City of La Crosse, Wisconsin

City Hall
400 La Crosse Street
La Crosse, WI 54601

Meeting Agenda - Final

Board of Public Works

Monday, January 5, 2026 | **10:00 AM** | **Council Chambers, City Hall, First Floor**

The Board of Public Works meeting is open for in-person attendance and will also be conducted through video conferencing. The meeting can be viewed by visiting the Legislative Information Center (https://cityoflacrosse.legistar.com/Calendar.aspx) and clicking on the video link to the far right in the meeting list.)

Call to Order

Roll Call

Shaundel Washington-Spivey, Tamra Dickinson, Erin Goggin, Matt Gallager, Andrea Trane.

Approval of Minutes

Minutes from December 15, 2025.

Agenda Items:

25-1387	Request from Northern Natural Gas - Northern Natural Gas WIB11901 Tomah BL Civil Revetment Mat Project 2026.
25-1470	Bidder's Proof of Responsibility.
25-1473	Construction Contract Final Payments.
26-0009	ETBN LLC Street Privilege request for existing pole sign hanging over sidewalk on State Street.

Adjournment

Notice is further given that members of other governmental bodies may be present at the above scheduled meeting to gather information about a subject over which they have decision-making responsibility.

NOTICE TO PERSONS WITH A DISABILITY
Requests from persons with a disability who need assistance to participate in this meeting should call the City Clerk's office at (608) 789-7510 or send an email to ADAcityclerk@cityoflacrosse.org, with as much advance notice as possible.

City of La Crosse, Wisconsin

City Hall
400 La Crosse Street
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Text File

File Number: 25-1387

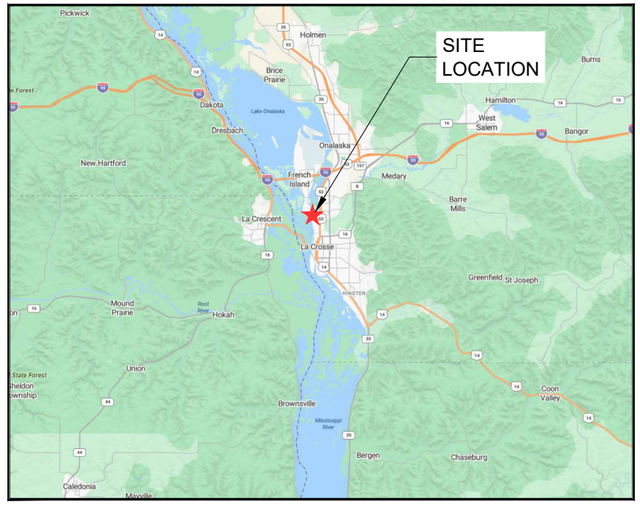
Agenda Date: 1/5/2026 **Version:** 1 **Status:** Agenda Ready

In Control: Board of Public Works **File Type:** General Item

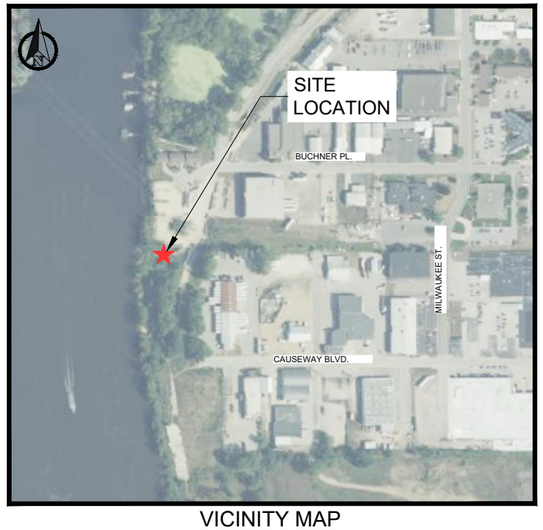
BANK RESTORATION AND PIPE PROTECTION
FOR
TOMAH BL MISSISSIPPI RIVER PIPELINE

NORTHERN NATURAL GAS
LA CROSSE, WISCONSIN

STATE MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE



VICINITY MAP
SCALE 1" = 300'

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DETAILS	C911	12

ENGINEER CONTACT:
Josh Petersen, PE

Merjent, Inc.
1 Main Street SE, Suite 300
Minneapolis, Minnesota 55414
612-746-3660

OWNER CONTACT:
Zach Kruse
Northern Natural Gas
Engineer 1
Pipeline Integrity & Risk
Office: 402-398-7718
Cell: 913-951-6769

Northern Natural Gas
A BERKSHIRE HATHAWAY ENERGY COMPANY

811
Know what's below.
Call before you dig.

DATE OF PLOT: 08/29/2025
90% DESIGN

merjent

Corporate Office:
1 Main Street SE, Suite 300
Minneapolis, Minnesota 55414
(612) 746-3660

Wisconsin Office:
N3764 Uni Drive
Freedom, WI 54130
(920) 393-9198

REVISION RECORD

NO.	DATE	DESCRIPTION	BY	CHK'D	APP'D

PROFESSIONAL ENGINEER'S CERTIFICATION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly licensed professional engineer under the laws of the State of Wisconsin

(Signature) (Date)

Printed Name: Josh Petersen, P.E.
My license renewal date is 07/31/2026 License No: 49607

NORTHERN NATURAL GAS
TOMAH BL MISSISSIPPI RIVER PIPELINE
LA CROSSE COUNTY, WISCONSIN
TITLE SHEET

C900
SHEET 1 OF 12

PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 Inches)

Z:\Clients\M_P\Northern_Natural_Gas\Tomah_BL_Mississippi_River_Revetment_Mattress\Engineering\AutoCAD\Plan Sheets\2025.0228 - NNG_Tomah - Title Sheet.dwg

GENERAL NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS PRIOR TO WORK COMMENCING.
2. CONTRACTOR SHALL CONTACT UTILITY LOCATION SERVICES 48 HOURS PRIOR TO STARTING WORK.
3. THIS SITE PLAN IS FOR INSTALLATION OF CIVIL WORKS ONLY. ALL MECHANICAL EQUIPMENT, BUILDING PADS, BUILDING STRUCTURES SHALL BE BY OTHERS.
4. STOP WORK IF ENCOUNTERING ANY SUBSURFACE LATENT CONDITIONS, PIPE LINE BREAKS, DAMAGED UTILITIES, OR OTHER UNKNOWN OR UNFORESEEN INFRASTRUCTURE DAMAGE.
5. CONTRACTOR SHALL TAKE EVERY PRECAUTION TO PROTECT THE OWNERS EXISTING PROPERTY FROM DAMAGE DUE DIRECTLY OR INDIRECTLY FROM THE CONTRACTOR'S WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY SUCH DAMAGE.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INJURY AND DAMAGE OF ANY KIND RESULTING FROM THIS WORK TO PERSONS OR PROPERTY.
7. RENTAL CHARGES, SAFETY, PROTECTION AND MAINTENANCE OF RENTED EQUIPMENT SHALL BE CONTRACTOR'S RESPONSIBILITY.
8. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, AND SHALL PAY FOR AND OBTAIN PERMITS AND ALL NECESSARY APPROVALS. CONTRACTOR SHALL OBTAIN ALL APPROVALS AND PERMITS FOR CONSTRUCTION FROM THE MUNICIPAL AGENCIES HAVING JURISDICTION, PRIOR TO COMMENCEMENT OF WORK, AT THEIR OWN EXPENSE.
9. ANY PRODUCT SPECIFIED SHOULD COMPLY WITH MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS AND COMPLY WITH MANUFACTURER'S INSTALLATION PROCEDURES.
10. THE WORK UNDER THIS SITE PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH LOCAL AND STATE REQUIREMENTS.
11. IN ACCORDANCE WITH NPDES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL PROTECTION DURING CONSTRUCTION AS WELL AS PROVIDING PROTECTION TO ADJOINING STREETS FROM POLLUTED RUNOFF AS WELL AS KEEPING EXISTING PAVEMENT CLEAN OF MUD AND DEBRIS. PAVEMENT SWEEPING OF CITY ROADS SHALL BE PERFORMED AS NECESSARY OR AT THE DIRECTION OF THE LOCAL JURISDICTION.
12. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AND CLEANED OR OTHERWISE MAINTAINED ON A WEEKLY BASIS, AND WITHIN 24 HOURS AFTER ANY SIGNIFICANT RAINFALL (0.5 INCHES OR GREATER) TO INSURE THAT ANY DAMAGE THAT MAY HAVE OCCURRED IS REPAIRED.
13. SEVEN (7) DAYS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER INTENT TO BEGIN CONSTRUCTION AND MAY BE REQUESTED TO ATTEND AN ON-SITE MEETING PRIOR TO CONSTRUCTION BEGINNING.
14. RECORD DRAWINGS SHOULD BE KEPT ON THE PROJECT FOR ANY CHANGES OR FINAL CONDITIONS OF THE DESIGN ON THE PROJECT. RECORD DRAWINGS SHALL INCLUDE MAJOR VARIATIONS IN GRADING PLAN.
15. UNLESS DIRECTLY NOTIFIED ON THE DEMOLITION PLAN, ALL EXISTING UTILITIES ON-SITE SHOULD BE PROTECTED AND PREVENTED FROM DAMAGE OR OUTAGES.
16. IF STONE, BONE, OR OTHER ARTIFACTS ARE UNCOVERED, WORK SHALL CEASE IMMEDIATELY AND A QUALIFIED ARCHAEOLOGIST SHALL BE CONSULTED TO DEVELOP ANY REQUIRED MITIGATION MEASURES TO REDUCE ARCHAEOLOGICAL IMPACTS BEFORE WORK RESUMES ON-SITE.
17. NO WORK SHALL BE COMPLETED IN THE CITY RIGHT OF WAY UNTIL APPROVAL TO PROCEED HAS BEEN GRANTED BY THE CITY OR LOCAL JURISDICTION.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF TEMPORARY SIGNS, BRIDGES, BARRICADES, FLAGGING PERSONNEL, AND OTHER FACILITIES TO ADEQUATELY SAFEGUARD THE GENERAL PUBLIC AND WORK, AND TO PROVIDE FOR PROPER ROUTING OF VEHICULAR AND PEDESTRIAN TRAFFIC AS NECESSARY.
19. WORK SHALL BE COORDINATED WITH OWNER'S REPRESENTATIVE AND ALL IDENTIFIED PROJECT REPRESENTATIVES.
20. VERIFY WITH LOCAL JURISDICTION FOR REGULAR WORK HOURS AND REQUIREMENTS FOR NOISE AND OTHER IMPACTS DURING CONSTRUCTION.
21. WETLAND OR WATERBODY IMPACTS WILL BE CONDUCTED IN COMPLIANCE WITH PERMIT ISSUED BY WDNR.

STATEMENT OF ESTIMATED QUANTITIES

NO.	MATERIAL	UNIT	QTY
1	SILT FENCE (SEDIMENT BARRIER)	LIN. FT.	375
2	REMOVE TREES	AC.	0.08
3	RELOCATE GAS VENT	EACH	1
4	EROSION CONTROL BLANKET - NETLESS	SQ. FT.	14675
6	ROCK ENTRANCE (TRACKING PAD)	EACH	3
7	SLOPE BREAKERS	LIN. FT.	95
8	SEEDING	AC.	0.34
9	SEED MIX - WETLAND 60	LBS.	6.5
9	SEED MIX - UPLAND 70A	LBS.	8.4
10	GEOTEXTILE FABRIC TYPE SAS	SQ. FT.	3200
11	EMBANKMENT (CV)	CU. YD.	550
12	HEAVY RIPRAP	CU. YD.	145
13	GRANULAR BEDDING/BACKFILL TYPE 2	CU. YD.	110

SEED MIX RATE: 65 LBS. PER ACRE FOR WETLAND

SEED MIX RATE: 35 LBS. PER ACRE UPLAND

DATE OF PLOT: 08/29/2025

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My license renewal date is 07/31/2026 License No: 49607

NORTHERN NATURAL GAS

TOMAH BL MISSISSIPPI RIVER PIPELINE

LA CROSSE COUNTY, WISCONSIN

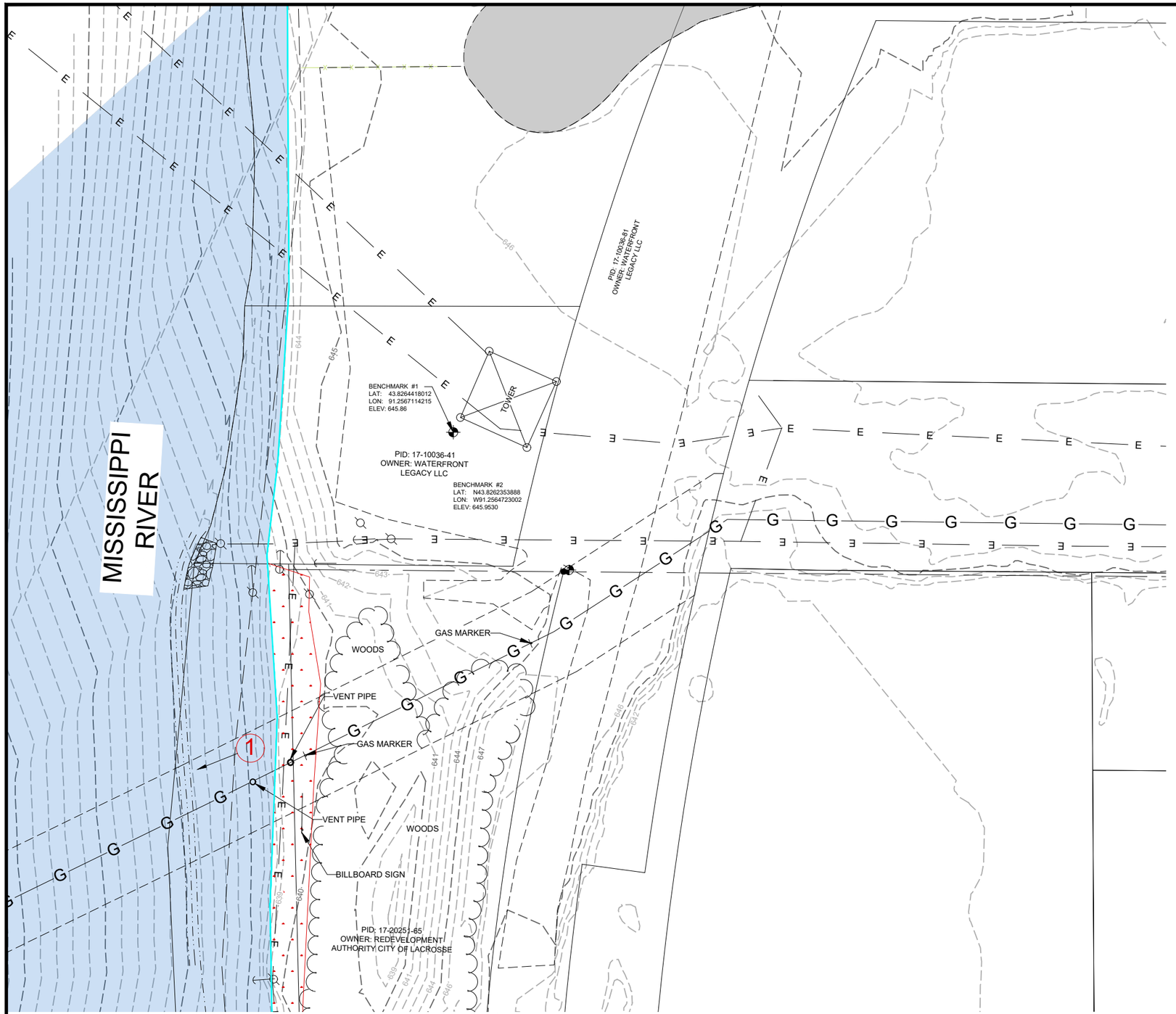
GENERAL NOTES

C901

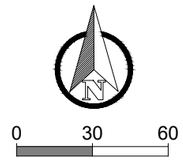
SHEET 2 OF 12

PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 Inches)

Z:\Clients\M_P\Northern_Natural_Gas\Tomah_BL_Mississippi_River_Revetment_Mattress\Engineering\AutoCAD\Plan Sheets\2025.0226 - NNG_Tomah - General Notes.dwg



SEE SHEET 4



LEGEND

- EXISTING TREELINE
- EXISTING PIPELINE
- DELINEATED ORDINARY HIGH WATER MARK
- EXISTING ELECTRIC LINE
- EXISTING AGGREGATE
- EXISTING BITUMINOUS SURFACE
- DELINEATED WATERWAY
- DELINEATED WETLAND

EXISTING SURVEY NOTES:

1. EXISTING SURVEY COMPLETED BY OTHERS. VERIFY ALL FIELD CONDITIONS PRIOR TO CONSTRUCTION. MERJENT AND THE ENGINEER CAN NOT AND DOES NOT ASSUME RESPONSIBILITY OF THE EXISTENCES OR LOCATION OF ANY STRUCTURE SUCH AS, BUT NOT LIMITED TO, UTILITIES, PIPELINES, SEWERS, AND/OR OTHER ITEMS FOUND ON-SITE.
2. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL AGENCIES AND/OR OWNERS TO VERIFY SURVEY INFORMATION PRIOR TO AND DURING CONSTRUCTION OF SITE PLAN. CONTACT THE ENGINEER IN THE EVENT OF ANY DISCREPANCY.
3. SEE SITE PLAN FOR PROJECT WORKSPACES AND STAGING AREAS.

1 IMAGE OF EXISTING CONDITION OVER PIPE

DATE OF PLOT: 08/29/2025

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NORTHERN NATURAL GAS

TOMAH BL MISSISSIPPI RIVER PIPELINE

LA CROSSE COUNTY, WISCONSIN

EXISTING CONDITIONS

C902

SHEET 3 OF 12

PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 Inches)

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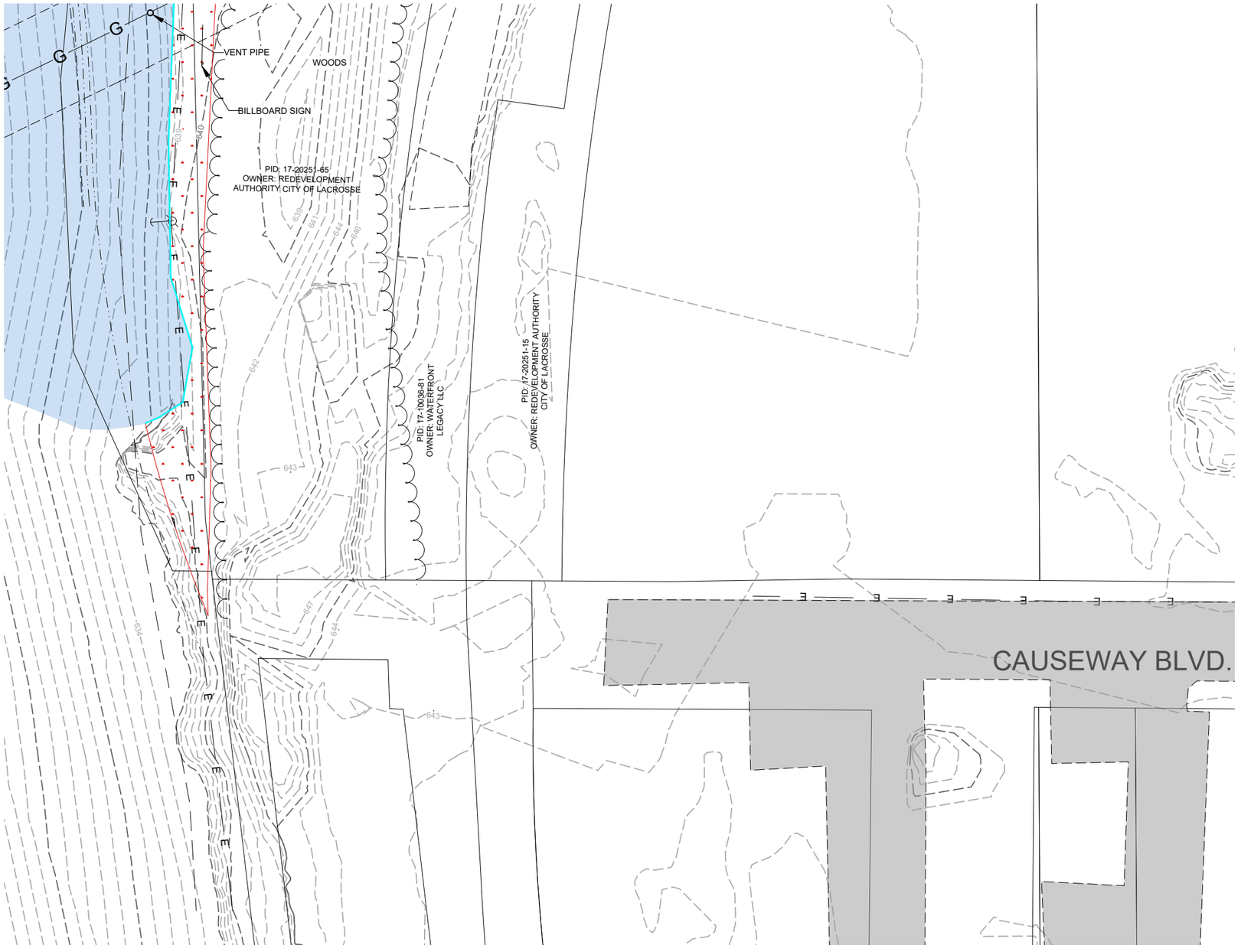
SEE SHEET 3



LEGEND

- EXISTING TREELINE
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- DELINEATED ORDINARY HIGH WATER MARK
- EXISTING ELECTRIC LINE
- EXISTING AGGREGATE
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- DELINEATED WATERWAY
- DELINEATED WETLAND

N

0 30 60

EXISTING SURVEY NOTES:

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2. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL AGENCIES AND/OR OWNERS TO VERIFY SURVEY INFORMATION PRIOR TO AND DURING CONSTRUCTION OF SITE PLAN. CONTACT THE ENGINEER IN THE EVENT OF ANY DISCREPANCY.
3. SEE SITE PLAN FOR PROJECT WORKSPACES AND STAGING AREAS.

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TOMAH BL MISSISSIPPI RIVER PIPELINE

LA CROSSE COUNTY, WISCONSIN

EXISTING CONDITIONS

C903

SHEET 4 OF 12

PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 Inches)

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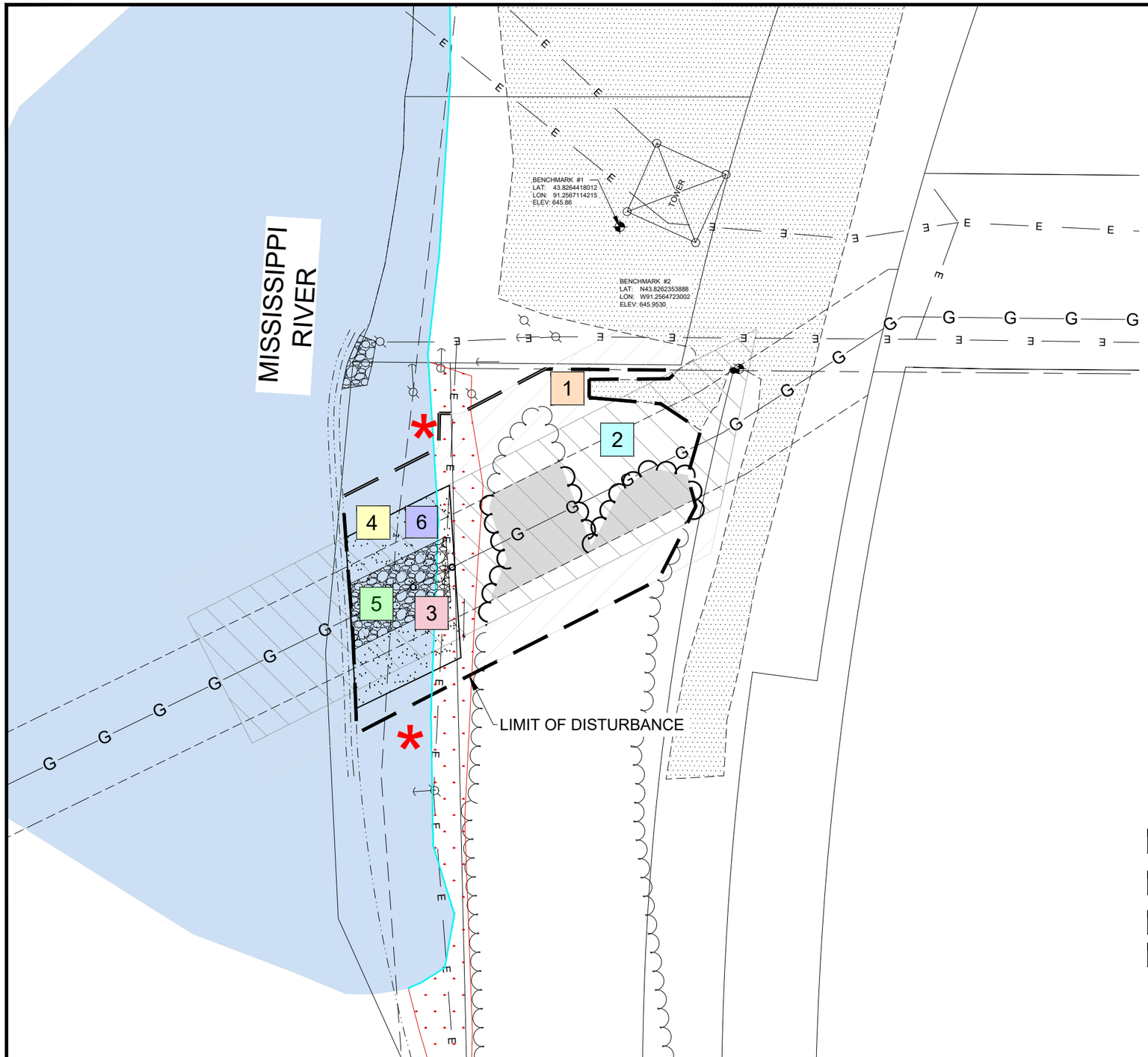

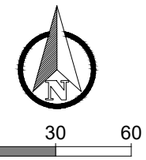

LEGEND

- EXISTING TREELINE
- EXISTING PIPELINE
- DELINEATED ORDINARY HIGH WATER MARK
- EXISTING AGGREGATE
- DELINEATED WATERWAY
- DELINEATED WETLAND
- TEMPORARY WORKSPACE
- ADDITIONAL TEMPORARY WORKSPACE
- PROPOSED GRANULAR BEDDING GRADE 2

GRADING/SEQUENCING NOTES:

1. ESTABLISH VEHICLE TRACKING CONTROL (E.G. ROCK CONSTRUCTION ENTRANCES) AND INSTALL PERIMETER CONTROLS (E.G. SILT FENCE) AT DOWNGRADIENT PERIMETERS OF SITE.
2. SALVAGE AND SEGREGATE TOPSOIL AND ANY EXISTING COVER MATERIAL IN THE REVETMENT AREA. CREATE STABILIZED STAGING AREAS, REMOVE TREES, AND PRESERVE VEGETATIVE BUFFER AT SITE PERIMETER.
3. CONTRACTOR TO COORDINATE RELOCATION OF VENT PIPE APPROX. 25' N.E. SEE SITE PLAN FOR NEW LOCATION
4. PLACE 6" OF GRANULAR BEDDING GRADE 2 OVER PIPE AND TO THE LIMITS SHOWN ON THIS PAGE. DESIRED COVER FOLLOWING REVETMENT PLACEMENT IS 24"
5. PLACE GEOTEXTILE FABRIC OVER GRANULAR BACKFILL AS SHOWN ON THE GRADING PLAN. THE FABRIC SHOULD BE WRAPPED UNDER THE EXISTING GRADE AS SHOWN ON THE GRADING PLAN. THE GEOTEXTILE FABRIC SHALL BE WRAPPED ABOVE THE WATER LEVEL AND PROVIDE SUPPORT FOR HEAVY RIPRAP.
6. PLACE HEAVY RIPRAP AS SHOWN ON SITE PLAN AND TO THE DEPTH NOTED ON THE GRADING PLAN.
7. PLACE SALVAGED TOPSOIIL OVER HEAVY RIPRAP TO THE LIMIT OF DISTURBANCE.
8. PERFORM FINAL STABILIZATION OF ALL DISTURBED SOILS. USE EROSION CONTROL BLANKETS ON SLOPES.
9. REMOVE ALL TEMPORARY SEDIMENT CONTROL BMPS ONCE THE SITE HAS ACHIEVED FINAL STABILIZATION. (SILT FENCE, BIO-ROLLS, ETC.)
10. DO NOT DISTURB UPON COMPLETION OF SITE STABILIZATION.

* CAUTION - OVERHEAD POWER LINE

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NORTHERN NATURAL GAS

TOMAH BL MISSISSIPPI RIVER PIPELINE

LA CROSSE, WISCONSIN

SEQUENCING PLAN

C904

SHEET 5 OF 12

PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 Inches)

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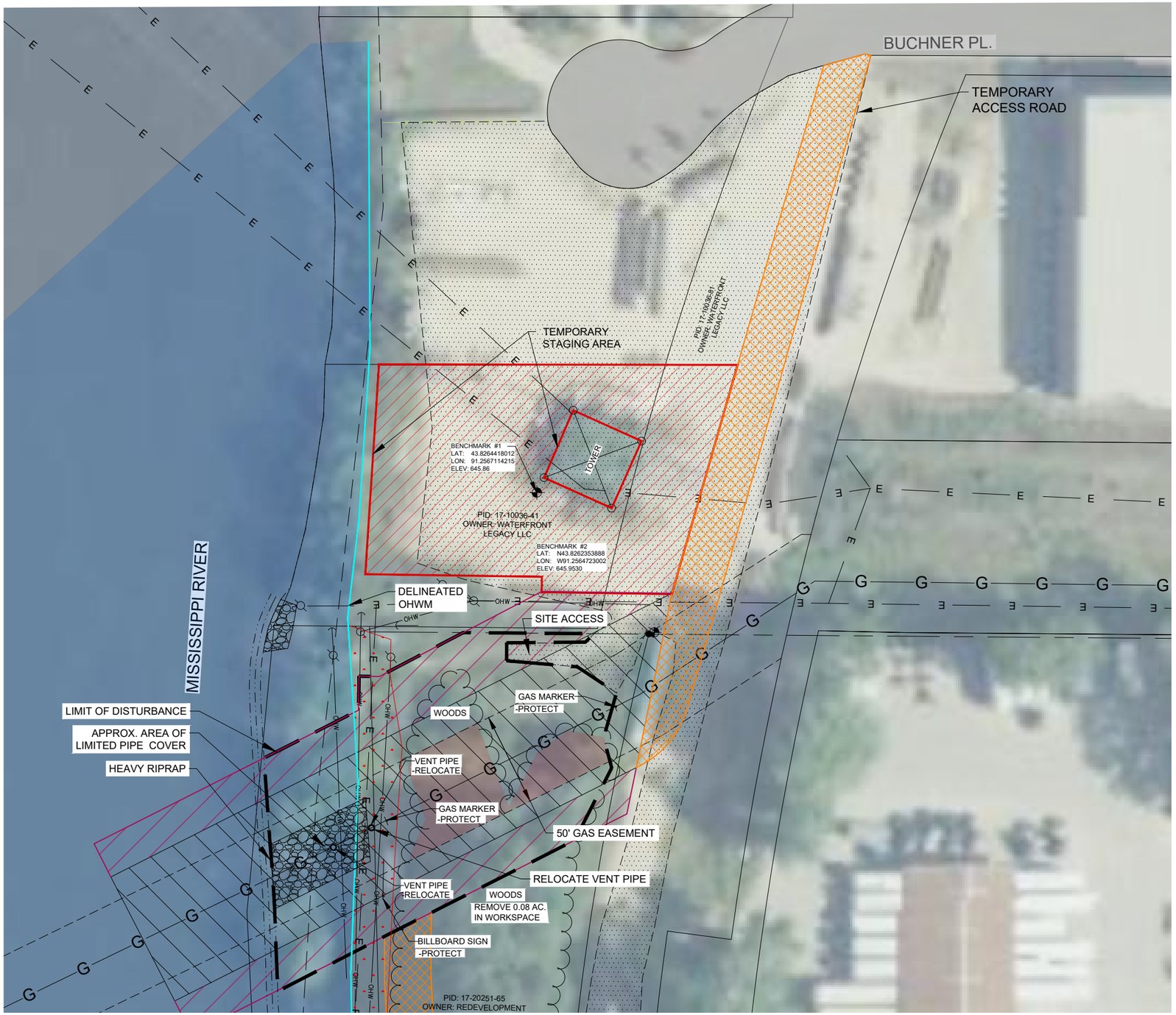

SEE SHEET 6

LEGEND

- EXISTING TREELINE
- EXISTING ELECTRIC LINE
- EXISTING PIPELINE
- DELINEATED ORDINARY HIGH WATER MARK
- EXISTING AGGREGATE
- DELINEATED WATERWAY
- TEMPORARY STAGING AREA
- TEMPORARY ACCESS ROADS
- DELINEATED WETLAND
- REMOVE WOODS
- TEMPORARY WORKSPACE
- ADDITIONAL TEMPORARY WORKSPACE
- PROPOSED GRANULAR BACKFILL GRADE 2
- LIMIT OF DISTURBANCE

N

0 30 60

CONTROL POINT LOCATIONS (INSTALLED BY EFN SURVEY)	
CONTROL POINT NUMBER	LAT. / LONG/ ELEV.
BENCHMARK #1	LAT: 43.8264418012 LON: 91.2567114215 ELEV: 645.86
BENCHMARK #2	LAT: N43.8262353888 LON: W91.2564723002 ELEV: 645.9530

LEGEND

- BENCHMARK

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NORTHERN NATURAL GAS

TOMAH BL MISSISSIPPI RIVER PIPELINE

LA CROSSE COUNTY, WISCONSIN

SITE PLAN

C905

SHEET 6 OF 12

PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 Inches)

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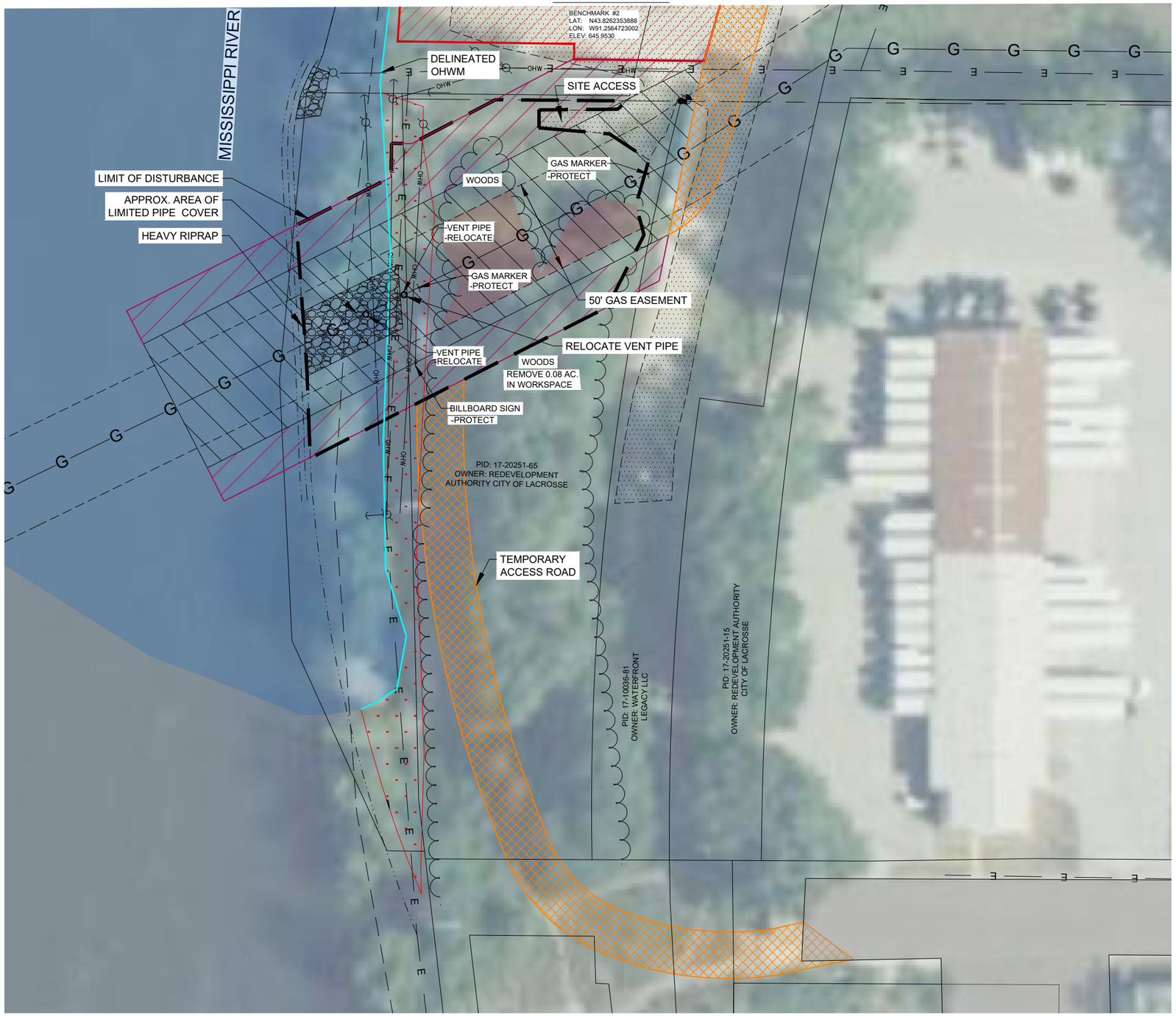
SEE SHEET 5



LEGEND

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LA CROSSE COUNTY, WISCONSIN

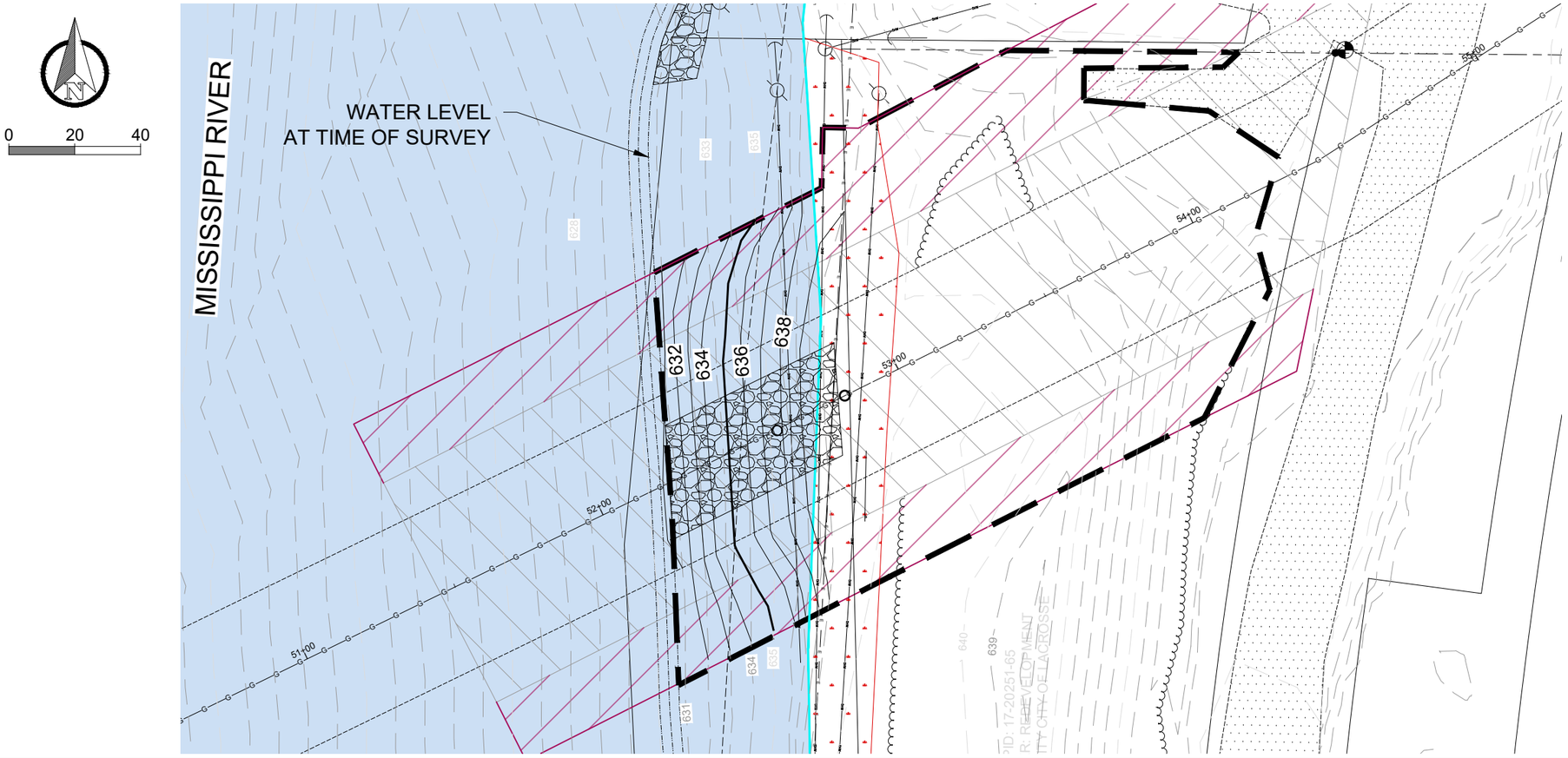
SITE PLAN

C906

SHEET 7 OF 12

PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 Inches)

Z:\Clients\M_P\Northern_Natural_Gas\Tomah_BL_Mississippi_River_Revetment_Mattress\Engineering\AutoCAD\Plan Sheets\2025.0226 - NNG_Tomah - Site Plan.dwg

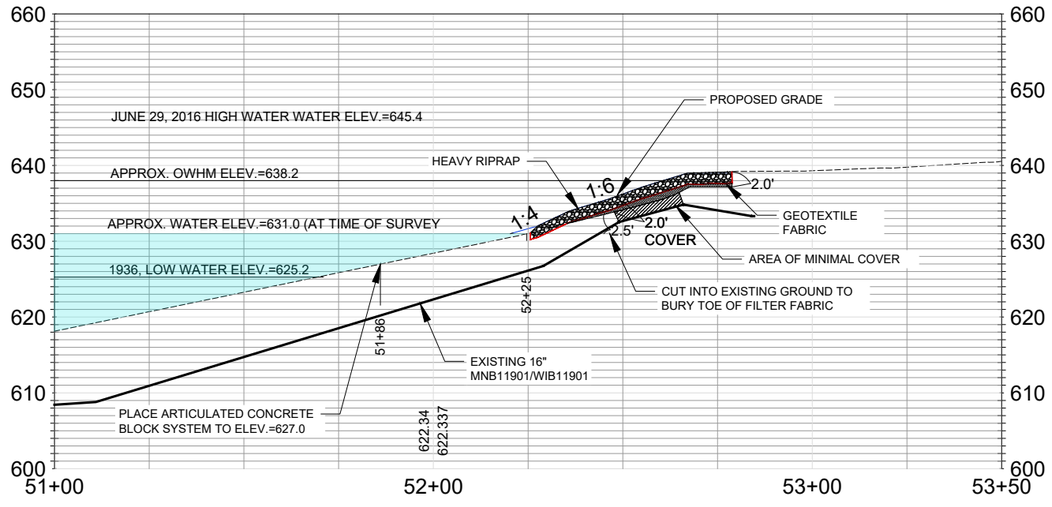


GRADING PLAN & PROFILE NOTES:

1. CONTRACTOR SHALL VERIFY FINAL SLOPE ELEVATIONS ARE WITHIN 0.2 FEET OF DESIGN ELEVATIONS AFTER FINAL COMPACTION AND SETTLEMENT HAVE TAKEN PLACE.
2. GENERAL SITE FILLS AND BACKFILLS SHALL BE COMPACTED TO 90%. DENSITY AS PER AASHTO TEST T-99 LATEST REVISION.

   COMPACT EMBANKMENTS TO OWNER SPECIFICATIONS AND THE DEGREE CONTEMPLATED FOR STANDARD COMPACTION. (207.3.6.2 STANDARD COMPACTION)

   PLACE THE EMBANKMENT MATERIAL IN LAYERS GENERALLY NO THICKER THAN 8 INCHES BEFORE COMPACTION. COMPACT EACH LAYER OF THE EMBANKMENT UNTIL THE COMPACTION EQUIPMENT ACHIEVES NO FURTHER SIGNIFICANT CONSOLIDATION. PROVIDE THE REQUIRED COMPACTION FOR EACH LAYER BEFORE PLACING ANY MATERIAL FOR A SUCCEEDING LAYER.



DATE OF PLOT: 08/29/2025

90% DESIGN

merjent

Corporate Office:
1 Main Street SE, Suite 300
Minneapolis, Minnesota 55414
(612) 746-3660

Wisconsin Office:
N3764 Uni Drive
Freedom, WI 54130
(920) 393-9198

REVISION RECORD

NO.	DATE	DESCRIPTION	BY	CHK'D	APP'D

PROFESSIONAL ENGINEER'S CERTIFICATION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly licensed professional engineer under the laws of the State of Wisconsin

(Signature) (Date)

Printed Name: Josh Petersen, P.E.
My license renewal date is 07/31/2026 License No: 49607

NORTHERN NATURAL GAS

TOMAH BL MISSISSIPPI RIVER PIPELINE

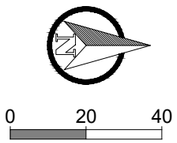
LA CROSSE COUNTY, WISCONSIN

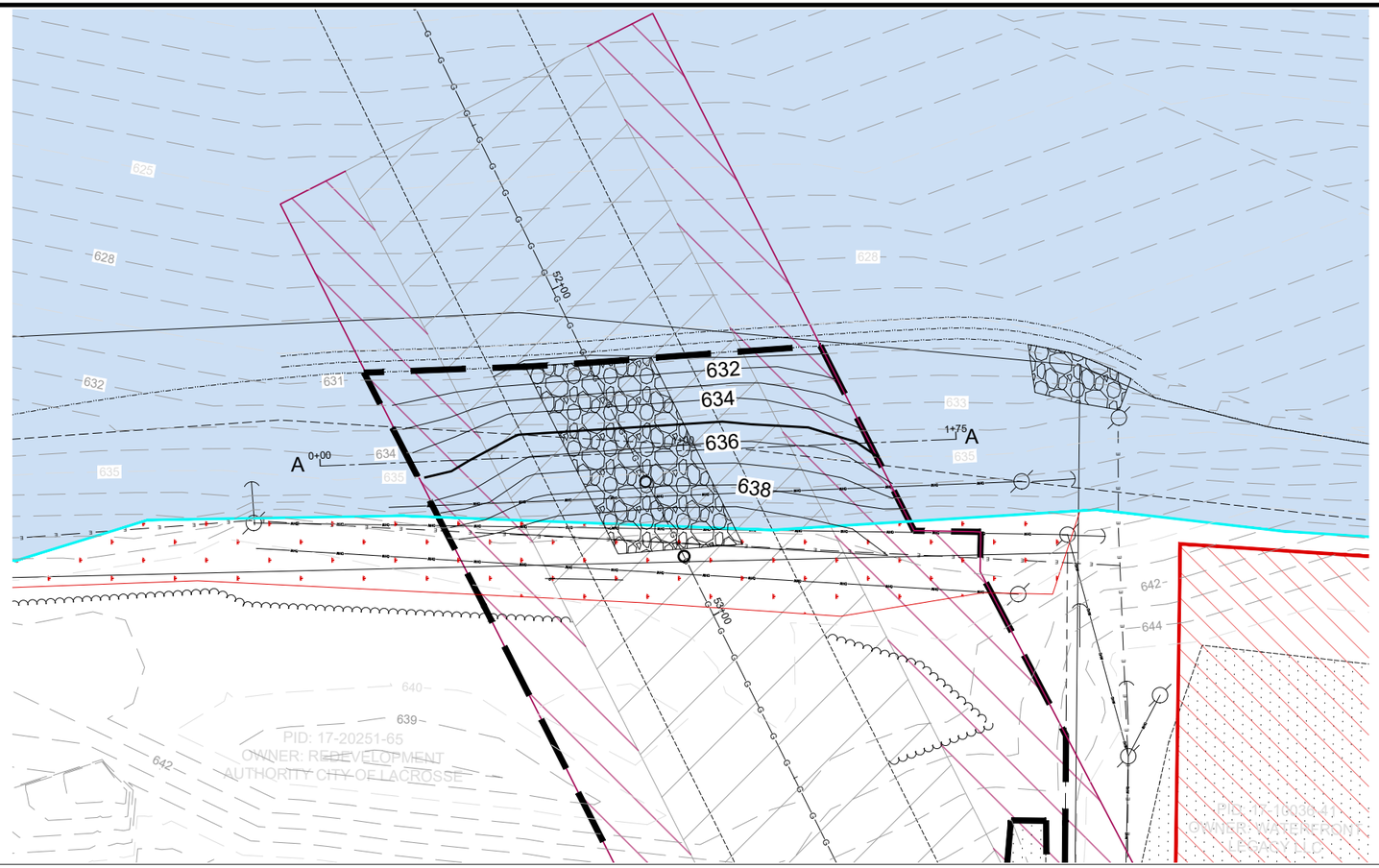
C907

GRADING PLAN & PIPE PROFILE

SHEET 8 OF 12

PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 inches)





LEGEND

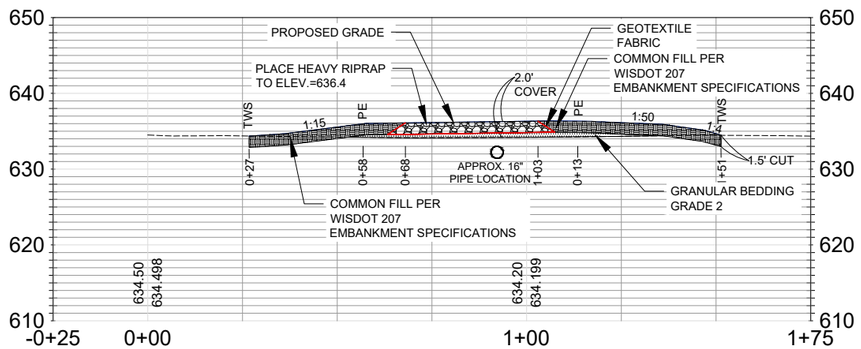
- EXISTING CONTOUR
- EXISTING TREELINE
- EXISTING PIPELINE
- DELINEATED ORDINARY HIGH WATER MARK
- EXISTING AGGREGATE
- DELINEATED WATERWAY
- DELINEATED WETLAND
- TEMPORARY WORKSPACE
- ADDITIONAL TEMPORARY WORKSPACE
- GRANULAR BEDDING
- COMMON FILL - EMBANKMENT
- HEAVY RIPRAP

GRADING PLAN & PROFILE NOTES:

1. CONTRACTOR SHALL VERIFY FINAL SLOPE ELEVATIONS ARE WITHIN 0.2 FEET OF DESIGN ELEVATIONS AFTER FINAL COMPACTION AND SETTLEMENT HAVE TAKEN PLACE.
2. GENERAL SITE FILLS AND BACKFILLS SHALL BE COMPACTED TO 90%. DENSITY AS PER AASHTO TEST T-99 LATEST REVISION.

