturbing construction activities have ceased on the site.

Soil Bioengineering (VI.D) Practice of combining mechanical, biological and ecological concepts to arrest and prevent shallow slope failures and erosion.

Temporary Seeding (II) Seeding designed to control erosion for a time period of one year or less that is generally removed in order to perform further construction activities or to permanently stabilize a construction site.

Topsoil (V.A.2.a) Consists of loam, sandy loam, silt loam, silty clay or clay loam humus-bearing soils adapted to sustain plant life with a pH range of 5.5 – 8.0. Manufactured topsoil shall through the addition of sand or organic humus material, peat, manure or compost meet the above criteria.

X. Definitions

Dense (V.A.2.b) A stand of 3-inch high grassy vegetation that uniformly covers at least 70% of a representative 1 square yard plot.

Dormant seed (V.B.4): Seed is applied after climatic conditions prevent germination until the following spring.

Introduced Species (VI.F) Plant species that historically would not have been found in North America until they were brought here by travelers from other parts of the world. This would include smooth brome grass and alfalfa. Some of these species may have a wide distribution such as Kentucky bluegrass.

Sediment Trap

(1063)

Wisconsin Department of Natural Resources
Conservation Practice Standard

I. Definition

A *temporary*¹ sediment control device formed by excavation and/or embankment to intercept sediment-laden runoff and to retain the sediment.

II. Purposes

To detain sediment-laden runoff from disturbed areas for sufficient time to allow the majority of the sediment to settle out.

III. Conditions Where Practice Applies

Sediment traps are utilized in areas of concentrated flow or points of discharge during construction activities. Sediment traps shall be constructed at locations accessible for clean out. Sediment traps are designed to be in place until the contributory drainage area has been *stabilized*.

The contributory drainage area shall be a maximum of five acres. For concentrated flow areas smaller than one acre, ditch checks may be installed; refer to WDNR conservation practice standard Ditch Check (1062).

For larger drainage areas and/or for sediment basins requiring an engineered outlet structure refer to WDNR conservation practice standard Sediment Basin (1064) or Wet Detention Basin (1001).

IV. Federal, State, and Local Laws

Users of this standard shall be aware of applicable federal, state, and local laws, rules, regulations, or permit requirements governing the use and placement of sediment traps. This standard does not contain the text of federal, state, or local laws.

V. Criteria

This section establishes the minimum standards for design, installation and performance requirements.

A. **Timing** – Sediment traps shall be constructed prior to disturbance of up-slope areas and placed so they function during all phases of construction. Sediment traps shall be placed in locations where runoff from disturbed areas can be diverted into the traps.

B. **Sizing Criteria** – Properly sized sediment traps are relatively effective at trapping medium and coarse-grained particles. To effectively trap fine-grained particles, the sediment trap must employ a large surface area or polymers.

The specific trapping efficiency of a sediment trap varies based on the surface area, depth of dead storage, and the particle size distribution and concentration of sediment entering the device.

1. **Surface Area** – The minimum surface area of a sediment trap shall be based on the dominant textural class of the soil entering the device. The surface area calculated below represents the surface for the permanent pool area (if wet) or the surface area for the dead storage. This surface area is measured at the invert of the stone outlet (see Figure 1).

a. For coarse textured soils (loamy sand, sandy loam, and sand):

$$A_{s(\text{coarse})} = 625 * A_{dr}$$

- b. For medium textured soils (loams, silt loams, and silt):

$$A_{s(\text{medium})} = 1560 * A_{dr}$$

- c. For fine textured soils (sandy clay, silty clay, silty clay loam, clay loam, and clay):

$$A_{s(\text{fine})} = 5300 * A_{dr}$$

For the equations above:

A_s = surface area of storage volume in square feet
 A_{dr} = contributory drainage area in acres

Note: The equations above were derived using a representative particle distribution for detached sediment for each textural class. Sediment traps designed based on this standard will achieve 80% reduction of suspended solids for the drainage area.

- d. The surface area of sediment traps used in areas with fine to medium sized soils can be reduced when used in conjunction with water applied polymers. When employing polymers, size the surface area for controlling fine particles using the criteria for medium soils (V.B.1.b.) and when controlling medium sized particles use the sizing equation contained in (V.B.1.a.) for coarse soils. See WDNR Conservation Practice Standard Sediment Control Water Application of Polymers (1051) for criteria governing the proper use and selection of polymers.
2. Depth – The depth of the sediment trap measured from the sediment trap bottom to the invert of the stone outlet, shall be at least three feet to minimize re-suspension and provide storage for sediment.
 3. Shape – The sediment trap shall have a length to width ratio of at least 2:1. The position of the outlet to the inlet shall be as such to minimize short-circuiting of the water flow path.