   COMPACT EMBANKMENTS TO OWNER SPECIFICATIONS AND THE DEGREE CONTEMPLATED FOR STANDARD COMPACTION. (207.3.6.2 STANDARD COMPACTION)

   PLACE THE EMBANKMENT MATERIAL IN LAYERS GENERALLY NO THICKER THAN 8 INCHES BEFORE COMPACTION. COMPACT EACH LAYER OF THE EMBANKMENT UNTIL THE COMPACTION EQUIPMENT ACHIEVES NO FURTHER SIGNIFICANT CONSOLIDATION. PROVIDE THE REQUIRED COMPACTION FOR EACH LAYER BEFORE PLACING ANY MATERIAL FOR A SUCCEEDING LAYER.



SECTION A-A

DATE OF PLOT: 08/29/2025

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NORTHERN NATURAL GAS

TOMAH BL MISSISSIPPI RIVER PIPELINE

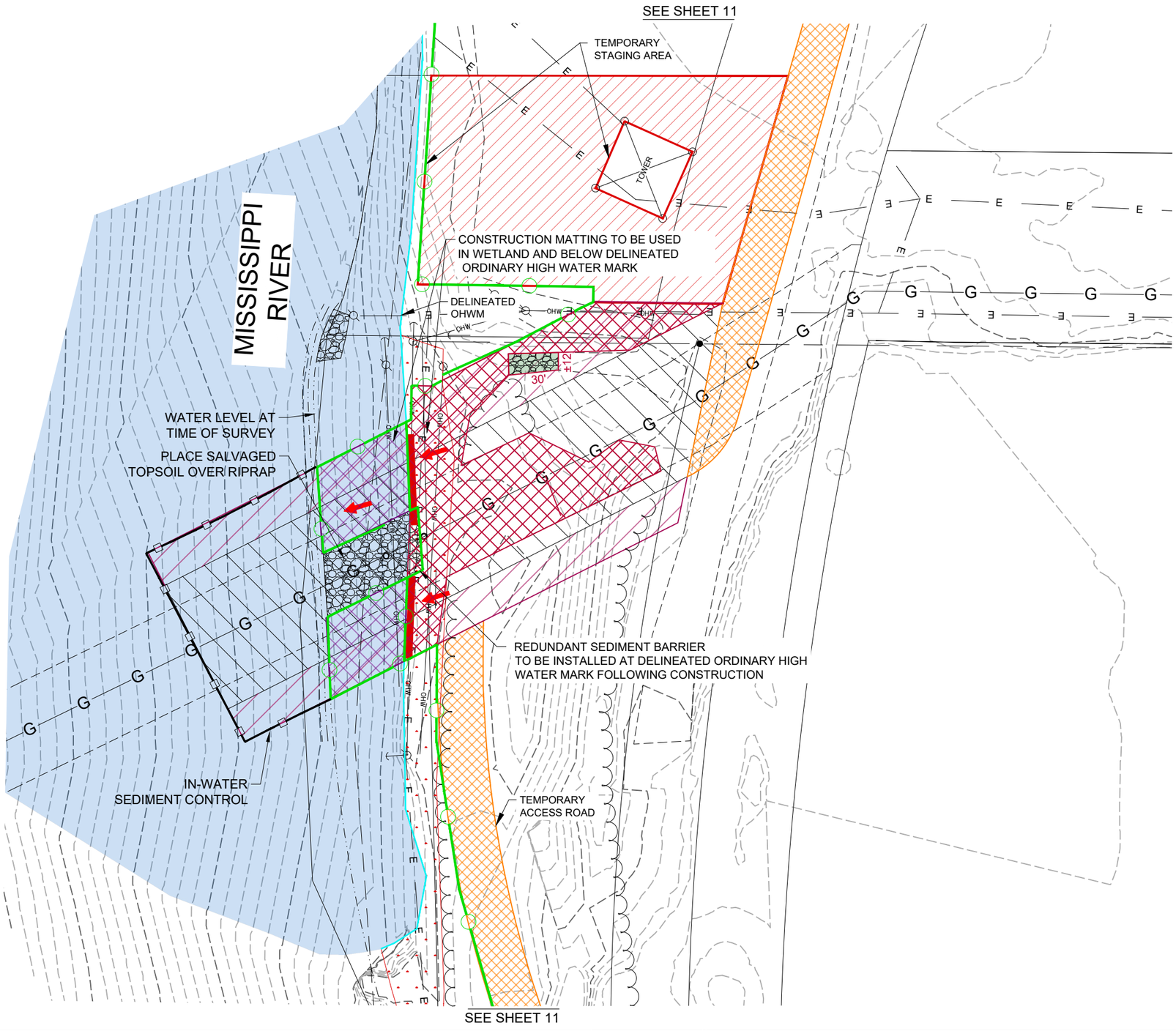
LA CROSSE COUNTY, WISCONSIN

C908

GRADING PLAN & PIPE PROFILE

SHEET 9 OF 12

PLOTTED SIZE: ANSI full bleed D (11.00 x 17.00 inches)



LEGEND

- EXISTING FENCE
- EXISTING PIPELINE
- DELINEATED ORDINARY HIGH WATER MARK
- EXISTING AGGREGATE
- DELINEATED WATERWAY
- DELINEATED WETLAND
- EXISTING BITUMINOUS
- TEMPORARY ACCESS ROADS
- TEMPORARY STAGING AREA
- PROPOSED ROCK ENTRANCE
- FLOW DIRECTION
- PROPOSED SLOPE BREAKER
- PROPOSED SEDIMENT BARRIER
- IN-WATER SEDIMENT CONTROL
- TOPSOIL, SEED, FERTILIZER & NETLESS EROSION CONTROL BLANKET
- SALVAGED TOPSOIL, SEED, AND NETLESS EROSION CONTROL BLANKET (SEE NOTES 9 & 10)

N

0 30 60

EROSION CONTROL NOTES:

1. SEE SEQUENCING PLAN FOR ADDITIONAL NOTES.
2. A PLANTING PLAN WILL BE DEVELOPED IN COORDINATION WITH THE USACE AND WDNR.
3. CONSTRUCTION AND RESTORATION WILL BE COMPLETED IN ACCORDANCE WITH THE REDERAL ENRGY REGULATORY COMMISSION'S UPLAND EROSION CONTROL, REEGATION, AND MAINTENANCE (FERC PLAN), FERC'S WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES AND NORTHERN'S EROSION AND SEDIMENT CONTROL TECHNICAL STANDARDS.
4. ALL EROSION CONTROL AND THE SITE PLAN SHALL COMPLY WITH THE PROJECT STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
5. EROSION CONTROLS ARE TO BE MAINTAINED DURING THE DURATION OF CONSTRUCTION ON THE PROJECT.
6. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AND CLEANED OR OTHERWISE MAINTAINED ON A WEEKLY BASIS, AND WITHIN 24 HOURS AFTER ANY SIGNIFICANT RAINFALL (0.5 INCHES OR GREATER) TO INSURE THAT ANY DAMAGE THAT MAY HAVE OCCURRED IS REPAIRED.
7. PROJECT SITE SHALL BE ROUTINELY INSPECTED AS PER SWPPP REQUIREMENTS.
8. CONTRACTOR IS RESPONSIBLE FOR ANY SPILL OR RELEASE, AND SHALL COMPLY WITH THE WISCONSIN DNR STATE REQUIREMENTS.
9. WETLANDS TO BE SEEDED WITH ANNUAL RYEGRASS AT A RATE OF 40 LBS/ACRE IN THE ABSENCE OF A SPECIFIC SEED MIX. SEED MIXES SHALL COMPLY WITH STATE OF WISCONSIN REQUIREMENTS FOR PERMANENT SEEDING.
10. NO FERTILIZER, LIME, OR MULCH TO BE PLACED BELOW WETLAND OR ORDINARY HIGH WATER MARK. CONTRACTOR TO USE NETLESS EROSION CONTROL BLANKET BELOW WETLAND OR ORDINARY HIGH WATER MARK.

DATE OF PLOT: 08/29/2025

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NORTHERN NATURAL GAS

TOMAH BL MISSISSIPPI RIVER PIPELINE

LA CROSSE COUNTY, WISCONSIN

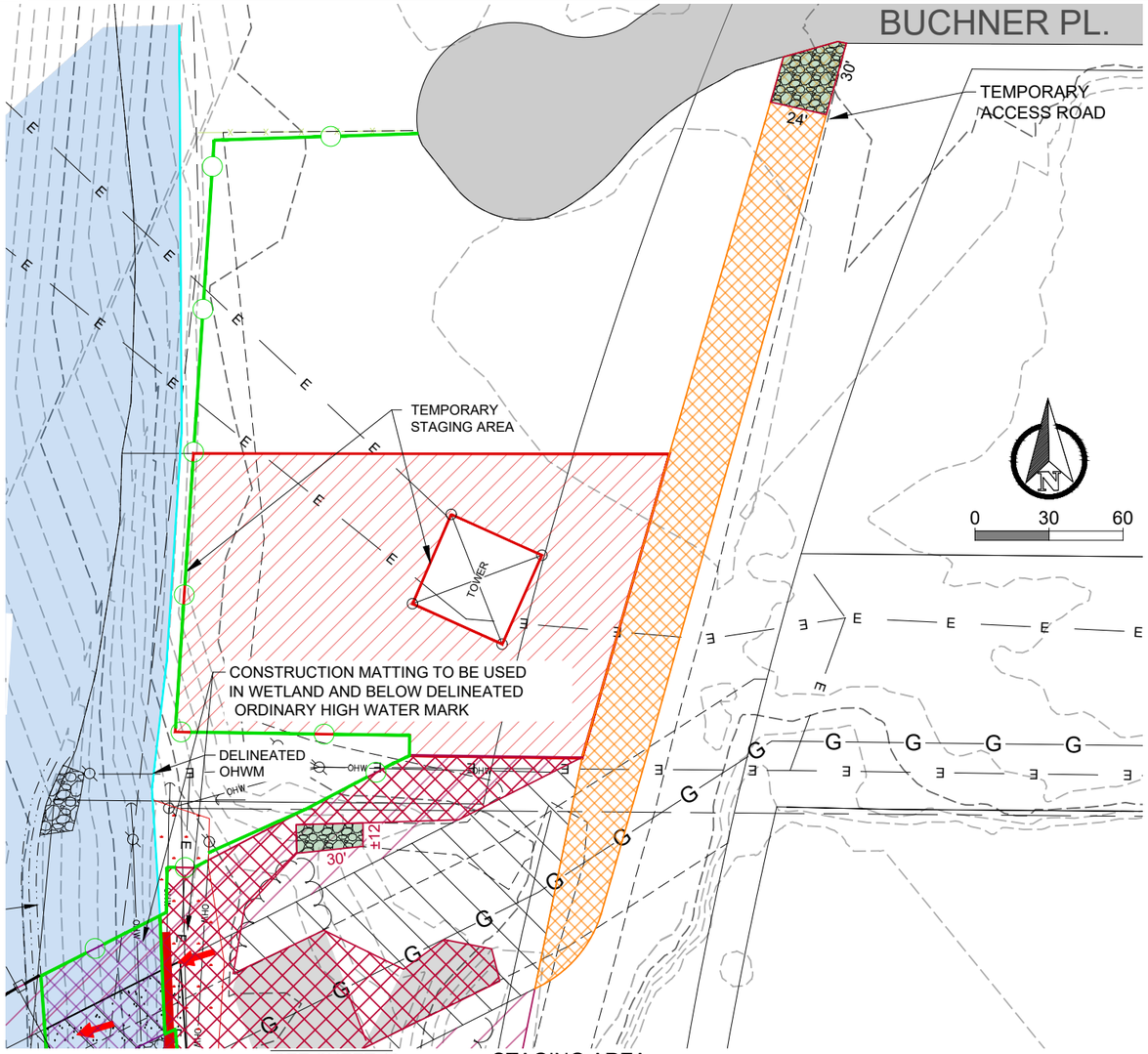
EROSION & SEDIMENT CONTROL PLAN

C908

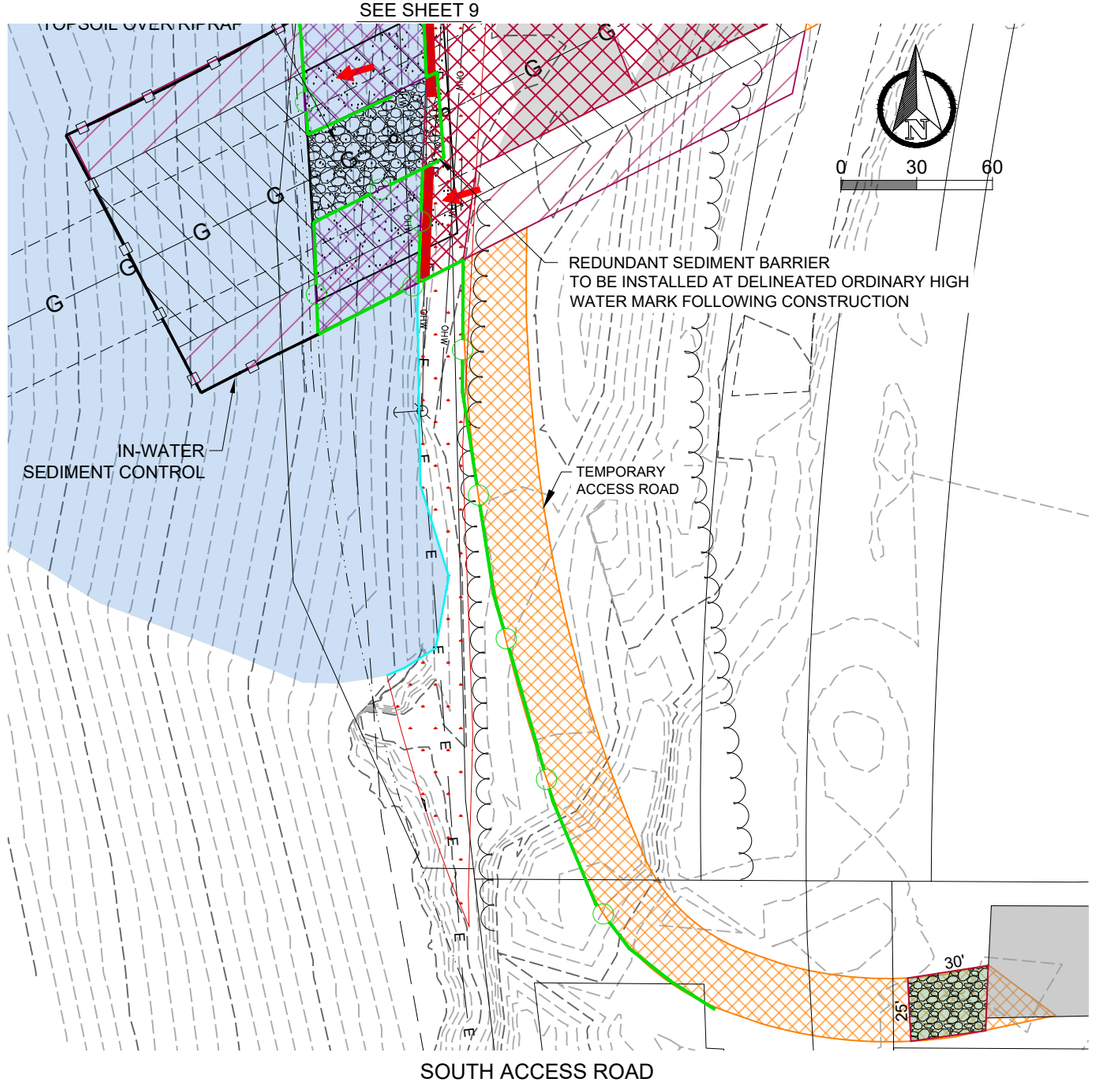
SHEET 10 OF 12

PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 Inches)

Z:\Clients\M_P\Northern_Natural_Gas\Tomah_BL_Mississippi_River_Revetment_Mattress\Engineering\AutoCAD\Plan Sheets\2025.0226 - NNG_Tomah - ESC.dwg



STAGING AREA
EROSION AND SEDIMENT CONTROL PLAN



SOUTH ACCESS ROAD
EROSION AND SEDIMENT CONTROL PLAN

LEGEND

- EXISTING FENCE
- EXISTING PIPELINE
- DELINEATED ORDINARY HIGH WATER MARK
- EXISTING AGGREGATE
- DELINEATED WATERWAY
- DELINEATED WETLAND
- EXISTING BITUMINOUS
- TEMPORARY ACCESS ROADS
- TEMPORARY STAGING AREA
- PROPOSED ROCK ENTRANCE
- FLOW DIRECTION
- PROPOSED SLOPE BREAKER
- PROPOSED SEDIMENT BARRIER
- IN-WATER SEDIMENT CONTROL
- TOPSOIL, SEED, FERTILIZER & EROSION CONTROL BLANKET
- SALVAGED TOPSOIL, SEED, AND EROSION CONTROL BLANKET (SEE NOTES 9 & 10)

DATE OF PLOT: 08/29/2025

90% DESIGN

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NORTHERN NATURAL GAS

TOMAH BL MISSISSIPPI RIVER PIPELINE

LA CROSSE COUNTY, WISCONSIN

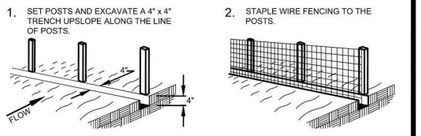
EROSION & SEDIMENT CONTROL PLAN

C909

SHEET 11 OF 12

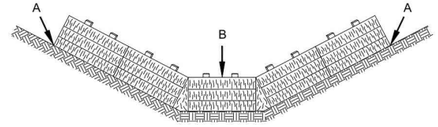
PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 Inches)

Z:\Clients\M_P\Northern_Natural_Gas\Tomah_BL_Mississippi_River_Revetment_Mattress\Engineering\AutoCAD\Plan Sheets\2025.0226 - NNG_Tomah - ESC.dwg

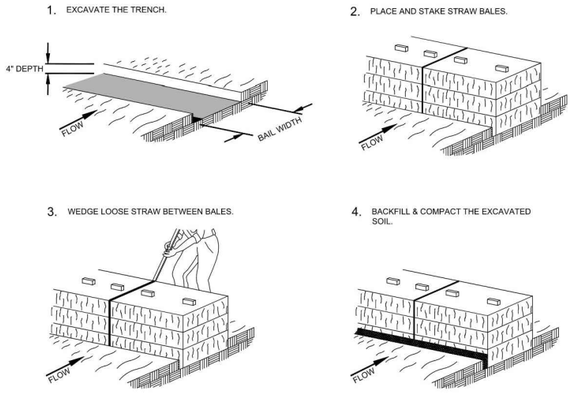


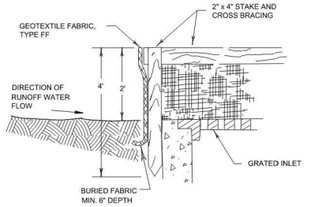
CONSTRUCTION OF A SILT FENCE
CHANNELIZED FLOW

PROPER PLACEMENT OF STRAW BALE BARRIER IN DRAINAGE WAY

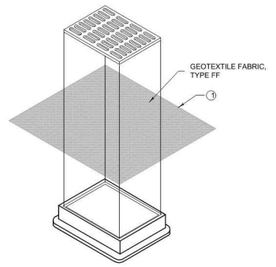


POINTS "A" SHOULD BE HIGHER THAN POINT "B"

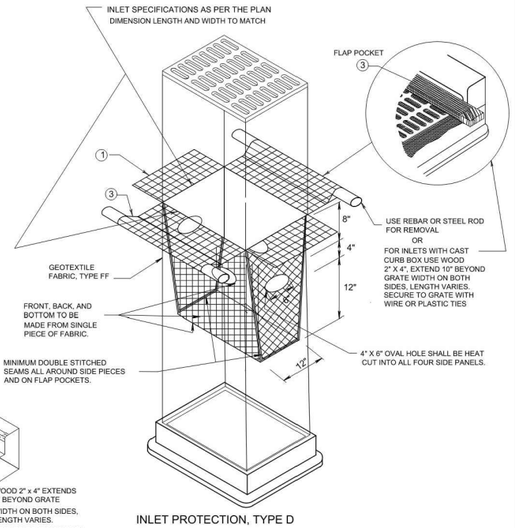




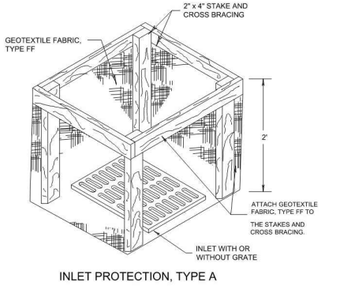
INLET PROTECTION, TYPE A



INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)
(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE D
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE) ②



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

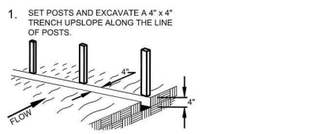
DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

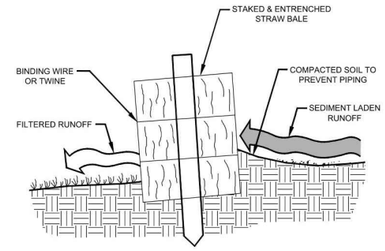
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

This drawing based on Wisconsin Department of Transportation Standard Detail Drawing 8 E 10-2.

INLET PROTECTION
TYPE A, B, C, AND D



CONSTRUCTION OF A FILTER BARRIER



CROSS-SECTION OF A PROPERLY INSTALLED STRAW BALE

EDF #
DWG NAME: EROSION-CONTROL.DWG

PROJECT No.

EROSION CONTROL DETAILS
D-1-2

LOCATION

RESOLUTION
DATE

ENGINEERING DEPT.
City of La Crosse, Wis.

			BY	DATE
FIELD BOOK	SURVEYED			
	DRAWN	PRELIMINARY		
NUMBER		FINAL	JMC	2/2009
	CHECKED			
	APPROVED			
PAGE	REVISIONS			

SHEET NO.
TOTAL SHEETS

DATE OF PLOT: 08/29/2025

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NORTHERN NATURAL GAS

TOMAH BL MISSISSIPPI RIVER PIPELINE

LA CROSSE COUNTY, WISCONSIN

DETAIL - ESC

C911

SHEET 12 OF 12

PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 Inches)

Z:\Clients\M_P\Northern_Natural_Gas\Tomah_BL_Mississippi_River_Revetment_Mattress\Engineering\AutoCAD\Plan Sheets\2025.0226 - NNG_Tomah - Details.dwg

Northern Natural Gas

Project Mapping Cover Sheet

1111 S. 103rd St. Omaha, NE 68124

Project: WIB11901 MP0.91 Tomah BL

Project #: 01133417

Date: 5/13/25

Team: Platteville

Region: Central Region

State: Wisconsin

County: La Crosse

Map Status: Original Issue

Map Revision #: 1

Project Director: Chris Ahrenholtz – P/L Integrity & Risk

Project Manager: Matthew Marlow

Construction Coordinator: Anthony Overton

Project Engineer: Zack Kruse

Lead Designer: P/L Integrity & Risk - Louis Floersch

Mechanical Designer: Louis Floersch

Checked By:

Stakeholders Asite Roles Verified by Project Manager: ☑

Map Checklist Complete: ☑

Special Comments:

Revision: reduced staging area per landowner request

Maps Approved By:

Matthew E. Marlow

Disclaimer: See Asite for complete stakeholder list.

PARCEL ID: 17-10036-082

PARCEL ID: 17-10036-043

PARCEL ID: 17-10036-042

CW: 193'x128'x70'x8'x95'x113' STAGING AREA (0.44 ACRES)

1

STAGING EXCLUDED FROM POWER LINE TOWER

PARCEL ID: 17-10036-041

CW: 11'x99'x70'x338'x20'x159'x18' EXTRA TEMP. WORKSPACE (0.18 ACRES)

MILE POST 0.91

CW: 75'x338'x96'x279' TEMP. WORKSPACE (0.53 ACRES)

ACCESS TEMP. WORKSPACE FROM EXISTING ROAD LATITUDE : 43.827090, LONGITUDE : -91.256107

BUCHNER PI

PARCEL ID: 17-10036-700

25' WIDE TEMP. ACCESS ROAD APPROX. 370' LONG (0.21 ACRES)

LA CROSSE WI #1
FACILITY CODE: 761061

TOMAH BL 16"x20" RECEIVER
FACILITY CODE: WIP-0007

TOMAH BL 10"x14" LAUNCHER
FACILITY CODE: WIP-0008

PARCEL ID: 17-10035-010

16" WIB11901

10" WIB11901

SECTION 30

SECTION 31

CW: 263'x20'x279'x26' EXTRA TEMP. WORKSPACE (0.12 ACRES)

PARCEL ID: 17-20248-010

KRAFT ST

PARCEL ID: 17-20248-020

PARCEL ID: 17-20251-063

PARCEL ID: 17-10036-081

PARCEL ID: 17-20251-110

PARCEL ID: 17-20251-015

PARCEL ID: 17-20251-016

25' WIDE TEMP. ACCESS ROAD APPROX. 520' LONG (0.30 ACRES)

CAUSEWAY BLVD

ACCESS TEMP. WORKSPACE FROM EXISTING ROAD LATITUDE : 43.825046, LONGITUDE : -91.255152

PARCEL ID: 17-20251-065

PARCEL ID: 17-20251-060

PARCEL ID: 17-20250-030

PARCEL ID: 17-20249-140

PARCEL ID: 17-20251-067

PARCEL ID: 17-20251-064

PARCEL ID: 17-20250-020

PARCEL ID: 17-20249-125

LEGEND

- FIRST BUILT HIGH PRESS BL
- EXISTING FACILITY PIPING
- OVERHEAD POWER LINES
- PROPERTY LINE
- SECTION LINE
- WETLAND LOCATION
- TEMP. WORKSPACE
- EXTRA TEMP. WORKSPACE
- STAGING AREA
- TEMP. ACCESS ROAD
- EXISTING NNG FACILITY
- POWER POLE

DISCLAIMER: PARCEL DATA DISPLAYED ON MAP IS UNVERIFIED AND HAS NOT BEEN SURVEYED. FOR REFERENCE ONLY

Original Issue 1
Sheet: AR-01
Date: 5/13/25
Scale: 1:50

16

SCALE DISCLAIMER: NOTED SCALE APPLIES TO 22"x34" PAPER SIZE OR...

WIB11901 MP 0.91 Tomah BL
01133417

Project Location Aerial Overview
Section 30 & 31, T16N, R7W
La Crosse County, Wisconsin

LAND USE TYPE: URBAN

Northern Natural Gas
A Berkshire Hathaway Energy company

INTERNAL INFORMATION
DISTRIBUTION/COPIES
LIMITED TO
PROJECT NEEDS

5/13/2025 1:16 PM J:\PROJECTS\NNG\2025\PIPELINE INTEGRITY & RISK\01133417 WIB11901 MP 0.91 TOMAH BL\4-MAPS\ORIGINAL ISSUE - 1\01133417 MAPS

TEMPORARY STREET PRIVILEGE PERMIT

Engineering Dept. ▪ Phone: (608) 789-7505 ▪ Fax: (608) 789-8184
http://www.cityoflacrosse.org engineering@cityoflacrosse.org

Permit No:	
Date:	

STATUS:	Permit Type:	Parcel ID:

Name:	Northern Natural Gas		
Address:	1120 Centre Pointe Dr, Mendota Heights, MN 55120		
City: Mendota Heights	State: MN		Zip Code: 55120
Phone: (952) 212 3574	Cell: (952) 212 3574	Fax: NA	Email: ssullivan@prosourcetech.com
Vehicle License Number (If Applicable):		Tag #:	

Location:	Parcel ID # 17-20251-065 , 17-10036-081, 17-10036-041, 17-20400-241
Area to be occupied:	Traffic Lane(s) Parking Lane(s) Boulevard Sidewalk Alley
Purpose for permit:	Access from Causeway Blvd and Buchner Pl for access into workspace on parcel ID # 17-20251-065 & 17-10036-41
Additional Conditions:	Temporary access road for construction period from Causeway Blvd and Buchner Pl. Utilizing Buchner Pl and Causeway Blvd for unloading and loading heavy machinery and equipment from semi trailers.

Start Date: 05/01/2026	End Date: 11/30/2026

Invoice #:	Fee: $ ($35.00 first 5 days, $2.00 each additional day)
Permit issued by:	

Comments:

Northern Natural Gas will be installing a revetment mat over existing WIB 11901 pipeline. This requires access into temporary workspace and staging area from Buchner Pl and Causeway blvd. Northern Natural Gas will be utilizing access roads from Buchner Pl and Causeway Blvd to access workspace. The access road and workspace may require tree and vegetation removal. The access road will be staked out and the area will be restored after construction is complete. Northern Natural Gas and their contractor will also be unloading and loading equipment from semi trailers on Buchner Pl and Causeway Blvd during the construction period. traffic controls will be used.

The undersigned understands and agrees to the following: 1) The permitted work shall comply with all permit provisions and conditions listed on and attached to this form; 2) That insurance requirements shall be met prior to approval either by submitting information with application or by keeping current information on file with the Engineering Dept.; 3) The applicant shall contact City Dispatch and the City Traffic Engineer 24 hours prior to the closure of any traffic lanes and shall provide an estimate of the duration of the closure. Temporary traffic control shall be provided and maintained by the applicant and shall comply with Part 6 of the *Manual on Uniform Traffic Control Devices (MUTCD).*

Note: Once invoiced, application fees may not be refunded. Details of permit, including dates, may be modified with approval of the Engineering Department.

Stephen B Sullivan (PRINT) AUTHORIZED REPRESENTATIVE	Right of Way Agent TITLE	12/18/2025 DATE
Stephen B Sullivan (SIGN) AUTHORIZED REPRESENTATIVE	Right of Way Agent TITLE	12/18/2025 DATE

CITY OF LA CROSSE
ENGINEERING DEPARTMENT
400 LA CROSSE ST
LA CROSSE, WI 54601-3396
PHONE: 608-789-7505
FAX: 608-789-8184

Temporary Street Privilege Permit Factsheet

- **When is permit needed**
  - Use of streets, alleys, sidewalks, or other public ways or places of the city for purpose of impeding from construction, reconstruction, maintenance, repair or demolition

- **Cost**
  - First five days $35. $2 for each additional day

- **Condition of occupancy**
  - Obstruction less than 1/3 of street or alley
  - Sufficiently lighted at night
  - Sidewalk traffic not interrupted
  - Continuous construction or demolition

- **Temporary Traffic Control Plan**
  - Temporary traffic control shall be provided and maintained by the applicant and shall comply with Part 6 of the Manual on Uniform Traffic Control Devices

- **Cash deposit**
  - Deposit required if city-owned facilities to be moved or replaced

- **Insurance**
  - Required public liability insurance no less than $100,000 each person, $300,000 each accident for bodily injury and $100,000 for property damage listing the City of La Crosse as additional insureds

- **Bonds**
  - Damage likely to streets, alley, sidewalk, or other property will require a bond

PARCEL ID: 17-10036-082

PARCEL ID: 17-10036-043

PARCEL ID: 17-10036-042

CW: 193'x128'x70'x8'x95'x113' STAGING AREA (0.44 ACRES)

STAGING EXCLUDED FROM POWER LINE TOWER

PARCEL ID: 17-10036-041

CW: 11'x99'x70'x338'x20'x159'x18' EXTRA TEMP. WORKSPACE (0.18 ACRES)

MILE POST 0.91

ACCESS TEMP. WORKSPACE FROM EXISTING ROAD LATITUDE : 43.827090, LONGITUDE : -91.256107

BUCHNER PI

PARCEL ID: 17-10036-700

25' WIDE TEMP. ACCESS ROAD APPROX. 370' LONG (0.21 ACRES)

LA CROSSE WI #1 FACILITY CODE: 761061

TOMAH BL 16"x20" RECEIVER FACILITY CODE: WIP-0007

TOMAH BL 10"x14" LAUNCHER FACILITY CODE: WIP-0008

PARCEL ID: 17-10035-010

16" WIB11901

10" WIB11901

SECTION 30

SECTION 31

CW: 263'x20'x279'x26' EXTRA TEMP. WORKSPACE (0.12 ACRES)

PARCEL ID: 17-20248-010

KRAFT ST

PARCEL ID: 17-20248-020

PARCEL ID: 17-20251-063

PARCEL ID: 17-10036-081

PARCEL ID: 17-20251-110

PARCEL ID: 17-20251-015

PARCEL ID: 17-20251-016

CW: 75'x338'x96'x279' TEMP. WORKSPACE (0.53 ACRES)

25' WIDE TEMP. ACCESS ROAD APPROX. 520' LONG (0.30 ACRES)

CAUSEWAY BLVD

ACCESS TEMP. WORKSPACE FROM EXISTING ROAD LATITUDE : 43.825046, LONGITUDE : -91.255152

PARCEL ID: 17-20251-065

PARCEL ID: 17-20251-060

PARCEL ID: 17-20250-030

PARCEL ID: 17-20249-140

PARCEL ID: 17-20251-067

PARCEL ID: 17-20251-064

PARCEL ID: 17-20250-020

PARCEL ID: 17-20249-125

LEGEND

- FIRST BUILT HIGH PRESS BL
- EXISTING FACILITY PIPING
- OVERHEAD POWER LINES
- PROPERTY LINE
- SECTION LINE
- WETLAND LOCATION
- TEMP. WORKSPACE
- EXTRA TEMP. WORKSPACE
- STAGING AREA
- TEMP. ACCESS ROAD
- EXISTING NNG FACILITY
- POWER POLE

DISCLAIMER: PARCEL DATA DISPLAYED ON MAP IS UNVERIFIED AND HAS NOT BEEN SURVEYED. FOR REFERENCE ONLY

Original Issue 1
Sheet: AR-01
Date: 5/13/25
Scale: 1:50

19

SCALE DISCLAIMER: NOTED SCALE APPLIES TO 22"x34" PAPER SIZE OR...

WIB11901 MP 0.91 Tomah BL
01133417

Project Location Aerial Overview
Section 30 & 31, T16N, R7W
La Crosse County, Wisconsin

LAND USE TYPE: URBAN

Northern Natural Gas
A Berkshire Hathaway Energy company

INTERNAL INFORMATION
DISTRIBUTION/COPIES
LIMITED TO
PROJECT NEEDS

5/13/2025 1:16 PM J:\PROJECTS\NNG\2025\PIPELINE INTEGRITY & RISK\01133417 WIB11901 MP 0.91 TOMAH BL\4-MAPS\ORIGINAL ISSUE - 1\01133417 MAPS

EXCAVATION WITHIN RIGHT-OF-WAY PERMIT

Engineering Dept. · Phone: (608) 789-7505 · Fax: (608) 789-8184
http://www.cityoflacrosse.org engineering@cityoflacrosse.org

Permit No.:	
Date:	
STATUS:	
Munis #:	

CONTRACTOR

Name: Northern Natural Gas			
Address: 1120 Centre Pointe Dr, Mendota Heights, MN 55120			
City: Mendota Heights		State: MN	Zip Code: 55120
Phone: (952) 212 3	Cell: (952) 212 357	Fax: NA	Email: ssullivan@prosourcetech.com

PROJECT

Location of Excavation: Parcel ID# 17-20251-065 Site Address: CAUSEWAY BLVD LA CROSSE 54603	
X Installing Revetment Mat and Fill	Open Cut (Circle One) Boring
Area to be excavated (check all that apply): ☐ Street ☐ Blvd. ☐ Curb/Gutter ☐ Sidewalk ☐ Alley ☒ Other Waterfront area	
Number of Traffic Lanes that will Close: 0	Number of Parking Lanes that will Close: 0
Purpose of excavation (Check all that apply): ☐ Water ☐ San. Sewer ☐ Storm Water ☒ Gas ☐ Electrical ☐ Communication ☐ Other:	
Estimated Start Date: 05/01/2026	Completion Date: 11/30/2026

Note #1: The undersigned understands and agrees to the following: 1) The permitted work shall comply with all permit provisions and conditions listed on and attached to this form; 2) That insurance requirements shall be met prior to approval either by submitting information with application or by keeping current information on file with the Engineering Department.; 3) The applicant shall contact City Dispatch and the City Traffic Engineer 24 hours prior to the closure of any traffic lanes and shall provide an estimate of the duration of closure. Temporary traffic control shall be provided and maintained by the applicant and shall comply with Part 6 of the Manual on Uniform Traffic Control Devices (MUTCD).

Note #2: Once invoiced, application fees may not be refunded.

Stephen B Sullivan _____ (PRINT) AUTHORIZED REPRESENTATIVE

Stephen Sullivan _____ (SIGN) AUTHORIZED REPRESENTATIVE

Right of Way Agent _____ TITLE

12/18/2025 _____ DATE

Office Use Only

Customer #:	Invoice #:
Permit Issued By:	
Permit Conditions:	

CITY OF LA CROSSE
ENGINEERING DEPARTMENT
400 LA CROSSE ST
LA CROSSE, WI 54601-3396
PHONE: 608-789-7505
FAX: 608-789-8184

Excavations and Openings Factsheet

- When is a permit needed?
  - Anytime you make any excavation or opening in any street, alley, highway, or sidewalk.

- Cost
  - $35
  - Once invoiced, application fees may not be refunded. Details of the permit, including dates, may be modified with approval of the Engineering Department.
- Bond
  - Before permit, deposit with engineering department an Indemnity Bond of $10,000.00.

- Insurance
  - Carry comprehensive General Liability Insurance and completed Operations Insurance.
  - Minimum combined single limit of $500,000 for bodily injury & property damage per occurrence.
  - The insurance required shall be written by insurance companies who are rated “B” or better in Best’s Key Rating Guide and shall be licensed to do business in the state of Wisconsin.
  - Certificate shall name the City of La Crosse as Additional Insured.

- Regulations
  - No openings when ground is frozen except in emergencies.
  - Opening shall be enclosed with sufficient barriers.
  - All necessary precautions shall be taken to guard the public effectively from accidents or damage to persons or property.

- Temporary traffic control shall be provided and maintained by the applicant and shall comply with Part 6 of the Manual on Uniform Traffic Control Devices.
- All materials removed or penetrated must be replaced as soon as possible to their original condition and be maintained for 3 years.
- Backfilling the opening, material shall be placed in maximum 12 inch lifts with each lift thoroughly compacted by mechanical means to a 95% of standard proctor density.
- Excavations in streets paved in the last 5 years are prohibited except in the case of emergencies determined by the Board of Public Works.
- Emergency excavations are authorized for any person / agency owning or controlling any sewer, water main, conduit, or utility. You may take immediate proper emergency measures to remedy dangerous conditions for the protection of property, life, health, or safety without first obtaining an excavation permit; provided that such person shall apply for an excavation permit not later than the end of the next succeeding business day.
- Any Excavation within an Archaeological District Boundary (Copy of map on file in the Department of Planning and Development) shall follow municipal code Sec. 20-119 & 20-120 and notify the Fire Prevention and Building Safety department 2 days prior to excavation.

Prepared By:& return to:
Gail Spevak
Northern Natural Gas Company
~~1111 South 103rd Street~~ PO BOX 3330
Omaha, NE ~~68124-1000~~ 68103-9853
(402) 398-7030

W.O. No.: S.023591.01
Line No.: WIB 11901

CORRECTION OF PIPELINE EASEMENT

KNOW ALL MEN BY THESE PRESENTS:

That NORTHERN NATURAL GAS COMPANY, a Delaware corporation with principal offices at 1111 South 103rd Street, Omaha, Nebraska 68124 (hereinafter referred to as "Northern"), is the owner of a certain easement executed by Harry Viner, General Partner of the Viner Family Limited Partnership on the 16th day of December, 2004, covering the following described premises in La Crosse County, Wisconsin:

> All of sellers right of way property in the Northeast Quarter (NE¼) of Section 31 and the Southeast Quarter (SE¼) Section 30, Township 16 North, Range 7 West, lying northerly of the northerly line of Causeway Boulevard produced westerly; and southerly of the northerly line, produced easterly, of Lot 9, Block 71, Southern Addition; excluding platted Buchner Place and Commercial Street (per Quit Claim Deed in Volume 1270, Page 593);

which easement was recorded the 30th day of December, 2004, as Document No. 1411626 in and for La Crosse County, Wisconsin (hereinafter referred to as "Easement"); and

WHEREAS, by error and/or mistake Exhibit "A" to the Easement incorrectly named the sections; and

WHEREAS, Northern by this document intends to correct the Easement by replacing said Exhibit "A" to the Easement with Revised Exhibit "A" attached hereto.

NOW, THEREFORE, by execution of this document, Northern corrects Exhibit "A" to the Easement to read as set forth on Revised Exhibit "A" attached hereto, and by this reference made a part hereof.

Said Easement recorded the 30th day of December, 2004, as Document No. 1411626 is in all other ways confirmed and ratified, except as corrected herein.

IN WITNESS WHEREOF, this instrument has been executed as of this 18th day of February, 2016.

NORTHERN NATURAL GAS COMPANY

By _____
Joseph A. Jessen
Agent and Attorney-in-Fact

STATE OF NEBRASKA)
)SS
COUNTY OF DOUGLAS)

The foregoing instrument was acknowledged before me this 18th day of February, 2016, by ***Joseph A. Jessen as Agent and Attorney-in-Fact*** for Northern Natural Gas Company, a Delaware corporation, on behalf of the corporation.

(S E A L) GENERAL NOTARY - State of Nebraska
GAIL L. SPEVAK
My Comm. Exp. June 8, 2019

_____
Notary Public
My Commission Expires 6/8/19

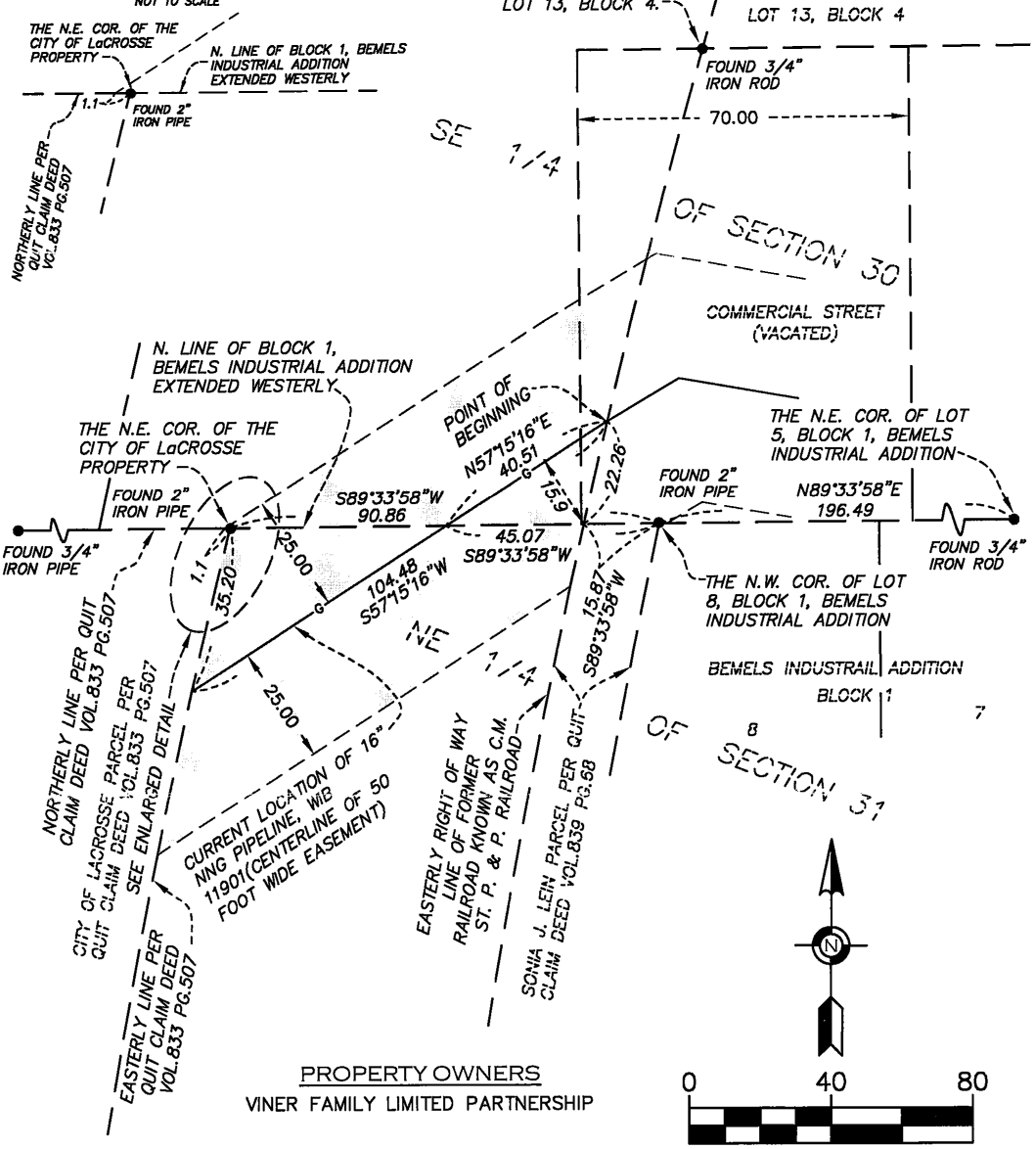
REVISED

EXHIBIT A

-for- Northern Natural Gas

DETAIL

NOT TO SCALE



PROPERTY OWNERS

VINER FAMILY LIMITED PARTNERSHIP

CERTIFICATION:
I, Lee J. Nord, Wisconsin Registered Land Surveyor of EGAN, FIELD & NOWAK, certify that I have surveyed the above described property and that the map shown is a true and accurate representation thereof to the best of my knowledge and belief. This survey complies with Chapter A-E7 of the Wisconsin Administrative Code.

Date of survey: November 5th, 2004
Date of signature: December 29th, 2004

Egan, Field & Nowak, Inc.
Land Surveyors

Lee J. Nord
Wisconsin License No. S-2203

Bearings based on NAD 83, La Crosse County, MN grid system

LEGEND

- FOUND CAST IRON MONUMENT
- FOUND MONUMENT
- —G— EXISTING UNDERGROUND GAS PIPELINE

EGAN, FIELD, & NOWAK, INC.
"SURVEYORS SINCE 1872"
7415 WAYZATA BLVD, MINNEAPOLIS, MINNESOTA 55426
PHONE: (952) 546-6837 FAX: (952) 546-6839
WEB: EFNSURVEY.COM

2662/32

EASEMENT EXHIBIT
WIB11901
SECTION 30,
TOWNSHIP 16N, RANGE 7W
LaCROSSE COUNTY, WISCONSIN

Northern Natural Gas

FILE NO. S.023591.01

SHT. 1 OF 2

EFN FILE NO. 6156

EFN PROJECT NO. 31641

REVISED
EXHIBIT A

-for- Northern Natural Gas

PIPELINE EASEMENT DESCRIPTION

A 50.00 foot wide perpetual easement for pipeline purposes over, under and across that part of the following described parcel.
(per Quit Claim Deed in Vol. 1270 Pg. 593)

All of sellers right of way property in the NE1/4 Section 31 and the SE1/4 Section 30, Township 16 North, Range 7 West, LaCrosse County, Wisconsin lying northerly of the northerly line of Causeway Boulevard produced westerly; and southerly of the northerly line, produced easterly, of Lot 9, Block 71, Southern Addition: excluding platted Buchner Place and Commercial Street.

The centerline of said pipeline easement of which is the current location of Northern Natural Gas Company's 16" pipeline is described as follows:

Commencing at the northwest corner of Lot 8, Block 1, BEMELS INDUSTRIAL ADDITION; thence South 89 degrees 33 minutes 58 seconds West, bearings based on LaCrosse County, Minnesota Coordinate System, along the north line of said Block 1 extended westerly a distance of 45.07 feet; thence North 57 degrees 15 minutes 16 seconds East a distance of 40.51 feet to the easterly right of way line of a railroad formerly known as Chicago, Milwaukee, Saint Paul & Pacific Railroad and the point of beginning of said centerline to be described; thence return South 57 degrees 15 minutes 16 seconds West a distance of 104.48 feet to the most easterly line of parcel per Quit Claim Deed Vol. 833, Pg. 507 and said centerline there terminating.

Sidelines of said easement to be prolonged or shortened to terminate at said easterly railroad right of way line and at the northerly line and easterly line of said parcel per Quit Claim Deed Vol. 833, Pg. 507

EGAN, FIELD, & NOWAK, INC.
"SURVEYORS SINCE 1872"
7415 WAYZATA BLVD, MINNEAPOLIS, MINNESOTA 55426
PHONE: (952) 546-6837 FAX: (952) 546-6839
WEB: EFNSURVEY.COM

2662/32

EASEMENT EXHIBIT
MNB70201
SECTION 30,
TOWNSHIP 16N, RANGE 7W
LaCROSSE COUNTY, WISCONSIN

Northern Natural Gas

FILE NO. S.023591.01

SHT. 2 OF 2

EFN FILE NO. 6156

EFN PROJECT NO. 31641

1411627

LACROSSE COUNTY
REGISTER OF DEEDS
DEBORAH J. FLOCK

RECORDED ON
12/30/2004 02:08PM

REC FEE: 19.00
TRANSFER FEE:
EXEMPT #:

PAGES: 5

RETURN TO
Right-of-Way DEPT
NORTHERN NATURAL GAS Co
P.O. Box 3330
OMAHA, NEBRASKA
68103-0330

W.O. No.: S.023591.01
Line No.: WIB ~~24101~~ 11901-OB
Field No.:

PIPELINE EASEMENT

For and in consideration of Ten and No/100 dollars ($10.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, the undersigned (hereinafter referred to as Grantor, whether one or more), hereby bargains, grants, conveys, and warrants to NORTHERN NATURAL GAS COMPANY, a Delaware corporation, with principal offices at P. O. Box 3330, Omaha, Nebraska 68103 (hereinafter referred to as Grantee), the exclusive right, privilege, and easement to construct, maintain, operate, inspect, repair, replace, protect, alter, and remove one pipeline and below ground appurtenances, including cathodic protection apparatus, on, over, under, across, and through a strip of land fifty feet in width being 25 feet each side of the 16 inch and 10 inch gas pipeline as shown on Exhibit "A" located Block 63, Southern Addition to the City of La Crosse, County of La Crosse and the State of Wisconsin, to-wit:

See Exhibit "A" attached hereto
and made a part hereof.

TO HAVE AND TO HOLD unto said Grantee, its successors and assigns, together, with the right of ingress to and egress from said right-of-way across the adjacent property of Grantor for the purpose of surveying and clearing the right-of-way of brush, trees, and obstructions, and for constructing, maintaining, operating, inspecting, repairing, replacing, protecting, altering, or removing the pipeline and appurtenances of Grantee located thereon, in whole or in part, at the will of the Grantee.

It is further agreed as follows:

1. That during construction or removal of said pipeline or appurtenances, Grantee may utilize an additional strip of land not more than seven feet six inches (7.5') in width on the South and East side and twenty feet (20') on the North and West side of Grantee's easement strip for working space only.

WIB 11901-OB

W.O. No.: S.023591.01
Line No.: WIB 24101
Field No.:

2. That in the exercise of its rights hereunder, Grantee shall: (a) bury all line pipe to provide a minimum cover of thirty-six inches (36"), except in rock where a minimum cover of twenty-four inches (24") will be provided; (b) restore the ground surface as nearly as practicable to the original contour which existed immediately prior to the commencement of any work; (c) provide suitable ditch cross-overs during construction as are reasonably required by Grantor; (d) properly support each side of a contemplated fence opening by suitable post and braces before a fence is cut, and, where required, to provide a temporary gate; (e) repair in a good and workmanlike manner any and all fences and drainage and irrigation systems which are cut or damaged by Grantee; and (f) restore or pay Grantor for any damages caused by Grantee to Grantor's growing crops, grasses, trees, shrubbery, fences, buildings, or livestock as a result of the construction of Grantee's facilities.

3. That Grantor shall have the right to use and enjoy the surface of the right-of-way for agricultural, pasturage, or other similar purposes which will not interfere with the use of the right-of-way by the Grantee for any of the purposes herein above granted, it being understood that no building, structure, improvement, or obstruction, other than ordinary and usual fences, shall be placed within or upon the right-of-way, and that there shall be no alteration of the ground surface or grade of the right-of-way, without the express written consent of the Grantee, and, to the extent that written permission has not been given, Grantee shall have the right to clear and keep cleared from within the right-of-way all trees, brush, undergrowth, buildings, structures, improvements, or other obstructions, though Grantee has no obligation to do so, and, after said pipeline has been installed, Grantee shall not be liable for damages caused on the right-of-way by keeping the right-of-way clear of such trees, brush, undergrowth, buildings, structure, improvements, and other obstructions in the exercise of its rights hereunder.

4. That this instrument may be executed in counterparts, but which together shall constitute one and the same instrument.

5. That the rights of the Grantee may be assigned in whole or in part.

6. It is agreed that this grant covers all the agreements between the parties and no representations or statements, verbal or written, have been made, modifying, adding to, or changing the terms of this agreement.

It is understood and agreed that this easement and all rights, privileges, and obligations created herein shall run with the land and shall inure to the benefit of and be binding upon the legal representatives, heirs, executors, administrators, successors, and assigns of the parties hereto.

Signed and delivered this 17 day of November, 2004.

W.O. No.: S.023591.01
Line No.: WIB 24101
Field No.:

GRANTORS: **NORTHERN STATES POWER COMPANY**
A WISCONSIN CORPORATION d/b/a XCEL ENERGY

By_____
Name: Douglas W. Jaeger
Title: As Agent for Northern States Power Company,
a Wisconsin corporation, d/b/a Xcel Energy

STATE OF WISCONSIN)
)SS
COUNTY OF EAU CLAIRE

The foregoing instrument was acknowledged before me this 17 day of November, 2004, by Douglas W. Jaeger, As Agent for Northern States Power Company, a Wisconsin corporation, d/b/a Xcel Energy, on behalf of the corporation.

_____
Notary Public
My Commission Expires_____

SARAH B. NYSTUEN
NOTARY PUBLIC - STATE OF WISCONSIN
My commission expires July 30, 2006

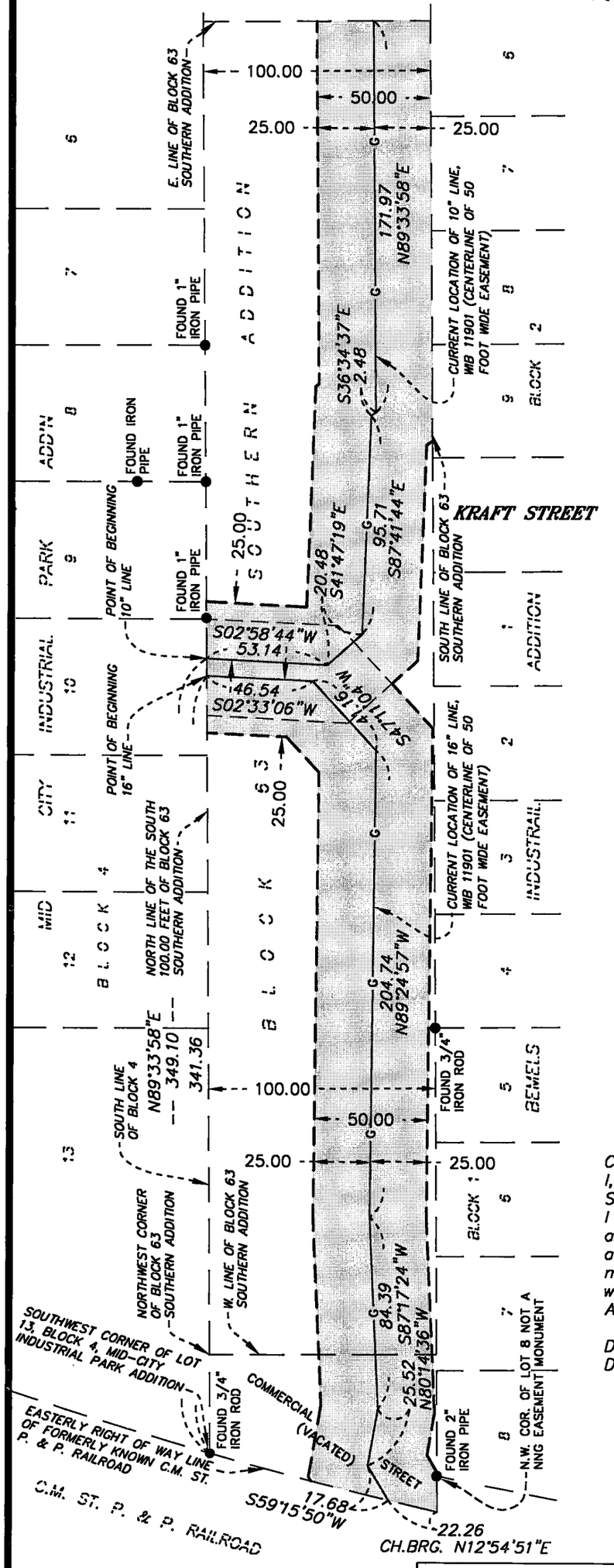
STATE OF WISCONSIN ★ SARAH B. NYSTUEN ★ NOTARY PUBLIC

This Instrument Drafted By
and to be Returned to:
Right-of-Way Department
Northern Natural Gas Company
P. O. Box 3330
Omaha, Nebraska 68103-0330

EXHIBIT A

-for-

Northern Natural Gas



0 60 120

SCALE IN FEET

Bearings based on NAD 83,
La Crosse County, WI grid system

PROPERTY OWNERS

NORTHERN STATES POWER

LEGEND

- ● FOUND MONUMENT
- —G— EXISTING UNDERGROUND GAS PIPELINE
- 50 FOOT WIDE PIPELINE EASEMENT

CERTIFICATION:
I, Lee J. Nord, Wisconsin Registered Land Surveyor of EGAN, FIELD & NOWAK, certify that I have surveyed the above described property and that the map shown is a true and accurate representation thereof to the best of my knowledge and belief. This survey complies with Chapter A-E7 of the Wisconsin Administrative Code.

Date of survey: November 5th, 2004
Date of signature: December 29th, 2004

Egan, Field & Nowak, Inc.
Land Surveyors

Lee J. Nord
Wisconsin License No. S-2287

EGAN, FIELD, & NOWAK, INC.
"SURVEYORS SINCE 1872"
7415 WAYZATA BLVD, MINNEAPOLIS, MINNESOTA 55426
PHONE: (952) 546-6837 FAX: (952) 546-6839
WEB: EFNSURVEY.COM

2662/32

EASEMENT EXHIBIT
MNB70201
SECTION 30,
TOWNSHIP 16N, RANGE 7W
LaCROSSE COUNTY, WISCONSIN

Northern Natural Gas

FILE NO. S.023591.01

SHT. 1 OF 2

EFN FILE NO. 6156

EFN PROJECT NO. 31641

EXHIBIT A -for- Northern Natural Gas

PIPELINE EASEMENT DESCRIPTION

A 50.00 foot wide perpetual easement for pipeline purposes over, under and across that part of the South 100.00 feet of Block 63 of Southern Addition and that part of vacated Commercial street lying westerly of said South 100.00 feet and easterly of the easterly right of way of a railroad formerly known as the C.M. ST. P. & P. RAILROAD.

The centerline of said pipeline easement of which is the current location of Northern Natural Gas Company's 16" pipeline is described as follows:

Commencing at the southwest corner of Lot 13, Block 4, MID CITY INDUSTRIAL PARK ADDITION; thence North 89 degrees 33 minutes 58 seconds East, bearings based on La Crosse County, Wisconsin Coordinate System, along the south line of said Block 4 a distance of 341.36 feet to the point of beginning of said centerline to be described; thence South 02 degrees 33 minutes 06 seconds West a distance of 46.54 feet; thence South 47 degrees 11 minutes 04 seconds West a distance of 41.16 feet; thence North 89 degrees 24 minutes 57 seconds West a distance of 204.74 feet; thence South 87 degrees 17 minutes 24 seconds West a distance of 84.39 feet; thence North 80 degrees 14 minutes 36 seconds West a distance of 25.52 feet; thence South 59 degrees 15 minutes 50 seconds West a distance of 17.68 feet to said easterly right of way line.

Sidelines of said easement to be prolonged or shortened to terminate at said south line of Block 4 and at the south line of said South 100.00 feet of Block 63 and at said east railroad right of way line.

TOGETHER WITH

A 50.00 foot wide perpetual easement for pipeline purposes over, under and across that part of the South 100.00 feet of Block 63 of Southern Addition.

The centerline of said pipeline easement of which is the current location of Northern Natural Gas Company's 10" pipeline is described as follows:

Commencing at the southwest corner of MID CITY INDUSTRIAL PARK ADDITION; thence North 89 degrees 33 minutes 58 seconds East, bearings based on La Crosse County, Wisconsin Coordinate System, along the south line of said Block 4 a distance of 349.10 feet to the point of beginning of said centerline to be described; thence South 02 degrees 58 minutes 44 seconds West a distance of 53.14 feet; thence South 41 degrees 47 minutes 19 seconds East a distance of 20.48 feet; thence South 87 degrees 41 minutes 44 seconds East a distance of 95.71 feet; thence South 36 degrees 34 minutes 37 seconds East a distance of 2.48 feet; thence North 89 degrees 33 minutes 58 seconds East a distance of 171.97 feet to the east line of Lot 63, SOUTHERN ADDITION said centerline there terminating.

Sidelines of said easement are to be prolonged or shortened to terminate at said easterly line of Block 63, Southern Addition and at said south line of Block 4.

EGAN, FIELD, & NOWAK, INC.
"SURVEYORS SINCE 1872"
7415 WAYZATA BLVD, MINNEAPOLIS, MINNESOTA 55426
PHONE: (952) 546-6837 FAX: (952) 546-6839
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2662/32

EASEMENT EXHIBIT
MNB70201
SECTION 30,
TOWNSHIP 16N, RANGE 7W
LaCROSSE COUNTY, WISCONSIN

Northern Natural Gas

FILE NO. S.023591.01

SHT. 2 OF 2

1111 South 103rd Street
Omaha, NE 68124

November 19, 2025

Mr. David Reinhart
City of LaCrosse
Building and Inspections
400 La Crosse Street
La Crosse, WI 54601

Re: Northern Natural Gas
01133417_WIB11901 Tomah Branch Line Civil Remediation Project
Land Disturbance Permit Application

Dear Mr. Reinhart,

Northern Natural Gas (Northern) operates a natural gas transmission pipeline system and associated appurtenances in the State of Wisconsin. Northern has identified a segment on its existing WIB11901 Tomah Branch Line at milepost 0.91 where a shallow depth of cover condition has been identified, and additional cover is needed to protect the pipeline. The shallow cover is located on the eastern bank and instream where the pipeline crosses the Mississippi River near and within the city of La Crosse Wisconsin.

The 01133417_WIB11901 Tomah Branch Line Civil Remediation Project is located in Township 16 North, Range 7 West, Sections 30 and 31, LaCrosse County, Wisconsin. The Project is regulated by the Federal Energy Regulatory Commission under Northern's blanket certificate. The Project is proposed to start in the spring 2026 dependent on site conditions (i.e., spring thaw), or upon the issuance of all applicable permits.

Northern had a pre-application meeting May 22, 2025, with, the US Army Corps of Engineers (USACE), Wisconsin Department of Natural Resources (WDNR), and Merjent, Northern's environmental and engineering subconsultant, to review several design options including the placement of an articulated grout mat or several designs for riprap placement. This submittal reflects the final design selected by the USACE and WDNR. On June 17, 2025, a joint application was submitted for coverage under the Utility General Permit. At the request of the WDNR, on July 16, 2025, Northern is submitted an application for authorization under the Individual Permit.

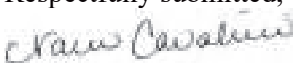
Northern has received a conditional authorization to proceed from the USACE under the provisional presidential Emergency Order 14156 on July 29, 2025, unless Northern chooses to follow the standard process. The WDNR review is in process, and the initiation of the 30-day public notice is pending the submittal of landowner approval of the placement of the riprap within the property. Northern is also submitted a floodplain/shoreland permit application to the city of LaCrosse.

The Project footprint is approximately 1.8 acres, of which approximately 0.67 acres is in gravel cover and no ground disturbance is anticipated in these areas.

With this letter and attachments, Northern is requesting authorization to conduct land disturbing activities within the city of LaCrosse. The enclosed application provides additional information for your review.

Please contact me at 402-398-7847 or naomi.cavalieri@nngco.com or Northern's environmental consultant Michele.Richter at 612-963-3944 or michele.richter@merjent.com with any questions or to arrange the preapplication meeting. Northern appreciates your continued coordination efforts for pipeline projects in Wisconsin.

Respectfully submitted,



Northern Natural Gas
Division Environmental Specialist

Enclosed: Permit Application Form
Supplemental Information
Permit Application Fee

cc: Michele Richter, Merjent

Department of Planning and Development

Building and Inspections

inspection@cityoflacrosse.org 608-789-7530

APPLICATION FOR *LAND DISTURBANCE* PERMIT

Application Number _____ Date November 10, 2025 Parcel Number _____

OWNER INFORMATION			
Name: Northern Natural Gas (easement owner)			
Address of Above: Street 1111 South 103rd Street	**City** Omaha	**State** NE	**Zip Code** 68124
Phone: 402-398-7847	**Cell:** 531-301-1176	**Fax:**	**Email:** naomi.cavalieri@nngco.com

CONTRACTOR INFORMATION			
Name: To be determined			
Address of Above: Street	**City**	**State**	**Zip Code**
Phone:	**Cell:**	**Fax:**	**Email:**

PROJECT INFORMATION		
Project Address:		
Start Date: June 2026 **End Date:** August 2026	**Description of Work:** See attached supplement.	
Subdivision Name: NA	**Lot:** NA	**Block:** See attached supplement

DISTURBANCE INFORMATION			
Sq. Ft.: 78,408	**Cu. Yds. Filled:** 805	**Cu Yds. Excavated:** grading only	**Linear Ft.:** 150

FLOOD PLAIN INFORMATION		
In Floodplain: ☒ Yes ☐ No	**Floodplain Type:** ☐ Flood Fringe ☒ Flood Way ☐ Flood Storage ☐ Shore Land- Wet Land ☐ Shallow Depth Floodplain	**If over 1 acre-NOI Provided from DNR:** ☐ Yes ☐ X No

Naomi Cavalieri _____ November 12, 2025

Applicant: (Print) (Sign) (Date)

_____

Owner: (Print) (Sign) (Date)

OFFICE USE ONLY		
Application: ☐ Approved ☐ Conditionally Approved ☐ Denied	**Inspector:**	**Date:**
Notes/Conditions:		

CAUTIONARY STATEMENT TO OWNERS OBTAINING BUILDING PERMITS

101.65(lr) of the Wisconsin Statutes requires municipalities that enforce the Uniform Dwelling Code to provide an owner who applies for a building permit with a statement advising the owner that:

If the owner hires a contractor to perform work under the building permit and the contractor is not bonded or insured as required under s. 101.654 (2) (a), the following consequences might occur:

(a) The owner may be held liable for any bodily injury to or death of others or for any damage to the property of others that arises out of the work performed under the building permit or that is caused by any negligence by the contractor that occurs in connection with the work performed under the building permit.

(b) The owner may not be able to collect from the contractor damages for any loss sustained by the owner because of a violation by the contractor of the one- and two- family dwelling code or an ordinance enacted under sub. (1) (a), because of any bodily injury to or death of others or damage to the property of others that arises out of the work performed under the building permit or because of any bodily injury to or death of others or damage to the property of others that is caused by any negligence by the contractor that occurs in connection with the work performed under the building permit.

CAUTIONARY STATEMENT TO CONTRACTORS FOR PROJECTS INVOLVING BUILDING BUILT BEFORE 1978

If this project is in a dwelling or child-occupied facility, built before 1978, and disturbs 6 sq. ft. or more of paint per room, 20 sq. ft. or more of exterior paint, or involves windows, then the requirements of ch. DHS 163 requiring Lead-Safe Renovation Training and Certification apply. Call (608)261-6876 or go to the Wisconsin Department of Health Services' lead homepage for details of how to be in compliance.

WETLANDS NOTICE TO PERMIT APPLICANTS

You are responsible for complying with state and federal laws concerning the construction near or on wetlands, lakes, and streams. Wetlands that are not associated with open water can be difficult to identify. Failure to comply may result in removal or modification of construction that violates the law or other penalties or costs. For more information, visit the Department of Natural Resources wetlands identification web page or contact a Department of Natural Resources service center.

ADDITIONAL RESPONSIBILITIES FOR OWNERS OF PROJECTS DISTURBING ONE OR MORE ACRE OF SOIL

I understand that this project is subject to ch. NR 151 regarding additional erosion control and stormwater management standards, and will comply with those standards.

Naomi Cavalieri, Northern Natural Gas	Naomi Cavalieri	11/12/25
Owner: (Print Name)	(Sign)	(Date)
Owner: (Print Name)	(Sign)	(Date)

OFFICE USE ONLY		
For Permit Number:	Inspector:	Date:

01133417_WIB11901 Tomah Branch Line Civil Remediation Project

Northern Natural Gas

CITY OF LA CROSSE

LAND DISTURBANCE PERMIT SUPPLEMENT

Prepared by

merjent

November 2025

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LIST OF APPENDICES

1.0 GENERAL PROJECT INFORMATION

On behalf of Northern Natural Gas (Northern), Merjent, Inc. (Merjent) is submitting this permit application to the Wisconsin Department of Natural Resources (WDNR) for authorization to complete a civil remediation project to address a shallow cover condition on its Tomah Branch Line in La Crosse County, Wisconsin.

A pre-application meeting was held on May 22, 2025, with Northern, the US Army Corps of Engineers, Wisconsin Department of Natural Resources and Northern's environmental and engineering subconsultant. The decision was made that the preferred design was the smaller footprint which uses riprap as the primary cover for the pipeline.

1.1 PROJECT DESCRIPTION AND LOCATION

The 01133417_WIB11901 Tomah Branch Line Civil Remediation Project is located in Township 16 North, Range 7 West, Sections 30 and 31, city of La Crosse, LaCrosse County, Wisconsin. The Project is regulated by the Federal Energy Regulatory Commission under Northern's blanket certificate. The Project is proposed to start in June 2026, or upon location figure is included as Appendix A Figure 1. Tree clearing activities may occur in the Winter of 2026. A Geographic Information System (GIS) shapefile is also included with the online submittal.

PROJECT ACTION

To achieve the desired depth of cover of 24-inches. Northern, in coordination with the WDNR and USACE, have determined that the installation of granular fill, followed by heavy riprap was the preferred solution. Engineering designs of the proposed remediation are provided in Appendix B.

The proposed remediation area will result in a permanent installation of six-inch granular bedding material (grade 2) over the pipeline, followed by the installation of geotextile fabric over the granular fill. This will be overlain by heavy riprap (WISDOT standard). The remediation will result in approximately 0.01 acres of permanent fill within the wetland and approximately 0.04 acres of permanent fill below the ordinary high-water mark of the Mississippi river for a total of 0.05 acres of new permanent fill.

Northern will initiate the project with survey and flagging of the project area. Tree clearing will be required within the workspace. Clearing and brushing will be completed within the temporary workspaces and extra temporary workspaces. Sediment controls will be installed along the perimeters of the workspaces and staging area. Redundant BMPs will be installed on the downslope of the Project area between the workspaces and the wetland and Mississippi River (refer to erosion/sediment control plan in the engineering designs, Appendix B).

Northern's contractor will employee an instream sediment control (i.e., sheet piling, water bladder) to isolate the workspace within the Mississippi River.

Northern will excavate the pipeline to remove the existing above and belowground valve to a point approximately 25 feet northeast of its current location on the Tomah branch line. At the relocation, Northern will excavate over the pipe to expose the pipe and install the new valve.

The remediation will entail the installation of 6-inch granular back fill over the pipeline to underlay the proposed revetment mat, geotextile fabric (Type SAS) over the granular fill, and heavy riprap will be installed approximately 32-foot-wide along the remediation area. Additional fill (WISDOT207) will installed on either side of the riprap installation to create a gradual slope to the

adjacent contours. Plan and Profile designs of the proposed installation are found in Appendix B, Engineering Plans.

Restoration of the Project area will include the import of topsoil, seed, fertilizer and netless erosion control blanket, as shown sheet 10 of the Engineering Plans, Appendix B. Seed mixes to be determined in consultation with the US Army Corps of Engineers, Wisconsin Department of Natural Resources and the city of La Crosse.

1.2 AREA OF DISTURBANCE

Northern proposes to use an irregular shaped temporary workspace (TWS) approximately 0.53 acres and two extra TWS (ETWS) located adjacent to the north and south sides of the TWS. The northern ETWS is irregular shaped and approximately 0.18 acres and the southern ETWS is irregular shaped and approximately 0.12 acres. The TWS and ETWS extend from the upland area west into the Mississippi River. One irregular shaped staging area (0.46) located within an existing equipment yard will be used for equipment and contractor staging. The site will be access from the north along a 370-foot-long by 25-foot-wide access road from Buchner Place; this is currently a gravel/dirt road. The site will be access from the south along a 520-foot-long by 25-foot-wide temporary access road (0.3 acres) from Causeway Boulevard.

All construction areas described above (collectively referred to as the “Project Area”) are shown on the Site Plan included as Appendix A Figure 2. No separate, off-site staging areas or laydown yards are proposed for this Project.

Ground disturbing activities will be temporary in nature, aside from the permanent cover, and may be up to 1.8 acres in total. The remediation will result in approximately 0.01 acres of permanent fill within the wetland and approximately 0.04 acres of permanent fill below the ordinary high-water mark of the Mississippi river for a total of 0.05 acres of new permanent fill.

Tree clearing is proposed within the TWS and ETWS. The land cover within the Project Area is waterbody, wetland, sand bank, open land and road and utility rights-of-ways.

1.3 CONSTRUCTION TIMING

Construction is proposed to begin June 2026, with tree clearing to occur in the winter 2026, and/or upon receipt of all required permits and approvals from local, state, and federal agencies. Work is anticipated to last approximately up to 30 days. Areas that require restoration will be temporarily restored promptly upon completion of construction and permanent stabilization will occur as soon as possible.

1.4 REQUIRED PERMITS

The following environmental permits are anticipated to be required from local, state, and federal agencies for the Project.

- **U. S. Army Corps of Engineers (USACE):** Project activities may fall under authorization of the Utility Regional General Permit for Wisconsin. The permit application was submitted to the USACE in June 2025 concurrent with the WDNR submittal.

- **U.S. Fish and Wildlife Service (USFWS):** The USACE indicated that they will complete Section 7 consultation with the USFWS.
- **Wisconsin State Historic Preservation Office:** At the USACE request, Northern completed Section 106 consultation with the Wisconsin State Historic Preservation Office and a "No Effect Determination was received on May 5, 2205.
- **WDNR:**
  - Project activities satisfy the general eligibility standards of WDNR-GP3-2023 and impacts require Reporting coverage for temporary and permanent wetland impacts. A fish waiver has been prepared in the event construction activities extend into September.
  - Construction Site Stormwater general permit coverage is required as ground disturbance will exceed one acre. An application will be submitted to the WDNR as a separate submittal.
  - The Endangered Resource review was submitted to the WDNR on March 24, 2025, and is still pending.
- **City of LaCrosse:** An Land Disturbance permit and Floodplain/Shoreland permit will be required from the city of LaCrosse for the Project.

2.0 PARCEL DATA

The Project construction footprint falls within the following parcels: 17-10036-700; 17-10036-042; 17-10036-041; 17-20251-065;

3.0 EROSION PREVENTION AND SEDIMENT CONTROL PRACTICES

3.1 BEST MANAGEMENT PRACTICES

Northern has identified soil erosion and sediment control (SESC) BMPs to be implemented during construction activities. Sediment control measures will be installed prior to the start of ground disturbance. The Site Plan included as Appendix B Figure 2 identifies the Project footprint and the general locations for BMPs to be installed. BMPs will be implemented in site-specific locations and may be further redesigned or relocated in the field, dependent upon on conditions experienced in the field. BMPs have be designed to divert flows from exposed soils, filter runoff, reduce the velocity of storm water flowing on site, and prevent sedimentation off-site and into adjacent wetlands and waterways.

Northern's Erosion and Sediment Control Technical Standards (ESCTS), provided as **Appendix C**, outlines acceptable BMPs, includes BMP placement, installation and maintenance requirements, as well as, providing typical installation details of said BMP's. Northern's ESCTS meets the conditions in the Federal Energy Regulatory Commission (FERC) Upland Erosion Control and Revegetation Plan (FERC Plan) and FERC's Wetland and Waterbody Construction and Mitigation Procedures (FERC Procedures), provided as **Appendix D.**

Typical details of erosion and sediment controls are provided in Northern's ESCTS (Appendix C). SESC devices will be maintained on-site at all times for immediate usage. Temporary erosion

control measures will remain in place until permanent erosion controls are installed, or restoration is completed. All temporary synthetic, structural, and non-biodegradable erosion and sediment control measures shall be removed after restoration is considered successful.

Copies of WDNR's Construction Site Erosion and Sediment Control Technical Standards are included as **Appendix E**.

3.2 MAINTENANCE

As required by the FERC Plan (Appendix D), and by permit conditions, the Project Area will be inspected by Northern for erosion and sediment control effectiveness at least once every seven (7) calendar days and within 24 hours of a 0.5 inch or greater rainfall event. Inspections will be performed following the initial ground disturbance and until the site is permanently stabilized. Unless erosion is evident or other conditions warrant them, regular inspections will not be required on areas that have been stabilized with a perennial, vegetative cover of sufficient density to preclude erosion. Installation of additional erosion or sediment control measures or repairs to existing erosion or sediment control measures will be completed within 24 hours of the inspection.

Visual inspections of all erosion and sediment control measures and other protective measures identified in the Site Plan will be performed for evidence of pollutants entering wetlands, waterbodies, or drainage systems. The inspection will verify that structural BMPs are in good condition and are minimizing erosion and sediment migration. Construction entrances and exits will be inspected for evidence of sediment being tracked off-site. The inspection will also verify the procedures used to prevent storm water contamination from the construction activities are effective.

If inspections identify sediment which has escaped the construction site, off-site accumulations of sediment will be removed promptly to minimize the disturbance. Installation of additional sediment containment devices may be necessary to prevent future releases of sediment. Recovery of sediment from sensitive resources will be approved by Northern prior to entry.

An inspection report (included within Appendix C) will be prepared after each inspection and will be maintained on-site during the entire Project. Records of each inspection and maintenance activities will include:

- Date and time of inspection;
- Name and title of person(s) conducting inspections;
- Weather information for the period since last inspection;
- Weather information and a description of any discharges occurring at the time of the inspection;
- Date and amount of all rainfall events greater than 0.5 inches in 24 hours;
- Scope and findings of inspections, including recommendations for corrective actions;
- Corrective actions taken (including dates, times, and party completing maintenance activities);
- Records of grading activity since last inspection;
- Documentation of changes made to the Site Plan; and
- Identification of any incidents of non-compliance.

3.3 SEDIMENT CONTROLS

Sediment controls are designed to keep sediment from flowing off-site and into places where it may harm the environment. BMP options to be used as sediment controls are discussed below. Controls will be installed as indicated on the Site Plan or as directed by Northern's site inspector. BMPs for sediment controls are discussed in Section 5.0 of the ESCTS and typical details of the controls are provided in Appendix B of the ESCTS (Appendix C).

3.3.1 Structural Controls

SESC devices will be installed on the downslope side the disturbance area to contain sediment within the Project Area. The material storage will not impede any existing drainage, including curb gutters, storm drains, or drain tile inlets. All temporary spoil piles will have perimeter controls. Redundant BMPs will be implemented wherever deemed necessary based on field conditions and BMP efficacy, as determined by the qualified Northern EI. All changes made in the field will be noted on the Site Plan. Silt fence and sediment control logs will be used per material specifications as sediment control devices. Straw bales alone are no longer considered an adequate or effective sediment control device and will only be used in conjunction with silt fence.

3.3.2 Non-Structural Practices

Non-structural practices include minimizing areas of disturbance and maintaining buffer zones. Provided below are optional non-structural BMPs to be implemented during construction.

Where the Project will be constructed in phases, if applicable, existing vegetation may remain in place until construction activities are proposed. These areas will be clearly marked on the Site Plan and in the field. During phasing, vegetation clearing may be performed within approved work area. Grassy vegetation and root stock will be left intact whenever plausible and particularly when adjacent to road ditches.

Horizontal slope-grading or cat-tracking reduces erosion potential by creating horizontal grooves on exposed slopes. This will be achieved by driving tracked equipment vertically up and down the slope, resulting in the tracks being oriented horizontally. This will provide support for mulch and seed to stay in place during rain events.

3.3.3 Soil Testing

The contractor will conduct agronomic testing for nitrogen, phosphorus, potassium, and lime amendments through a certified agronomist or agronomic soil testing lab (such as state soils labs or fertilizer companies) prior to construction. The contractor will apply fertilizer and other soil modifiers in accordance with the recommendations provided by the testing when permanent seeding any portion of the right-of-way.

3.3.4 Dewatering Operations

Groundwater or stormwater runoff may accumulate in the excavations during construction activities. If dewatering is necessary, dewatering will be conducted in accordance with the ESCTS (Appendix C), FERC Plan (Appendix D), and applicable permit conditions.

Where dewatering will occur, the water will be discharged to a well-vegetated upland area or suitable BMP (e.g., geotextile filter bag or straw bale dewatering structure) in a manner that does

not cause erosion and does not result in heavily silt-laden water flowing into any waterbody, wetland, or storm water sewer system (including drain tile inlets). Pumps will be equipped with floats on the intake hose to reduce silt intake from the bottom of the excavation.

Dewatering operations will be monitored to ensure that discharge rates and sediment loads do not exceed the capacity of the dewatering devices. At no time shall discharge rate or volume exceed the capacity of the dewatering device, if used. The discharge rate and volume shall be determined with a flow meter or estimated by suitable means. As an alternative to discharging water to the ground, the Contractor may truck the water to a licensed disposal facility. No temporary or permanent drainage ditches may be constructed to drain water from the construction site. All BMPs used for dewatering activities will be removed upon completion.

Where necessary to treat suspended sediments in trench water or hydrostatic test discharges, additional treatment measures may include the following:

- Flocculants may be used if allowable by permit conditions and if prior approval for the treatment chemical and process has been received from the Northern Division Environmental Specialist.

3.4 EROSION CONTROLS

Erosion control practices are designed to minimize the movement of soil where ground-disturbing activities have occurred. The following erosion controls are options for temporary stabilization measures and can be used in conjunction with seeding to achieve permanent stabilization. Controls will be installed as indicated on the Site Plan or as directed by Northern's site inspector. BMPs for erosion controls are discussed in Section 6.0 of the ESCTS and typical details of the controls are provided in Appendix B of the ESCTS (Appendix C).

3.4.1 Preservation of Existing Vegetation

Contractors will preserve existing vegetation and vegetative buffer strips to the extent possible. Based on the method if installation, vegetation disturbance is anticipated to be minimal. If possible, vegetation buffer strips should be created around the perimeter of the Project Area where soil disturbance has occurred. Vegetation buffer strips are designed to slow storm water flow and intercept sediment. This will provide better water quality post-construction and maintain a healthy amount of vegetation that can be included in the final stabilization percent density. Perimeter protection (such as, silt fence) should be installed upslope of the vegetative buffer for maximum interception of sediment flow.

3.4.2 Seeding and Mulching or Blanketing

Mulch such as wood chips, straw, or compost can be used independently as a temporary soil stabilization practice or in conjunction with seeding activities. Mulch acts as a soil surface protection while vegetation is being established. Mulch should not be installed in active agricultural lands. Seed to be used on projects will be consistent with pre-construction vegetation. All temporarily casted soil stockpiles that are not being actively worked shall be seeded and/or mulched to prevent erosion and sedimentation. All seeding or mulching accounted for during restoration activities must be completed prior to frozen ground conditions. If either permanent or temporary soil stabilization by seeding or mulching is not accomplished by the time frozen ground conditions are present, additional erosion control practices will be required. These practices may

include additional mulching, application of erosion control matting, sodding, or application of polymer tackifiers.

Northern prefers that hydromulch (broad definition, or other hydraulically applied stabilization material) be used in lieu of erosion control blankets, unless in situations noted below where erosion control blanket may be more appropriate:

- Areas of concentrated flow.
- Steep slopes.
- Adjacent to waterways and wetland.

In periods of heavy precipitation, sediment-laden storm water runoff will travel through established vegetation, thereby reducing pollutant transport.

3.4.3 Removal of Sediment from Public Roadway (Tracking Control)

Access to the Project Area will occur via public roadways and their rights-of-way. If sediment escapes from the site (such as, at the entrance/access road or outside the boundaries of the Project work area), it must be removed in a manner and at a frequency sufficient to minimize off-site impacts. Street scraping and sweeping will be used to retrieve sediment that has been tracked onto paved surfaces at the end of the working day. If sediment is cleaned from the pavement using a street sweeper, the pavement would be swept using water, which is immediately collected by the pickup brooms before it could run off the pavement. Pavement wash water is not anticipated to be a runoff issue.

3.4.4 Dust Control

Dust is not anticipated to pose a problem based on the timing and nature of this Project. If water is required for dust control, the water used for dust control is not anticipated to pose a contamination / pollution issue. During dry periods when dust control is needed, the small amount of water that would be applied should be absorbed into the soil. Volume and rate of water application will be monitored and regulated to promote infiltration and to prevent erosion and stormwater discharge.

3.5 STORMWATER MANAGEMENT

The Project Area will be returned to pre-construction conditions at the conclusion of the Project. As such, the primary BMP used to control impacts from stormwater runoff will be vegetation. No permanent fill placement will occur. As such, the Project is exempt from the post-construction performance standards per NR 151.121(2)(a). No long-term post-construction BMPs will be used.

3.6 FINAL STABILIZATION

Northern's contractor will stabilize all areas disturbed by construction activities to minimize erosion. Temporary stabilization consists of temporary cover using temporary seeding and/or mulching, poly cover, or the installation of erosion control blankets. Permanent stabilization consists of the establishment of permanent cover using permanent seed mixes with mulch or erosion control blankets, or gravel/asphalt cover, as necessary.

Stabilization requirements are as follows:

1. Unless infeasible, stabilization will be **initiated immediately** where construction activity will permanently or temporarily cease for more than **14 days.**
2. Where construction activity has temporarily ceased and earth-disturbing activities will resume within **14 days**, temporary stabilization measures will not have to be initiated on that portion of the site. If construction delays result in the area not being restored with 14 days, the area will be immediate stabilized.
3. Energy dissipation measures will be installed at or near the outlet of structural measures to reduce erosion potential.
4. In winter conditions, temporary stabilization is required; frozen soil conditions are not considered a stabilization measure.

Final stabilization is reached once a uniform perennial vegetative cover of ≥70% density relative to surrounding vegetation has been established on all non-impervious surfaces and areas not covered by permanent structures. Temporary synthetic, structural, and non-biodegradable erosion and sediment control measures will be removed after the final stabilization of the site.

In agricultural areas, land will be returned to its pre-disturbance agricultural use. Areas that were not previously used for agricultural activities, such as buffer strips immediately adjacent to waters of the state, and areas which are not being returned to their pre-disturbance agricultural use must meet the final stabilization criteria above.

3.7 UPDATING THE SWPPP

Northern will amend the SWPPP within seven (7) days whenever there is a change in site design or construction methods that has a significant effect on the potential for the discharge of pollutants to the Waters of the State. The SWPPP will also be amended to improve observed deficiencies associated with treatment of storm water or construction site dewatering discharges.

Spills contributing to a “hazardous condition” will be documented within the SWPPP within seven (7) days of an occurrence. The release and its circumstances will be described as well as prevention measures to prevent a reoccurrence of a spill.

4.0 POLLUTION PREVENTION MANAGEMENT MEASURES

4.1 SOLID WASTE DISPOSAL

Non-hazardous construction wastes generated will be containerized and properly disposed of off-site in compliance with state and federal requirements. Storm water contact with wastes will be minimized. All wastes not native to the construction site will be disposed off-site. The weekly site inspection will include surveying the site for refuse, which will be disposed of as soon as possible. Upon final stabilization, all existing erosion and sediment control structures will be removed from the Project Area. The location of waste disposal containers will be marked on the Site Plan by the EI.

4.2 FUEL AND HAZARDOUS MATERIALS HANDLING

Secondary containment will be provided for any hazardous materials, including oil, gasoline, and paint. Safety Data Sheets (SDSs) for all hazardous materials will be maintained on site. All employees dealing with hazardous materials will be informed of proper handling procedures.

No hazardous wastes are expected to be generated during construction activities. In the event hazardous wastes are generated, they will be stored and disposed of in compliance with state and federal regulations. The EI will mark on the Site Plan the location of hazardous material storage containers. Northern will follow the spill prevention and reporting procedures in its Spill Prevention, Control and Countermeasure (SPCC) Plan for Construction Projects, provided as **Appendix F**.

Refueling of equipment or hazardous material transfer will occur in designated areas only. No refueling or hazardous material transfer will occur within 100 feet of a wetland, waterbody, spring, or well. Where conditions require that construction equipment (e.g., pumps used in trench dewatering) be refueled within 100 feet of wetlands or waterbodies, sufficient oil and fuel containment booms and absorbent materials will be on-hand to allow for rapid containment and recovery of a spill. Hazardous materials, including oils, fuels, and lubricants will be stored 100 feet away from waterbodies. Construction equipment will also be staged 100 feet away from waterbodies when parked/stored overnight.

In the event of a spill, Northern will follow procedures outlined in its SPCC Plan (Appendix F). Spills which create a hazardous condition (e.g., spills to land or water which create an immediate or potential danger to the environment or to public health and safety) will be reported to the IDNR at 515-281-8694 (24-hour emergency spill response number) and the local sheriff's office as soon as possible, but not more than six hours after the onset of a "hazardous condition."

4.3 POTENTIAL STORM WATER CONTAMINANTS

The primary pollutant sources will be disturbed soils and subsequent surface water runoff within the construction ROW. Other potential pollutant sources will include debris from the clearing operations as well as petroleum (e.g., gasoline, diesel, and hydraulic fluids) and coolant products needed for construction equipment. Storm water that collects in secondary containment will be visually inspected for signs of contamination or visible sheen prior to drainage. If contamination is suspected, storm water will be disposed of in compliance with state and federal regulations. Construction materials such as new or old pipe and construction timber mats may be stored on site during construction activities.

4.4 PORTABLE TOILETS

Portable toilets will be sited outside of wetlands, waterbodies, storm water conveyances, and storm sewer inlets. Portable toilets will have secondary containment and will be securely anchored in place. The contractor will have regular maintenance completed at each location to ensure the toilets do not leak. The EI will mark the Site Plan with the location of the portable toilets.

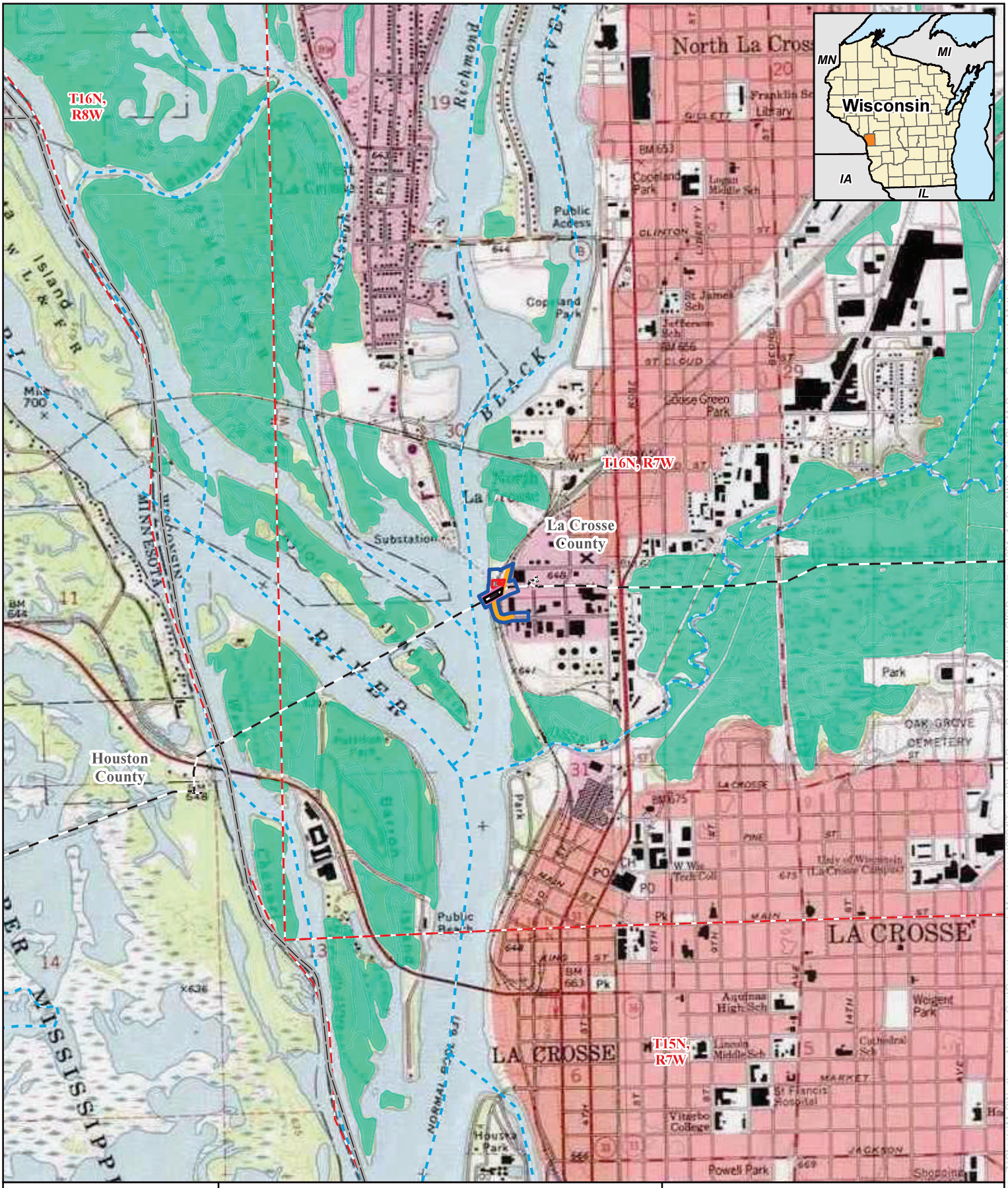
4.5 CONSTRUCTION SPILL PREVENTION AND REPORTING

The following spill prevention practices will be followed during the course of the Project. To protect against accidental release of lubricant, coolant, or fuel, equipment will have catch pans and absorbing pads. The contractor will have equipment and materials on-site needed to prevent and/or contain an accidental spill. Equipment will be inspected each morning before work starts and frequently during the workday to check for leaks and to repair or replace hoses or connections that are in danger of failure. Northern will follow the procedures in its SPCC Plan (Appendix F).