4. Side Slopes – Side slopes shall be no steeper than 2:1.

Note: A sediment trap sized with the surface area equations above, a three-foot depth, and 2:1 side slopes will generally result in an 80% sediment reduction. Slopes flatter than 2:1 will require larger surface areas to provide adequate storage.

- C. **Embankment** – Embankments of temporary sediment traps shall not exceed five feet in height measured from the downstream toe of the embankment to the top of the embankment. Construct embankments with a minimum top width of four feet, and side slopes of 2:1 or flatter. Earthen embankments shall be compacted.

Where sediment traps are employed as a perimeter control, the embankments shall have stabilization practices place prior to receiving runoff.

- D. **Outlet** – Sediment traps shall be constructed with both a principal and emergency spillway. The stone outlet of a sediment trap shall consist of a stone section of embankment (stone outlet) located at the discharge point. The stone outlet section provides a means of dewatering the basin back to the top of the permanent storage between storm events, and also serves as a non-erosive emergency spillway for larger flow events.

1. Outlet Size – The size of the outlet shall depend on the contributory drainage area and desired outflow. The length of the stone outlet / weir outlet can be calculated based on the size of the drainage area found in Table 1. Refer to section IX References for the equation used to calculate flow through a stone outlet or gabion.

Table 1 Weir Length

Drainage Area (acres)	Weir Length (feet)
1	4.0
2	6.0
3	8.0
4	10.0
5	12.0

The emergency spillway (top of the weir) shall be sized to adequately pass the 10-year 24-hour storm without overtopping the sediment trap. The crest of the spillway shall be at least one foot below the top of the embankment. The minimum weir lengths provided in Table 1 are adequate to pass the 10 year event.

Note: The weir length has little effect on overall treatment efficiency provided the sizing criteria in Section V.B. is adhered to.

The stone outlet shall have a minimum top width of 2 feet and a maximum side-slope of 2:1.

Discharge from the sediment basin shall be safely conveyed to a stormwater facility, drainage way, or waterbody. The discharge velocity shall be below the velocity to initiate scour unless appropriate stabilization methods are employed.

2. Stone Size – Stone shall consist of angular well graded 3 to 6 inch clear washed stone.
 3. Keyway Trench – The stone outlet shall be protected from undercutting by excavating a keyway trench across the stone foundation and up the sides to the height of the outlet. See Figure 1. Underlying with geotextile fabric is optional.
- E. Provide access for cleanout and disposal of trapped sediment.

VI Considerations

- A. Sediment traps generally require excessive surface areas to settle clay particles and fine silts. If these conditions exist on the site consider using a sediment basin (DNR Conservation Practice Standard Sediment Basin 1064) or adding polymer to the sediment trap. See WDNR Conservation Practice Standard Sediment Control Water Application of Polymers (1051) for criteria governing the use of polymers

- B. To improve trapping efficiency, filter fabric can be placed on the up-slope side of the stone outlet / gabion and anchored with stone. When fabric is utilized to enhance filtering, more frequent maintenance is required to prevent clogging. When using fabric, a monofilament type fabric shall be used (such as WisDOT Type FF). The apparent opening size of the fabric, not the stone size, will dictate the flow rate through the outlet therefore outlet lengths need to be calculated since values in Table 1 are based on stone. When calculating the size of the outlet a clogging factor of 50% should be used for the fabric.
- C. Consider possible interference with construction activities when locating sediment traps.
- D. Provisions should be made for protecting the embankment from failure caused by storms exceeding the 10-year design requirement. Consider a stabilized and non-erosive emergency spillway bypass.
- E. In general, groundwater impacts from temporary sediment traps that have storage areas in contact with groundwater are not a major concern. However, sediment trap contact with groundwater should be avoided in areas with karst features, fractured bedrock, or areas of significant groundwater recharge.
- F. Sediment trapping is achieved primarily by settling within the pool formed by the trap. Sediment trapping efficiency is a function of surface area, depth of pool, and detention time. If site conditions permit, a length to width ratio greater than 2:1 will increase efficiency.
- G. If site conditions prevent the sediment trap from having a three-foot depth, then an equivalent storage volume must be created through increasing the surface area.
- H. For sediment traps in place longer than 6 months, consider outlets constructed of two types of stone. A combination of coarse aggregate and riprap (WisDOT light riprap classification) should be used to provide stability. A one-foot layer of one inch washed stone then should be placed on the up-slope face to reduce drainage flow rate.

VII Plans and Specifications

- A. Plans and specifications for installing sediment traps shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. The plans and specifications shall address the following:
1. Location and spacing of sediment traps
 2. Schedules and sequence of installation and removal
 3. Standard drawings and installation details
 4. Rock gradation
- B. All plans, standard detail drawings, or specifications shall include a schedule for installation, inspection, maintenance, and identify the responsible party.

VIII Operation and Maintenance

Sediment Traps shall, at a minimum, be inspected weekly and within 24 hours after every precipitation event that produces 0.5 inches of rain or more during a 24-hour period. Sediment may need to be removed more frequently.

- A. Deposits of sediment shall be removed when they reach a depth of one foot.
- B. If the outlet becomes clogged it shall be cleaned to restore flow capacity.
- C. Recommend provisions for proper disposal of the sediment removed from the trap.
- D. Maintenance shall be completed as soon as possible with consideration given to site conditions.
- E. Sediment traps shall be removed and the location stabilized after the disturbed area draining to the sediment trap is stabilized and no longer susceptible to erosion.

IX References

Flow through the stone outlet and gabion can be calculated using the following equation:

$$Q = (h^{2/3} * L) / [(W/D) + 25 + W^2]^{1/2}$$

Where:

Q = total flow through stone (cfs)

h = depth of flow measured from invert of the stone outlet to the crest of emergency spillway (ft)

W = average width of weir or flow length through stone outlet (ft)

L = length of weir (ft)

D = Average Rock Diameter (ft)

Note: For a stone outlet, the length of stone outlet (L) will vary with the depth and slope of stone outlet. For a gabion, the length of flow is fixed to gabion width.

A complete discussion of this equation and its proper application can be found in:

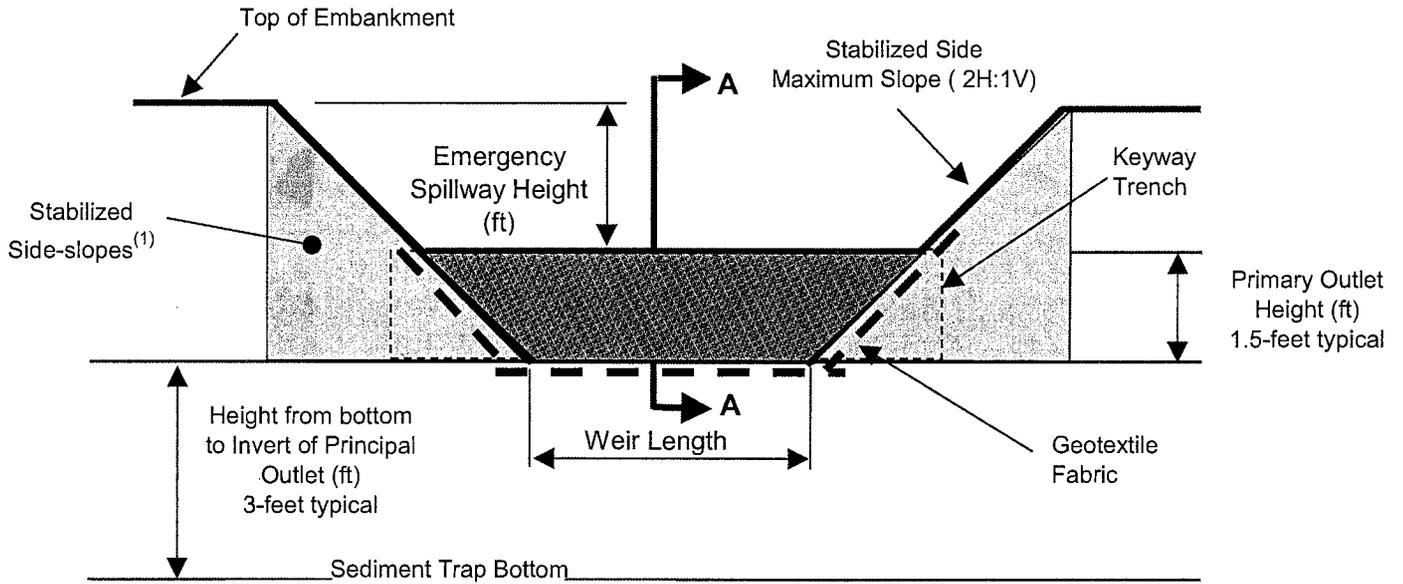
C. McIntyre, G. Aron, J. Willenbrock, and M. Deimler. Report No. 10: Analysis of flow through porous media as applied to gabion dams regarding the storage and release of storm water runoff. NAHB/NRC Designated Housing Research Center at Penn State, Department of Civil Engineering; August 1992.