4.6 CONCRETE WASTE AREA

If concrete is to be poured onsite, wash water generated from cleaning any equipment that comes in contact with concrete pours will be contained in a leak-proof container or impervious liner (i.e., a compacted clay liner that doesn't allow washout to enter ground water) and the liquid allowed to evaporate or be disposed of at an approved location. The concrete washout area will be clearly identified with appropriate signage. Under no circumstance will washout water be allowed to drain onto the public ROW or into any public or private storm drain conveyance.

Appendix A
Figure 1: Project Location Map
Figure 2: Site Plans



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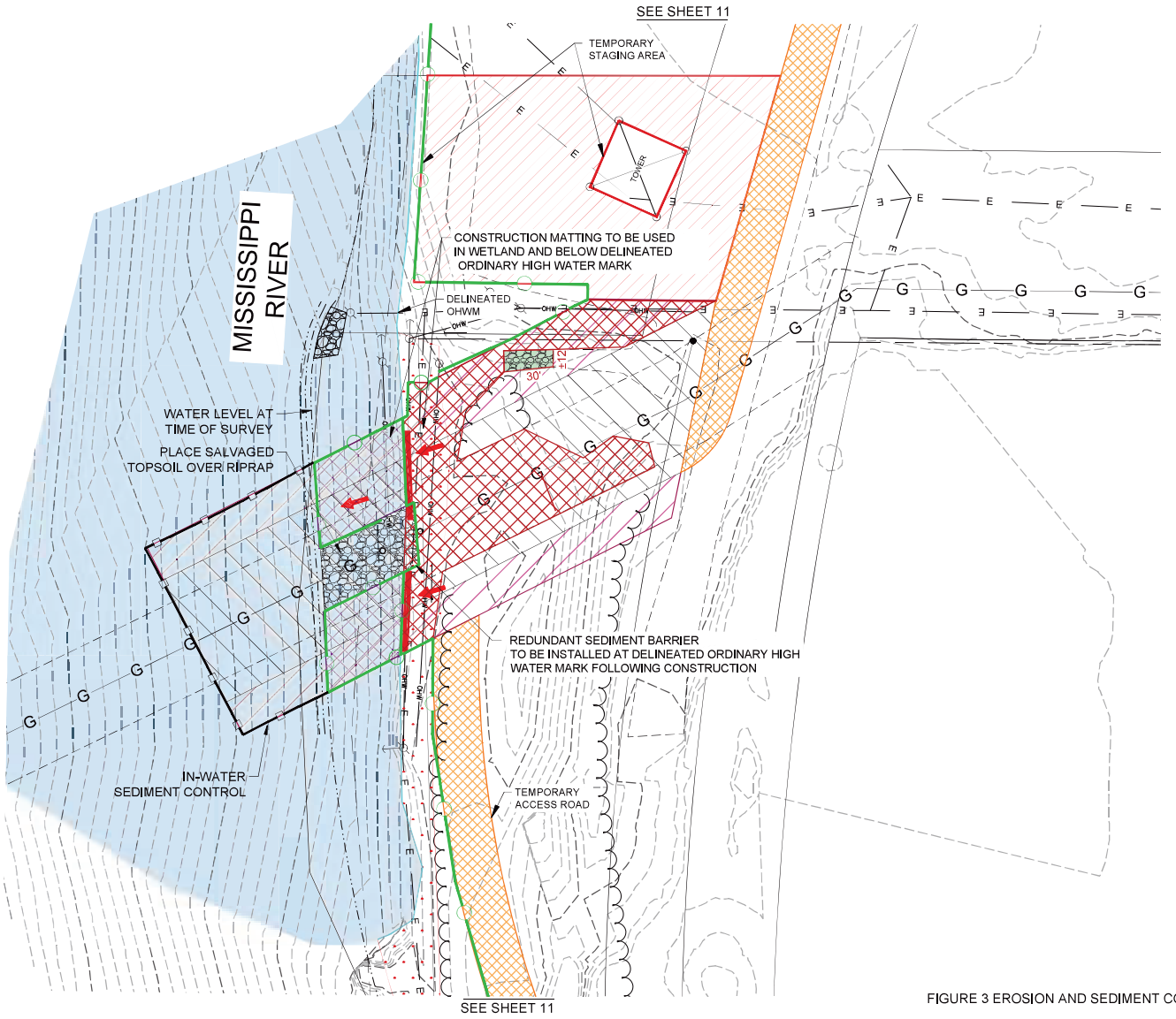
For Environmental Review Purposes Only

Figure 1:
01133417 Tomah BL
Mississippi River Revetment Mattress
Site Location
Northern Natural Gas
La Crosse County, Wisconsin

- Environmental Clearance Boundary
- Temporary Workspace
- Extra Temporary Workspace
- Staging Area
- Access Road
- Existing Pipeline
- WDNR Waterway
- WDNR Wetland
- County Boundary
- Township Boundary

Source: Z:\Clients\NW_PiNorthern_Natural_Gas\Operations_and_Maintenance\2024\Tomah\BL_MSRiver_Revetment_Mat\ArcGIS\Permitting\bdr1_ArcPro\NNG_TomahBL_MSRiver_Revetment_Mat_Permitting.aprx : (9/10/2025)

Figure 2:
01133417 Tomah BL
Mississippi River Revetment Mattress
Site Plan
Northern Natural Gas
La Crosse County, Wisconsin



LEGEND

- EXISTING FENCE
- EXISTING PIPELINE
- DELINEATED ORDINARY HIGH WATER MARK
- EXISTING AGGREGATE
- DELINEATED WATERWAY
- DELINEATED WETLAND
- EXISTING BITUMINOUS
- TEMPORARY ACCESS ROADS
- TEMPORARY STAGING AREA
- PROPOSED ROCK ENTRANCE
- FLOW DIRECTION
- PROPOSED SLOPE BREAKER
- PROPOSED SEDIMENT BARRIER
- IN-WATER SEDIMENT CONTROL
- TOPSOIL, SEED, FERTILIZER & NETLESS EROSION CONTROL BLANKET
- SALVAGED TOPSOIL, SEED, AND NETLESS EROSION CONTROL BLANKET (SEE NOTES 9 & 10)

N

0 30 60

EROSION CONTROL NOTES:

1. SEE SEQUENCING PLAN FOR ADDITIONAL NOTES.
2. A PLANTING PLAN WILL BE DEVELOPED IN COORDINATION WITH THE USACE AND WDNR.
3. CONSTRUCTION AND RESTORATION WILL BE COMPLETED IN ACCORDANCE WITH THE REDERAL ENRGY REGULATORY COMMISSION'S UPLAND EROSION CONTROL, REEGATION, AND MAINTENANCE (FERC PLAN), FERC'S WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES AND NORTHERN'S EROSION AND SEDIMENT CONTROL TECHNICAL STANDARDS.
4. ALL EROSION CONTROL AND THE SITE PLAN SHALL COMPLY WITH THE PROJECT STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
5. EROSION CONTROLS ARE TO BE MAINTAINED DURING THE DURATION OF CONSTRUCTION ON THE PROJECT.
6. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AND CLEANED OR OTHERWISE MAINTAINED ON A WEEKLY BASIS, AND WITHIN 24 HOURS AFTER ANY SIGNIFICANT RAINFALL (0.5 INCHES OR GREATER) TO INSURE THAT ANY DAMAGE THAT MAY HAVE OCCURRED IS REPAIRED.
7. PROJECT SITE SHALL BE ROUTINELY INSPECTED AS PER SWPPP REQUIREMENTS.
8. CONTRACTOR IS RESPONSIBLE FOR ANY SPILL OR RELEASE, AND SHALL COMPLY WITH THE WISCONSIN DNR STATE REQUIREMENTS.
9. WETLANDS TO BE SEEDED WITH ANNUAL RYEGRASS AT A RATE OF 40 LBS/ACRE IN THE ABSENCE OF A SPECIFIC SEED MIX. SEED MIXES SHALL COMPLY WITH STATE OF WISCONSIN REQUIREMENTS FOR PERMANENT SEEDING.
10. NO FERTILIZER, LIME, OR MULCH TO BE PLACED BELOW WETLAND OR ORDINARY HIGH WATER MARK. CONTRACTOR TO USE NETLESS EROSION CONTROL BLANKET BELOW WETLAND OR ORDINARY HIGH WATER MARK.

DATE OF PLOT: 08/29/2025

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FIGURE 3 EROSION AND SEDIMENT CONTROL PLAN

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(920) 393-9198

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(Signature) (Date)

Printed Name: Josh Petersen, P.E.
My license renewal date is 07/31/2026 License No: 49607

NORTHERN NATURAL GAS

TOMAH BL CIVIL REMEDIATION PROJECT

LA CROSSE COUNTY, WISCONSIN

EROSION & SEDIMENT CONTROL PLAN

C908

SHEET 10 OF 12

PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 inches)

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Appendix B
Engineering Plans

BANK RESTORATION AND PIPE PROTECTION
FOR
TOMAH BL MISSISSIPPI RIVER PIPELINE

NORTHERN NATURAL GAS
LA CROSSE, WISCONSIN

STATE MAP
NOT TO SCALE

LOCATION MAP
NOT TO SCALE

VICINITY MAP
SCALE 1" = 300'

INDEX		
TITLE SHEET	C900	1
GENERAL NOTES	C901	2
EXISTING CONDITIONS	C902	3
EXISTING CONDITIONS	C903	4
SEQUENCING PLAN	C904	5
SITE PLAN	C905	6
SITE PLAN	C906	7
GRADING PLAN & PIPE PROFILE	C907	8
GRADING PLAN & PIPE PROFILE	C908	9
EROSION AND SEDIMENT CONTROL PLAN	C909	10
EROSION AND SEDIMENT CONTROL PLAN	C910	11
DETAILS	C911	12

ENGINEER CONTACT:
Josh Petersen, PE

Merjent, Inc.
1 Main Street SE, Suite 300
Minneapolis, Minnesota 55414
612-746-3660

OWNER CONTACT:
Zach Kruse
Northern Natural Gas
Engineer 1
Pipeline Integrity & Risk
Office: 402-398-7718
Cell: 913-951-6769

Know what's below. Call before you dig.

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NORTHERN NATURAL GAS
TOMAH BL MISSISSIPPI RIVER PIPELINE
LA CROSSE COUNTY, WISCONSIN

C900

TITLE SHEET

SHEET 1 OF 12

PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 inches)

Z:\Clients\M_P\Northern_Natural_Gas\Tomah_BL_Mississippi_River_Revetment_Mattress\Engineering\AutoCAD\Plan Sheets\2025.0226 - NNG_Tomah - Title Sheet.dwg

GENERAL NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS PRIOR TO WORK COMMENCING.
2. CONTRACTOR SHALL CONTACT UTILITY LOCATION SERVICES 48 HOURS PRIOR TO STARTING WORK.
3. THIS SITE PLAN IS FOR INSTALLATION OF CIVIL WORKS ONLY. ALL MECHANICAL EQUIPMENT, BUILDING PADS, BUILDING STRUCTURES SHALL BE BY OTHERS.
4. STOP WORK IF ENCOUNTERING ANY SUBSURFACE LATENT CONDITIONS, PIPE LINE BREAKS, DAMAGED UTILITIES, OR OTHER UNKNOWN OR UNFORESEEN INFRASTRUCTURE DAMAGE.
5. CONTRACTOR SHALL TAKE EVERY PRECAUTION TO PROTECT THE OWNERS EXISTING PROPERTY FROM DAMAGE DUE DIRECTLY OR INDIRECTLY FROM THE CONTRACTOR'S WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY SUCH DAMAGE.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INJURY AND DAMAGE OF ANY KIND RESULTING FROM THIS WORK TO PERSONS OR PROPERTY.
7. RENTAL CHARGES, SAFETY, PROTECTION AND MAINTENANCE OF RENTED EQUIPMENT SHALL BE CONTRACTOR'S RESPONSIBILITY.
8. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, AND SHALL PAY FOR AND OBTAIN PERMITS AND ALL NECESSARY APPROVALS. CONTRACTOR SHALL OBTAIN ALL APPROVALS AND PERMITS FOR CONSTRUCTION FROM THE MUNICIPAL AGENCIES HAVING JURISDICTION, PRIOR TO COMMENCEMENT OF WORK, AT THEIR OWN EXPENSE.
9. ANY PRODUCT SPECIFIED SHOULD COMPLY WITH MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS AND COMPLY WITH MANUFACTURER'S INSTALLATION PROCEDURES.
10. THE WORK UNDER THIS SITE PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH LOCAL AND STATE REQUIREMENTS.
11. IN ACCORDANCE WITH NPDES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL PROTECTION DURING CONSTRUCTION AS WELL AS PROVIDING PROTECTION TO ADJOINING STREETS FROM POLLUTED RUNOFF AS WELL AS KEEPING EXISTING PAVEMENT CLEAN OF MUD AND DEBRIS. PAVEMENT SWEEPING OF CITY ROADS SHALL BE PERFORMED AS NECESSARY OR AT THE DIRECTION OF THE LOCAL JURISDICTION.
12. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AND CLEANED OR OTHERWISE MAINTAINED ON A WEEKLY BASIS, AND WITHIN 24 HOURS AFTER ANY SIGNIFICANT RAINFALL (0.5 INCHES OR GREATER) TO INSURE THAT ANY DAMAGE THAT MAY HAVE OCCURRED IS REPAIRED.
13. SEVEN (7) DAYS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER INTENT TO BEGIN CONSTRUCTION AND MAY BE REQUESTED TO ATTEND AN ON-SITE MEETING PRIOR TO CONSTRUCTION BEGINNING.
14. RECORD DRAWINGS SHOULD BE KEPT ON THE PROJECT FOR ANY CHANGES OR FINAL CONDITIONS OF THE DESIGN ON THE PROJECT. RECORD DRAWINGS SHALL INCLUDE MAJOR VARIATIONS IN GRADING PLAN.
15. UNLESS DIRECTLY NOTIFIED ON THE DEMOLITION PLAN, ALL EXISTING UTILITIES ON-SITE SHOULD BE PROTECTED AND PREVENTED FROM DAMAGE OR OUTAGES.
16. IF STONE, BONE, OR OTHER ARTIFACTS ARE UNCOVERED, WORK SHALL CEASE IMMEDIATELY AND A QUALIFIED ARCHAEOLOGIST SHALL BE CONSULTED TO DEVELOP ANY REQUIRED MITIGATION MEASURES TO REDUCE ARCHAEOLOGICAL IMPACTS BEFORE WORK RESUMES ON-SITE.
17. NO WORK SHALL BE COMPLETED IN THE CITY RIGHT OF WAY UNTIL APPROVAL TO PROCEED HAS BEEN GRANTED BY THE CITY OR LOCAL JURISDICTION.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF TEMPORARY SIGNS, BRIDGES, BARRICADES, FLAGGING PERSONNEL, AND OTHER FACILITIES TO ADEQUATELY SAFEGUARD THE GENERAL PUBLIC AND WORK, AND TO PROVIDE FOR PROPER ROUTING OF VEHICULAR AND PEDESTRIAN TRAFFIC AS NECESSARY.
19. WORK SHALL BE COORDINATED WITH OWNER'S REPRESENTATIVE AND ALL IDENTIFIED PROJECT REPRESENTATIVES.
20. VERIFY WITH LOCAL JURISDICTION FOR REGULAR WORK HOURS AND REQUIREMENTS FOR NOISE AND OTHER IMPACTS DURING CONSTRUCTION.
21. WETLAND OR WATERBODY IMPACTS WILL BE CONDUCTED IN COMPLIANCE WITH PERMIT ISSUED BY WDNR.

STATEMENT OF ESTIMATED QUANTITIES

NO.	MATERIAL	UNIT	QTY
1	SILT FENCE (SEDIMENT BARRIER)	LIN. FT.	375
2	REMOVE TREES	AC.	0.03
3	RELOCATE GAS VENT	EACH	1
4	EROSION CONTROL BLANKET - NETLESS	SQ. FT.	14675
6	ROCK ENTRANCE (TRACKING PAD)	EACH	3
7	SLOPE BREAKERS	LIN. FT.	95
8	SEEDING	AC.	0.34
9	SEED MIX - WETLAND (6)	LBS.	8.5
9	SEED MIX - UPLAND 70A	LBS.	8.4
10	GEOTEXTILE FABRIC TYPE SAS	SQ. FT.	500
11	EMBANKMENT (CY)	CU. YD.	650
12	HEAVY RIPRAP	CU. YD.	145
13	GRANULAR BEDDING BACKFILL TYPE 3	CU. YD.	110

SEED MIX RATE: 65 LBS. PER ACRE FOR WETLAND
SEED MIX RATE: 35 LBS. PER ACRE UPLAND

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NORTHERN NATURAL GAS
TOMAH BL MISSISSIPPI RIVER PIPELINE
LA CROSSE COUNTY, WISCONSIN

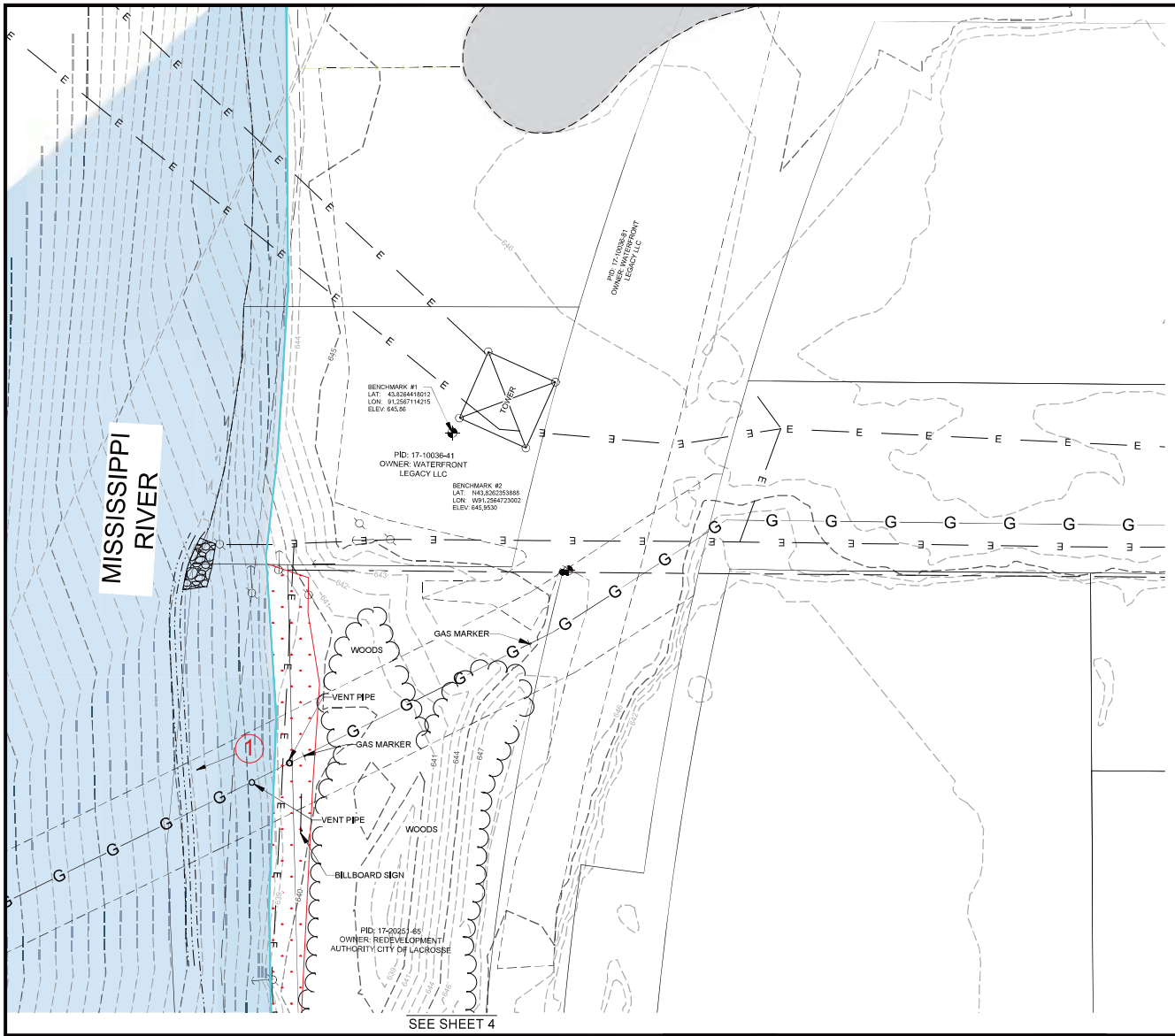
GENERAL NOTES

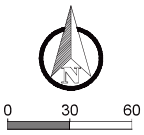
C901

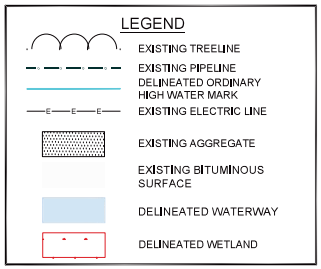
SHEET 2 OF 12

PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 inches)

Z:\Clients\M_P\Northern_Natural_Gas\Tomah_BL_Mississippi_River_Revetment_Mattress\Engineering\AutoCAD\Plan Sheets\2025.0226 - NNG_Tomah - General Notes.dwg







EXISTING SURVEY NOTES:

1. EXISTING SURVEY COMPLETED BY OTHERS. VERIFY ALL FIELD CONDITIONS PRIOR TO CONSTRUCTION. MERJENT AND THE ENGINEER CAN NOT AND DOES NOT ASSUME RESPONSIBILITY OF THE EXISTENCES OR LOCATION OF ANY STRUCTURE SUCH AS, BUT NOT LIMITED TO, UTILITIES, PIPELINES, SEWERS, AND/OR OTHER ITEMS FOUND ON-SITE.
2. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL AGENCIES AND/OR OWNERS TO VERIFY SURVEY INFORMATION PRIOR TO AND DURING CONSTRUCTION OF SITE PLAN. CONTACT THE ENGINEER IN THE EVENT OF ANY DISCREPANCY.
3. SEE SITE PLAN FOR PROJECT WORKSPACES AND STAGING AREAS.

1 IMAGE OF EXISTING CONDITION OVER PIPE

DATE OF PLOT: 08/29/2025

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NORTHERN NATURAL GAS

TOMAH BL MISSISSIPPI RIVER PIPELINE

LA CROSSE COUNTY, WISCONSIN

EXISTING CONDITIONS

C902

SHEET 3 OF 12

PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 inches)

Z:\Clients\M_P\Northern_Natural_Gas\Tomah_BL_Mississippi_River_Revetment_Mattress\Engineering\AutoCAD\Plan Sheets\2025.0226 - NNG_Tomah - Existing Conditions.dwg

LEGEND

- EXISTING TREELINE
- EXISTING PIPELINE
- DELINEATED ORDINARY HIGH WATER MARK
- EXISTING ELECTRIC LINE
- EXISTING AGGREGATE
- EXISTING BITUMINOUS SURFACE
- DELINEATED WATERWAY
- DELINEATED WETLAND

N

0 30 60

EXISTING SURVEY NOTES:

1. EXISTING SURVEY COMPLETED BY OTHERS. VERIFY ALL FIELD CONDITIONS PRIOR TO CONSTRUCTION. MERJENT AND THE ENGINEER CAN NOT AND DOES NOT ASSUME RESPONSIBILITY OF THE EXISTENCES OR LOCATION OF ANY STRUCTURE SUCH AS, BUT NOT LIMITED TO, UTILITIES, PIPELINES, SEWERS, AND/OR OTHER ITEMS FOUND ON-SITE.
2. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL AGENCIES AND/OR OWNERS TO VERIFY SURVEY INFORMATION PRIOR TO AND DURING CONSTRUCTION OF SITE PLAN. CONTACT THE ENGINEER IN THE EVENT OF ANY DISCREPANCY.
3. SEE SITE PLAN FOR PROJECT WORKSPACES AND STAGING AREAS.

DATE OF PLOT: 08/29/2025

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NORTHERN NATURAL GAS

TOMAH BL MISSISSIPPI RIVER PIPELINE

LA CROSSE COUNTY, WISCONSIN

EXISTING CONDITIONS

C903

SHEET 4 OF 12

PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 inches)

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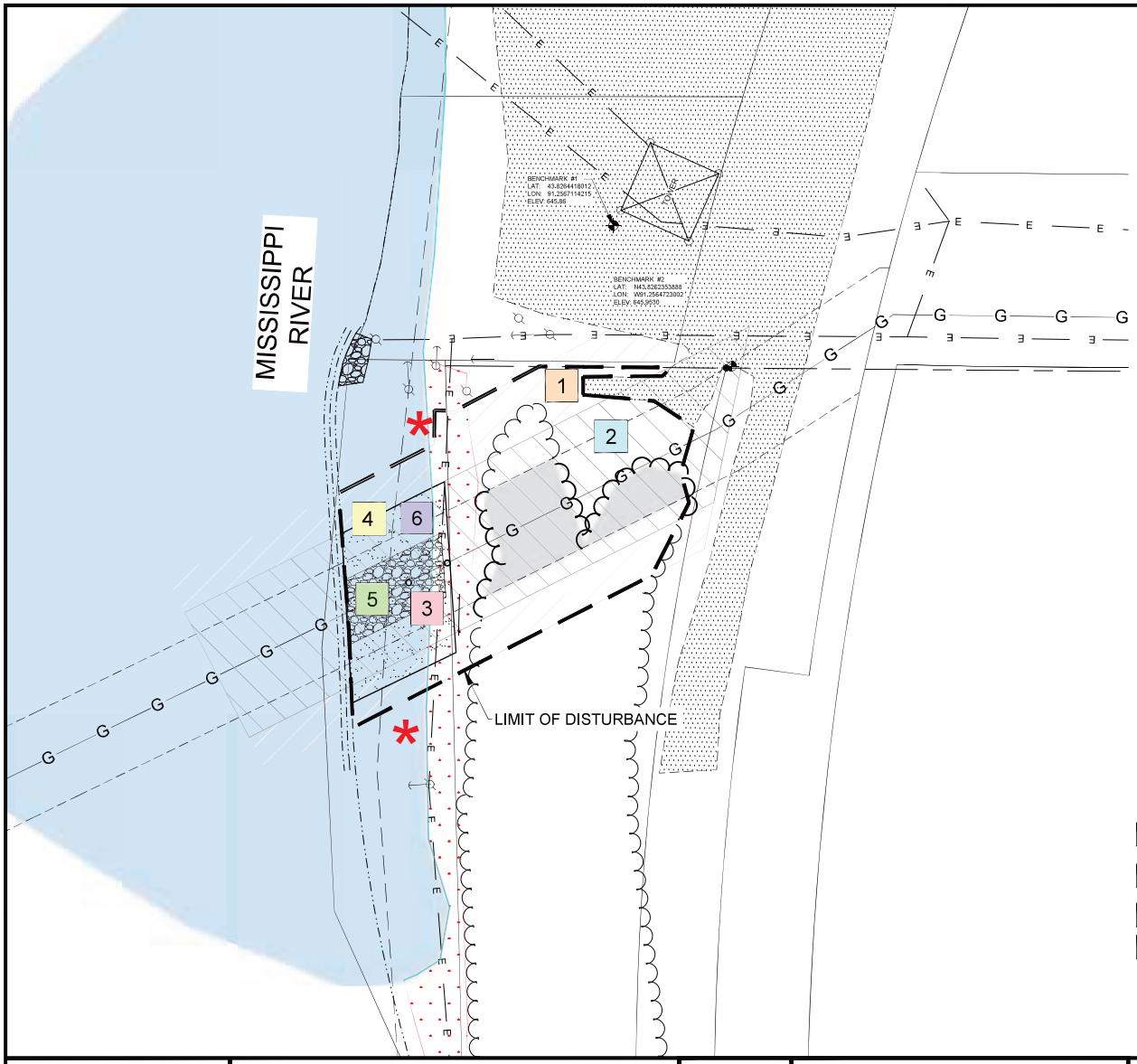

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LEGEND

- EXISTING TREELINE
- EXISTING PIPELINE
- DELINEATED ORDINARY HIGH WATER MARK
- EXISTING AGGREGATE
- DELINEATED WATERWAY
- DELINEATED WETLAND
- TEMPORARY WORKSPACE
- ADDITIONAL TEMPORARY WORKSPACE
- PROPOSED GRANULAR BEDDING GRADE 2

GRADING/SEQUENCING NOTES:

1. ESTABLISH VEHICLE TRACKING CONTROL (E.G. ROCK CONSTRUCTION ENTRANCES) AND INSTALL PERIMETER CONTROLS (E.G. SILT FENCE) AT DOWNGRADIENT PERIMETERS OF SITE.
2. SALVAGE AND SEGREGATE TOPSOIL AND ANY EXISTING COVER MATERIAL IN THE REVETMENT AREA. CREATE STABILIZED STAGING AREAS, REMOVE TREES, AND PRESERVE VEGETATIVE BUFFER AT SITE PERIMETER.
3. CONTRACTOR TO COORDINATE RELOCATION OF VENT PIPE APPROX. 25' N.E. SEE SITE PLAN FOR NEW LOCATION
4. PLACE 6" OF GRANULAR BEDDING GRADE 2 OVER PIPE AND TO THE LIMITS SHOWN ON THIS PAGE. DESIRED COVER FOLLOWING REVETMENT PLACEMENT IS 24"
5. PLACE GEOTEXTILE FABRIC OVER GRANULAR BACKFILL AS SHOWN ON THE GRADING PLAN. THE FABRIC SHOULD BE WRAPPED UNDER THE EXISTING GRADE AS SHOWN ON THE GRADING PLAN. THE GEOTEXTILE FABRIC SHALL BE WRAPPED ABOVE THE WATER LEVEL AND PROVIDE SUPPORT FOR HEAVY RIPRAP.
6. PLACE HEAVY RIPRAP AS SHOWN ON SITE PLAN AND TO THE DEPTH NOTED ON THE GRADING PLAN.
7. PLACE SALVAGED TOPSOIIL OVER HEAVY RIPRAP TO THE LIMIT OF DISTURBANCE.
8. PERFORM FINAL STABILIZATION OF ALL DISTURBED SOILS. USE EROSION CONTROL BLANKETS ON SLOPES.
9. REMOVE ALL TEMPORARY SEDIMENT CONTROL BMPS ONCE THE SITE HAS ACHIEVED FINAL STABILIZATION. (SILT FENCE, BIO-ROLLS, ETC.)
10. DO NOT DISTURB UPON COMPLETION OF SITE STABILIZATION.

* CAUTION - OVERHEAD POWER LINE

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NORTHERN NATURAL GAS

TOMAH BL MISSISSIPPI RIVER PIPELINE

LA CROSSE, WISCONSIN

SEQUENCING PLAN

C904

SHEET 5 OF 12

PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 inches)

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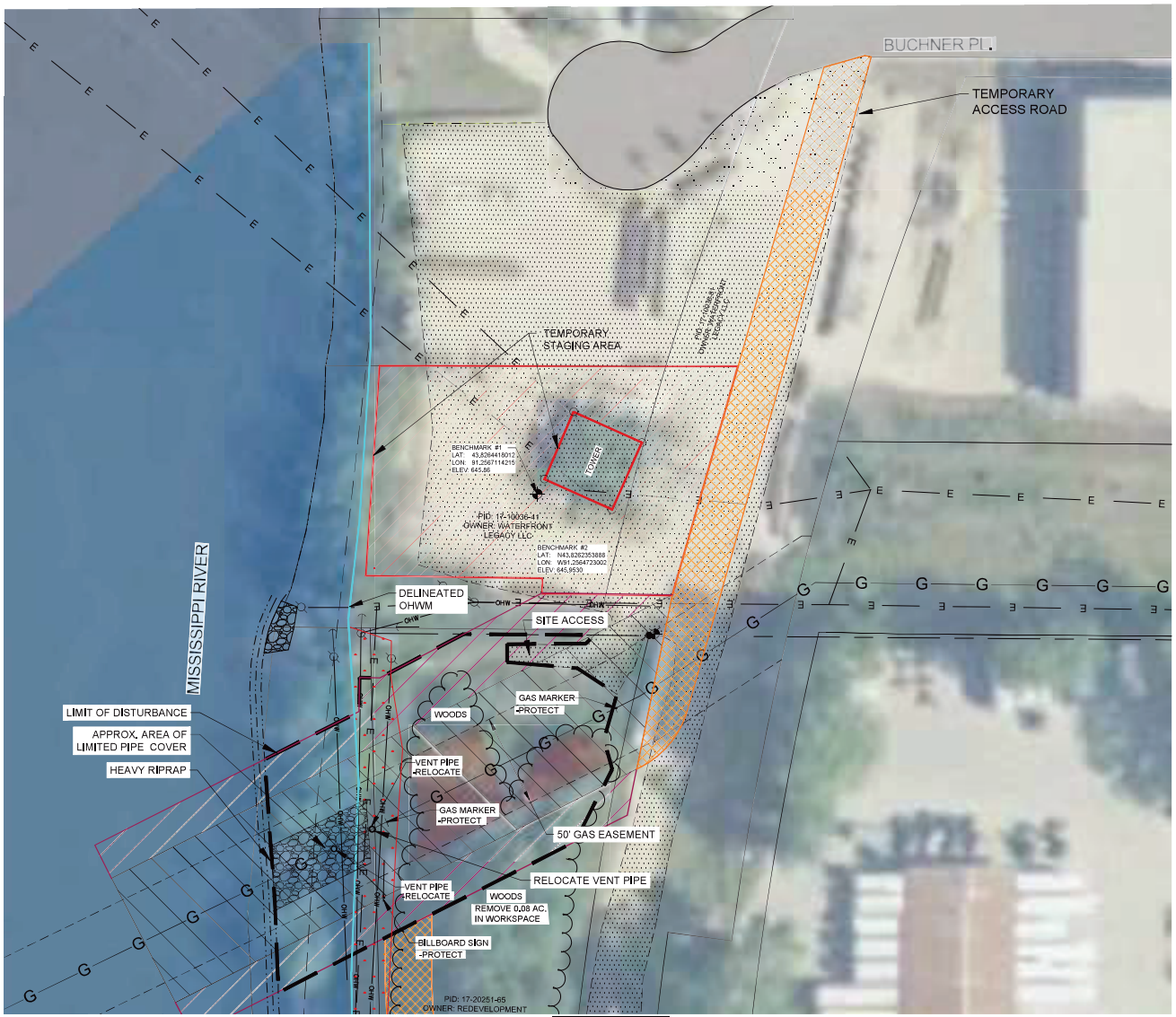

SEE SHEET 6

LEGEND

- EXISTING TREELINE
- EXISTING ELECTRIC LINE
- EXISTING PIPELINE
- DELINEATED ORDINARY HIGH WATER MARK
- EXISTING AGGREGATE
- DELINEATED WATERWAY
- TEMPORARY STAGING AREA
- TEMPORARY ACCESS ROADS
- DELINEATED WETLAND
- REMOVE WOODS
- TEMPORARY WORKSPACE
- ADDITIONAL TEMPORARY WORKSPACE
- PROPOSED GRANULAR BACKFILL GRADE 2
- LIMIT OF DISTURBANCE

0 30 60

CONTROL POINT LOCATIONS (INSTALLED BY EFN SURVEY)	
CONTROL POINT NUMBER	LAT. / LONG/ ELEV.
BENCHMARK #1	LAT: 43.8264418012 LON: 91.2567114215 ELEV: 645.86
BENCHMARK #2	LAT: N43.8262353888 LON: W91.2564723002 ELEV: 645.9530

LEGEND

- BENCHMARK

DATE OF PLOT: 08/29/2025

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NORTHERN NATURAL GAS

TOMAH BL MISSISSIPPI RIVER PIPELINE

LA CROSSE COUNTY, WISCONSIN

SITE PLAN

C905

SHEET 6 OF 12

PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 inches)

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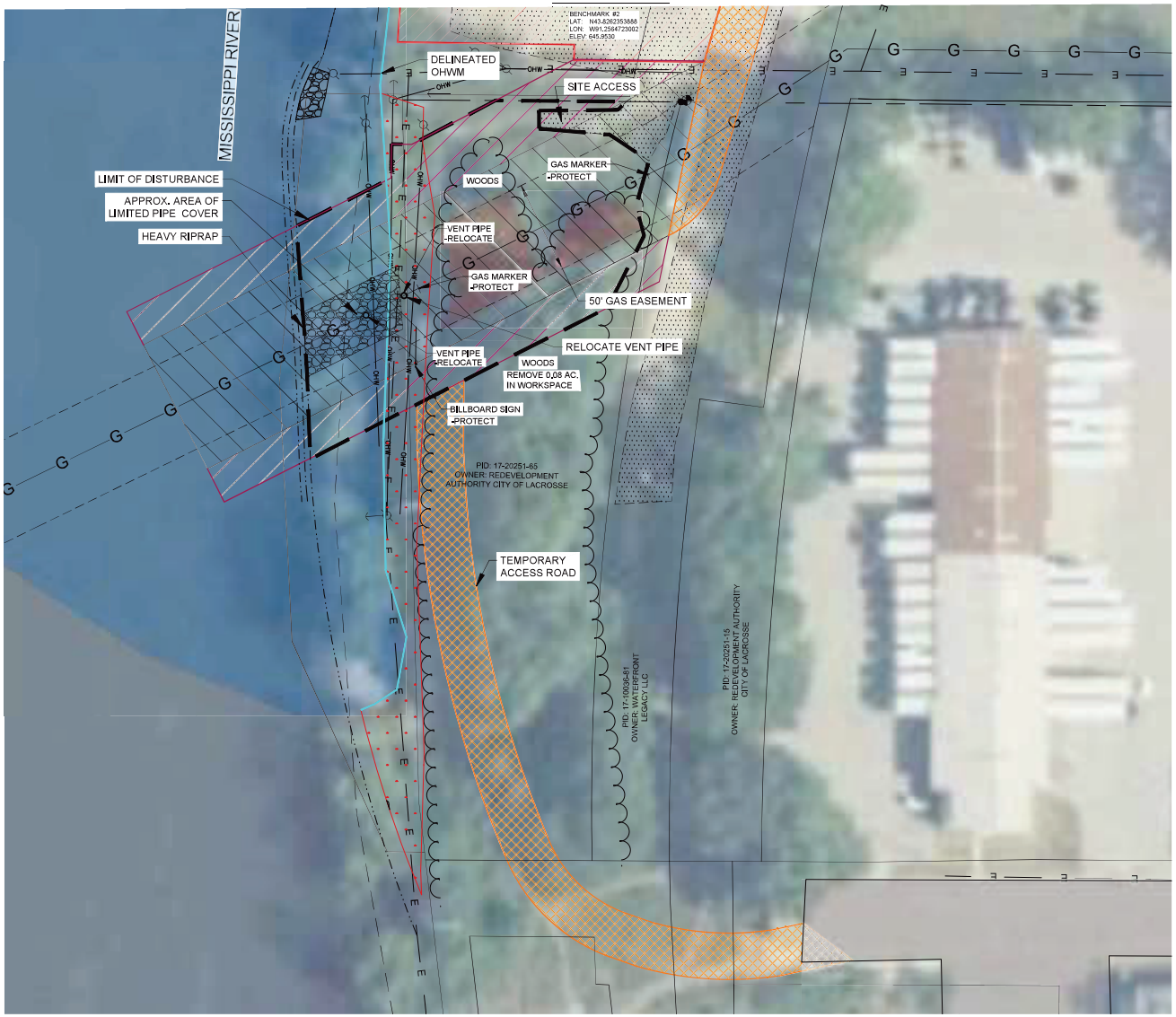
SEE SHEET 5



LEGEND

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- EXISTING ELECTRIC LINE
- EXISTING PIPELINE DELINEATED ORDINARY HIGH WATER MARK
- EXISTING AGGREGATE
- DELINEATED WATERWAY
- TEMPORARY STAGING AREA
- TEMPORARY ACCESS ROADS
- DELINEATED WETLAND
- REMOVE WOODS
- TEMPORARY WORKSPACE
- ADDITIONAL TEMPORARY WORKSPACE
- PROPOSED GRANULAR BACKFILL GRADE 2
- LIMIT OF DISTURBANCE

N

0 30 60

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NORTHERN NATURAL GAS

TOMAH BL MISSISSIPPI RIVER PIPELINE

LA CROSSE COUNTY, WISCONSIN

SITE PLAN

C906

SHEET 7 OF 12

PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 inches)

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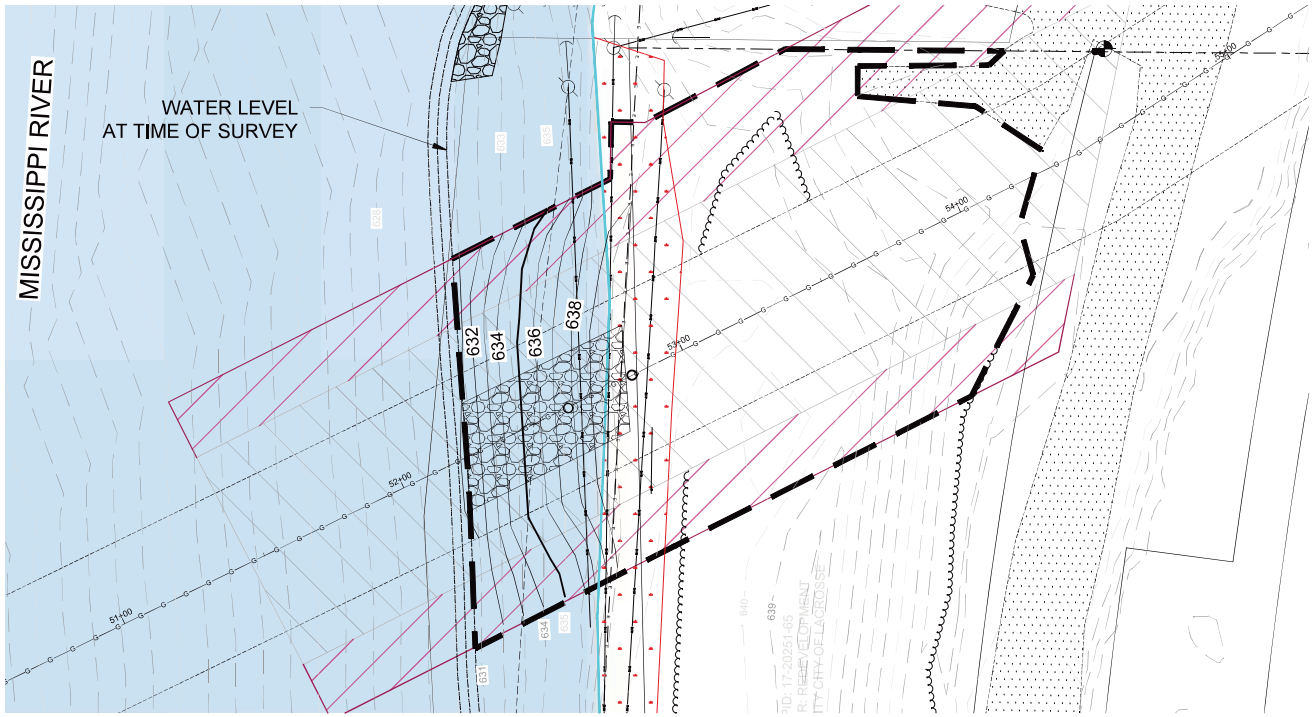


LEGEND

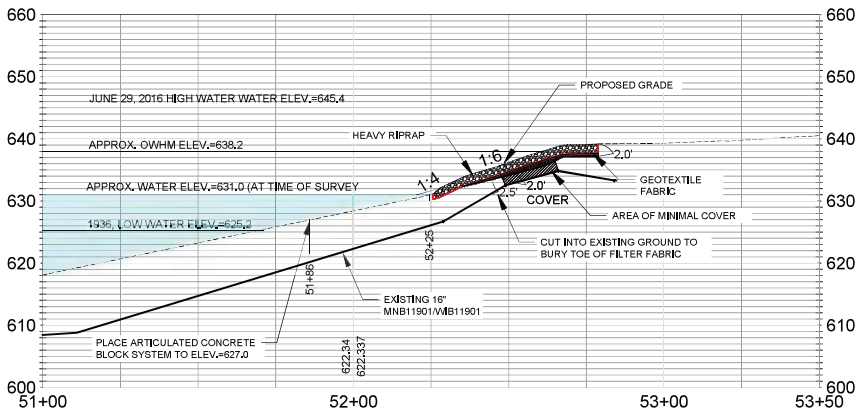
- EXISTING CONTOUR
- EXISTING TREELINE
- EXISTING PIPELINE
- DELINEATED ORDINARY HIGH WATER MARK
- EXISTING AGGREGATE
- DELINEATED WATERWAY
- DELINEATED WETLAND
- TEMPORARY WORKSPACE
- ADDITIONAL TEMPORARY WORKSPACE
- HEAVY RIPRAP

GRADING PLAN & PROFILE NOTES:

1. CONTRACTOR SHALL VERIFY FINAL SLOPE ELEVATIONS ARE WITHIN 0.2 FEET OF DESIGN ELEVATIONS AFTER FINAL COMPACTION AND SETTLEMENT HAVE TAKEN PLACE.
2. GENERAL SITE FILLS AND BACKFILLS SHALL BE COMPACTED TO 90%, DENSITY AS PER AASHTO TEST T-99 LATEST REVISION.

   COMPACT EMBANKMENTS TO OWNER SPECIFICATIONS AND THE DEGREE CONTEMPLATED FOR STANDARD COMPACTION. (207.3.6.2 STANDARD COMPACTION)

   PLACE THE EMBANKMENT MATERIAL IN LAYERS GENERALLY NO THICKER THAN 8 INCHES BEFORE COMPACTION. COMPACT EACH LAYER OF THE EMBANKMENT UNTIL THE COMPACTION EQUIPMENT ACHIEVES NO FURTHER SIGNIFICANT CONSOLIDATION. PROVIDE THE REQUIRED COMPACTION FOR EACH LAYER BEFORE PLACING ANY MATERIAL FOR A SUCCEEDING LAYER.



DATE OF PLOT: 08/29/2025

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(612) 746-3660

Wisconsin Office:
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Freedom, WI 54130
(920) 393-9198

REVISION RECORD

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(Signature) (Date)

Printed Name: Josh Petersen, P.E.
My license renewal date is 07/31/2026 License No: 49607

NORTHERN NATURAL GAS

TOMAH BL MISSISSIPPI RIVER PIPELINE

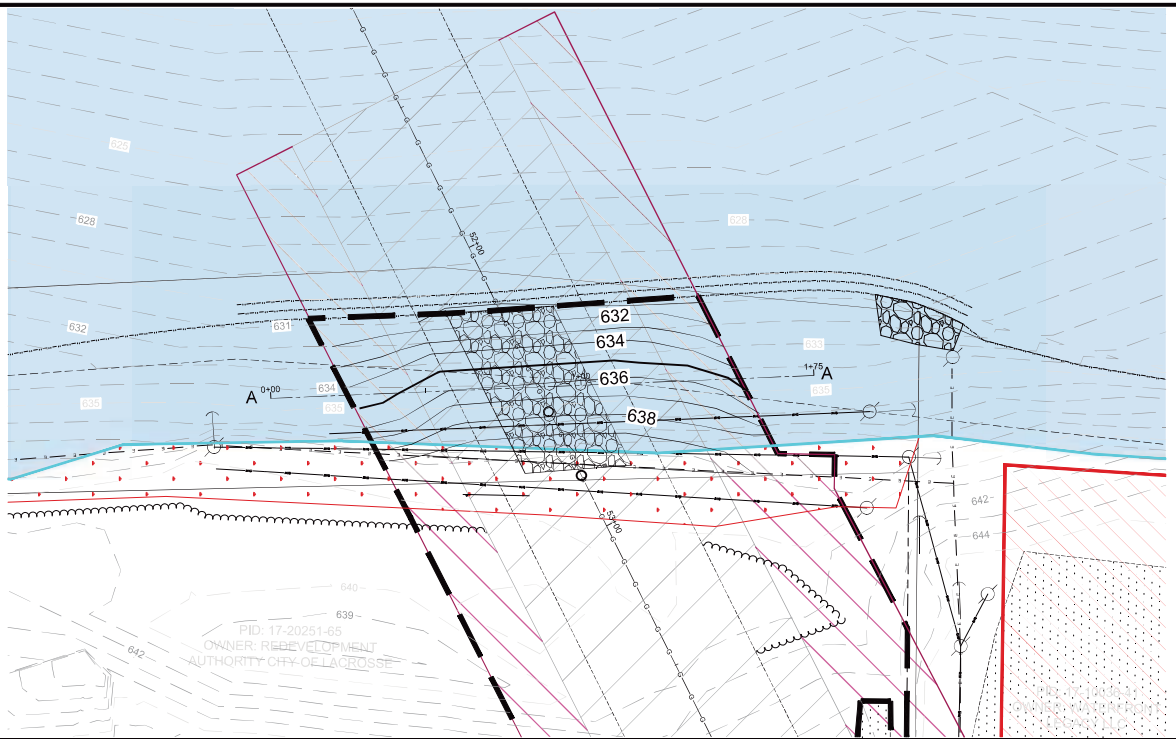
LA CROSSE COUNTY, WISCONSIN

C907

GRADING PLAN & PIPE PROFILE

SHEET 8 OF 12

PLOTTED SIZE: ANSI full bleed D (11.00 x 17.00 inches)



LEGEND

- EXISTING CONTOUR
- EXISTING TREELINE
- EXISTING PIPELINE
- DELINEATED ORDINARY HIGH WATER MARK
- EXISTING AGGREGATE
- DELINEATED WATERWAY
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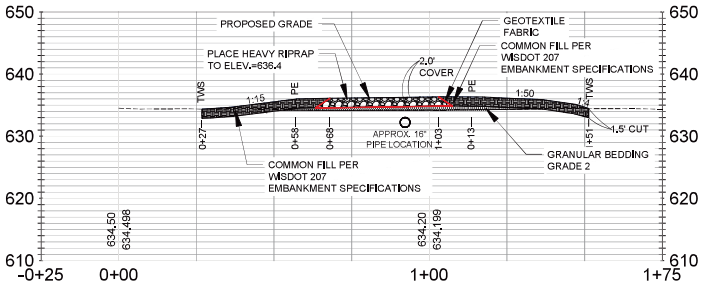

SECTION A-A

DATE OF PLOT: 08/29/2025

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NORTHERN NATURAL GAS

TOMAH BL MISSISSIPPI RIVER PIPELINE

LA CROSSE COUNTY, WISCONSIN

C908

GRADING PLAN & PIPE PROFILE

SHEET 9 OF 12

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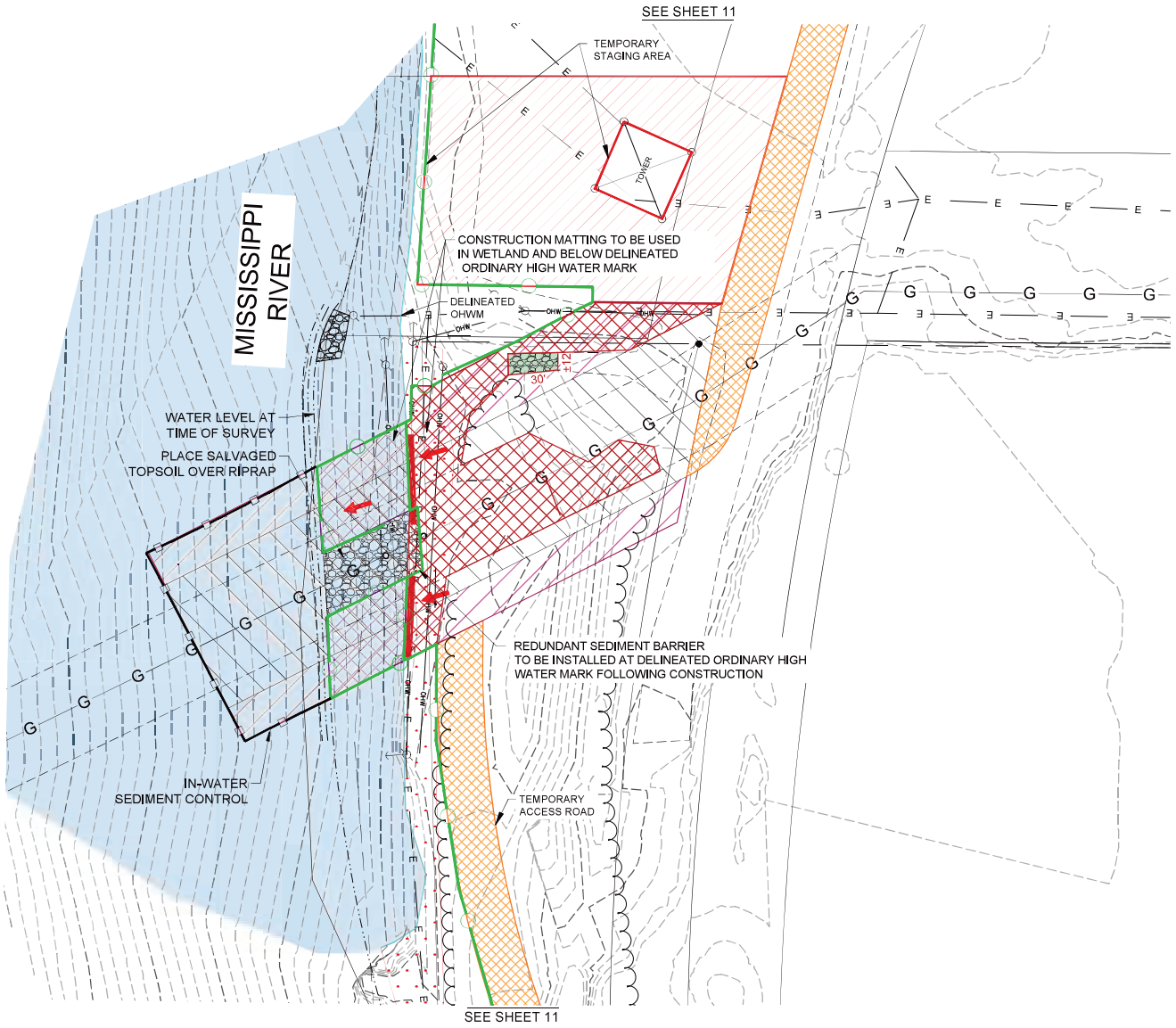

LEGEND

- EXISTING FENCE
- EXISTING PIPELINE
- DELINEATED ORDINARY HIGH WATER MARK
- EXISTING AGGREGATE
- DELINEATED WATERWAY
- DELINEATED WETLAND
- EXISTING BITUMINOUS
- TEMPORARY ACCESS ROADS
- TEMPORARY STAGING AREA
- PROPOSED ROCK ENTRANCE
- FLOW DIRECTION
- PROPOSED SLOPE BREAKER
- PROPOSED SEDIMENT BARRIER
- IN-WATER SEDIMENT CONTROL
- TOPSOIL, SEED, FERTILIZER & NETLESS EROSION CONTROL BLANKET
- SALVAGED TOPSOIL, SEED, AND NETLESS EROSION CONTROL BLANKET (SEE NOTES 9 & 10)

N

0 30 60

EROSION CONTROL NOTES:

1. SEE SEQUENCING PLAN FOR ADDITIONAL NOTES.
2. A PLANTING PLAN WILL BE DEVELOPED IN COORDINATION WITH THE USACE AND WDNR.
3. CONSTRUCTION AND RESTORATION WILL BE COMPLETED IN ACCORDANCE WITH THE REDERAL ENRGY REGULATORY COMMISSION'S UPLAND EROSION CONTROL, REEGATION, AND MAINTENANCE (FERC PLAN), FERC'S WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES AND NORTHERN'S EROSION AND SEDIMENT CONTROL TECHNICAL STANDARDS.
4. ALL EROSION CONTROL AND THE SITE PLAN SHALL COMPLY WITH THE PROJECT STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
5. EROSION CONTROLS ARE TO BE MAINTAINED DURING THE DURATION OF CONSTRUCTION ON THE PROJECT.
6. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AND CLEANED OR OTHERWISE MAINTAINED ON A WEEKLY BASIS, AND WITHIN 24 HOURS AFTER ANY SIGNIFICANT RAINFALL (0.5 INCHES OR GREATER) TO INSURE THAT ANY DAMAGE THAT MAY HAVE OCCURRED IS REPAIRED.
7. PROJECT SITE SHALL BE ROUTINELY INSPECTED AS PER SWPPP REQUIREMENTS.
8. CONTRACTOR IS RESPONSIBLE FOR ANY SPILL OR RELEASE, AND SHALL COMPLY WITH THE WISCONSIN DNR STATE REQUIREMENTS.
9. WETLANDS TO BE SEEDED WITH ANNUAL RYEGRASS AT A RATE OF 40 LBS/ACRE IN THE ABSENCE OF A SPECIFIC SEED MIX. SEED MIXES SHALL COMPLY WITH STATE OF WISCONSIN REQUIREMENTS FOR PERMANENT SEEDING.
10. NO FERTILIZER, LIME, OR MULCH TO BE PLACED BELOW WETLAND OR ORDINARY HIGH WATER MARK. CONTRACTOR TO USE NETLESS EROSION CONTROL BLANKET BELOW WETLAND OR ORDINARY HIGH WATER MARK.

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NORTHERN NATURAL GAS

TOMAH BL MISSISSIPPI RIVER PIPELINE

LA CROSSE COUNTY, WISCONSIN

EROSION & SEDIMENT CONTROL PLAN

C908

SHEET 10 OF 12

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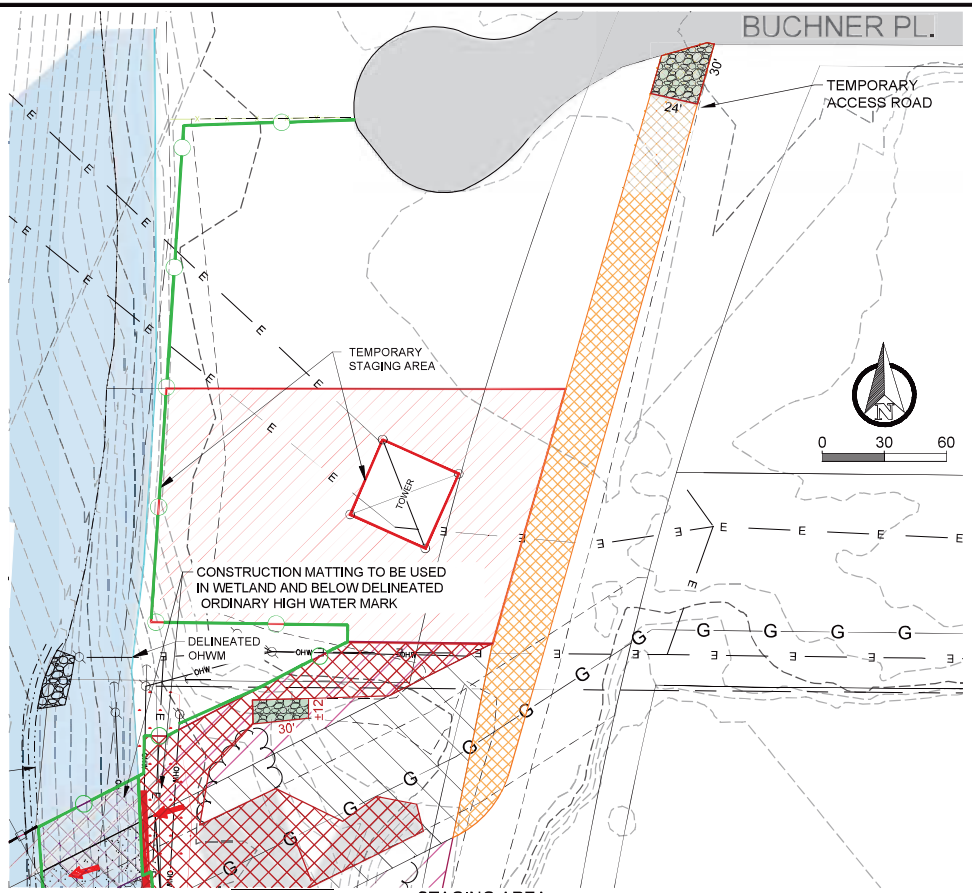
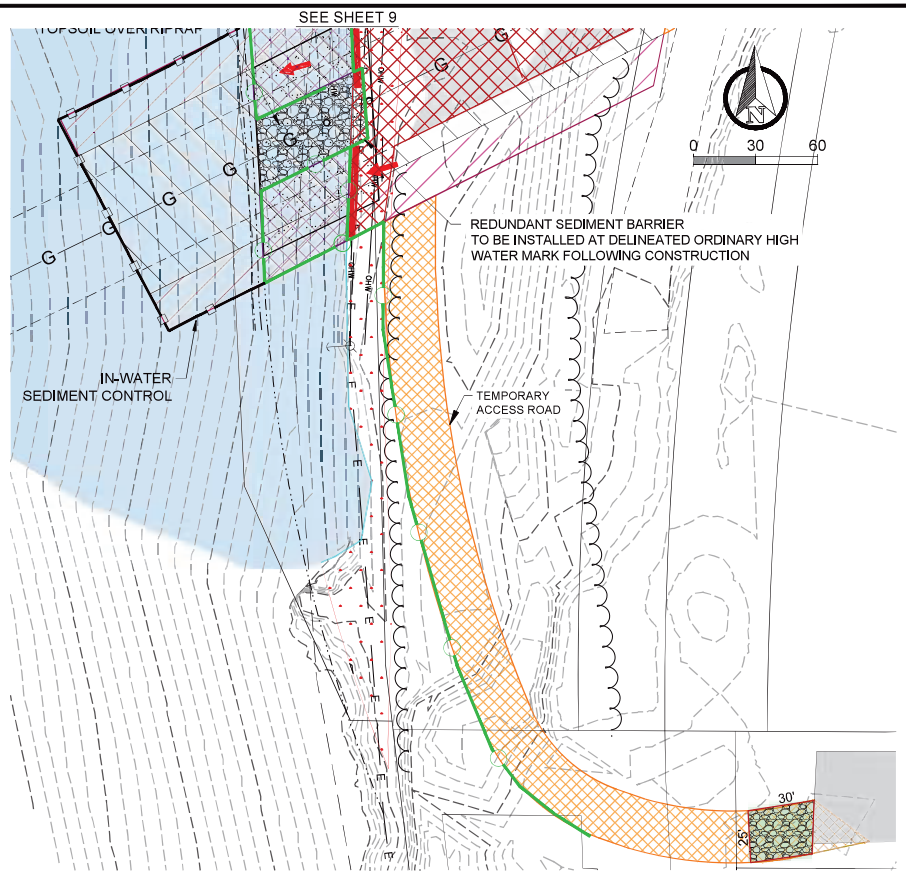


STAGING AREA
EROSION AND SEDIMENT CONTROL PLAN



SOUTH ACCESS ROAD
EROSION AND SEDIMENT CONTROL PLAN

LEGEND

- EXISTING FENCE
- EXISTING PIPELINE
- DELINEATED ORDINARY HIGH WATER MARK
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NORTHERN NATURAL GAS

TOMAH BL MISSISSIPPI RIVER PIPELINE

LA CROSSE COUNTY, WISCONSIN

C909

EROSION & SEDIMENT CONTROL PLAN

SHEET 11 OF 12

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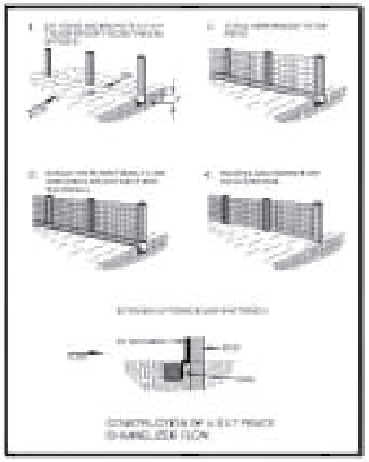

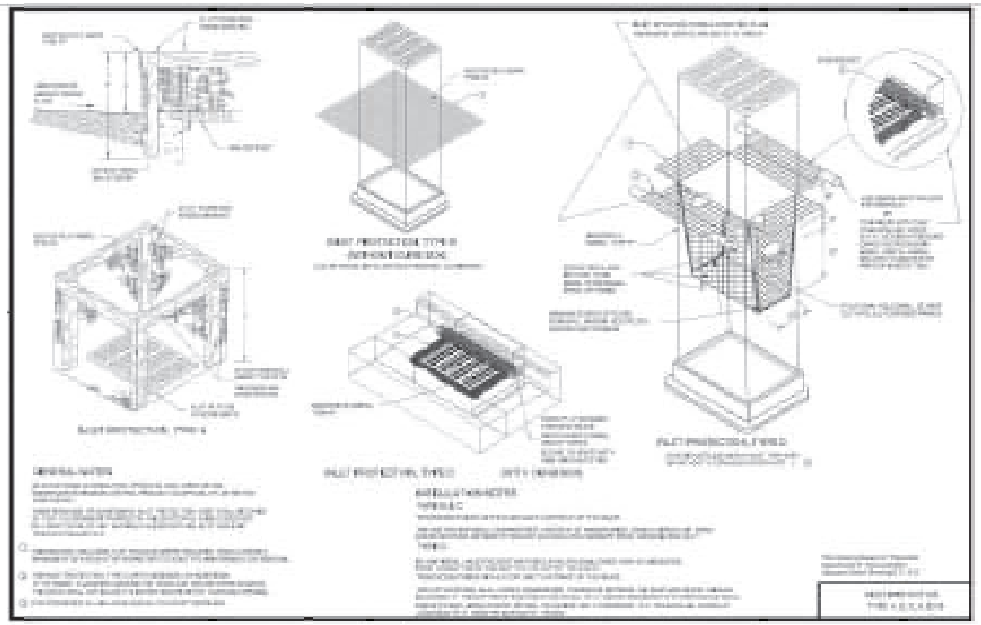

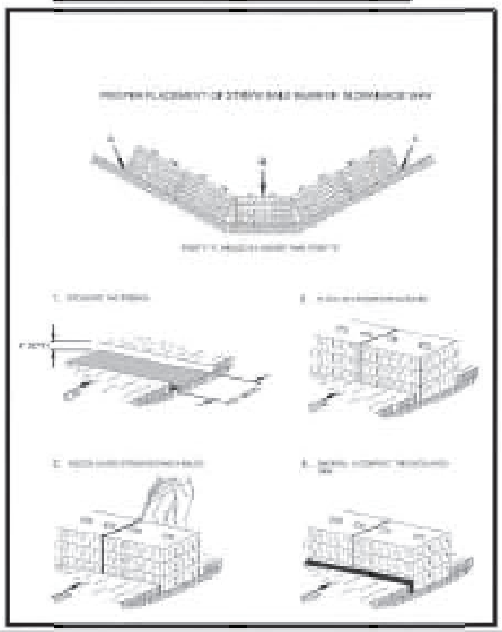

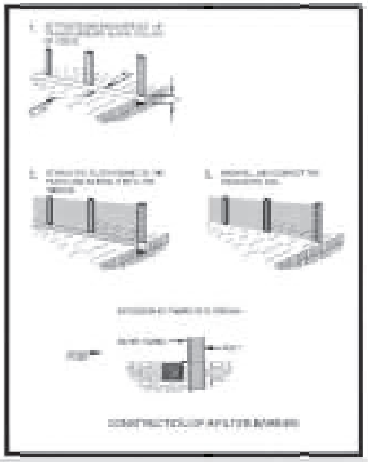

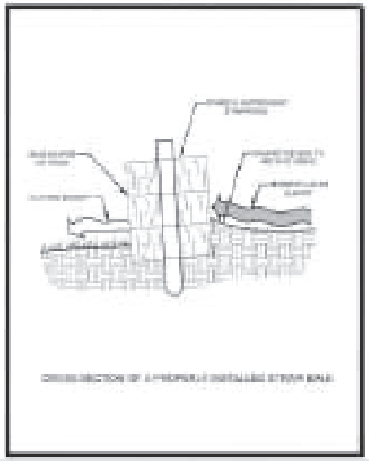

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NORTHERN NATURAL GAS

TOMAH BL MISSISSIPPI RIVER PIPELINE

LA CROSSE COUNTY, WISCONSIN

DETAIL - ESC

C911

SHEET 12 OF 12

PLOTTED SIZE: ANSI full bleed B (11.00 x 17.00 inches)

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Appendix C
Northern's Erosion and Sediment Control Technical Standards

Northern Natural Gas Company

Erosion and Sediment Control

Technical Standards

Engineering Standard 7507

December 2023

Table of Contents

List of Tables

List of Appendices

Abbreviations and Acronyms

BMPs	Best Management Practices
Company	Northern Natural Gas Company
Contractor	Prime Contractor
ECB	Erosion Control Blanket
EI	Environmental Inspector
FERC	Federal Energy Regulatory Commission
HI	Hand Installed
MS	Machine Sliced
NPDES/SDS	National Pollutant Discharge Elimination System
PA	Pre-Assembled
Plan	FERC's Upland Erosion Control, Revegetation, and Maintenance Plan
Procedures	FERC's Wetland and Waterbody Construction and Mitigation Procedures
SD	Super Duty
SDS	Safety Data Sheet
SPCC	Spill Prevention, Containment, and Countermeasure Plan
Spec.	Specifications
SWPPP	Stormwater Pollution Prevention Plan

ENVIRONMENTAL REQUIREMENTS

1 GENERAL

These technical standards identify the minimum controls and practices to be implemented by Contractors working on projects owned and operated by Company. Additionally, the technical standards provide the Company's contractor with material options for erosion prevention and sediment controls to meet requirements of the federal NPDES program, state and local-level pollution control programs, and the FERC Plan and Procedures. The contractor retains liability and responsibility for compliance with the NPDES requirements until all conditions, including final stabilization, have been met and any applicable permit(s) have been closed. Project specific plans may be more restrictive than and supersede this standard.

The Contractor will schedule and conduct construction operations to prevent, control, minimize, or abate pollution of air, land, and water in accordance with all applicable permits, agency consultation, mitigation plans and the FERC Plan and Procedures. In the event of non-compliance with any of the standards, Contractor will immediately provide verbal notification to Company and provide written notification within 24 hours.

1.1 Environmental Items

Company has identified environmental materials to be used as erosion prevention and sediment control. Company will pay for these items based upon the terms of the Capital Construction Agreement and/or Work Offer for the project. Contractor is required to provide the material, equipment, installation, maintenance, and removal of each item.

1.1.1 Environmental Items

a. Sediment Control Log: Maintenance of the sediment log includes removal and disposal of trapped sediment.
b. Silt Fence: Maintenance of silt fence includes removal and disposal of trapped sediment.
c. Silt Curtain: Maintenance of the silt curtain includes removal and disposal of trapped sediment.
d. Straw Bales-Certified Weed-Free (per bale): Maintenance of the straw bales includes removal and disposal of trapped sediment. Used straw bales may be broken up and used as mulch onsite, where allowable.
e. Slope Breakers Permanent: Permanent slope breakers are not to be removed upon final stabilization.
f. Filter Berms: Installation of the topsoil filter berm includes immediate seed and mulch. Installation for rock or rock weeper filter berm when converted from temporary to permanent conditions, as applicable, includes modification of the berm dimensions. Temporary filter berms will be removed upon final stabilization.
g. Storm Drain Inlet Protection: Maintenance of the inlet protection devices includes the removal and disposal of trapped sediment or sediment deposited in or plugging drainage systems protected by the devices.
h. Mats: Mats to be installed are to be clean and free of debris.
i. Construction Exit Controls: Rock access pads will be maintained to mitigate track out onto public roads. Place synthetic fabric beneath the rock to aid in recovery during restoration.

j. Filter Bags: Filter bags must be replaced/removed when they have reached their limit of use, are no longer functional, damaged, and/or otherwise require replacement.
k. Erosion Control Blanket (square yards): Installation includes the erosion control blanket, trenching and staking.
l. Mulch-Certified Weed-Free, Slash Mulch (per acre): Includes crimping or anchoring to prevent loss due to wind and water.
m. Seeding: Temporary and permanent seeding includes soil bed preparation, soil amendments and reseeding, as necessary.

1.2 Environmental Training Requirements

Environmental training is provided to increase awareness of the environmental requirements applicable to the project, to prevent incidents of environmental non-compliance and damage, and to meet state-specific requirements. Issues addressed in environmental training include but are not limited to approved project work areas; erosion and sediment control; material storage and disposal; spill prevention, control, countermeasures, and reporting; and environmental requirements contained in project permits and approvals. The Contractor staff will complete the required training in VeriForce. Environmental training is required of project personnel before they can enter the project site or related work areas, per Environmental Procedure 380.201.

Contractor staff must provide proof of completion of all VeriForce training at the start of the project. Upon verification of training, each staff is issued an environmental training sticker and card. All Contractor personnel must display the sticker or card.

The Contractor will provide workers with sufficient skill and experience to perform the Work assigned to them. Upon request by Company, the Contractor will submit evidence of qualification for any person engaged in special work requiring professional training or certification; including, but not limited to, the state-specific requirements for Erosion Prevention and Sediment Control Practices installation and/or Erosion Control Supervisor.

1.2.1 Erosion Prevention and Sediment Control Practices Installer

The Contractor will provide a certified installer (crew supervisor or laborer), as required by the respective state, to install or to direct installations, maintenance, repairs, or removals of erosion prevention or sediment control practices. Documentation of applicable certification from at least one installer will be provided to Company prior to initiation of construction activities.

1.2.2 Erosion Control Supervisor

The Contractor will provide an Erosion Control Supervisor with a valid state-specific Erosion and Stormwater Construction Site Management certification, where applicable, The Erosion Control Supervisor will be authorized to represent the Contractor and meeting contractual requirements for Erosion and Stormwater Management. The certification must be obtained from state agency approved provider, where required.

The Erosion Control Supervisor will be required to be available to respond to the work site within 72 hours of initial disturbance, or as required by the state, and at the site daily when work is taking place until final stabilization. The following list describes the duties of the Erosion Control Supervisor:

1) Ensures quality control when implementing application plans and permit conditions.

2) Ensures proper installation, functionality, and maintenance, clean-up, and removal of all erosion prevention and non-biodegradable sediment control BMPs and in accordance with manufacturer's recommendations.

3) Implements the erosion and sediment control schedule.

4) Coordinates the work of subcontractors and ensures the full execution of erosion and sediment control measures for each operation and stage of work.

5) Oversees the work of subcontractors and ensures the subcontractors undertake erosion and sediment preventive measures at each stage of the work.

6) Attends construction meetings to discuss the erosion and sediment control schedule.

7) Provides for erosion and sediment control methods for temporary work not shown on the plans.

8) Ensures activities are completed in compliance with all applicable permits.

9) Ensures the full installation of erosion and sediment control devices before suspension of any work.

10) Ensures that proper cleanup occurs from vehicle tracking on paved surfaces and in other locations where sediment migrates and accumulates outside of the approved workspace.

11) Ensures that all non-biodegradable erosion and sediment controls are removed upon final stabilization of the Project.

12) Ensures that installers of erosion and sediment control have proper certifications.

13) The Erosion Control Supervisor is authorized to install, fix, or repair erosion or sediment control practices when a certified installer is unavailable, as applicable.

2 APPROVED WORK AREAS AND SITE ACCESS

Project-related ground disturbance will be limited to the construction right of way, extra workspace areas, pipe storage yards, borrow and disposal areas, access roads, and other areas approved by the Company. Any project-related ground disturbing activities outside these areas will require prior approval. This requirement does not apply to activities needed to comply with the FERC Plan and Procedures, Environmental Procedures 380.201a and 380.201b respectively, (i.e., slope breakers, energy-dissipating devices, dewatering structures, drain tile system repairs). All construction or

restoration activities outside of authorized areas are subject to all applicable survey and permit requirements, and landowner easement agreements.

2.1 Approved Work Area

Per the FERC Plan and Procedures, the Company will establish the right of way boundaries and construction limits confining construction operations. Signs and highly visible flagging per colors specified in engineering procedure 7000.100A2 will be installed marking the boundaries of sensitive resource areas, waterbodies, wetlands, or areas with special requirements along the construction work area. Wetland boundaries and buffers must be clearly marked in the field with signs and/or highly visible flagging until construction-related ground disturbing activities are complete. Once established, the Contractor is responsible for maintaining all markings installed by civil survey and/or the environmental inspector throughout construction.

All extra work areas (such as staging areas and additional spoil storage areas) will be sited at least 50 feet away from wetland boundaries, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land and/or where site-specific approval from the FERC has been obtained.

2.2 Access Roads and Right of Way Access

The Contractor will implement efforts to control unauthorized off-road vehicle use throughout the life of the project. The Contractor will maintain signs, gates, and roads as necessary, per the FERC Plan and Procedures.

A combination of 50-foot-long crushed stone access pads (or as indicated in project documents), matting, and culverts will be installed at ingresses and egresses to access roads and at road crossings, as necessary, as determined by the EI, to minimize the tracking of mud onto roads. If crushed stone access pads are used, place the stone on synthetic fabric to facilitate removal, or follow requirements from state or local authorities. Crushed stone is not to be placed in waterbodies or wetlands. If mud is tracked onto a road, it must be shoveled or swept off the road immediately.

The Contractor will provide clean equipment prior to entering new workspaces to reduce the potential for invasion or spread of undesirable or noxious vegetation. The EI will inspect tracked equipment to confirm the adequacy of cleaning and will not allow equipment to be brought on-site unless the inspection is satisfactory.

If purple loosestrife or other noxious weed is encountered in the approved work area at any time, equipment will be thoroughly cleaned as described above prior to exiting the area of purple loosestrife, even if cleaning must occur in a wetland or within 500 feet of a wetland or waterbody. In such cases, equipment may be cleaned within containment on the right-of-way, as approved by the EI. Soil and vegetative debris resulting from cleaning will be immediately collected and disposed of at a licensed facility, per state regulations and the project noxious weed management plan.

In wetlands that cannot be appropriately stabilized, all construction equipment other than that needed to install the wetland crossing will use access roads located in upland areas. See FERC Plan and Procedures for additional details.

3 MATERIALS HANDLING AND DISPOSAL

3.1 General

Company's materials handling and disposal requirements must be implemented during construction of a project. Company's SPCC Plan, Environmental Procedure 380.201d, includes procedures for disposal of any soil or materials contaminated by a fuel or chemical spill.

Construction debris must be collected as needed and placed in solid waste storage containers to keep the project area tidy.

The Contractor will provide on-site sanitary facilities as needed for personnel, including inspectors and subcontractors. The facilities must be sited in an upland area away from wetlands, waterbodies, stormwater conveyances, curb and gutter, and storm sewers. It must be securely anchored, and it must be within secondary containment.

3.2 Hazardous Materials and Petroleum Products Management

The Contractor will provide to the Company a list of petroleum products, hazardous materials and chemicals brought on-site and a copy of the SDS for each. No such material will be brought on-site without prior consent by the Company. The Contractor will retain each SDS on site in accordance with Company's Safety Procedure 110.180. The Contractor will make its SDSs available to the Company.

Petroleum products and potentially hazardous chemicals/materials on-site must be stored in accordance with Environmental Procedures 380.201d and 390.104.

3.3 Hazardous and Liquid Waste Disposal

If hazardous wastes are generated by the Contractor, the Contractor will follow Company's Environmental Procedures 390 series.

3.4 Non-Hazardous Solid Wastes

Construction debris must be collected as needed and placed in solid waste storage containers to keep the project area tidy. Contractor will provide adequate on-site containers with proper labels for secure storage of rubbish and wastes. Contractor will label waste containers, regardless of size. Non-biodegradable sediment controls left onsite after final stabilization are considered construction waste and are the responsibility of the Contractor to remove within 14 days of final stabilization.

3.4.1 Non-Combustible Wastes

Non-woody construction waste (e.g., trash, used filter bags, used silt fence, pallets, metal bindings, welding rods, epoxy coating, abrasive blasting waste, excess rock, excess drilling mud, and drill cuttings) will be removed from the right-of-way by Contractor and be disposed of in existing solid waste landfill/recycling facilities operating under a valid permit. Construction waste must be disposed of by Contractor according to applicable state and local requirements.

If desired, excess rock may be disposed of at an existing commercial facility, such as a gravel pit, provided Contractor obtains written permission from the facility and provides a copy of the permission to Company prior to disposal. If a landowner requests that excess rock be left on their property, the Contractor will notify the Company of the request. The Company, in its sole discretion, will determine whether such a request will be authorized. The Company's decision on the matter will be final. If authorization is granted, the Contractor will be responsible for ensuring rock is stored within the approved work area, but outside of the post-construction permanent right-of-way.

3.4.2 Chipping Procedures for Woody Vegetation

Non-merchantable timber, slash, and stumps may be chipped and used as mulch in upland areas, if approved by the landowner or land-managing agency. Contractor may request permission from Company to use wood chips as mulch, provided Contractor has obtained written permission from the landowner or land-managing agency. Company, in its sole discretion, will determine whether such a request will be authorized. Company’s decision on the matter will be final.

If slash, brush, and timber generated during wetland clearing are to be chipped, the material must be removed from the wetland and chipped in an upland area, unless specifically authorized by project authorizations.

4 CLEARING, GRADING, AND TOPSOIL SEGREGATION

4.1.1 Noxious and Invasive Weeds

Contractor will follow all requirements of the state’s noxious and invasive weed laws with regards to treatment and movement of noxious and invasive weeds located with the construction limits. Each state within Company’s pipeline system issues a state noxious weed list.

The Contractor will provide clean equipment prior to entering new workspaces to reduce the potential for invasion or spread of undesirable or noxious vegetation. The EI will inspect tracked equipment to confirm the adequacy of cleaning and will not allow equipment to be brought on-site unless the inspection is satisfactory.

If purple loosestrife or other noxious weed is encountered in the approved work area at any time, equipment will be thoroughly cleaned as described above prior to exiting the area of purple loosestrife, even if cleaning must occur in a wetland or within 500 feet of a wetland or waterbody. In such cases, equipment may be cleaned within containment on the right-of-way, as approved by the EI. Soil and vegetative debris resulting from cleaning will be immediately collected and

disposed of at a licensed facility, per state regulations and the project noxious weed management plan.

Contractor will adhere to all plant pest quarantine orders imposed by each respective state. Common requirements include, but are not limited to:

a. Untreated wood from areas known to have plant pest is prohibited from entering non-infested areas;

b. Movement of materials or equipment out of quarantine areas is prohibited without inspection and/or compliance agreements; and

c. Wood may not be offered as firewood or otherwise to an industry or individual without compliance agreements.

The Contractor will:

a. Dispose of quarantined wood in accordance with existing quarantine requirements;

b. Salvage topsoil in accordance with the FERC Plan and Procedures;

c. Where project phasing and/or exclusion areas and/or buffers have been identified, the Contractor will isolate those areas using temporary fence, and perform clearing and grubbing operations in a manner that will not damage or jeopardize the surrounding plant life and property; and

Contractor will prune branches for the following reasons, and only with DES approval:

a. For pedestrian, vehicle, and infrastructure clearance;

b. To reduce risk of branch failure; and

c. To improve a site line and sign visibility.

4.1.2 Quarantined Wood

Contractor will follow all species-specific quarantine regulation posted by the respective state agency. Contractor will not market quarantined trees to the wood-using industries or individuals without having a compliance agreement from the respective state agency. No wood with bark attached will be made available to the public for use as firewood from the quarantined area. Do not remove any part of the quarantined tree, including roots, outside of a quarantined county without fulfilling the requirements of a compliance agreement from the respective state agency. Contractor may chip quarantined wood through a chipping machine or tub grinder to create wood mulch for use within the construction limits, as allowed by state regulations.

Contractor will dispose of quarantined trees, brush, stumps, roots, and debris by chipping or tub grinding and using the mulch within the construction limits for erosion control, construction of exit pads or landscaping purposes. No mulch may be placed in wetland areas.

Contractor will dispose of stumps, roots, and debris from oak wilt infected oak trees by chipping or tub grinding and using the mulch within the construction limits for erosion control, construction of exit pads or landscaping purposes.

4.2 Grading and Topsoil Segregation

Contractor shall comply with all provisions of the FERC Plan and Procedures.

5 SEDIMENT CONTROLS

Sediment control practices are designed to prevent or minimize loss of eroded soil at a site and/or discharges of sediment laden water into surface waters or stormwater conveyances. Sediment control practices may be constructed of materials such as silt fence, fiber logs, staked hay or straw bales, compacted earth (e.g., drivable berms across travel ways), sandbags, or other appropriate materials. The section has been developed based on the FERC Plan and Procedures and the NPDES regulations and additional, more stringent requirements associated with permit conditions or mitigations plans may be applicable based on the state. In this case, the most stringent requirement will apply.

Contractor will install temporary sediment barriers during clearing and grading activities. Temporary sediment barriers will be installed and maintained as directed by the EI at the following locations:

1) Across the entire width of the approved work area at approaches to waterbodies and at the base of slopes adjacent to wetlands and roads;

2) Along the edge of the approved work area where waterbodies and wetlands are bordering the approved work area;

3) Where necessary to contain spoil and sediment within the approved work area (e.g., on steep side slopes or in saturated wetlands);

4) At other locations as directed by the EI.

Sediment barriers located across the active portion of the work area may be removed during the day when work is being conducted but must be replaced each night or at the onset of inclement weather (e.g., rainstorm). Sediment barriers will be inspected daily in areas of active construction and repaired as needed throughout construction.

5.1.1.1 Winter Construction

During frozen conditions, sediment controls and stabilization must be installed during active construction and prior to cessation of construction activities. Contractor will establish a packed snow berm that will act as a temporary sediment barrier during construction. This temporary sediment barrier will be established and maintained as needed along the edge of the disturbed work areas, access roads, and extra work areas to prevent sediment runoff.

During frozen conditions, if the snow berms are ineffective or if sediment discharge off the right-of-way is observed, Contractor will attempt to install silt fence, staked straw bales and/or other types of sediment barrier in those areas to prevent further offsite sedimentation. Installation of silt fence can be accomplished using a ditch-witch trencher and backfilled with saturated organic soil that will freeze and anchor the silt fence to the wetland surface. Straw bales can be used alone or in conjunction with silt fence, following state-specific standards. These will be anchored to the ground with rebar. Contractor will attempt to retrieve the sediment, as practicable, without disturbing the surface of the approved work areas.

Temporary sediment barriers will remain in place until permanent vegetation has become successfully reestablished as determined by Company. Once permanent vegetation has become successfully reestablished, the barriers will be removed and disposed of as construction waste. During frozen conditions, remove temporary sediment barriers at the completion of construction only if the area will be inaccessible after spring thaw precluding proper retrieval of the barriers, and if so, approved by the EI.

5.2 Installation, Maintenance and Removal of Sediment Control Practices

5.2.1.1 Installation

1) Install sediment controls on all downgradient perimeters of the site and downgradient areas of the site that drain to any surface water, including curb and gutter systems. Contractors must locate sediment control practices **upgradient** of any buffer zones.

2) Contractors must install sediment control practices **before any upgradient land-disturbing activities begin** and must keep the sediment control practices in place and in functional condition until they establish permanent cover.
3) Contractors must provide silt fence or other effective sediment controls at the base of stockpiles on the downgradient perimeter.
4) The Contractor must preserve a **50-foot natural buffer** or, if a buffer is infeasible on the site, provide **redundant (double) perimeter sediment controls** when a surface water is located within 50 feet of the project's earth disturbances and stormwater flows to the surface water. {Natural buffers are not required adjacent to road ditches, judicial ditches, county ditches, stormwater conveyance channels, storm drain inlets, and sediment basins.} Larger buffer zones may be required but will be noted in the SWPPP.
5) When redundant sediment controls are required, the Contractor will install them at least **5 feet apart** unless otherwise noted on the SWPPP or directed by the on-site EI.
6) If downgradient sediment controls are overloaded, based on frequent failure or excessive maintenance requirements, contractors must install additional up-gradient sediment control practices or redundant BMPs to eliminate the overloading and amend the SWPPP to identify these additional practices as required.
7) Measures will be installed, maintained, and repaired per applicable permit conditions.
8) The contractor will recover any sediment lost from the project site, restore property to the pre-existing conditions for loss of sediment off the project, or both at no additional cost to the Company. If sediment is lost in a water of the state, applicable regulatory authorization must be obtained by the Company before removing the sediment.

5.2.1.2 Maintenance

1) All nonfunctional BMPs must be repaired, replaced, or supplemented immediately, but no later than 24 hours, after discovery unless a more stringent time frame is specified in site specific plans. All perimeter control devices, which have become **nonfunctional,** or **sediment has reached 1/2 of the height of the device** must be repaired, replaced or supplemented immediately, but no later than 24 hours, after discovery unless a more stringent time frame is specified in site specific plans.
2) Sediment tracked onto public roadways must be removed immediately.

5.2.1.3 Removal

1) Remove temporary sediment controls (unless biodegradable) after permanent restoration has been achieved. All removed materials become the property of the Contractor.
2) Remove the silt curtain upon completion of instream work. All instream work requirements still apply while removing silt curtains.
3) Remove sediment control logs upon permanent restoration. For compost logs, the outer shell material, if not biodegradable (i.e., jute), must be removed completely and contents of logs may be left in place and spread out over the ground to decay.

5.3 Sediment Control Practices

5.3.1 Vegetated Buffers

Incorporating an existing vegetated buffer along the perimeter of the site and upslope of structural perimeter controls provides an effective and inexpensive sediment control. Maintaining a buffer zone during clearing and grubbing operations may provide sediment controls prior to the installation of structural controls.

5.3.2 Sediment Control Log

Sediment control logs may be used as perimeter control, ditch checks, and as part of dewatering structures. Installation of the sediment control log is provided below by type and Table 5.2.2-1 provides the material specifications for the sediment control logs.

Table 5.2.2-1
Sediment Control Logs Material Specifications

Material	Material Specification	Netting	Diameter (inches)	Material make-up	Dry Weight	Biodegradable
Straw Logs	Refer to State Specification	Encased in photodegradable synthetic or natural netting with a service life from 6 months to 9 months and with openings ½ inch × ½ inch	8 to 9	Consisting of at least 80% of the fiber material at least 3 in long	2 to 4 lbs. per cu. ft.	No
Wood Fiber Logs	Refer to State Specification	Encased in a photodegradable synthetic or natural netting with a service life from 6 to 9 months and with openings ½ inch × ½ inch	6 to 8	Consisting of at least 80% of the fiber material at least 6 in long	1.4 lbs per cu. ft. to 5.7 lbs per cu. ft.	No

Wood Chip Logs	Refer to State Specification	Encased in a photodegradable synthetic or natural fiber casing with 1/8 to 3/8 openings with a service life from 12 months to 24 months.	8 to 10	NA	NA	Yes
Compost Logs	Refer to State Specification	Encased in photodegradable synthetic woven or natural fiber casing with 1/8 to 3/8 in. openings, with a target service life from 12 to 24 months.	7 to 9	30-40% compost/p60-70% - wood chip	NA	Yes
Rock Logs	Refer to State Specification	Encased in a geotextile material with a minimum grab tensile strength of 130 lb. ASTM D6818 and a minimum Mullen Burst Strength of 175 psi	4 to 6	NA	NA	No

5.3.2.1 Installation of Straw and Wood Fiber Logs

Place logs on smooth prepped soils and prepare a shallow, less than 1/4 of the total height of the log, trench for the sediment control log to be placed. Backfill and compact the upgrade side of the sediment control log with soil. Stake logs through the back half of the log at a 45-degree angle with the top of the stake pointed upstream. Stakes will be spaced every 2 feet. If using more than one sediment control log for length, overlap the ends 6 inches and stake both ends. See typical drawing Figure S-5B in Appendix B.

5.3.2.2 Wood Fiber, Wood Chip, Compost, and Rock Logs

Place logs on smooth, prepped soils or paved surfaces and ensure no gaps are between logs and soil or paved surface. Install logs along contours with ends turned up slope in a J-hook manner. Compost and wood chip logs are considered biodegradable if the netting is biodegradable. Contractor will need approval from the Company prior to onsite spreading of wood chips to ensure compliance with all applicable permits. See typical drawing Figure S-5B in Appendix B.

5.3.3 Ditch Checks

Ditch checks are practices placed in ditches and other stormwater conveyances designed to slow the flow of water.

If used as a ditch check without erosion control blanket: Follow installation above for sediment control log type Wood Fiber, Wood Chip, Compost, or Rock and place perpendicular to flow and in a crescent shape with ends facing upstream. Use logs with a center section of the ditch check one log diameter lower than the ends. Space stakes every 1 foot. Provide 2 stakes in a crisscross pattern at each location with the sediment control log.

If used as a ditch check with erosion control blankets: Install a wood fiber ECB as show in plan, at least one role width, and perpendicular to the ditch flow. Burry the leading edge in a trench 4 inches deep and 4 inches wide. Backfill and compact the trench with soil. Staple the ECB at spacing no greater than 1 foot on center. Place the Wood Fiber log without the trench, on top of

the ECB. If using more than one sediment control log for length, overlap the ends 6 inches and stake both ends. See typical drawing Figure S-5B in Appendix B.

5.3.3.1 Anchoring

Provide wood stakes for straw and wood fiber logs with the following dimensions: 1 inch × 2 inches and 22 inches to 24 inches long with a pointed end.

5.3.3.2 Removal

Upon final stabilization of the right of way, the contractor will remove all sediment control logs. The exception are compost logs with biodegradable netting. If the netting is not biodegradable, it may be removed, and the compost left onsite to decompose.

5.3.4 Silt Fence

Silt fence is the most commonly used perimeter control. It can also be used as slope breakers and/or ditch checks in low flow areas. Four types of silt fence are presented below.

1) **Machine Sliced (MS)/ Hand Installed (HI)** high flow **silt fence**: consists of a woven geotextile fabric installed by machine or hand supported by wood posts and geotextile is attached using three staples. A typical installation Figure S-1 is provided in Appendix B.

2) **Machine Sliced (MS)/ Hand Installed (HI) wire backed silt fence**: consists of a woven geotextile fabric mesh fence fabric will be standard woven wire fence fabric installed by machine/hand and supported by steel backed by Wire posts and geotextile is attached using three zip ties. A typical installation Figure S-2 is provided in Appendix B.

3) **Super Duty (SD) silt fence:** consists of concrete jersey barriers with fabric wrapped around the front face of the barrier. The Contractor may provide woven or non-woven geotextile fabric or poly/poly-reinforced sheeting.

Silt Fence Material Specifications

Table 5.2.4-1 provides the material specifications for the silt fence.

Table 5.2.4-1
Silt Fence Material Specifications

Silt Fence Type [a]	Width (inches)	Grab Tensile (machine direction), lb.	Apparent Opening Size	Puncture Strength (ASTM D 4833)	Maximum Permittivity (ASTM D 4491)	Flow Rates (gpm/sq. ft)
Machine Sliced /Hand Installed (MS/HI), high flow geotextile [b]	36	130	No. 30 sieve	NA	1.0 s−1	100
Wire backed silt fence	36	NA	No. 30 sieve	NA	NA	100
Super Duty (SD), woven or non-woven geotextile [c]	36	100	No. 30 sieve	NA	NA	NA

[a] UV Stability 500h must be 70% and meet ASTM D 4355.