X Definitions

Stabilized (III): Means that all land disturbing construction activities at the construction site have been completed and that a uniform perennial vegetative cover has been established with a density of at least 70% of the cover for the unpaved areas and areas not covered by permanent structures or that employ equivalent stabilization measures.

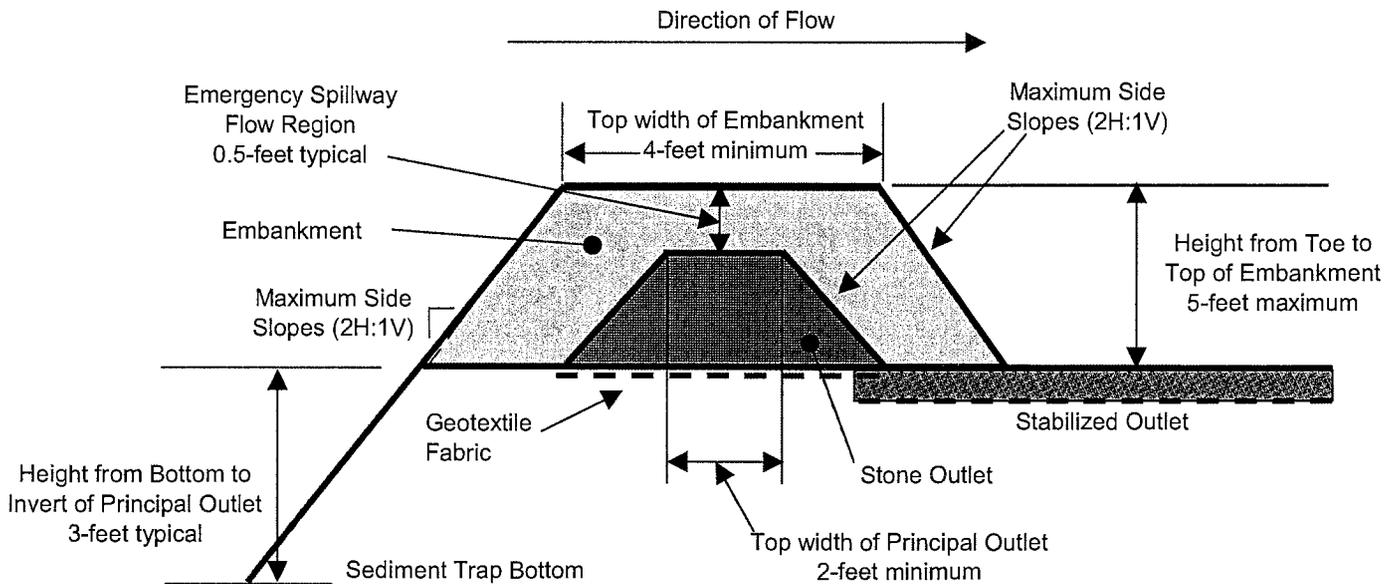
Temporary (I): An erosion control measure that is in place for the duration of construction or until the site is stabilized.

Figure 1: Sediment Trap Outlet Detail



Cross-section View of Principal Outlet

Notes: (1) Side-slopes and faces of earthen embankment around outlet shall be armored with riprap or stabilized with erosion mat sufficient to handle flows from the 10-year storm.



View A - A of Principal Outlet

Notice: Use of this specific form is voluntary, but the information contained on this form must be collected and kept by the permittee under s. NR 216.48(4), Wis. Adm. Code, for a construction site covered under the General WPDES Construction Site Storm Water Discharge Permit, Permit No. WI-0067831-2. This form is provided for the convenience of the permittee to meet the requirements of s. NR 216.48(4), Wis. Adm. Code. Multiple copies of this form may be made to compile the inspection report.