[b]	Provide MS, HI woven geotextile with monofilament in both directions. Do not make substitutions.
[c]	The Contractor may use poly/poly-reinforced sheeting with a thickness of at least 6 mil or an equivalent.

A. Fasteners

Provide fasteners with a tensile strength of at least 50 lbs. Use a minimum of three staples to fasten geotextile to wooden posts on MS/HI applications. Use wire ties or plastic ties to fasten geotextile to anchor points on SD applications.

B. Fabric Requirements:

1) Provide geotextiles from Table 5.2.4-1

2) Provide fabric meeting the following requirements and characteristics:

   a. Uniform in texture

   b. Uniform in appearance

   c. Contains no defects, flaws, or tears affecting the physical properties

   d. Contains UV inhibitors and stabilizers providing a minimum service life of at least 2 years during outdoor exposure, and meets the requirements specified in the table 5.2.4-1

5.3.4.1 Supports

Company only allows hardwood posts which is a variance from Department of Transportation specifications, see Table 5.2.4-2 below. However, steel t-posts may be required in manufacturer's specifications for wire backed silt fence. In this case manufacturer's specifications will be followed.

Table 5.2.4-2
Silt Fence Post Requirements

Characteristic	Requirement
Type	Hardwood
Weight	≥ 2 in × 2 in
Length	≥ 4.0 ft
Embedment	≥ 18 in
Post Spacing	<5.0 ft

5.3.4.2 Installation of Silt Fence

A trench is excavated, or machine sliced to a depth between 6 inches (HI) or 8 to 12 inches (MS/ PA). The stakes are installed on the downslope side from the site and are embedded to a minimum depth of 2 feet. The excavated material is backfilled over the geotextile fabric and compacted. Spacing of stakes is typically 5-foot minimum and 6-foot maximum.

5.3.4.3 Installation of Portable Precast Concrete Jersey Barriers (Super Duty)

Place the bottom edge of the geotextile fabric 4 to 6 inches under the face of the median barrier. Place barriers end to end to minimize any gap in the barrier. The geotextile fabric should be attached to the face of the barrier with wire or plastic zip ties and secured to each cable ring on the barrier.

5.3.5 Flotation Silt Curtain

Flotation silt curtain may be used as a primary sediment control, only while in-water work is occurring. Once work within the water feature is completed, perimeter control should be installed on the adjacent upland to keep material out of the water. Flotation silt curtain is not considered a sediment control once in-water work is completed. It can be used in moving or still water and is used to contain suspended sediment and floating debris in open water and must meet the following requirements and characteristics:

a. Made of fabric fastened to a flotation carrier

b. Weighted along the bottom edge

c. Depth as shown on the plans and typical Figure S-3 (Appendix B) and referring to the dimension of the curtain fabric extending below the flotation portion of the curtain

d. Material must be disinfected prior to coming onsite and must be disinfected and dried prior to removing the material offsite

e. If the surface water has invasive species and the material is moved offsite for disinfection a state transport permit may be required

Material specifications for flotation silt curtain is provided in Table 5.2.5-1 below.

Table 5.2.5-1
Flotation Silt Curtain Requirements

Characteristic	Type	
	Light Duty	Heavy Duty
Curtain fabric materials type	Impermeable, vinyl-nylon laminate	Impermeable, vinyl-coated nylon
Weight (oz per sq. yd)	18	0.22
Grab tensile strength, lbs	300	500
Depth of curtain [a]	2 ft – 10 ft	2ft – 10 ft
Flotation (in)	6 diameter marine quality expanded polystyrene	8 diameter marine quality expanded polystyrene
Net buoyancy, lb. per ft	13	20
Top load carrying components	Fabric only	Fabric plus 5/16 in [8 mm] galvanized steel cable at least 9,800 lb. break strength
Ballast	≥0.7 lb per ft [1.0 kg per m] enclosed ¼ in [6 mm] galvanized chain	≥1.1 lb per ft [1.6 kg per m] enclosed 5/16 in [8 mm] galvanized chain
Connections between Sections	Laced grommets	Aluminum collar reinforced quick disconnects

[a] Minimum average roll value meeting the requirements of ASTM D 4632.

5.3.6 Filter Berms

Filter berms are an economical option for sediment control; typically constructed from materials readily available on site. Filter berms are used as perimeter control, slope breakers and ditch checks.

5.3.6.1 Filter Berms Material Specification

Table 5.2.6-1 below provides the material and construction specifications for each of the four types presented which include compost, slash mulch, topsoil, and rock. For high flow or high velocity areas, rock is the strongest of the options.

Table 5.2.6-1
Filter Berm Specifications

Type	Material	Shape and Base	Height	Side Slopes
Compost	Refer to State Specification	Trapezoidal shape with 5 ft. base width	Min. height 2 ft. in loose volume, and	2:1 (V:H) side slopes
Slash Mulch	Refer to State Specification	Trapezoidal shape with 5 ft. base width	2:1 (V:H) side slopes	2:1 (V:H) side slopes
Topsoil	Refer to State Specification	Trapezoid shape with 7 ft. base width	Min. height 2 ft.	2:1 (V:H) side slopes
Type 4	Refer to State Specification	Trapezoid shape with 5 ft. base width	Max. Height 2.0 ft., and	2:1 (V:H) side slopes

5.3.6.2 Installation of Filter Berms

For use as perimeter control, or a slope breaker, filter berms should be installed along the contour of the slope and perpendicular to sheet flow. “J-hooks” should be included at the beginning and end of the berm. Refer to typical Figure ERO-13, Appendix B.

As a ditch check, in very low flow areas, slash mulch may be used, if allowed by the applicable regulatory agency. Neither compost nor topsoil should be used as a ditch check.

5.3.7 Temporary Down Drains

Temporary down drains may be used to convey concentrated runoff down the face of a slope to reduce the potential for erosion on the slope.

5.3.7.1 Installation of a Temporary Down Drain

Temporary down drains are effective at isolating overland flow on disturbed slopes. Provide a minimum slope on pipe of 3%.

5.3.7.2 Temporary Down Drain Material Specification

Table 5.2.7-1 below provides the suggested pipe diameter based on the drainage area. The maximum allowable drainage area is 5 acres per slope drain.

Table 5.2.7-1 Temporary Down Drains Slope Drain Sizing	
Drainage Area, acres	Pipe Diameter, inches
0-0.5	12
>0.5-1.5	18
>1.5-2.5	21
>2.5-3.5	24

At the top of the slope, prepare a channel to direct flow into the mouth of the pipe (e.g., earthen dike, sandbags, curb). Provide a dike made of compacted Class V, dirt, or sandbags to channel the flow to the temporary slope drain. The top of the dike should be 1 foot higher than the top of the inlet pipe. The pipe should be anchored along the slope with the spacing no greater than 8 feet apart. A watertight connection should be used to attach the flared end section to the inlet end of drainpipe. Extend the pipe beyond the toe of slope and terminate in a 4-foot level section where practicable. Install a dewatering structure at the base to collect the water leaving the pipe. Refer to typical Figure S-7, Appendix B.

5.3.8 Storm Drain Inlet Protection

Inlet protection devices are used as a preventative measure from allowing sediment-laden water from entering a storm drain. The inlet protection device must meet the following criteria:

1) All inlet devices must have an emergency overflow or bypass feature equivalent in size to the grate opening size,
2) Devices may include using rock logs (with local governmental approval); or
3) Filtering devices housed inside the catch basin (drop-in prefabricated units).

5.3.8.1 Installation of a Storm Drain Inlet Protection

Inlet protection must be installed prior to disturbing soils that will drain directly to the inlet. The protection device should fit the inlet properly with no gaps. Refer to typical Figure ERO-16, Appendix B.

5.3.8.2 Maintenance of Storm Drain Inlet Protection

1) Inspect and clean out devices regularly.
2) Inlet protection may be removed for a particular inlet if a specific safety concern (e.g., freeze or flood event) has been identified. They may not be pulled during winter construction unless approved by the appropriate stormwater regulatory agency.

5.3.9 Triangular Silt Dikes

Triangular Silt Dikes (TSD) are an alternative sediment control measure for use in site-specific conditions. They consist of urethane foam and geotextile fabric and are typically designed with protective aprons on one or both sides of the barrier. They are typically used in areas where the staking of materials into surfaces (e.g., pavement) is not possible. They are reusable, and easily relocated and installed. **Per manufacturers specifications, these are not a drivable**

barrier. These must be used and installed per manufacturer's specifications. The TSD typically comes in three sizes and one option with steel mesh as indicated in Table 5.2.9-1 below.

Table 5.2.9-1
Triangular Silt Dike Use and Specifications

Size	Use	Design
10-inch foam	Ditch check dams Diversion Dikes Drop Inlet Protection Temporary Ditch Liner Stream & Pond Protection	Designed to be used in multiple configurations. Protective aprons on both sides of the barrier with one sewn seam (on the front upstream side).
8-inch foam	Curb Protection Continuous Barrier Diversion Dikes Drop Inlet Protection Stream & Pond Protection Installations on Concrete and Asphalt	Typically designed for smaller development areas where vehicle traffic is greater. Protective aprons on both sides and has the front and back apron sewn into the barrier. With both aprons sewn, it allows this product to be easily installed on concrete and asphalt.
5-inch foam	Along Curbs in Developments Diversion Dikes Inlet Protection Continuous Barrier Small Surface Drainage Areas Roadway Shoulder Protection Installations on Concrete and Asphalt	Typically used in areas with lower runoff. designed It has a protective apron on the front or upstream side of the barrier and no protective apron on the backside or down- stream side. Backside should be installed along curbs or on hard surfaces where overtopping the barrier will not cause erosion on the backside.
Reinforced Steel	Ditch check dams Diversion Dikes Drop Inlet Protection Temporary Ditch Liner Stream & Pond Protection	Can be used where drainage are is limited to 0.25 acre per 100 linear feet of dike. Filter dike is a self-contained silt fence consisting of filter fabric wrapped around welded wire fabric and shaped into a triangular cross section.

5.3.9.1 Installation of Triangular Silt Dikes

Installation method will vary based on the size of the silt dike, the proposed use, and the manufacturer of the materials. The Contractor shall use and install this product in compliance with the manufacturer's specifications. Refer to typical Figure S-5A, Appendix B.

5.3.10 Construction Exit Controls

All construction exits onto paved surfaces must be stabilized with appropriate controls to minimize vehicle tracking of sediment from the project onto paved surfaces. The Contractor will:

1) Maintain safe and accessible conditions at all road crossings and access points during construction.
2) Minimize the use of tracked equipment on public roadways. Remove any soil or gravel spilled or tracked onto roadways immediately to maintain safe road conditions. Repair any damages to roadway surfaces, shoulders, and bar ditches.

5.3.10.1 Materials for Construction Exit Controls

There are a variety of acceptable materials for use in construction exit controls. The appropriate material will be based on the project site conditions, soil type, vehicle size, amount of vehicle traffic, time of year, and duration of use. The vehicle tracking pad should be at least 50-foot-long

but longer pads may be required to adequately clean tires. All materials must be removed upon achieving final stabilization of the project.

Examples of acceptable materials for construction exit controls include the following:

- Crushed rock
- Slash mulch
- Temporary paving
- Timber mats
- Floating reusable mats
- Rumble pad
- Wheel wash-off

5.3.10.2 Installation of Construction Exit Controls

1) If crushed stone access pads are used place the stone on synthetic fabric to facilitate removal.
2) The size and depth of the aggregate will be dependent on the project site conditions. In general, aggregate used is 1.5 to 3 inches in size and placed in a layer approximately 6 inches thick. However, coarser aggregate materials (2 to 6 inches in size) may be more effective.
3) A sediment control measure may be required at the entrance to the construction exit, in addition to the stabilization measure. Optional sediment controls may include a small rock berm, compost log, or other sediment control designed as a drivable control and approved by the Company on a project specific basis. Triangular silt dikes are not a drivable sediment control.
4) Refer to Typical Figure ERO-12 in Appendix B.

6 EROSION CONTROLS

Erosion control practices are designed to reduce the erosion potential of the soil as a result of construction activities. Erosion controls are key to minimizing the amount of sediment produced from a site. Erosion controls may consist of both temporary and permanent measures. Temporary measures are required throughout construction and are subject to specific time frames required by permits or construction plans. A good erosion control installation begins with appropriate site preparation to provide good contact with the soil and the erosion control measures.

Temporary cover is the most efficient means of erosion control and is typically accomplished with the application of a temporary seed mix and disk-anchored mulch. This section has been developed based on the FERC Plan and Procedures and the state NPDES regulations. Additional, more stringent requirements associated with permit conditions or mitigations plans may be applicable. In this case, the most stringent requirement will apply.

Prior to the installation of temporary or permanent erosion control measures, the Contractor will complete site preparation by grading the area to remove clods of soil greater than 3 inches diameter and any ruts, erosion rills, or washouts that are deeper than 3 inches.

6.1 Installation and Maintenance of Erosion Control Practices

6.1.1.1 Installation

1) Temporary erosion controls must be properly maintained throughout construction (on a daily basis) and reinstalled as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration is complete.

2) Project plans and permits may require that disturbance on steep slopes must be minimized, when steep slopes must be disturbed, contractors must use techniques such as phasing and stabilization practices designed for steep slopes (e.g., slope draining and terracing). **Refer to SWPPP.**
3) Project plans and permits may require that all exposed soil areas, including stockpiles must be stabilized. Stabilization must be **initiated immediately** to limit soil erosion when construction activity has **permanently or temporarily ceased on any portion of the site** and **will not resume for a period exceeding 14 calendar days. Timelines may vary from state to state, refer to SWPPP.**
4) Stabilization must be completed **no later than 14 calendar days** after the construction activity has ceased. Stabilization is not required on constructed base components of roads, parking lots and similar surfaces. Stabilization is not required on temporary stockpiles without significant silt, clay, or organic components (e.g., clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) but contractors must provide sediment controls at the base of the stockpile. **Timelines may vary from state to state, refer to SWPPP.**

5) Contractors must stabilize the **normal wetted perimeter of the last 200 linear feet** of temporary or permanent drainage ditches or swales that drain water from the site **within 24 hours** after connecting to a surface water or property edge. Contractors must complete stabilization of remaining portions of temporary or permanent ditches or swales within **14 calendar days** after connecting to a surface water or property edge and construction in that portion of the ditch temporarily or permanently ceases. **Timelines may vary from state to state, refer to SWPPP.**
6) Contractors must **not** use mulch, hydromulch, tackifier, polyacrylamide or similar erosion prevention practices within any portion of the normal wetted perimeter of a temporary or **permanent drainage ditch or swale section with a continuous slope of greater than 2 percent**. **Requirements may vary from state to state, refer to SWPPP.**
7) The Contractor must not disturb more land (i.e., phasing) than can be effectively inspected and maintained in accordance with the NPDES permit or other applicable state or federal permits.

8) Install erosion control fabric or a functional equivalent on waterbody banks at the time of final bank recontouring. Do not use synthetic monofilament mesh/netted erosion control materials in areas designated as sensitive wildlife habitat unless the product is specifically designed to minimize harm to wildlife. Anchor erosion control fabric with staples or other appropriate devices. **Requirements may vary from state to state, refer to SWPPP.**

9) Contractors must provide silt fence or other effective sediment controls at the base of stockpiles on the downgradient perimeter.

6.1.1.2 Maintenance

1) All nonfunctional BMPs must be repaired, replaced, or supplemented immediately, but no later than **24 hours of discovery unless another time frame is specified** in the SWPPP. **Requirements may vary from state to state, refer to SWPPP.**
2) Sediment tracked onto public roadways must be removed immediately. **Requirements may vary from state to state, refer to SWPPP.**

6.2 Erosion Control Practices

6.2.1 Horizontal Slope Grading

Horizontal slope grading or cat tracking reduces erosion potential by creating horizontal groves on exposed slopes. This is achieved by driving tracked equipment vertically up and down the slope, resulting in the tracks being oriented horizontally. This provides support for mulch and seed to stay in place during rain events.

6.2.1.1 Implementation of Horizontal Slope Grading

On all slopes 1:3 and greater with a length of 50 feet or more, tracking may be done at the end of each day the slope is worked. This is not as efficient on clay soils. Refer to typical Figure E-1, Appendix B.

6.2.2 Temporary Slope Breakers

Temporary slope breakers may be used to reduce runoff velocity and divert water off the construction right of way.

6.2.2.1 Temporary Slope Breakers Material Specifications

Temporary slope breakers may be constructed using soil, silt fence, staked hay or straw bales or sandbags.

6.2.2.2 Installation of Temporary Slope Breakers

Temporary slope breakers may be installed, as necessary, on all disturbed areas to avoid excessive erosion by slowing overland flow and diverting it to well-vegetated areas.

1) Temporary slope breakers must be installed on slopes greater than 5 percent where the base of the slope is less than 50 feet from waterbodies, wetlands, and road crossings. The following space is a guidance, however, closer spacing will be used if necessary.

Slope %	Spacing (feet)
5 – 15	300
>15 – 30	200

>30	100

2) Outfalls will be directed to a stable, well vegetated area or a constructed energy dissipation device at the end of the slope breaker and off the construction right of way.

3) Temporary slope breaker outfalls will be positioned to prevent sediment discharge into wetlands, waterbodies, or other sensitive environmental resource areas.

6.2.3 Mulch

Mulch is used as both a temporary and permanent erosion control measure. Temporary mulch follows the same requirements as permanent mulch, although the application timing is different. Temporary mulch is typically used to stabilize spoil piles, construction areas where construction activities have ceased for 14 days or more, or within 7 days if within a mile of an impaired or special water. Mulch shall be applied as soon as construction ceases with no plan to resume construction, but no later than the seventh or fourteenth day as required under the FERC Plan, or the project permits.

Mulch may consist of weed-free straw or hay, slash mulch, or prairie hay.

6.2.3.1 Mulch Material Specifications

Table 6.2.3-1 below identifies four types of mulch, acceptable for use on Company projects.

Table 6.2.3-1
Mulch Material Specifications

Type	Material	Conditions	Application Rate
Certified Noxious weed-free Straw	Clean agricultural grain straw (wheat, oats, rye, barley) or clean straw harvested from native grass production fields.	1.Certified as noxious-weed free with inspection tag. 2.Free of cattail, reed canary grass, birds-foot trefoil, and crown vetch. 3. Bales are in an air-dried condition at the time of delivery.	2 Tons per acre, unless otherwise noted in construction plans.
Certified Noxious weed-free Straw- with Overspray	Clean agricultural grain straw (wheat, oats, rye, barley) or clean straw harvested from native grass production fields. Overspray with hydraulic fiber matrix	1.Certified as noxious-weed free with inspection tag. 2.Free of cattail, reed canary grass, birds-foot trefoil, and crown vetch. 3. Bales are in an air-dried condition at the time of delivery. 4. Hydraulic fiber matrix will be used to overspray straw in lieu of disc anchoring.	1.5 Tons per acre with overspray of hydraulic fiber matrix at 750 lbs per acre.
Slash Mulch	Raw wood slash from hard or soft timber harvested during clearing and grubbing operations on the project.	1.Raw wood slash from hard or soft timber harvested during clearing and grubbing operations on the project or hauled in; 2.Maximum length of individual pieces will not exceed 20 in. 3.Maximum width of individual pieces will not exceed 2 in. 4. Must come from an area outside any quarantine area.	Project specific
Prairie hay	Prairie hay	1.Has not been thrashed to remove seeds so it consists of directly bailed material. 2.Has not been thrashed to remove seeds so it consists of directly bailed material. 3.Free of noxious weeds as defined by MNDA.	2 Tons per Acre

Table 6.2.3-1 Mulch Material Specifications			
Type	**Material**	**Conditions**	**Application Rate**
		4.Free of cattail, reed canary grass, birds-foot trefoil, and crown vetch.	

6.2.3.2 Application Requirements

1) Apply mulch on all slopes (except in cultivated cropland) concurrent with or immediately after seeding, where necessary to stabilize the soil surface and to reduce wind and water erosion. Spread mulch uniformly over the area to cover at least 90 percent of the ground surface at a rate of 2 tons/acre of straw or its equivalent, unless the local soil conservation authority, landowner, or land managing agency approves otherwise in writing.
2) Mulch all disturbed upland areas (except cultivated cropland) before seeding if:

    a. final grading and installation of permanent erosion control measures will not be completed in an area within 20 days after the trench in that area is backfilled (10 days in residential areas), as required in section V.A.1 of the FERC Plan; or

    b. construction or restoration activity is interrupted for extended periods, such as when seeding cannot be completed due to seeding period restrictions.
3) If mulching before seeding, increase mulch application on all slopes within 100 feet of waterbodies and wetlands to a rate of 3 tons/acre of straw or equivalent.

4) If wood chips are used as mulch, do not use more than 1 ton/acre, and add the equivalent of 11 lbs/acre available nitrogen (at least 50 percent of which is slow release).

6.2.3.3 Installation of Mulch Materials

1) Apply mulch material at a rate which provides approximately 90 percent uniform distribution over all exposed soils.
2) Even application will be completed, where too little or too much has been applied, re-mulch area or remove the excess coverage.
3) Do not operate mulch-blowing equipment on slopes steeper than 1:2.5 (V:H) on slopes where rutting will occur or where wind velocities are greater than 15 miles per hour.

6.2.3.3.1 Straw Mulch/Prairie Hay

1) Disk anchor immediately after placement unless otherwise approved.

2) Reduce application rate and overspray with tackifier in lieu of disk anchoring.

6.2.3.4 Winter Application

1) Place mulch on bare frozen ground.
2) At temperatures above 20 degrees F., apply mulch at a reduced rated of 1.5 tons per acre and overspray with a natural tackifier or hydraulic fiber matrix in lieu of disc anchoring.

3) At temperatures below 20 degrees F., delay mulching if possible until ground is snow covered, perform mulching over the snow and crimp in with tracked equipment.

6.2.4 Erosion Control Blankets

Erosion control blankets are used to control erosion, aid the establishment of vegetation, reinforce vegetation, and temporarily reinforce slopes, ditch bottoms, and shorelines. Blanket materials must provide netting opening dimensions large enough to germinate plants, reduce animal entanglement, and keep fill material intact.

Erosion control blankets are typically used wherever mulch would be ineffective, including but not limited to; slopes steeper than 1:3, areas where the mulch would blow away and areas of concentrated water flows (e.g., ditch bottoms or banks). All slopes requiring revegetation with a slope of greater than 15% must be stabilized with either an erosion control blanket or hydraulically applied bonded fiber matrix product per manufacturers specifications. *The preferred method is to utilize appropriate hydraulically applied erosion control products, as detailed in Section 6.2.5.*

Erosion control blankets are comprised of a fill material and netting or stitching and have a wide range of target service life.

6.2.4.1 Application of Erosion Control Blankets

a. **Type 1** – Flat areas, very low flow ditch bottoms.

b. **Type 2** – Moderate slopes, ditch bottoms less than 3% grade.

c. **Type 3** – Steep slopes; higher flowing ditches up to 4% grade.
d. **Type 4** – Steeper slopes and higher flowing ditch bottoms.

6.2.4.2 Erosion Control Blanket Material Specification

Table 6.2.4-1 identifies four categories of erosion control blankets authorized for Company projects.

Table 6.2.4-1
Erosion Control Blanket Material Specifications

		Type 1		Type 2		Type 3		Type 4	
		Wood Cellulose	Wood Fiber	Straw	Wood Fiber	Straw-Coconut	Wood Fiber	Straw-Coconut	Wood Fiber
Target Service Life		< 3 months	< 3 months	1 growing season	1 growing season	2 years	2 years	3 years	3 years
Fill	Fiber Length	80% > 0.5 in.	80% > 6 in.	80% > 3 in.	80% > 6 in.	80% > 3 in.	80% > 6 in.	80% > 3 in.	80% > 6 in.
	Material	100% wood cellulose	100% Excelsior	100% Straw	100% Excelsior	70% Straw 30% Coconut	100% Excelsior	70% Straw 30% Coconut	100% Excelsior
Netting/ Stitching	Location	1S	Stitching only	2S	2S	2S	2S	3S	3S

Table 6.2.4-1 Erosion Control Blanket Material Specifications									
		Type 1		Type 2		Type 3		Type 4	
		Wood Cellulose	Wood Fiber	Straw	Wood Fiber	Straw-Coconut	Wood Fiber	Straw-Coconut	Wood Fiber
Target Service Life		< 3 months	< 3 months	1 growing season	1 growing season	2 years	2 years	3 years	3 years
	Material	Degradable	Degradable/ Glue	Degradable/ Synthetic or Natural	Degradable/ Synthetic or Natural	Degradable/ Synthetic or Natural	Degradable /Synthetic or Natural	Black UV Stabilized polypropylene	Black UV Stabilized polypropylene
1S: Netting on one side, **2S**: Netting on 2 sides, **3S**: Netting forms 3-idmensional matrix									

Table 6.2.4-2 identifies the staples/anchors for use with the erosion control blankets.

Table 6.2.4-2 Erosion Control Blanket Anchors			
Blanket Category	**Materials**	**Type**	**Min. Length**
Type 1	Biodegradable	Stake	5 in.
Type 2 and 3	Steel wire	11 Gauge	6 in.
Type 4	Steel wire	11 Gauge	8 in.

6.2.4.3 Installation of Erosion Control Blankets

1) Complete site grading to ensure that the soil surface is free of soil clods 3-inches or greater and/or ruts 3-inches or greater.
2) Blankets should be installed flat and parallel to the direction of water flow. If the blanket has netting on 2 sides, place the side with the majority of the stitching on the bottom.
3) The uphill edge of the blanket must be buried and stapled into a 6-inch-deep by 6-inch-wide check slot or glued in place. The soil should be tamped back over the check slot.
4) Shingle and/or overlap the edges parallel to the water flow by at least 4 inches. Edges perpendicular to water flow should overlap by 7 inches.
5) Staple pattern should be based on the steepness of the slope or the ditch bottom. Follow the manufacturer's recommendations for staple installation.
6) The blanket should be installed within 24 hours of seeding.
7) Refer to typical installation Figures E-2A and E-2B in Appendix B.

6.2.4.4 Winter Stabilization

1) Blankets may be used for winter stabilization. Remove the snow from the area prior to placing the blanket and use appropriate anchors.

6.2.5 Hydraulic Erosion Control Products

Hydraulic erosion control products are hydraulically applied tackifiers (glue) or mulch materials with a tackifier added. These are comprised of a tackifier, a hydraulic matrix, and are applied using a water stream. Temporary or permanent seed mixes may be included in the matrix or applied prior to the matrix. These are used for areas where equipment cannot easily access (spoil piles), areas of

steep slopes but should never be used in areas with concentrated water flows. All slopes requiring revegetation with a slope of greater than 15% must be stabilized with either an erosion control blanket or hydraulically applied bonded fiber matrix product per manufacturers specifications. The preferred method is to utilize appropriate hydraulically applied bonded fiber matrix or reinforced fiber matrix products, as detailed below.

6.2.5.1 Hydraulic Erosion Control Products Material Specification

Table 6.2.5-1 below provides the material specifications for approved hydraulic erosion control products.

Table 6.2.5-1
Hydraulic Erosion Control Products

Type	Matrix	Application	Performance Time Frame	Application Rate
Natural Tackifier	Water soluble natural proteins, vegetable gums, guar gums, starch, psyllium, or a water-soluble blend of hydrophilic polymers, sticking aids or other gums	1. Used as overspray with straw mulch. 2. Combined with matrices below. 3. Do not apply within 24 hours of a rain event or freeze.	Provides erosion control performance for no greater than 3 months	Per Manufacturers specifications.
Synthetic tackifier	Organic, biodegradable, nonpolluting, non-toxic materials, water soluble, remains flexible, does not inhibit water infiltration	1. May be used as overspray or part of matrices below. 2. Cures within 48 hours.	Provides erosion control performance for no greater than 18 months.	Per Manufacturers specifications.
Hydromulch	Blend of shredded wood paper fibers, natural fibers, or both along with 2.5-5% tackifier by weight.	1. Used as temporary cover on steep slopes. 2. Applied with or without seed. 3. Can be used as permanent mulch in flat areas without concentrated flow.	Functional for up to 3 months.	Per Manufacturers specifications (typically 2,500 lbs/acre)
Bonded Fiber Matrix (BFM)	Composed of wood or wood byproducts. Contains 10% blended hydrocolloid crosslinked polymers by volume and up to 2% fertilizer by volume. Binder and crosslinked polymers do not dissolve or disperse upon rewetting	1. Primarily used on inaccessible steep slopes. 2. Seed should be applied before the application of BFM. 3. Applied in two stages, allow first stage to dewater before applying second.	Functional at least 6 months	Per Manufacturers specifications. (Typically, 3,500 lbs/acre)
Reinforced Fiber Matrix (RFM)	Defibrated organic fibers, cross-linked insoluble or linear hydro-colloidal tackifiers, reinforcing natural or synthetic fibers.	1. Cure time is within 2 hours.	Functional for at least 12 months.	Per Manufacturers specifications (typically 3,900 lbs/acre)

6.2.5.2 Application of Hydraulic Erosion Control Products

1) Application of this material should be 100% ground coverage, with no shadowing visible.

2) Application should not be made within 24 hours of a rain event or freeze.
3) Apply seed per manufacturer's recommendation. If seed is applied with the hydraulic product, an agitator will be used to maintain the seed in the material stream for even application.
4) Do not apply in water bearing soils or by itself in ditch bottoms carrying concentrated flows.
5) Contractor will apply per the manufacturer's specification.

6.2.6 Poly Sheeting and Geotextile

Poly sheeting and geotextile may be used as an erosion prevention method to cover exposed soils. It is typically used to cover stockpiles when the establishment of vegetation on the stockpile is not preferred. Poly sheeting may also be used as a cover on potentially contaminated soil piles.

6.2.6.1 Poly Sheeting and Geotextile Material Specification

Table 6.2.6-1 below provides the material specifications for approved hydraulic erosion control products. Refer to typical Figures ERO-17a and ERO-17b, Appendix B.

Table 6.2.6-1
Poly Sheeting and Geotextile Material for Stockpile Coverage

Type	Material	Targeted Lifespan	Acceptable Anchors
Poly Sheeting	Must be at least 6 mil. thick and may be composed of either reinforced polyethylene sheeting or reinforced polyester tarps.	6 months	No-puncture type anchor weights, sandbags with cords, chain link fence, metal posts, wood. Stockpiles must have perimeter control in addition to cover.
Geotextile Fabric	Should meet requirements under AASHTO M-288-06 for Class 3 Stabilization and Separation.	NA	No-puncture type anchor weights, sandbags with cords, chain link fence, metal posts, wood. Stockpiles must have perimeter control in addition to cover.

6.2.6.2 Installation of Poly Sheeting and Geotextile

1) Cover exposed soil with poly sheeting or geotextile fabric.
2) Secure material tightly in place using an anchoring system.
3) If applicable, trench material at the top of slope.
4) Provide a water diversion to direct water away from the stockpile.
5) Install perimeter controls around stockpile.

6.2.7 Rapid Stabilization

Rapid stabilization measures, as identified by the Department of Transportation, are optional materials to be used to temporarily stabilize an area quickly. Do not use these measures in wetlands. Optional measures are provided in Table 6.2.7-1 below. Please note the appropriate measure should be selected based on site conditions and agency requirements. Variations to the seed mixes may be required based on site-specific conditions and timing.

Table 6.2.7-1 **Rapid Stabilization**	
Method	**Materials**
1	Straw mulch placed at a rate of 2 ton per acre with disc anchoring.
2	Straw mulch placed at a rate of 1.5 ton per acre. Hydromulch, placed at a rate of 750 lbs per acre.
3	Hydromulch, placed at 330 lb. per 1000 gal. of slurry mix. Seed mixture 22-111 placed at a rate of 10 lb. per 1,000 gal. of slurry mix. Type 3 slow-release fertilizer 10-10-10 placed at a rate of 50 lb. per 1000 gal. of slurry mix. Water placed at a rate of 875 gal per 1,000 gal of slurry mix. Apply mixture at a rate of 6000 gal per acre.
4	Natural net erosion control blanket. Seed mixture 22-111 placed at a rate of 2 lb. per 100 sq. yd. Type 3 Slow-Release Fertilizer 10-10-10 placed at a rate of 8 lb. per 100 sq. yd.
5	Rip Rap Class II Geotextile Type III

7 WATER MANAGEMENT, TRENCHING AND EXCAVATION

7.1 Construction Dewatering

Dewatering may be required at construction excavations to remove accumulated stormwater or groundwater. Regulation of dewatering activities may vary from state to state and project specific documents will be reviewed to determine if more restrictive conditions apply.

1) Dewatering may occur through pumping water out of a trench or pumping water using well points to lower the ground water table. Dewatering is also a state regulated activity requiring a permit. Specific dewatering requirements, such as measuring and recording water volumes, will be provided in project authorizations.
2) Intake hoses will be raised above the bottom of the excavation to avoid the uptake of sediments from the excavation.
3) Surface water pump intakes must be screened to prevent fish from being drawn into the system.
4) All equipment used within surface waters must be free of prohibited invasive species and aquatic plants prior to be transporting into or within the site.
5) All materials used in surface waters must be decontaminated prior to leaving the site and/or if transported for offsite decontamination, a transport permit may be required.
6) Each installation will be equipped with a flow meter and the actual amount of water withdrawn will be recorded and reported per the state-specific requirements.
7) Suspension of appropriations may be required during periods of low flow; refer to project specific documentation.
8) Surface water appropriations will be sampled at the time of appropriation.

7.1.1.1 Dewatering Procedures

During trench dewatering, Contractor will suspend the intake hose above the bottom of the trench to minimize sediment uptake. Water will be discharged through a dewatering structure into a stable, well vegetated upland area at least 100 feet from wetlands and waterbodies. Trench

discharge containing high sediment content must not be allowed to flow into any wetland, waterbody, ditch, or stormwater conveyance. Contractor will monitor dewatering operations to ensure that discharge rates and sediment loads do not exceed the capacity of the dewatering devices. If filter bags are used, one filter bag is required per dewatering pump. Sediment trapped by dewatering devices may be worked into the subsoil of an upland area or disposed of with the spent dewatering device at an appropriate facility. Operation and refueling of dewatering pumps will also be accomplished in accordance with Company's SPCC Plan.

Typically, water discharges will be made onto the non-working side of the Company's right-of-way and confined to the approved work area. If filtering devices prove to be ineffective due to freezing water, conduct dewatering activities in a manner that will best minimize sediment runoff. The discharge rate and volume will be monitored to prevent scouring of the right-of-way and to prevent sediment discharge off approved working areas. Dewatering activities will be conducted in a manner that does not result in erosion on or off right of way. Dewatering activities will be monitored to ensure that deposition of sediment into sensitive environmental resource areas, including but not limited to wetlands, waterbodies, cultural resource sites, and sensitive species habitats. If deposition occurs, dewatering will cease, and the design of the dewatering measures revised to prevent reoccurrence.

Dewatering structures will be removed as soon as practicable after completion of discharge activities. Sampling protocols may be required and will be provided in the project authorizations. In winter conditions, dewatering activities may be adjusted to account for the lack of infiltration.

Discharged water will be confined to the approved work area unless both Company and the impacted landowner or land-managing agency provide prior written approval to Contractor stating that water may leave the approved work area on their property. At no time will the discharge event result in a state-defined "Nuisance Conditions."

7.1.1.2 Dewatering Structure Material Specifications

Dewatering activities will include at least two of the following best management practices per discharge event as provided in Table 7.2-1.

Table 7.2-1 Dewatering Structure			
Type	**Materials**	**Application**	**Supplement BMP**
Vegetative Filter	Existing grassy buffer	1. Water will be discharged to dewatering structure/bag located within a well-vegetated upland area. 2. Cropland is not considered a well-vegetated area. 3. Discharge rates will be managed to ensure no scouring at the discharge location or flow path.	1. Sediment logs may be incorporated to slow the path of the water. 2. If scouring occurs along the flow path, erosion control blanket may be installed to minimize the potential for erosion.
Straw Bale Structure	Certified noxious weed free straw bales, geotextile fabric, wooden stakes.	1. Dewatering structure will be sized appropriately for the maximum discharge rate and water volume.	1. A geotextile filter bag may be incorporated into the structure to provide additional sediment control.
Dewatering Filter Bag	Nonwoven geotextile bag	1. One hose may be used per bag. 2. The hose will be secured in the bag. 3. The bag will be monitored for maintenance needs and/or flow rate.	1. Dewatering bags may be used in well-vegetated upland areas or with a straw bale dewatering structure.

7.1.1.3 Winter Construction

Construction dewatering relies on infiltration of water along the discharge path as part of the best management practices. In winter conditions, frozen soils will minimize infiltration and may create flooding conditions. Discharge locations will be sited to account for reduced infiltration.

7.1.1.4 Coagulation and Flocculation Aids

Construction dewatering through filter bags and dewatering structures may not achieve the required water quality results. With division environmental specialist approval, it may be beneficial to utilize a coagulant, polymer, or flocculant aid in the dewatering structure and/or hose to facilitate settling of fine clay particles within the structure/bag. Polyacrylamides cannot be used for any discharges reaching wetlands, waterbodies, or storm drains. Other non-toxic polymers and chitosan are permissible for use, with approval from or at the direction of the division environmental specialist.

7.2 Upland Trenching

Trenching in uplands will be completed in accordance with the FERC Plan. Excavated materials will be stockpiled within the approved construction right of way and separation will be maintained between the subsoil and topsoil stockpiles.

In Minnesota, the Contractor may not have more than one mile of open trench at any one time, as required in project authorizations.

7.2.1 Trench Breakers

Trench breakers will be installed to protect against subsurface water flow along the pipe. Trench breakers may be constructed of bags filled with rock-free subsoil or sand, or foam trench breakers may be used with Company's approval. Topsoil may not be used for trench breakers.

7.2.1.1 Trench Breaker Installation

1) Trench breakers will be installed at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from a waterbody or wetland and where needed to avoid draining a waterbody or wetland.
2) Trench breakers will be installed as required in the FERC Plan and Procedures.
3) Trench breakers will not be installed within a wetland.
4) Spacing will be determined by an engineer or will follow the spacing of slope breakers as indicated in section 6.2.2.(1).

7.3 Drain Tiles

Contractor will furnish materials, labor, equipment and supervision for the repair and replacement of drain tile. Contractor's cost for such repair and replacement of drain tile will be included in the applicable unit prices set forth in the Agreement with Company.

For new pipelines in areas where drain tiles exist or are planned, ensure that the depth of cover over the pipeline is sufficient to avoid interference with drain tile systems. For adjacent pipeline loops in agricultural areas, install the new pipeline with at least the same depth of cover as the existing pipeline(s) and so that a minimum of four inches clearance is present between the repaired section of tile and the top of the pipeline.

Contractor will probe tile systems cut by trenching to determine if damage has occurred during construction and repair/replace damaged tiles to this specification. A qualified specialist must be used for drain tile repairs and to adequately probe and test repaired drainage systems. Filter-covered drain tiles will not be used unless approved by the local soil conservation authority or at the landowner's or land-managing agency's request.

Drain tile replacement or repairs will be performed such that:

a. Repair damaged drain tiles to their original or better condition.

b. Broken or crushed tile will be removed for a sufficient distance from the trench to provide satisfactory drainage, joints, and adequate support.

c. Drain tile furnished by Contractor for replacement purposes will be of the rigid type, either vitrified clay or schedule 40 P.V.C. perforated pipe, unless the landowner or land-managing agency requests otherwise.

d. Replacement tile will be of a quality and size at least equal to that of the tile being replaced;

e. Drain tile will be replaced so that its former gradient and alignment are restored; and

f. The soil beneath and around replaced tile lines will be firmly compacted.

When tile lines are cut during trenching operations, Contractor will:

1) Make immediate temporary repairs so that the tile system can continue to function until permanent repairs can be made after the pipe is lowered into the trench; unless prior written consent is obtained from the landowner or land-managing agency and Contractor requests from Company permission to interrupt flow or usability; and

2) Make permanent replacements in accordance with directions from a qualified drain tile specialist and the following requirements, if clay drain tiles or flexible drain duct are used in the repair:

   a. a single continuous supporting member will be placed across the trench as a trough in which to lay replaced tile;

   b. the supporting member will be placed across the trench with at least two feet solid bearing under the ends; and

   c. Contractor will fabricate and weld the supporting member material into shapes and lengths to properly support the tile line.

3) In cases where the original tile line is intersected at an angle, the tile line will be replaced for some distance on both sides of the trench to insure adequate tile performance.

   a. Before completing permanent tile replacements, Contractor will examine by suitable means the adjacent tile located beneath the working side of the approved work area to assure that drainage tile has not been crushed, plugged, misaligned, or otherwise disturbed as a result of Contractor's activities.

4) When the tile lines are otherwise damaged by Contractor's operation, regardless of location, Contractor will make repairs necessary to satisfy the tenant, landowner, or land-managing agency at no additional expense to Company.
5) Contractor will be responsible for damages resulting from improper functioning of tile when caused by Contractor's failure to keep such tile in good repair and to keep tile lines free from clogging.
6) Tile replacements will be documented and approved by Company prior to placing backfill over tile lines.

7.4 Pipe Coating Wastes, Pipe Cutting and Removal of Pipe

Pipeline coating (including asphalt or asbestos wrap coating, epoxy, or paint) may need to be removed and re-applied for projects such as digs, tie-ins, or pipe replacements. Pipe coating along portions of Company's pipeline is presumed, by the Company, to contain non-friable asbestos. Methods for removal and disposal of pipe coating must be in accordance with applicable regulations and Company's Environmental Procedures.

Asbestos-containing pipe coating materials must be removed using the wet method technique, prior to abrasive blasting. After the pipe coating has been removed, the pipe may be cleaned using an abrasive blasting technique. Procedures for blast waste collection and disposal are described in Company's Environmental Procedure 340.102.

In some situations, blast wastes may be defined as hazardous wastes under state and federal law. If the structure to be blasted includes paint made with metals such as lead, chromium, zinc, or cadmium or other hazardous waste characteristics, specific procedures may be required of the Contractor. Procedures for managing blast paint waste are described in Company's Environmental Procedure 340.102.

Overspray and overspill from pipe coating / painting activities are considered construction waste and must be collected, stored, and disposed of accordingly. Where in-service pipe must be cut or removed, liquids and other materials encountered in the in-service pipe will be contained and stored as hazardous waste. Company will test the liquids and other materials to determine if they are non-hazardous. Any materials contaminated by the liquids will be managed as appropriate for such contamination. Procedures for managing liquids encountered when cutting pipe and procedures for removal of pipe are described in Company's Environmental Procedure 320.300.

8 STREAM AND RIVER CROSSINGS

8.1 General Planning and Site Preparation

Contractor will provide the EI six-work-day prior notification of construction across any waterbody. Temporary sediment barriers will be installed and maintained near waterbodies (i.e., rivers, streams, or drain) as specified in Section 5.

Contractor will not store hazardous materials, chemicals, fuels, lubricating oils, or equipment; or perform concrete coating or concrete weight manufacturing within 100 feet of waterbodies or wetlands as specified in Section 3. Refueling within 100 feet of waterbodies and wetlands will be conducted as specified in the FERC Procedures.

8.2 Bridges

Construction equipment, including clearing crews, must cross waterbodies on bridges. Clearing equipment will not be allowed to ford waterbodies, unless specifically authorized by Company. Where bridges are used, single-span, solid deck equipment bridges will be installed across the waterbodies above the top of bank. Temporary culverts or concrete supports may be used for spans over 20 feet in length, **if provided for in project authorizations**. Bridges, culverts, and supports must be sized and placed to allow highest water flow during construction. Bridges will be installed with geotextile below the bridge deck wrapped over the sides and sediment controls installed at the toe boards to prevent sediment from entering the waterbody. Timber mat bridges will be anchored on one side to allow for the bridge to swing, but remain anchored, during flood events. Soil exposed during bridge installation will be covered with erosion control fabric. Where bridges are not installed, Contractor will move equipment around the waterbodies on approved access roads. Contractor will not install bridges across horizontally directionally drilled waterbodies, unless specifically permitted.

Contractor will remove bridges at the earliest time possible after construction, or as indicated in project authorizations, provided the bridge is not needed to access other parts of the right-of-way for final grading, clean-up, seeding, hydrostatic testing, or other project activities. Once bridges are removed, they may not be reinstalled.

8.3 Clearing and Grading

Grassy vegetation and root stock will be left intact within 100 feet of waterbodies until just before construction across the waterbody begins, except as necessary to install an equipment bridge across the waterbody. Where waterbodies are crossed using the horizontal directional drill technique, no clearing or access is allowed on the stream side of the workspace for the drill entry and exit holes, except for civil survey manual line-of-sight clearing, sensor grid installation and removal, and water appropriation. Fencing, orange construction or silt fence will be installed and maintained across the entry and exit hole to prevent unauthorized access to the waterbody.

8.4 In-Stream Work

Construction across waterbodies will be conducted using the techniques specified in project authorizations, project alignment sheets, drawings, and/or the project line lists. In the absences of specific crossing techniques, Contractor will use the flume technique to construct across cold water fisheries and cool water and warm water fisheries considered significant by the state that are less than or equal to 10 feet wide. Contractor may request permission from Company to use alternate techniques (e.g., the dam-and-pump technique). Company, in its sole discretion, will determine whether such a request will be authorized and the Company's decision on the matter will be final. Other waterbodies may be open cut in the absence of specific crossing techniques, if permitted.

8.4.1 Flume Crossing Method

Where the flume technique is implemented, properly sized, and aligned flume pipe(s) will be placed in the waterbody to allow water to flow through the pipe(s) and across the construction site. The flume pipe(s) will be installed prior to trenching, but after blasting if blasting is required. Flume pipe(s) will not be removed until after the in-stream trench is backfilled and the waterbody banks are seeded and stabilized.

Sand or pea gravel bags will be installed in the waterbody at the upstream end of the flume pipe to dam the waterbody and funnel the water into the flume. After installing sand or pea gravel bags on the upstream end, bags also will be installed on the downstream end. Contractor will ensure that dams spaced far enough apart, and the flume pipe(s) are long enough to allow adequate room for excavating the trench in the waterbody bed.

Adequate water flow through the flume pipe(s) must be maintained to protect aquatic life, provide for alternative uses of the stream, and provide for downstream withdrawals of water by users. Stand-by pumps, within secondary containment structures, and hoses will be readily available during flume crossing construction.

Prior to in-stream excavation, Contractor will create a dry work area by pumping standing water from between the dams into a stable, well vegetated upland area or a dewatering device (e.g., filter bag or straw bale structure) located at least 100 feet away from the waterbody banks in accordance with project authorizations.

In-stream work where the flume technique is implemented will be conducted from equipment positioned on the waterbody banks or bridge. Equipment will not be allowed to ford, drive into, or work from within the waterbody.

8.4.2 Dam and Pump Crossing Method

For waterbodies where the dam-and-pump technique is implemented, sand or pea gravel bags will be installed in the waterbody at the upstream and downstream ends of the proposed trench. Contractor will ensure that dams are spaced far enough apart to allow adequate room for excavating the trench in the waterbody bed.

Using an adequate size and number of water pumps within secondary containment structures, water will be pumped from the upstream dam around the work area to the downstream side. The intake hose will be suspended above the waterbody bed and screened to minimize the intake of sediment and prevent entrainment of fish. Water pumped across the work area will be discharged onto an energy dissipation device (e.g., plywood boards or a splash pup) to prevent scouring of the waterbody bed on the downstream end.

Adequate water flow through the pumps must be maintained to protect aquatic life, provide for alternative uses of the stream, and provide for downstream withdrawals of water by users. Stand-by pumps, within secondary containment structures, and hoses will be readily available at times during dam-and-pump crossing construction. A pump watch must be maintained if pumps will run outside of working hours.

Prior to in-stream excavation, Contractor will create a dry work area by pumping standing water from between the dams into a stable, well-vegetated upland area or dewatering device (e.g., filter bag or straw bale structure) located at least 100 feet away from the waterbody banks in accordance with project authorizations.

In-stream work where the dam-and-pump technique is implemented will be conducted from equipment positioned on the waterbody banks or bridge. Equipment will not be allowed to ford, drive into, or work from within the waterbody.