Inspections of implemented erosion and sediment control best management practices must be performed weekly and within 24 hours after a precipitation event 0.5 inches or greater which results in runoff.

Weekly written reports of all inspections conducted by or for the permittee must be maintained throughout the period of general permit coverage.

The information maintained in accordance with s. NR 216.48 (4) must be submitted to the Department upon request.

Name of Permittee:				
Construction Site Name (Project):			Construction Site ID No.:	
Location:			County:	
Contractor:			Field Office Phone:	
Note: Weekly inspection reports, along with erosion control and stormwater management plans, are required to be maintained on site and made available upon request.				
Date of inspection (mm/dd/yy): _____		Type of inspection: <input type="checkbox"/> Weekly <input type="checkbox"/> Precipitation Event <input type="checkbox"/> Other (specify) _____		
Time of inspection: Start: _____ a.m./p.m.		Name(s) of individual(s) performing inspection:		
End: _____ a.m./p.m.				
Weather:				
Description of present phase of construction:				
Modifications Required	Yes	No	Not Applicable	Comments/Recommendations about the overall effectiveness of the erosion and sediment control measures. Note: For each item checked "Yes", complete the follow-up information on page 2.
Ditch Checks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Erosion Control Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Erosion Mat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Grading Practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Inlet Protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Mulch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Offsite Sediment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Permanent Seeding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Schedule / Phasing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Silt Fence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Silt Screen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sod	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Stabilized Outlet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Temp. Diversion Channel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Temp. Settling Basin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Temporary Seeding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Tracking Pads	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Turbidity Barrier	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other (specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

CONSTRUCTION SITE INSPECTION REPORT

Form 3400-187 (rev. 9/04)

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Name of Permittee:		
Construction Site Name (Project):		Construction Site ID No.:
<i>Use the space below for detailed follow-up action items.</i>		
Exact place of erosion/sediment control inspected	Type of erosion/sediment control and its observed condition	Description of any necessary maintenance or repair to erosion/sediment control, including anticipated date of completion

Appendix E – Maintenance Forms and Records

Notice of Termination – Storm Water Discharges Associated With Land Disturbing Construction Activities General Permit

This Notice of Termination (NOT) form is authorized by s. 283.37, Wis. Stats. Submittal of a completed NOT to the Department is mandatory for any landowner of a construction site regulated under 40 CFR Part 122, Chapter 283, Wis. Stats., and Chapter NR 216, Wis. Adm. Code. Failure to submit a completed NOT to the Department after the construction site undergoes final stabilization may result in forfeitures up to \$10,000 per day, pursuant to s. 283.92 (2), Wis. Stats. Personally identifiable information on this NOT may be used for other water quality program purposes.

Submission of this NOT constitutes notice that the landowner identified in Section I, no longer intends to be authorized by a general WPDES permit to discharge storm water associated with land disturbing construction activities from the construction site identified in Section III of this NOT.

All necessary information must be provided on this NOT. Failure to complete this NOT correctly may result in rejection of this NOT by the Department. Please read all instructions before completing. Please type or clearly print your answer to all questions

Section I: Landowner Information

Business Name	Authorized Representative		
Mailing Address	City	State	ZIP Code
		WI	
E-mail	Phone Number (area code)	Alternate Phone Number	

Section II: Contractor Information

Business Name	Contact Person		
Mailing Address	City	State	ZIP Code
		WI	
E-mail	Phone Number (area code)	Alternate Phone Number	

Section III: Facility/Site Location Information

Site Name						
Location Address/Description					WDNR Site Number	
<input type="radio"/> City <input type="radio"/> Township <input type="radio"/> Village of					County	
PLSS Information	Township	Range	<input type="checkbox"/> East	Section	Quarter	Quarter-Quarter
	N		<input type="checkbox"/> West			

Section IV: Certification

I certify under penalty of law that disturbed soils at the identified site have undergone final stabilization and temporary erosion and sediment control measures have been removed or that all storm water discharges associated with construction activity that are authorized by a general WPDES storm water discharge permit have otherwise been eliminated. I understand that by submitting this Notice of Termination, I am no longer authorized to discharge storm water associated with construction activity by the general WPDES permit, and that discharging pollutants in storm water associated with construction activity to waters of Wisconsin is unlawful where the discharge is not authorized by a WPDES permit.