8.4.3 Open Cut Crossing Method

For waterbodies less than or equal to 10 feet wide that are not crossed using a dry construction technique (e.g., flume or dam-and-pump), complete work in the waterbody (not including blasting) within 24 hours, except as otherwise specified in the project authorizations and the FERC Procedures, the project alignment sheets, and/or the project line lists. Where blasting is required, the time frame for completing work in the waterbody commences immediately after blasting. In-stream work will be conducted from equipment positioned on the waterbody banks or bridge. Equipment will not be allowed to ford, drive into, or work from within the waterbody.

For waterbodies greater than 10 feet wide and less than or equal to 100 feet wide that are not crossed using a dry construction technique (e.g., flume or dam-and-pump), complete work in the waterbody (not including blasting) within 48 hours, except as otherwise specified in the project authorizations, the project alignment sheets, drawings, and/or the project line lists. Where blasting

is required, the time frame for completing work in the waterbody commences immediately after blasting. Equipment operating in the waterbody will be limited to that needed to construct the crossing. Other equipment must cross on an equipment bridge or move around the waterbody on approved access roads.

Waterbodies greater than 100 feet wide must be crossed as specified in the project authorizations, the project alignment sheets, drawings, and/or the project line lists.

8.5 Spoil Storage, and Restoration

During construction across waterbodies, spoil from in-stream excavation will be stored a minimum of 10 feet from the waterbody banks, or greater based on project authorizations. A silt fence and/or straw bale containment structure or redundant BMPs will be used as necessary to contain spoil in the approved work area and prevent sediment runoff into the waterbody. Until installation of pipe, an earthen plug will be left in place in the trench on both banks of the waterbodies to separate the waterbody trench from upland trench and prevent water from the upland trench from flowing into the waterbody trench. During backfilling, Contractor will backfill waterbody trenches with native spoil so that the waterbody bottom is restored to its original contour. In cold water fisheries, clean, washed, non-limestone gravel or native cobbles will be used for the upper one foot of backfill.

Final grading will begin immediately after backfilling by restoring waterbody banks to their preconstruction contours. For removal of larger diameter pipes, the Contractor will need to haul in acceptable fill material to restore the contours. Bank stabilization must be considered in design and permitting. Banks will be seeded immediately following final grading. Erosion control fabric will be placed on top of the seed and will be anchored with staples, metal stakes, or other appropriate devices. Final grading, seeding, and bank stabilization will be completed no later than 24 hours after backfilling waterbody trench, weather and soil conditions permitting.

Trench breakers and permanent slope breakers will be installed at the base of slopes adjacent to waterbodies, and mulch will be applied in accordance with Sections 5 and 6. For waterbodies crossed using a dry construction technique (e.g., flume or dam-and-pump), bank stabilization will be completed before returning flow to the waterbody channel per the FERC Procedures.

9 WETLANDS

9.1 General Planning and Site Preparation

Temporary sediment barriers will be installed and maintained in and near wetlands as specified in Section 5.

Contractor will not store hazardous materials, chemicals, fuels, lubricating oils, or equipment; or perform concrete coating or concrete weight manufacturing within 100 feet of wetlands as specified in Section 3. Refueling within 100 feet of waterbodies and wetlands will be conducted as specified in the FERC Procedures and Environmental Procedure 380.201d.

Construction equipment operating in wetlands will be limited to the amount necessary to construct the crossing. Construction equipment not used to construct the crossing will use approved access

roads to move around wetlands to the maximum extent practicable. Where the use of approved access roads does not provide adequate access around a wetland, each piece of equipment used to construct the crossing may pass through the wetland only once, unless otherwise specified in project authorizations, the project alignment sheets, drawings, and/or the project line lists. Equipment operating from mats may cross on the mats more than once, if permitted.

9.2 Ground Stabilization

If a wetland cannot support construction equipment, and low-ground-pressure equipment is not used, Contractor will use a temporary platform of equipment mats to stabilize the right-of-way. Equipment mats will be removed from wetlands following construction and will be disposed of or reused. Duration of matting may be restricted by wetland permits. Tree stumps, brush riprap, imported dirt and rock fill may not be used to stabilize the approved work area in wetlands.

9.3 Grading, Trench Excavation, Backfilling

Contractor will not grade or remove stumps or root systems from the approved work area in wetlands, except over the ditch line. If Contractor believes that there is an adverse safety impact from this restriction, Contractor may request permission from Company to remove stumps and root systems from other areas in the approved work area. Company, in its sole discretion, will determine whether such a request will be authorized. Company's decision on the matter will be final.

Contractor will segregate topsoil from subsoil over the trench line as specified the FERC Plan and Procedures, except where saturated soils or ponded water make this impractical. Upland spoil or spoil from another wetland may not be imported into or stored in a wetland.

Contractor will minimize the duration of construction-related disturbance in wetlands to the maximum extent practicable. Where wetland conditions allow, the pipeline will be assembled in an upland area and pushed or pulled into place. Prior to backfilling, trench breakers will be installed at the base of slopes adjacent to wetlands and where an unmitigated trench poses a risk of draining a wetland in accordance with the FERC Procedures. During backfilling, segregated topsoil will be replaced to the top of the trench. Where wetlands overlie weathered bedrock, clean sand padding may be imported to the wetland trench to protect the pipe. Only the amount of padding necessary to protect the pipe may be imported to the wetland trench. In no case may sand padding be backfilled above the bedrock profile.

9.4 Restoration

Final grading will begin within six days of backfilling by restoring wetlands to their preconstruction contours, leaving no crown over the trench, or as required in the applicable permits, whichever is more restrictive. Wetlands will be seeded in accordance with Section 10.3. Fertilizer, lime, and mulch will not be applied in wetlands. Permanent slope breakers will be installed at the base of slopes adjacent to wetlands in accordance with Section 7. Timber riprap, equipment mats, pipe skids, and other construction debris will be removed from wetlands upon completion of construction. Existing culverts will be restored to their pre-construction condition after construction, including elevation, diameter, and length.

10 BACKFILLING, CLEAN-UP, AND FINAL RESTORATION

10.1 Backfilling

Prior to backfilling, Contractor will install trench breakers in the pipeline trench as directed by the EI, or absent directions from the EI, immediately up-slope of every temporary slope breaker, at the base of slopes adjacent to wetlands and waterbodies, and where the pipeline trench poses a risk of draining a wetland. Trench breakers will be constructed of materials such as sandbags (no topsoil) and will be notched into the sidewalls of the trench. Topsoil must be restored within 20 days of backfill. A travel lane may remain for access but must be restored as soon as access is no longer needed. In Minnesota, no more than one mile of trench may be open at any time, accelerating the backfill schedule.

In residential areas, the trench will be backfilled as soon as possible after the pipe is lowered in the trench. Topsoil must be restored within 10 days of backfill in residential areas.

Topsoil will not be used to pad the pipe during backfilling. In areas where topsoil has been segregated, the subsoil will be replaced first, and the topsoil will be spread over the area from which it was removed. Contractor may request from Company permission to import and use topsoil in lieu of topsoil separation and replacement. Company, in its sole discretion, will determine whether such a request will be authorized. Company's decision on the matter will be final and require compliance with Environmental Procedure 400.105. Blast rock may be used to backfill the trench to the top of the natural bedrock profile provided adequate padding is placed around the pipe in accordance with technical specifications. A twelve-inch earth crown will be constructed over the trench line (except in wetlands) to allow for future settling of the backfill material, per engineering standards ES-7503 or ES-7510 as appropriate. Cross drains will be left in the crown at 100-foot intervals, in swales and drains, and immediately up-slope of slope breakers.

10.2 Clean-up

Contractor will make every effort to complete final clean-up (including final grading) within twenty days after the trench is backfilled and complete installation of permanent erosion control measures within six days of topsoil restoration, or as required in the applicable permits, whichever is more restrictive and weather and soil conditions permitting. Debris will be disposed of in accordance with Section 3, and original ground contours will be restored, except for a crown over the trench in upland areas.

A travel lane, including bridges over waterbodies, will be left open during final grading and clean-up to allow for construction equipment access. This travel lane must be restored when access is no longer necessary.

10.3 Final Restoration and Revegetation

All compacted or rutted upland areas must be decompacted during restoration with a para-plow or other deep tillage implement. If plowing is employed, the stripped construction right-of-way will be decompacted first followed by replacement of the segregated topsoil. Where necessary, additional plowing of the topsoil will be performed to alleviate subsurface compaction. If

subsequent grading and clean-up activities result in further compaction, additional plowing will be required. If frozen conditions preclude plowing activities, remediation of compacted or rutted areas may need to be conducted after spring thaw occurs.

To aid in revegetation, remove excess rock from the top 12 inches of soil within the approved work area such that the size, density, and distribution of rock within the work area is similar to adjacent areas not disturbed by construction. If a landowner requests excess rock be left on their property, Contractor will notify Company of the request from the landowner for storage of rock within the approved work area outside of the post-construction permanent right-of-way. Company, in its sole discretion, will determine whether such a request will be authorized. Company's decision on the matter will be final. If authorization is granted, Contractor will be responsible for ensuring rock is stored within an upland area of the approved work area, but outside of the post-construction permanent right-of-way.

Permanent slope breakers will be installed and maintained in locations similar to temporary slope breakers as described in Sections 5 and 6 and as directed by the EI. Permanent slope breakers must be constructed of soil compacted to a minimum height of 1.5 feet, 4 feet in bottom width, and have an eight-foot-wide parabolic channel on the up-slope side. The down-slope angle and outfall will be the same as temporary slope breakers.

Fences and all-terrain-vehicle barriers removed during construction must be repaired or replaced during restoration. New all-terrain-vehicle barriers requested by landowners or land-managing agencies must be installed during restoration. Barriers will be constructed using stumps, boulders, or blast rock collected on land within the approved work area or other material as requested by landowners or land-managing agencies. Barriers will extend across the entire width of the approved work area and will be positioned in such a manner to prevent vehicle passage through or around the barrier. Barrier material will be sufficient type, size, and placement to prevent removal by all-terrain-vehicle users.

Contractor will be responsible for successful revegetation of the right-of-way. Disturbed areas will be seeded as required in permit authorizations, weather and soil conditions permitting. Slopes steeper than 33 percent and stream banks will be seeded immediately following final grading.

10.4 Seeding

Temporary and permanent seeding of the right-of-way will be completed within the recommended seeding dates as specified in agency consultations, the project alignment sheets, drawings, and/or the project line lists. If seeding cannot be completed during the recommended seeding period, temporary seed and mulch will be applied to disturbed areas except wetlands. Permanent seeding will be initiated at the beginning of the next seeding season. Typical temporary seed mixes include annual rye, oats, barley, and/or wheat. If dormant seeding, do not seed when ground is frozen or snow-covered.

10.4.1 Seeding Preparation

Prior to seeding, remove construction debris and grade the right-of-way to leave the soil in the proper condition for seedbed preparation. Excessive depth of mulch or vegetative debris must be

avoided to support proper germination. Prepare the seedbed to a depth of three to four inches using appropriate equipment to provide a firm uniform seedbed free of excess rock and large soil clods. If the right-of-way will be hydroseeded, the seedbed will be scarified to facilitate seed lodging and germination. If seeding is temporary and at locations (e.g., spoil stockpiles) where site prep access is not available, seed bed preparation is not expected.

10.4.2 Soil Amendments

Contractor will complete a soil test prior to seeding to determine the appropriate soil additives (i.e., fertilizer and/or lime) for the Project, as directed by Company or as requested by the landowner or land-managing agency. All Company SWPPPs will require testing for nitrogen, phosphorus, potassium, and lime amendments. In the absence of a SWPPP, the contractor shall apply 50 lbs of nitrogen/Acre of a 10-10-10 fertilizer where half of the nitrogen is a slow-release variety. Where soil additives are required, incorporate the fertilizer and/or lime into the top two inches of soil as soon as possible after application. Use of lime and fertilizer are prohibited in wetland areas.

10.4.3 Seeding

Uplands and wetlands will be seeded with mixes and at rates as specified in the project authorizations, the project alignment sheets, drawings, and/or the project line lists. Final seeding and restoration must occur with six days of backfill. Active cropland will not be seeded, unless requested by the landowner. In the absence of specific seed mixes for the Project the state-specific seeding guide published by the USDA Natural Resources Conservation service or state Department of Transportation may be utilized. Wetlands will be seeded with annual ryegrass at a rate of 40 lbs/acre in the absence of specific seed mixes for wetlands. Seed must be purchased in accordance with pure live seed specifications and be certified weed free. Seed will be used within nine months of testing. Any legumes in the seed mix will be treated with inoculants specific to the species. For conventional seeding, use four times the manufacturer's recommended rate of inoculants, and ten times the recommended rate if hydro-seeding methods are used.

Seed will be uniformly applied and incorporated into the top one inch of soil. A seed drill equipped with a culti-packer is the preferred method of seeding, however, if the seed is broadcast or applied using a hydro-seeder, the seed will be applied at double the recommended seeding rate. Where seed is broadcast, the seed will be incorporated into the soil by raking or dragging. Where a hydro-seeder is used, the seed bed will be scarified prior to application to allow the seeds to lodge and germinate.

Immediately after or concurrent with seeding, mulch will be uniformly applied to cover 90 percent of the ground surface at a rate of two tons per acre of straw except those areas located in actively cultivated croplands, and other areas at the EI's discretion. Mulch specifications are discussed in Section 6. Mulch will not be applied in wetlands.

After seeding, Contractor will restore turf, ornamental trees and shrubs and other landscaping in residential areas in accordance with the landowner's request or compensation will be made to the landowner. Restoration work will be performed by Contractor personnel familiar with local horticultural and turf establishment practices. In addition, Contractor may be required to install vegetative visual screening at critical viewpoints in the project area in accordance with the project

authorizations, the project alignment sheets, drawings, and/or the project line lists. Vegetative visual screening will involve planting native shrub and tree species within the approved work area at naturally occurring densities and distributions (not on a grid) to blend with the surrounding landscape.

Revegetation will be considered successful when the surface of the approved work area is similar to adjacent undisturbed lands in terms of species richness and density, or at least 70 percent perennial vegetation.

10.4.4 Post-Construction Monitoring and Maintenance

Contractor will be responsible for maintaining erosion and sediment controls, making repairs on the right of way, and success of any vegetation, including trees, until final stabilization has been achieved. Company expects and requires the Contractor to respond to repairs such as BMP repair and/or replacement, reseeding, regrading, removal of non-biodegradable BMPs in a timely manner and within the time frame outlined in any application project authorizations (e.g., construction stormwater). Upon achieving final stabilization, Contractor will walk the Project and remove any construction waste (e.g., mats) and non-biodegradable sediment controls.

11 REVISION HISTORY:

Responsibility for Procedure:

Address all questions on this procedure to the director of environmental.

Revisions:

Rev. 0	04/01/21	
Rev. 1	07/21/21	Revised to require the use of erosion control blankets or hydraulically applied bonded fiber matrix on all slopes 15% or greater, that require revegetation.
Rev. 2	05/04/23	Revised to include paragraph on coagulation/flocculation aids.
Rev. 3	12/08/23	Revised to include soil testing requirements and editorial/style changes.

Appendix A

380.203b SWPPP Inspection and Maintenance Report

NORTHERN NATURAL GAS
STORMWATER INSPECTION AND MAINTENANCE FORM

Project Name:		**Work Order #:**	**Inspection Date:** **Inspection Time:**
Project Description:			**Stormwater Permit Agency:**
Nearest Town, County and State:			**Stormwater Permit Authorization #:**
GPS Lat:	**GPS Long:**		**Initial Grading Date:** **Final Grading Date:**
Full Contractor Company Name:			**Final Seeding Date:**
Contractor Contact Info (Name/Phone):			**Final Stabilization Date:**
Inspection Event:	☐ Routine ☐ Rain Event ☐ Maintenance		
Inspection Schedule (IL, IA, MI, MN, OK, SD, WI)	☐ Every 7 days and within 24 hours of a rain event 0.5 inches or greater (inches of rain)		
Inspection Schedule (KS, NE, OK, SD)	☐ Every 14 days and within 24 hours of a rain event 0.5 inches or greater (inches of rain)		
Inspection Schedule (NM and all EPA permits)	☐ Every 7 days or every 14 days and within 24 hours of a rain event 0.25 inches or greater (inches)		
Reduced Inspection Schedule and Reason Behind Reduced Schedule (Must follow stormwater permit authorization requirements, which may vary per state/project.)	☐ Every 30 days	☐ Site temporarily stabilized and winter conditions ☐ Arid, semi-arid or drought stricken area ☐ Frozen conditions ☐ Other, explain:	
Current Weather and Site Conditions (i.e., 66°F and dry):			
Construction Phase:	☐ **Active** ☐ **Suspended** ☐ **Post-Construction**		

SUBMITTED TO: (Enter names and email addresses below.)

Project Manager: Click here to enter text.
Construction Coordinator: Click here to enter text.
Field Operations Contact: Click here to enter text.
Division Environmental Specialist (DES): Click here to enter text.
Construction Environmental Compliance Contact: Christa Webber

Table 1.0 – Inspection Observations and Corrective Actions

Stormwater Inspection Item	Maintenance Required: If yes, complete columns to the right.	Observations: Describe locations where controls require maintenance or additional controls are needed.	Recommended Corrective Actions: Describe actions taken while on-site, and/or recommendations to resolve observed issues. Update items with notes to detail status, including ongoing communications to ensure progress toward resolution.	Assigned to:	Repair Status	Completion Date[1]
Contract Yards and Storage Areas	☐ Yes ☐ No ☐ N/A				☐ Pending ☐ In progress ☐ Complete	
Vehicle Exit Points	☐ Yes ☐ No ☐ N/A				☐ Pending ☐ In progress ☐ Complete	
Sediment Controls	☐ Yes ☐ No ☐ N/A				☐ Pending ☐ In progress ☐ Complete	
Erosion Controls	☐ Yes ☐ No ☐ N/A				☐ Pending ☐ In progress ☐ Complete	
Disturbed Areas Stabilization	☐ Yes ☐ No ☐ N/A				☐ Pending ☐ In progress ☐ Complete	
Dewatering Activities and Structures	☐ Yes ☐ No ☐ N/A				☐ Pending ☐ In progress ☐ Complete	
Material Storage (e.g., containment, spill kits, etc.)	☐ Yes ☐ No ☐ N/A				☐ Pending ☐ In progress ☐ Complete	
Final Restoration Activities	☐ Yes ☐ No ☐ N/A				☐ Pending ☐ In progress ☐ Complete	

[1]Action items that were dated complete on the previous report should not appear on subsequent reports.

SUBMITTED TO: (Enter names and email addresses below.)

Project Manager: Click here to enter text.
Construction Coordinator: Click here to enter text.
Field Operations Contact: Click here to enter text.
Division Environmental Specialist (DES): Click here to enter text.
Construction Environmental Compliance Contact: Christa Webber

Table 2.0 – Erosion Control Devices (Separately list each area where ECDs have been either temporarily or permanently installed.)

Exact location of erosion/sediment control inspected *(Ex. east road-side ditch of HWY 20)*	**Temporary (T) or Permanent (P)**	**Type of erosion/sediment control** *(Ex. hay bales, silt fence, wattles, slope breakers, erosion blankets, construction entrances, electric/barbed-wire fence, dewatering devices/structures, etc.)*	**Date Installed**	**Date Removed**	**Dates and Comments Regarding Completed Repair/Maintenance Activities**

Table 3.0 – Revegetation (Separately list each area where revegetation is required to report status toward "final stabilization", as defined by the respective permit.)

Location	**Status**	**Land Use**	**Seed/Over-seed Date(s)**	**Comments**

SUBMITTED TO: (Enter names and email addresses below.)

Project Manager: Click here to enter text.
Construction Coordinator: Click here to enter text.
Field Operations Contact: Click here to enter text.
Division Environmental Specialist (DES): Click here to enter text.
Construction Environmental Compliance Contact: Christa Webber

NORTHERN NATURAL GAS
STORMWATER INSPECTION AND MAINTENANCE FORM

General Observations:	
Is there a violation affecting water quality?	
☐ Yes, and I immediately called the environmental specialist for instruction.	☐ No: No further action required.
Has the entire site achieved Final Stabilization per the permit requirements and have all temporary ECDs have been removed.	
☐ Yes, and I immediately called the environmental specialist for instruction.	☐ No: The next SWPPP inspection is due on or before this date:

Certification: I certify that: (1) the information contained in this report is true, accurate and complete; (2) I am qualified to complete this inspection based on my training and knowledge of the principles and practice of erosion and sediment controls; and (3) the project is in compliance with the SWPPP. I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit authorization for this project, which authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.	
Inspector Printed Name:	
Inspector Signature:	**Date:**
Certification: I certify that: (1) the information contained in this report is true, accurate and complete; (2) I understand that I am required to take the listed corrective actions within 24 hours of this notification, or as soon as possible if field conditions prevent access, under the conditions of the National Pollutant Discharge Elimination System (NPDES) permit authorization for this project and the FERC Plan and Procedures; and (3) the project is in compliance with the SWPPP. I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit authorization for this project, which authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.	
Contractor Environmental Lead Printed Name:	
Contractor Environmental Lead Signature:	**Date:**

SUBMITTED TO: (Enter names and email addresses below.)

Project Manager: Click here to enter text.
Construction Coordinator: Click here to enter text.
Field Operations Contact: Click here to enter text.
Division Environmental Specialist (DES): Click here to enter text.
Construction Environmental Compliance Contact: Christa Webber

INSPECTION PHOTOS

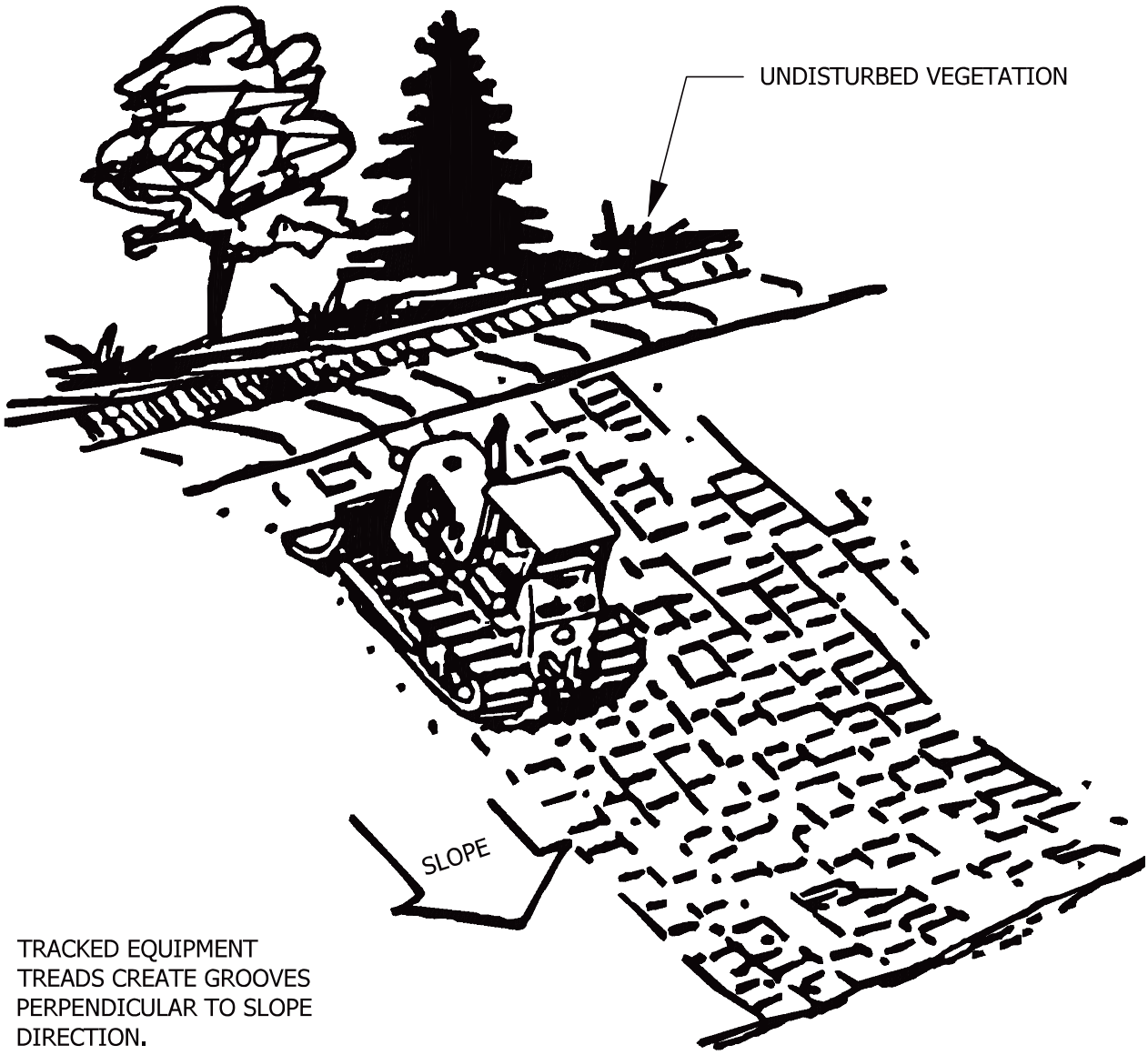
(Insert a minimum of two to three photos on the next pages, followed directly by captions detailing: 1) direction of view, 2) location within the temporary workspace, and 3) other significant information to reference the information noted above. Photos must be provided for any areas noted above as requiring maintenance. If those areas were corrected during the inspection, simply include photos showing the corrected concern.)

SUBMITTED TO: (Enter names and email addresses below.)

Project Manager: Click here to enter text.
Construction Coordinator: Click here to enter text.
Field Operations Contact: Click here to enter text.
Division Environmental Specialist (DES): Click here to enter text.
Construction Environmental Compliance Contact: Christa Webber

Appendix B

Typical Erosion and Sediment Control Details



TRACKED EQUIPMENT TREADS CREATE GROOVES PERPENDICULAR TO SLOPE DIRECTION.

NOTE:
ALL SLOPES WITH A GRADE EQUAL TO OR STEEPER THAN 3:1 REQUIRE SLOPE TRACKING. SLOPES WITH A GRADE MORE GRADUAL THAN 3:1 REQUIRE SLOPE TRACKING IF THE STABILIZATION METHOD IS EROSION CONTROL BLANKET OR HYDROMULCH.

FAC. CODE: N/A		REL. W.O. N/A
PL#. N/A		CONST. YR 2019
STA# N/A		
	BY	DATE
DESIGN		12/26/2019
DRAWN		1/7/2020
ASBUILT		
FILE NO.: N/A		
SCALE: N/A		

Northern Natural Gas

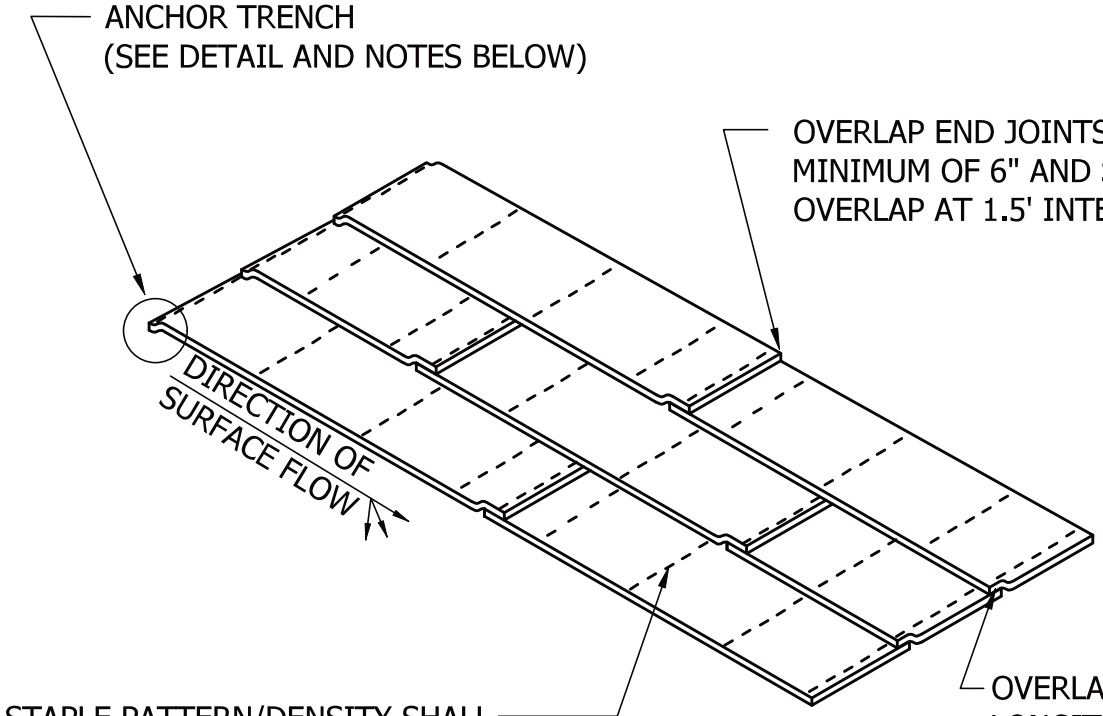
HORIZONTAL SLOPE GRADING

Figure E-1

PROJECT NO.
N/A

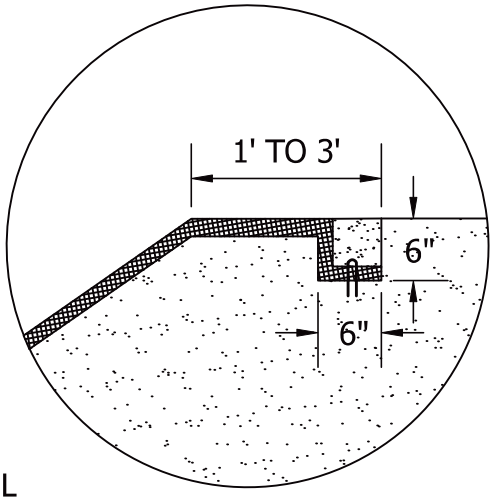
DWG. NO.
TYP1

SHT. 1 OF 1



ANCHOR TRENCH

1. DIG 6" X 6" TRENCH
2. LAY BLANKET IN TRENCH
3. STAPLE AT 1.5' INTERVALS
4. BACKFILL WITH NATURAL SOIL AND COMPACT
5. BLANKET LENGTH SHALL NOT EXCEED 100' WITHOUT AN ANCHOR TRENCH



NOTE:

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, SOIL CLUMPS, STICKS, VEHICLE IMPRINTS, AND GRASS. BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. EROSION CONTROL BLANKET TYPE TO BE SPECIFIED BY ENGINEER.

FAC. CODE: N/A		REL. W.O. N/A
PL#. N/A		CONST. YR 2019
STA# N/A		
	BY	DATE
DESIGN		12/21/2019
DRAWN		1/7/2020
ASBUILT		
FILE NO.: N/A		
SCALE: N/A		

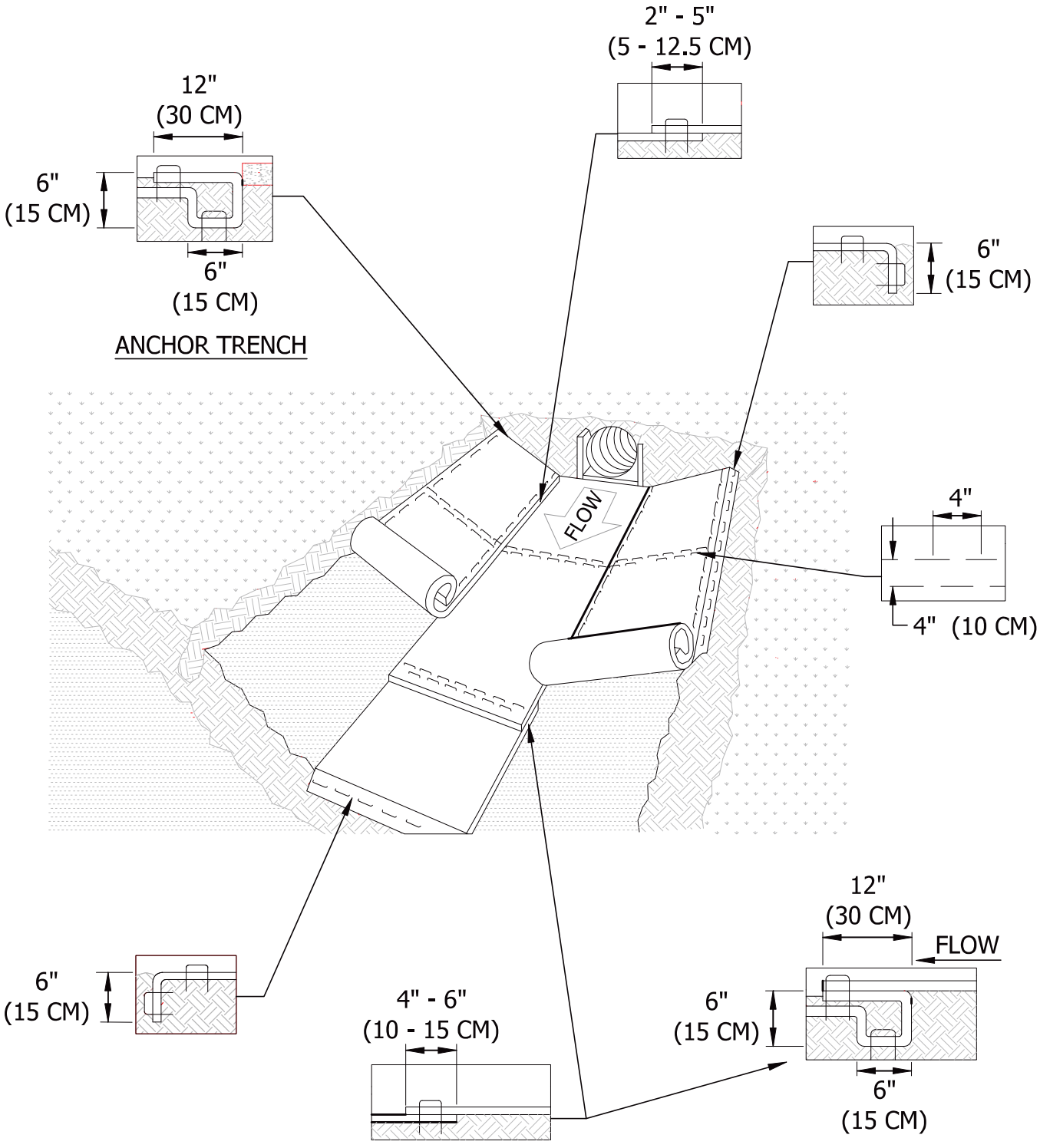
Northern Natural Gas

EROSION CONTROL BLANKET INSTALLATION

Figure E-2A

PROJECT NO.
N/A

DWG. NO.
TYP1
SHT. 1 OF 1



NOTE:
EROSION CONTROL CHANNEL BLANKET TYPE TO BE SPECIFIED BY ENGINEER.

FAC. CODE: N/A		REL. W.O. N/A
PL#. N/A		CONST. YR 2019
STA# N/A		
	BY	DATE
DESIGN		12/21/2019
DRAWN		1/7/2020
ASBUILT		
FILE NO.: N/A		
SCALE: N/A		

Northern Natural Gas

EROSION CONTROL BLANKET CHANNEL INSTALLATION

Figure E-2B

PROJECT NO.
N/A

DWG. NO.
TYP1
SHT. 1 OF 1

119

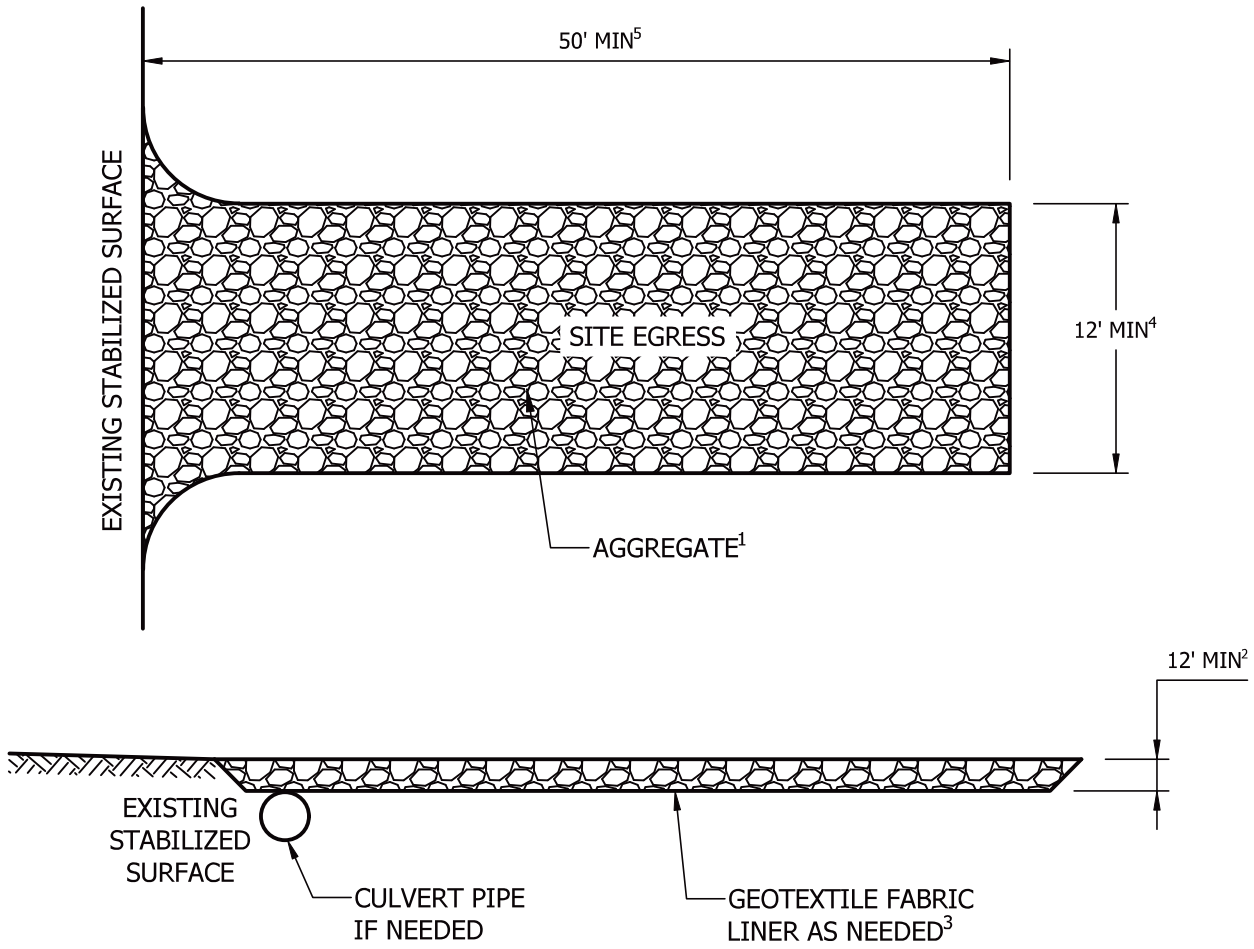


Table 1. Gradation for stone tracking pads	
Sieve Size	Percent by weight passing
3"	100
2-1/2"	90-100
1-1/2"	25-60
3/4"	0-20
3/8"	0-5

NOTE

1. USE HARD, DURABLE, ANGULAR STONE OR RECYCLED CONCRETE MEETING THE GRADATION IN TABLE 1. WHERE THIS GRADATION IS NOT AVAILABLE, MEET THE GRADATION IN WISCONSIN DEPARTMENT OF TRANSPORTATION (DOT) 2018 STANDARD SPECIFICATIONS, SECTION 312, SELECT CRUSHED MATERIAL.
2. SLOPE THE STONE TRACKING PAD IN A MANNER TO DIRECT RUNOFF TO AN APPROVED TREATMENT PLACE.
3. SELECT FABRIC TYPE BASED ON SOIL CONDITIONS AND VEHICLES LOADING.
4. INSTALL TRACKING PAD ACROSS FULL WIDTH OF THE ACCESS POINT, OR RESTRICT EXISTING TRAFFIC TO A DEDICATED EGRESS LAND A LEAST 12 FEET WIDE ACROSS THE TOP OF THE PAD.
5. IF A 50' PAD LENGTH IS NOT POSSIBLE DUE TO SITE GEOMETRY, INSTALL THE MAXIMUM LENGTH PRACTICABLE AND SUPPLEMENT WITH ADDITIONAL PRACTICES AS NEEDED.

FAC. CODE: N/A		REL. W.O. N/A
PL#. N/A		CONST. YR 2019
STA# N/A		
	BY	DATE
DESIGN		1/8/2020
DRAWN		1/8/2020
ASBUILT		
FILE NO.: N/A		
SCALE: N/A		

Northern Natural Gas

CONSTRUCTION ENTRANCE

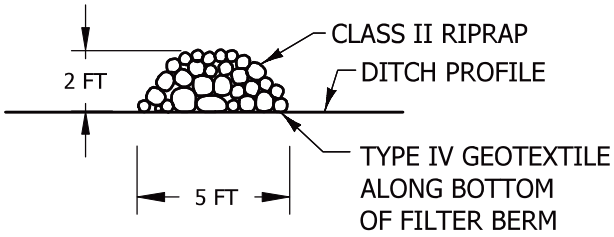
Figure ERO-12

PROJECT NO. N/A

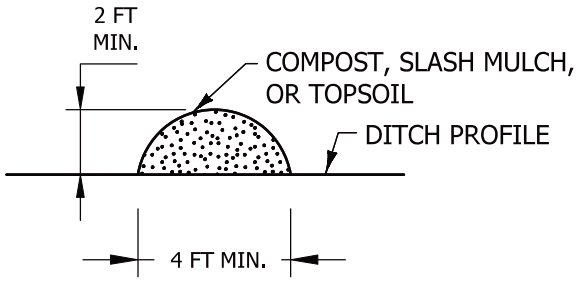
DWG. NO. TYP1

SHT. 1 OF 1

4120



TYPE 5 (ROCK)



TYPE 1 (COMPOST), TYPE 2 (SLASH MULCH), OR TYPE 4 (TOPSOIL)

NOTE

1. FOR PERMANENT DITCH CHECK REDUCE THE HEIGHT TO 16 IN. AND MODIFY THE 1:2 (V:H) SIDE SLOPE TO 1:6 (V:H).

FAC. CODE: N/A		REL. W.O. N/A	
PL#. N/A		CONST. YR 2019	
STA# N/A			
	BY	DATE	
DESIGN		1/8/2020	
DRAWN		1/8/2020	
ASBUILT			
FILE NO.: N/A			
SCALE: N/A			

Northern Natural Gas

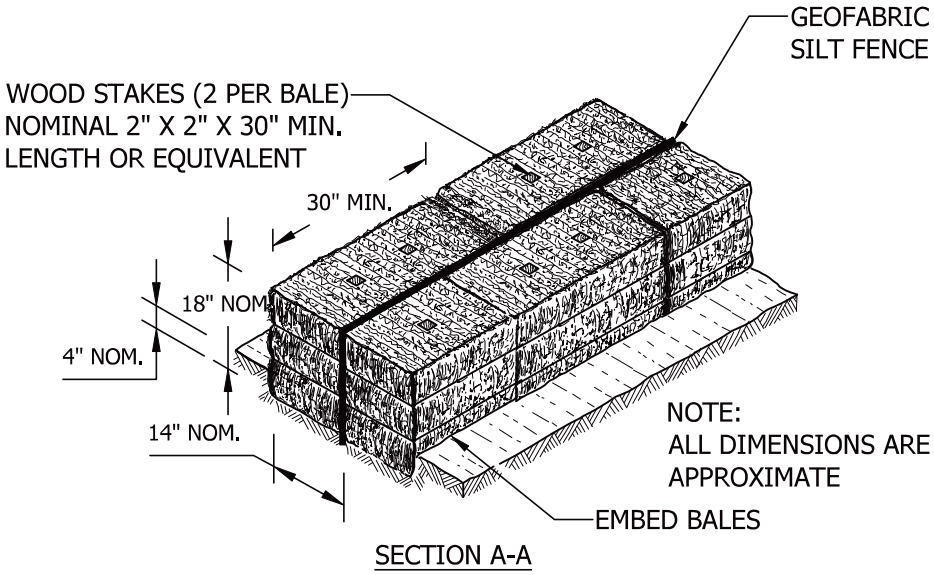
SEDIMENT CONTROL FILTER BERM

Figure ERO-13

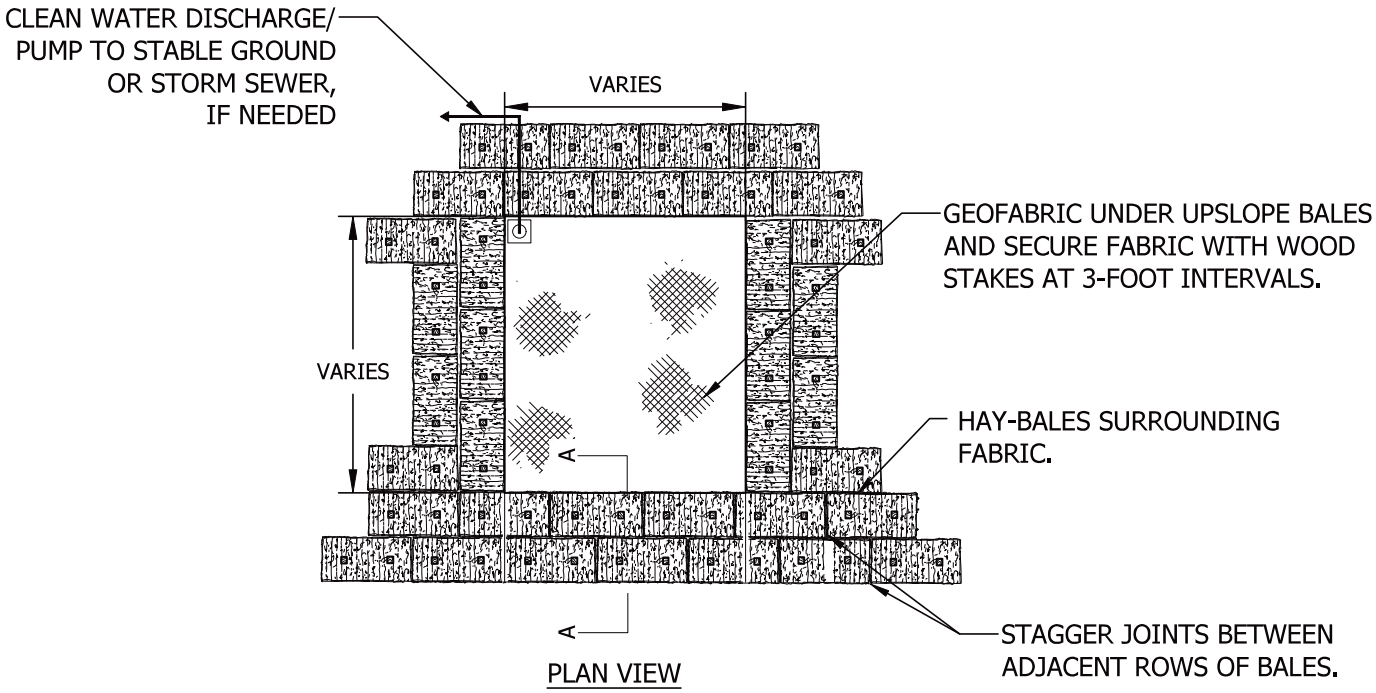
PROJECT NO. N/A

DWG. NO. TYP1

SHT. 1 OF 1



SECTION A-A



PLAN VIEW

FAC. CODE: N/A		REL. W.O. N/A
PL#. N/A		CONST. YR 2019
STA# N/A		
	BY	DATE
DESIGN		1/8/2020
DRAWN		1/8/2020
ASBUILT		
FILE NO.: N/A		
SCALE: N/A		