NOTE: The person signing below must be a representative of the landowner as defined in s. NR 216.55 (4) Wis. Adm. Code. "Landowner" for purposes of this NOT is defined in s. NR 216.002 (13), Wis. Adm. Code. Failure to have this NOT properly signed will result in its rejection.

Signature of Landowner/Authorized Representative	Date Signed
Printed Name of Landowner/Authorized Representative	Title

Mail this completed NOT form to the appropriate Wisconsin Department of Natural Resources office in the region where the facility is located. See the instructions on page 2 of this form for regional office addresses.

Notice of Termination – Storm Water Discharges Associated With Land Disturbing Construction Activities General Permit

Form 3400-162 (R 12/13)

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Instructions

Section I: Landowner Information

Provide the legal name of the person, firm, public organization, or any other entity that owns the construction site described in Section III of this application and holds or qualifies for an applicable general or individual construction site storm water discharge permit. The mailing address and phone number given should be for the authorized representative.

Section II: Contractor Information

Provide the legal name of the person, firm, or any other entity that acted as the major contractor in charge or operating the construction site described in Section III of this application. The mailing address and phone number given should be for the contact person.

Section III: Construction Site Information

Enter the construction site's official or legal name and complete address, including county, city, state and zip code. Be sure to include the quarter-quarter, quarter, section, township and range (the nearest quarter section) of the site. If the site is on more than one quarter, enter the quarter that best describes the location of the site. Use additional space if needed to describe the site location. The WDNR Site Number can be found in the upper right corner of the original letter conferring coverage under the general permit from the WDNR.

Section IV: Certification

State Statutes provide for severe penalties for submitting false information on this NOT form. State regulations require this NOT to be signed as follows:

1. For a corporation, by a responsible corporate officer including president, secretary, treasurer, vice president, manager, or a duly authorized representative having overall responsibility for the operation covered by this permit.
2. For a unit of government, by a ranking elected official or other duly authorized representative.
3. For a partnership, by a general partner; and for a sole proprietorship, by the proprietor.
4. For a limited liability company, by a manager.

Sign the form and print the name of the individual signing the NOT and date of signature. If the form was prepared by a consultant or someone other than an employee of the site landowner, provide the name and address of the preparer.

If you need additional information about the NOT for construction activities, please contact the Department at (608) 267-7694.

Mailing Address

Unless otherwise directed, mail this completed NOT Form to the WDNR office associated with the county of the site location:

NORTHERN REGION (NOR)

Ashland	Douglas	Langlade	Rusk	WDNR Wausau Service Center 5301 Rib Mountain Road Wausau, WI 54401 715-359-4522
Barron	Florence	Lincoln	Sawyer	
Bayfield	Forest	Oneida	Taylor	
Burnett	Iron	Polk	Vilas	
		Price	Washburn	

NORTHEAST REGION (NER)

Brown	Green Lake	Marquette	Outagamie	WDNR Northeast Regional Headquarters 2984 Shawano Avenue Green Bay, WI 54313-6727 920-662-5100
Calumet	Kewaunee	Menominee	Shawano	
Door	Manitowoc	Oconto	Waupaca	
Fond du Lac	Marinette	Oneida Reservation	Waushara	
			Winnebago	

WEST CENTRAL REGION (WCR)

Adams	Crawford	La Crosse	Portage	WDNR Wausau Service Center 5301 Rib Mountain Road Wausau, WI 54401 715-359-4522
Buffalo	Dunn	Marathon	St. Croix	
Chippewa	Eau Claire	Monroe	Trempealeau	
Clark	Jackson	Pepin	Vernon	
	Juneau	Pierce	Wood	

SOUTH CENTRAL REGION (SCR)

Columbia	Grant	Jefferson	Rock	WDNR South Central Regional Headquarters 3911 Fish Hatchery Road Fitchburg, WI 53711 608-275-3266
Dane	Green	LaFayette	Sauk	
Dodge	Iowa	Richland		

SOUTHEAST REGION (SER)

Kenosha	Ozaukee	Sheboygan	Washington	WDNR Waukesha Service Center 141 N.W. Barstow Street, Room 180 Waukesha, WI 53188 262-574-2100
Milwaukee	Racine	Walworth	Waukesha	