Northern Natural Gas

STRAW BALE DEWATERING STRUCTURE

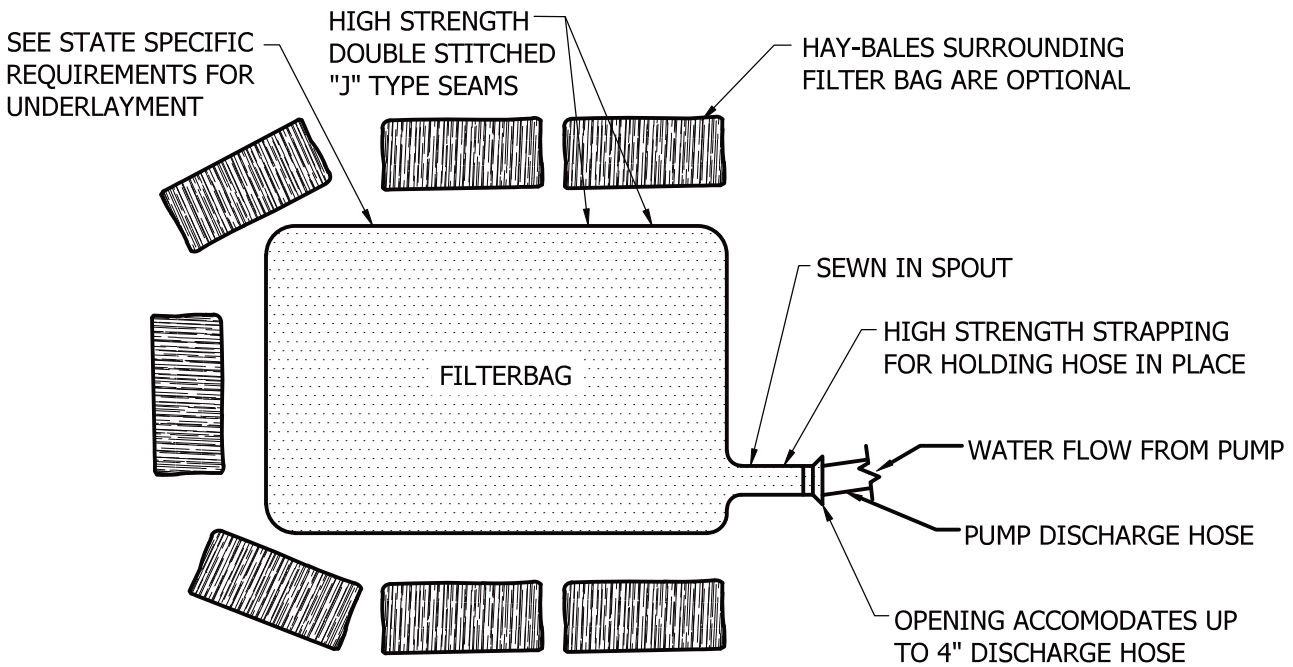
Figure ERO-14

PROJECT NO.
N/A

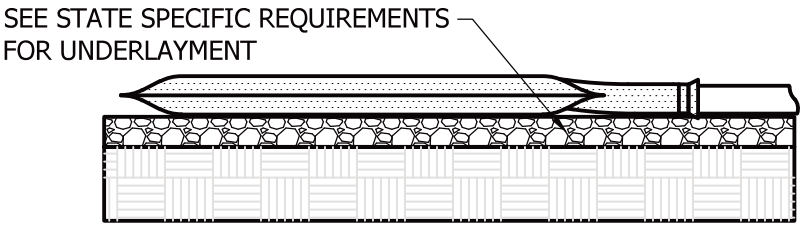
DWG. NO.
TYP1
SHT. 1 OF 1

A

4122



TOP VIEW



SIDE VIEW

FAC. CODE: N/A		REL. W.O. N/A
PL#. N/A		CONST. YR 2019
STA# N/A		
	BY	DATE
DESIGN		1/8/2020
DRAWN		1/8/2020
ASBUILT		
FILE NO.: N/A		
SCALE: N/A		

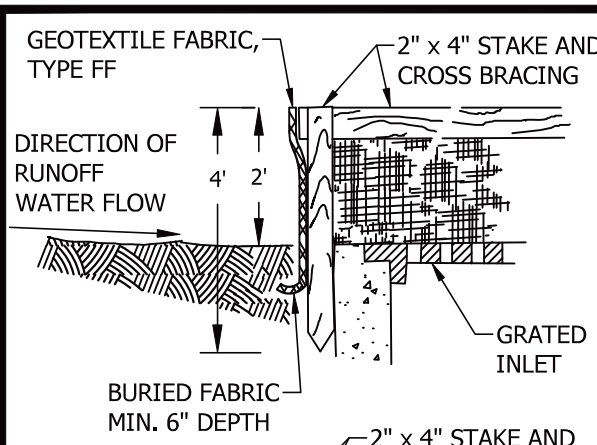
Northern Natural Gas

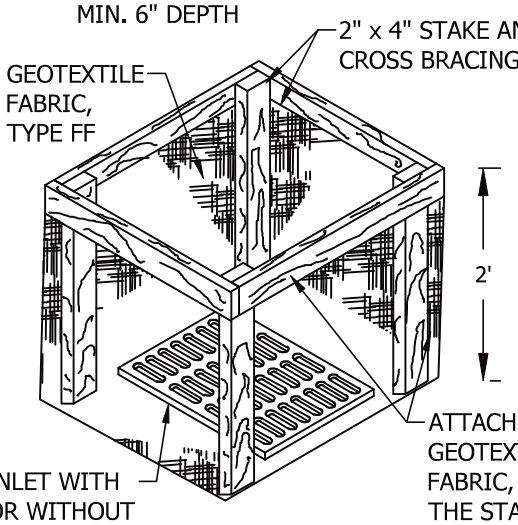
GEOTEXTILE FILTER BAG

Figure ERO-15

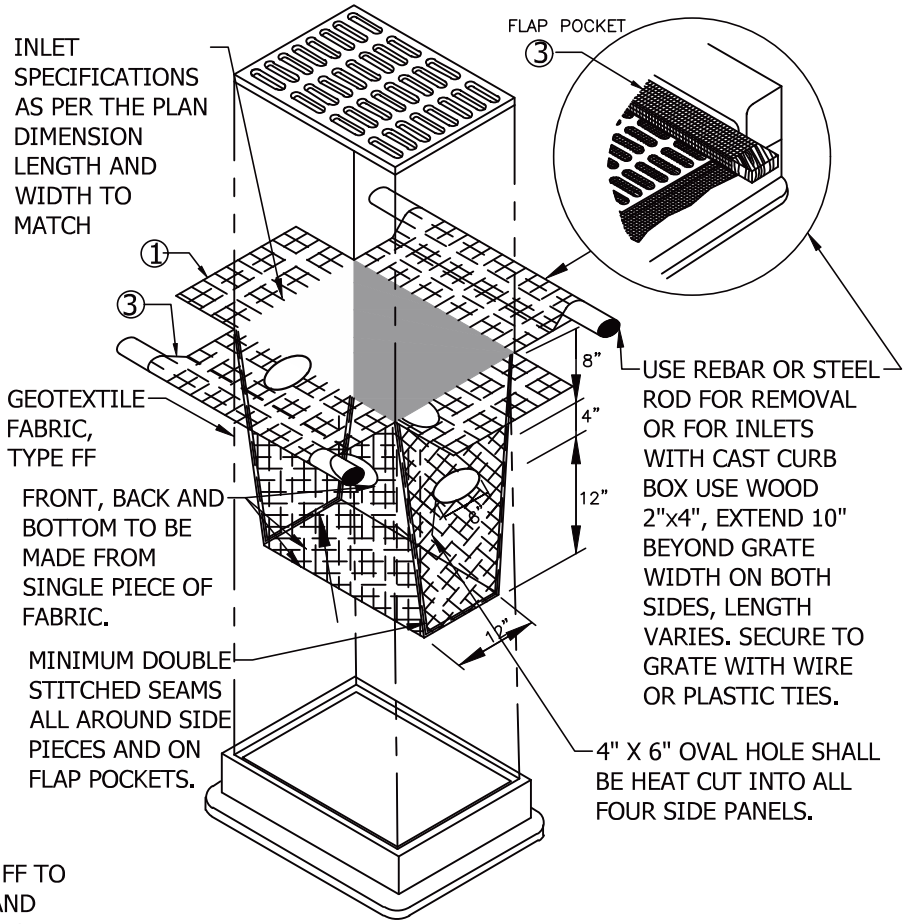
PROJECT NO.
N/A

DWG. NO.
TYP1
SHT. 1 OF 1

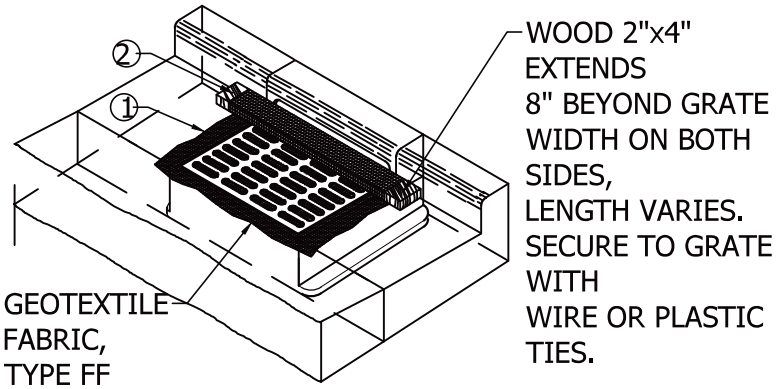




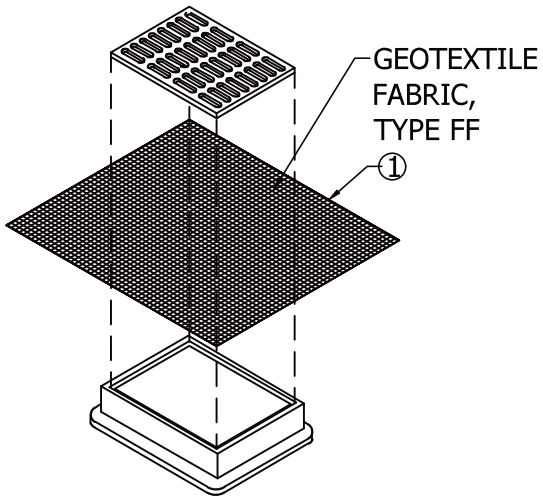
INLET PROTECTION, TYPE A



INLET PROTECTION, TYPE D
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE B (WITHOUT CURB BOX)
(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)

1. FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
2. FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
3. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

FAC. CODE: N/A		REL. W.O. N/A	
PL#. N/A		CONST. YR 2019	
STA# N/A			
	BY	DATE	
DESIGN		1/8/2020	
DRAWN		1/8/2020	
ASBUILT			
FILE NO.: N/A			
SCALE: N/A			

Northern Natural Gas

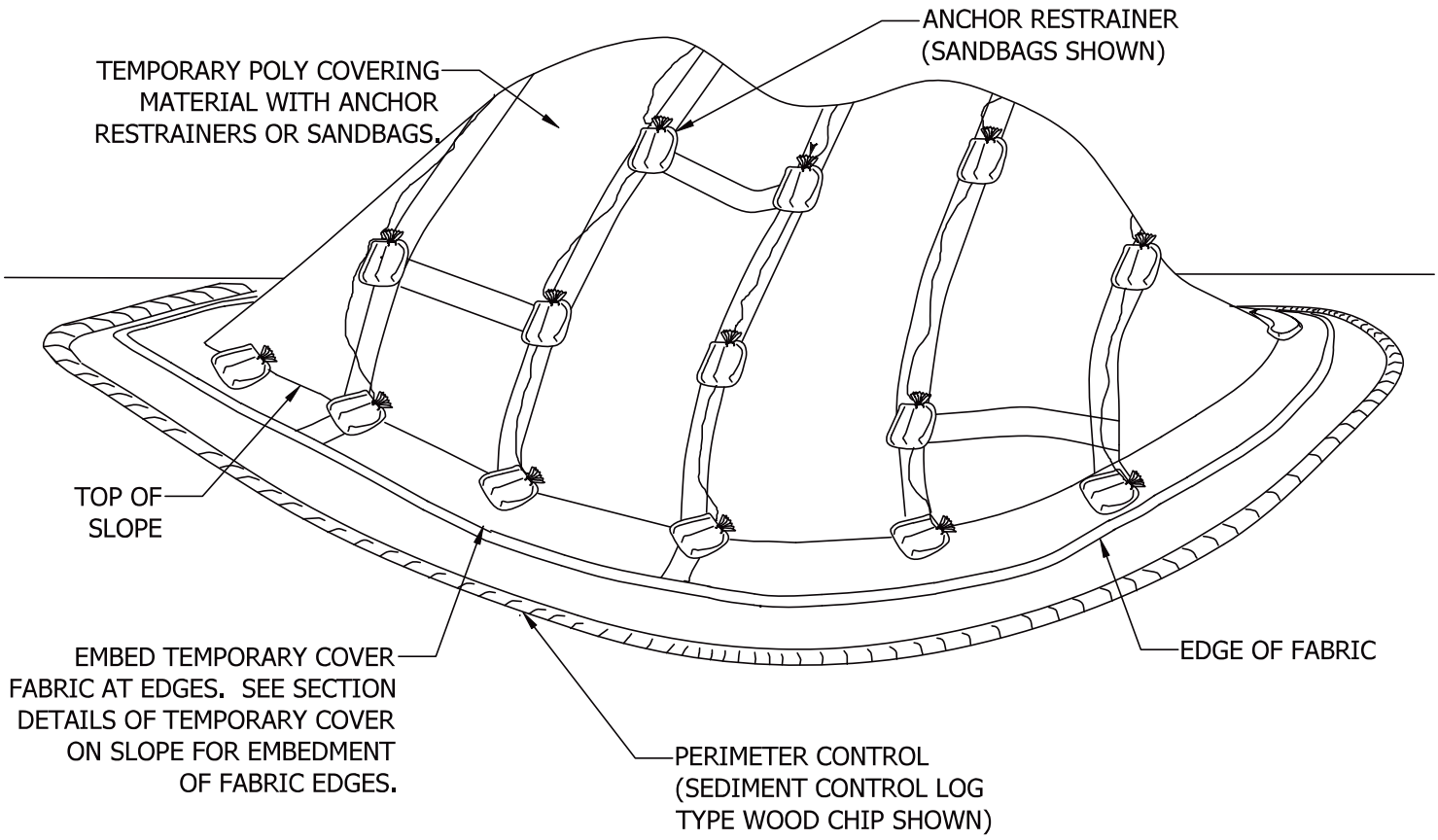
INLET PROTECTION DROP-IN BAG

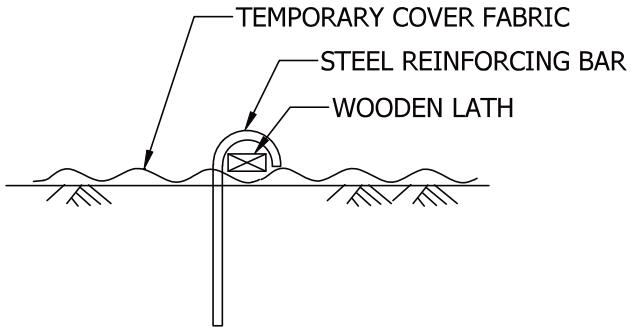
Figure ER0-16

PROJECT NO. N/A

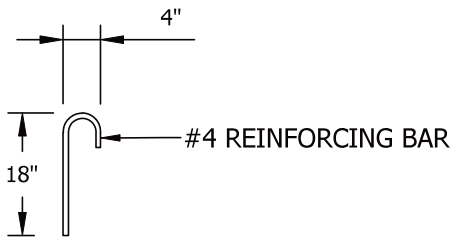
DWG. NO. TYP1

SHT. 1 OF 1





ANCHOR RESTRAINER
(STEEL BAR AND WOODEN LATH OPTION)



STEEL REINFORCING BAR DETAIL

NOTES

1. ANCHOR RESTRAINERS: TYPE, QUANTITY, AND SPACING ARE INCIDENTAL TO POLY COVER. PROVIDE ON CORNERS AND SEAMS OF POLY COVER MATERIAL TO KEEP FROM BLOWING OFF. NO MINIMUM SPACING REQUIRED.
2. PERIMETER CONTROL: USE SEDIMENT CONTROL LOGS TYPE WOOD CHIP OR COMPOST, INCIDENTAL.

FAC. CODE: N/A		REL. W.O. N/A
PL#. N/A		CONST. YR 2019
STA# N/A		
	BY	DATE
DESIGN		1/8/2020
DRAWN		1/8/2020
ASBUILT		
FILE NO.: N/A		
SCALE: N/A		

Northern Natural Gas

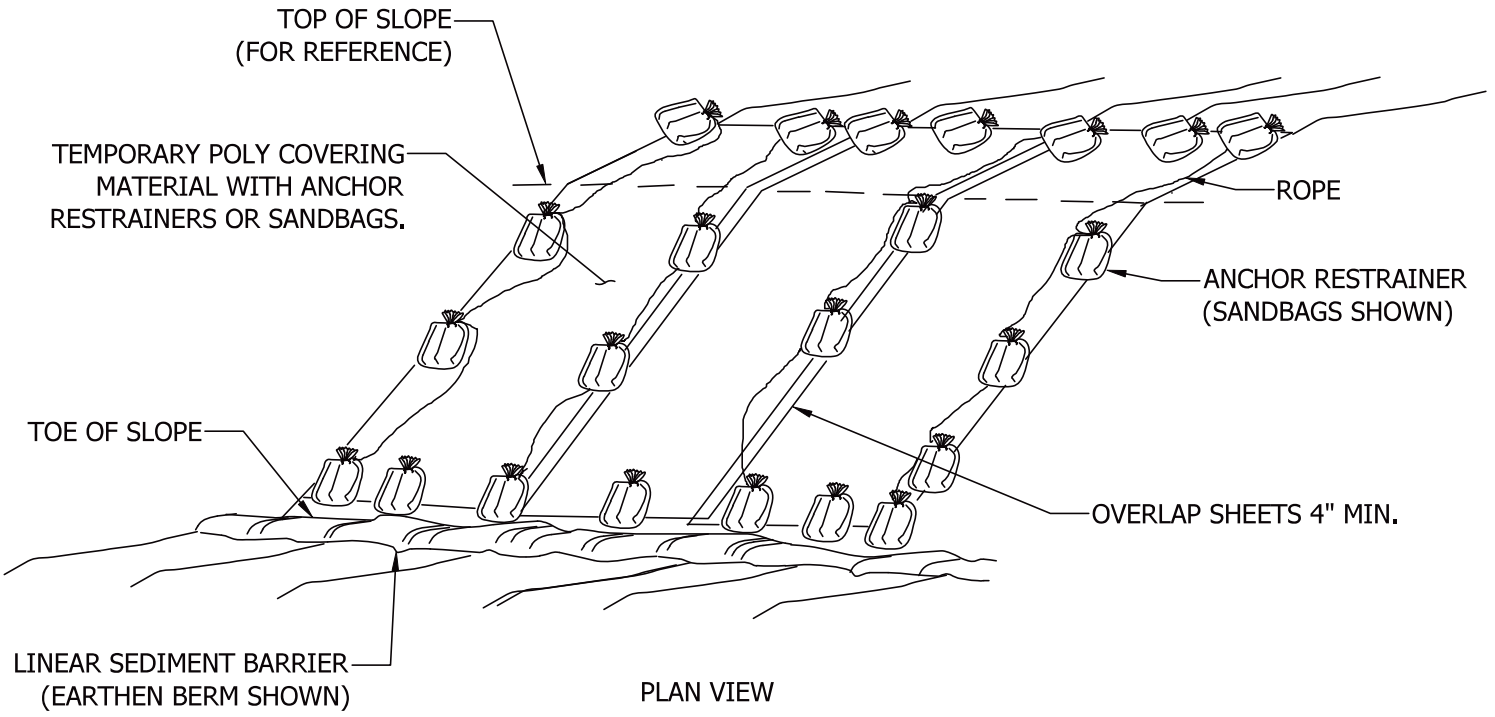
POLY COVER ON SLOPE

Figure ERO-17a

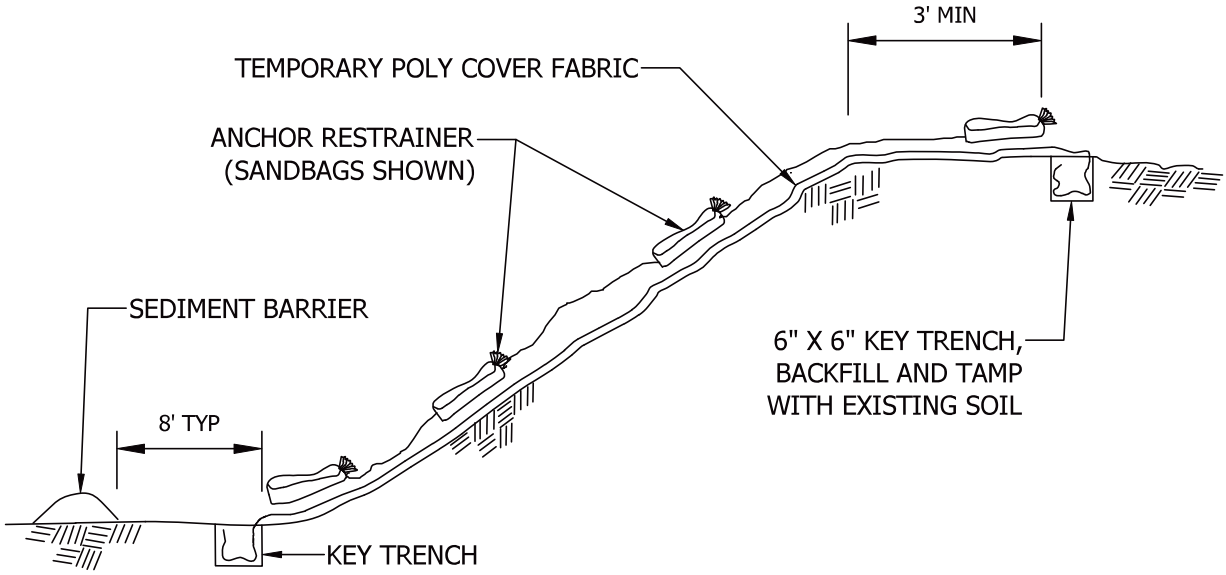
PROJECT NO.
N/A

DWG. NO.
TYP1

SHT. 1 OF 1



PLAN VIEW



ELEVATION VIEW

NOTES

1. ANCHOR RESTRAINERS: TYPE, QUANTITY, AND SPACING ARE INCIDENTAL TO POLY COVER. PROVIDE ON CORNERS AND SEAMS OF POLY COVER MATERIAL TO KEEP FROM BLOWING OFF. NO MINIMUM SPACING REQUIRED.
2. PERIMETER CONTROL: USE SEDIMENT CONTROL LOGS TYPE WOOD CHIP OR COMPOST, INCIDENTAL.

FAC. CODE: N/A		REL. W.O. N/A	
PL#. N/A		CONST. YR 2019	
STA# N/A			
	BY	DATE	
DESIGN		1/8/2020	
DRAWN		1/8/2020	
ASBUILT			
FILE NO.: N/A			
SCALE: N/A			

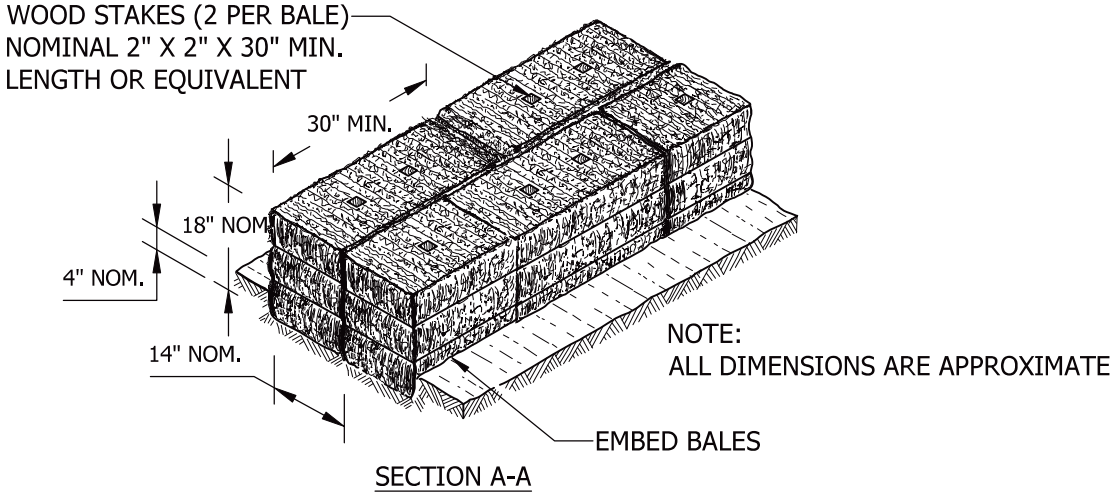
Northern Natural Gas

POLY COVER ON STOCKPILE

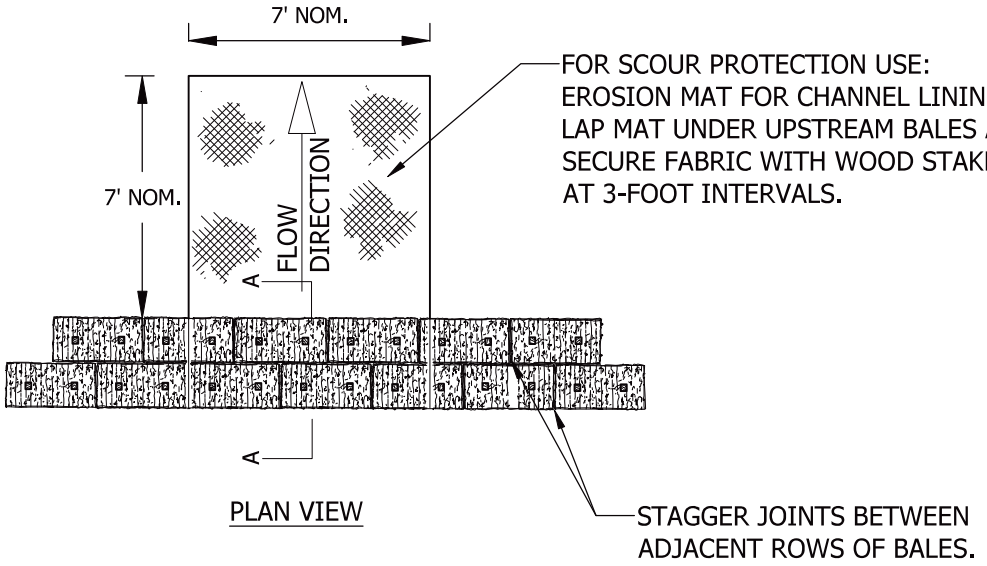
Figure ERO-17b

PROJECT NO.
N/A

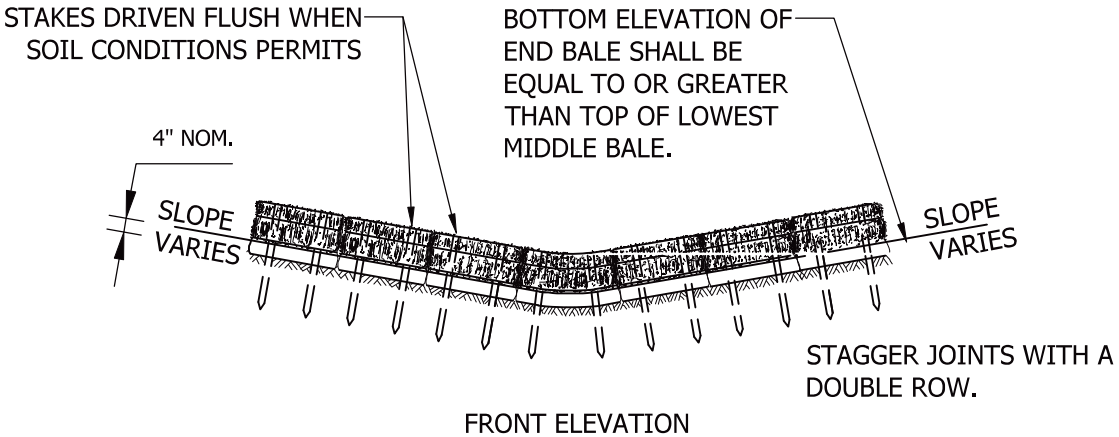
DWG. NO.
TYP1
SHT. 1 OF 1



SECTION A-A



PLAN VIEW



FRONT ELEVATION

FAC. CODE: N/A		REL. W.O. N/A
PL#. N/A		CONST. YR 2019
STA# N/A		
	BY	DATE
DESIGN		1/15/2020
DRAWN		1/15/2020
ASBUILT		
FILE NO.: N/A		
SCALE: N/A		

Northern Natural Gas

BALE BARRIER DITCH CHECK

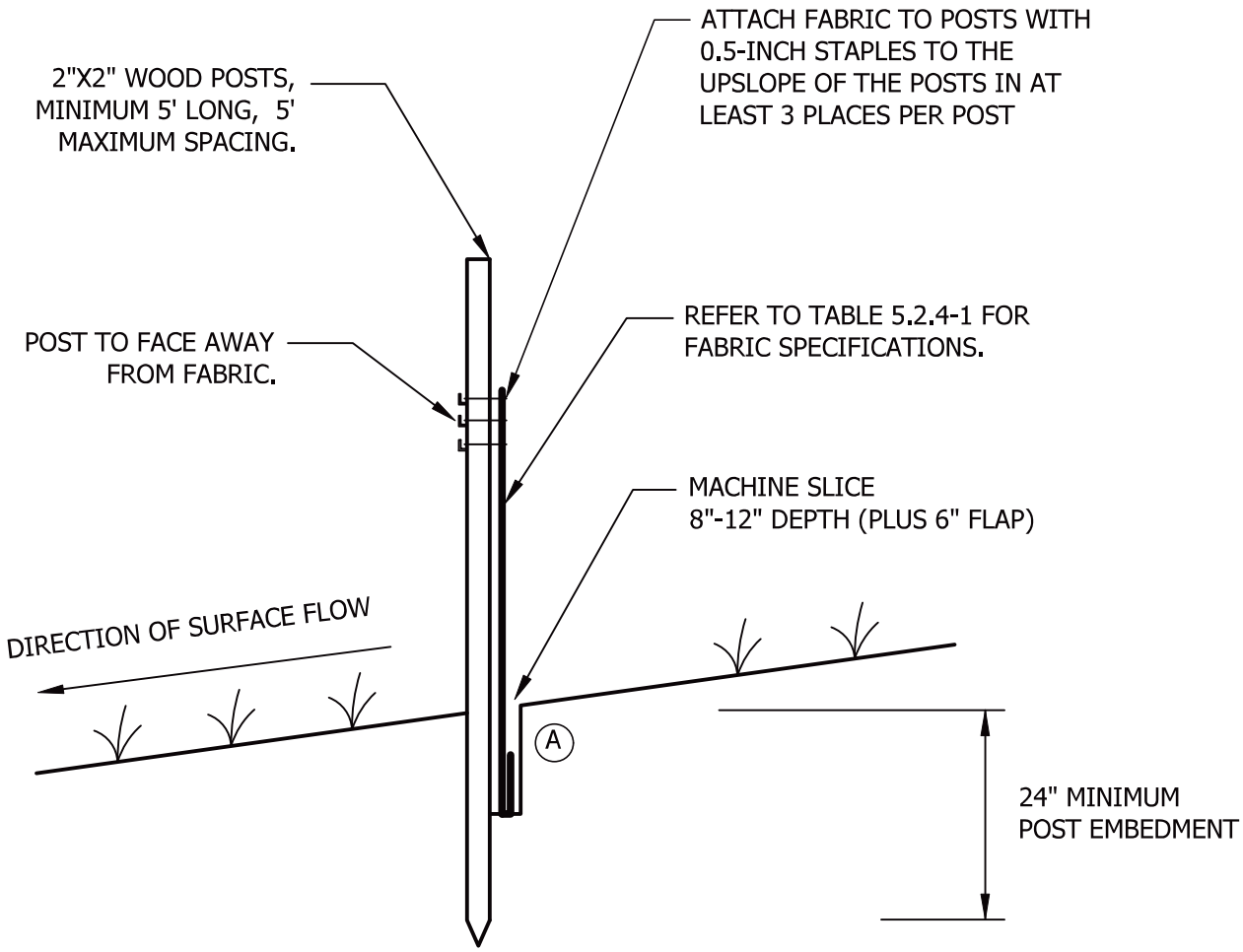
Figure ERO-19

PROJECT NO. N/A

DWG. NO. TYP1

SHT. 1 OF 1

^ 127



NOTE:
THE MACHINE SLICED METHOD (THIS DETAIL) IS THE STANDARD SILT FENCE INSTALLATION METHOD. HEAVY-DUTY (S-2) SILT FENCE INSTALLATION METHODS SHOULD ONLY BE USED WHEN APPROVED OR DIRECTED BY THE NORTHERN NATURAL GAS.

(A) COMPACTION:
AFTER "SLICING" IN THE FABRIC AND *BEFORE* INSTALLATION OF WOOD POSTS, DRIVE INSTALLATION EQUIPMENT OVER THE "SLICE" WHILE FABRIC IS LAYING ON THE GROUND. *THEN* INSTALL WOOD POSTS AND PULL UP FABRIC TO ATTACH AT A UNIFORM HEIGHT.

FAC. CODE: N/A		REL. W.O. N/A	
PL#. N/A		CONST. YR 2019	
STA# N/A			
	BY	DATE	
DESIGN		12/20/2019	
DRAWN		1/7/2020	
ASBUILT			
FILE NO.: N/A			
SCALE: N/A			

Northern Natural Gas

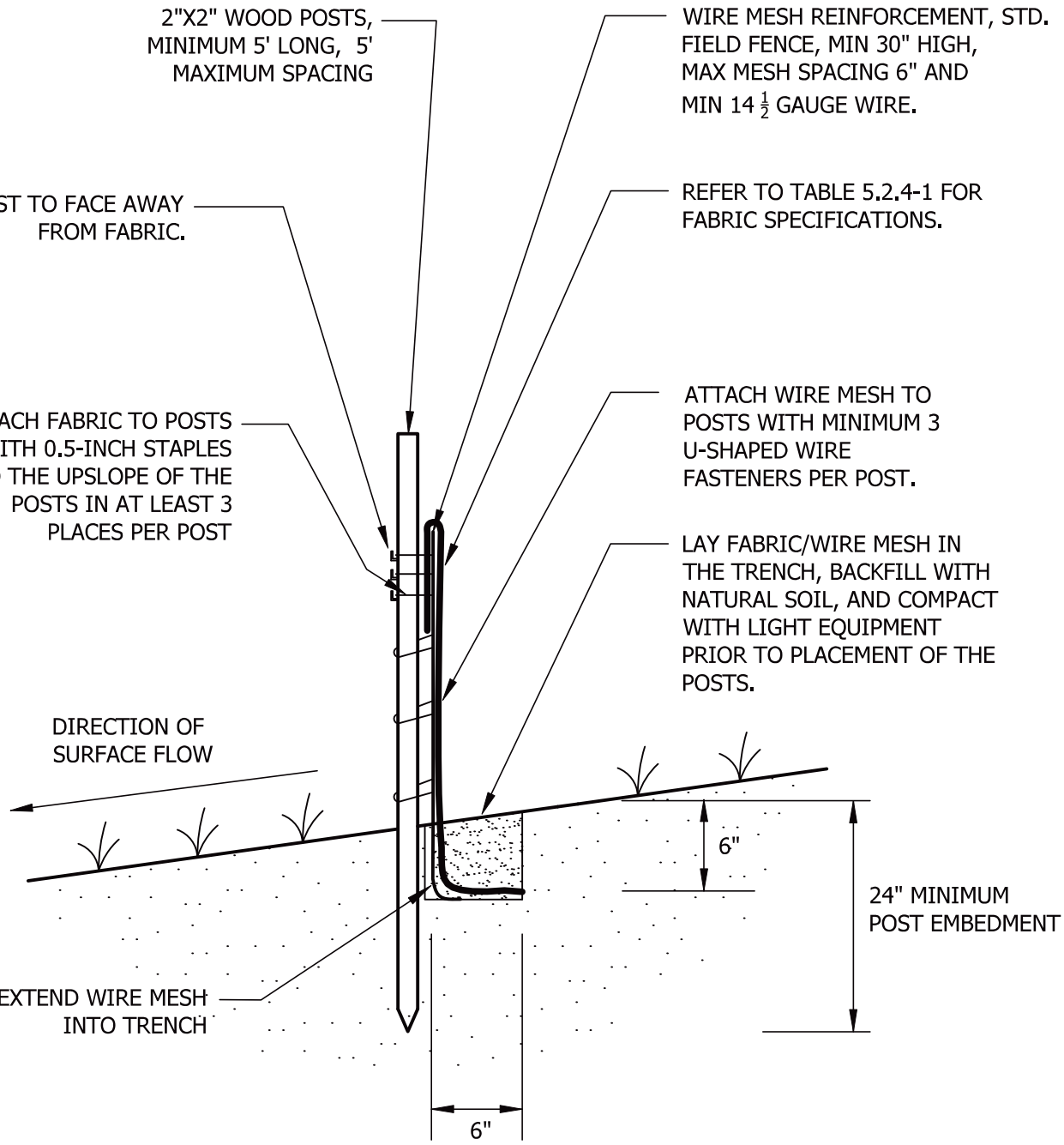
SILT FENCE MACHINE SLICED

Figure S-1

PROJECT NO.
N/A

DWG. NO.
TYP1
SHT. 1 OF 1

^
4128



FAC. CODE: N/A		REL. W.O. N/A
PL#. N/A		CONST. YR 2019
STA# N/A		
	BY	DATE
DESIGN		12/21/2019
DRAWN		1/7/2020
ASBUILT		
FILE NO.: N/A		
SCALE: N/A		

Northern Natural Gas

SILT FENCE WIRE BACKED (HEAVY-DUTY)

Figure S-2

PROJECT NO. N/A

DWG. NO. TYP1

SHT. 1 OF 1

^

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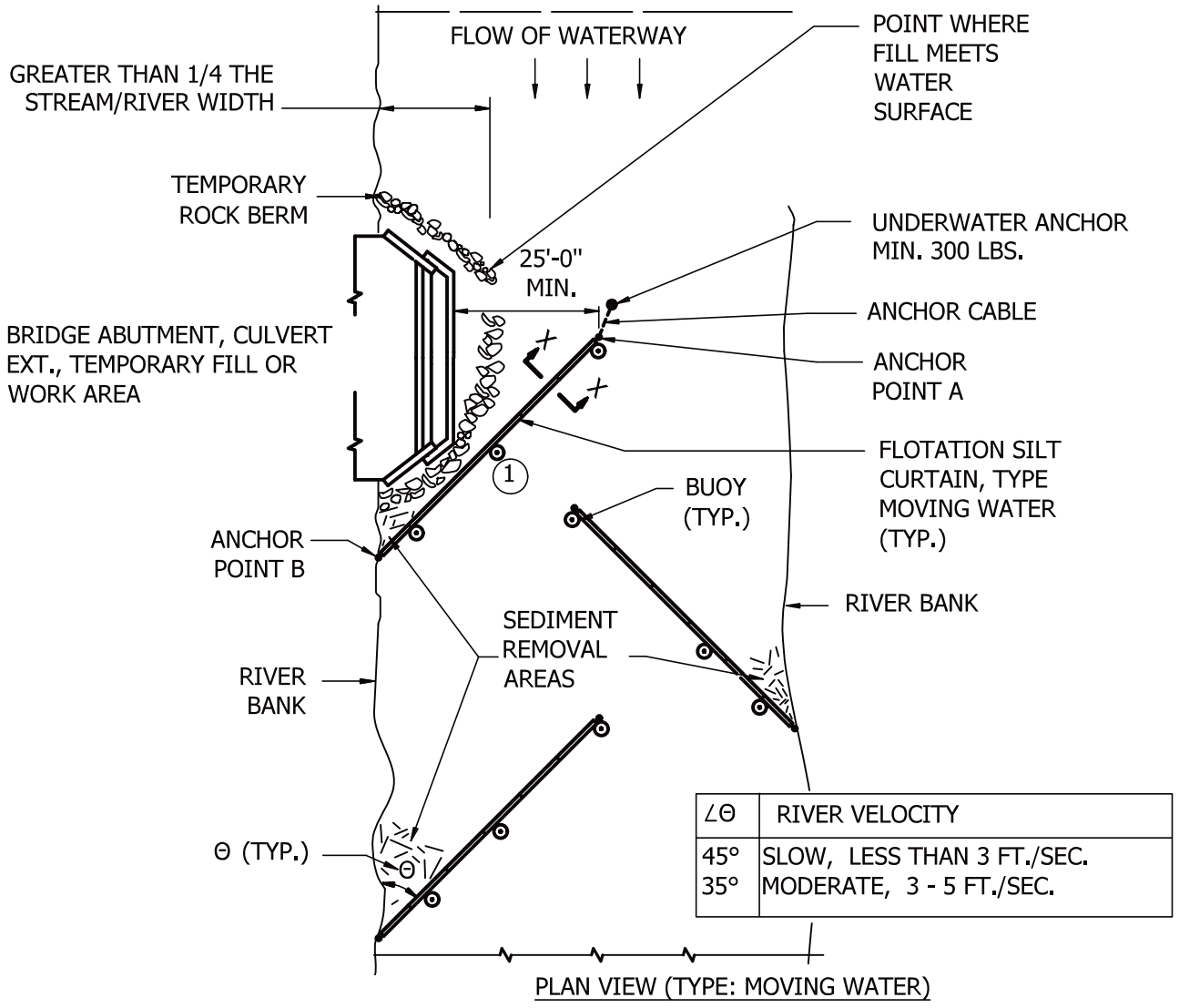
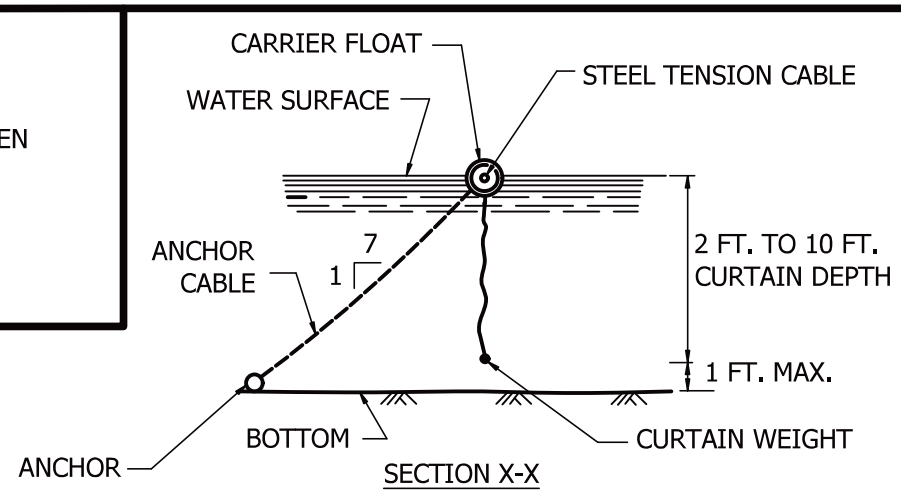


NOTE:
1 100 FT. MAX. SPACING BETWEEN ANCHORS. ANCHORS WEIGH MIN. 40 LBS.



FAC. CODE: N/A		REL. W.O. N/A	
PL#. N/A		CONST. YR 2019	
STA# N/A			
	BY	DATE	
DESIGN		12/22/2019	
DRAWN		1/7/2020	
ASBUILT			
FILE NO.: N/A			
SCALE: N/A			

Northern Natural Gas

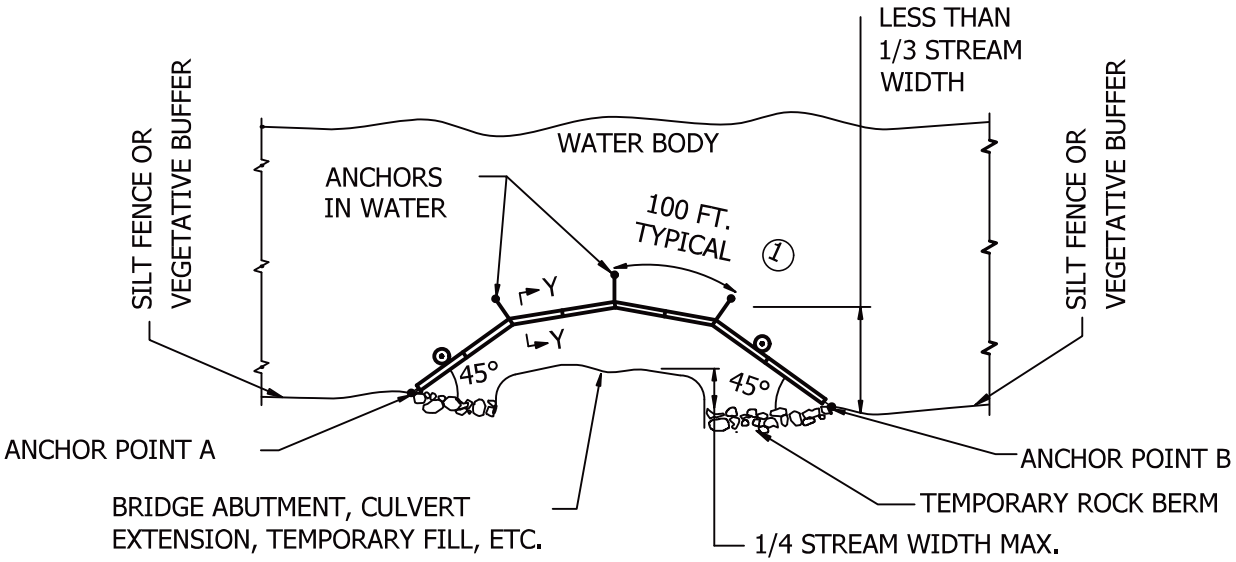
FLOATATION SILT CURTAIN IN MOVING WATER

Figure S-3A

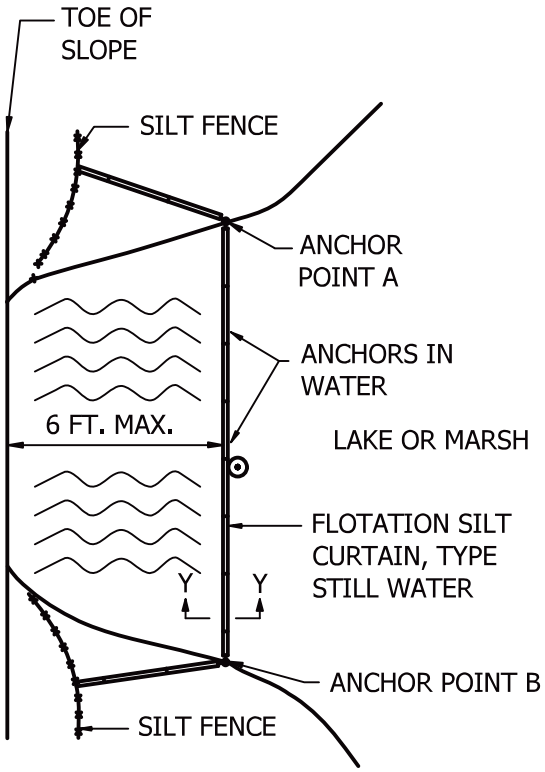
PROJECT NO. N/A

DWG. NO. TYP1

SHT. 1 OF 1



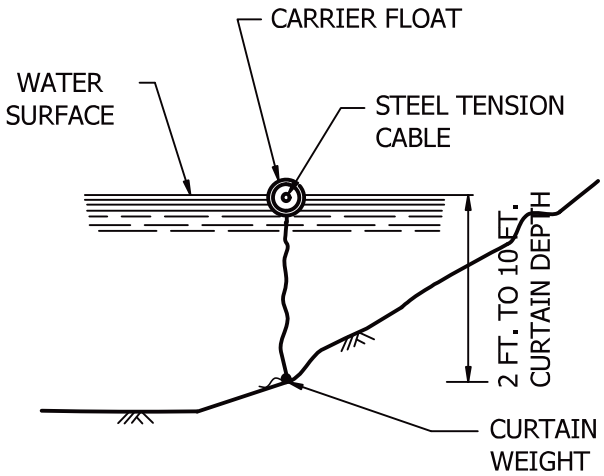
PLAN VIEW (TYPE: WORK AREA)



PLAN VIEW (TYPE: STILL WATER)

NOTES:

1. 100 FT. MAX. SPACING BETWEEN ANCHORS. ANCHORS WEIGH MIN. 40 LBS.



SECTION Y-Y

FAC. CODE: N/A		REL. W.O. N/A
PL#. N/A		CONST. YR 2019
STA# N/A		
	BY	DATE
DESIGN		12/22/2019
DRAWN		1/7/2020
ASBUILT		
FILE NO.: N/A		
SCALE: N/A		

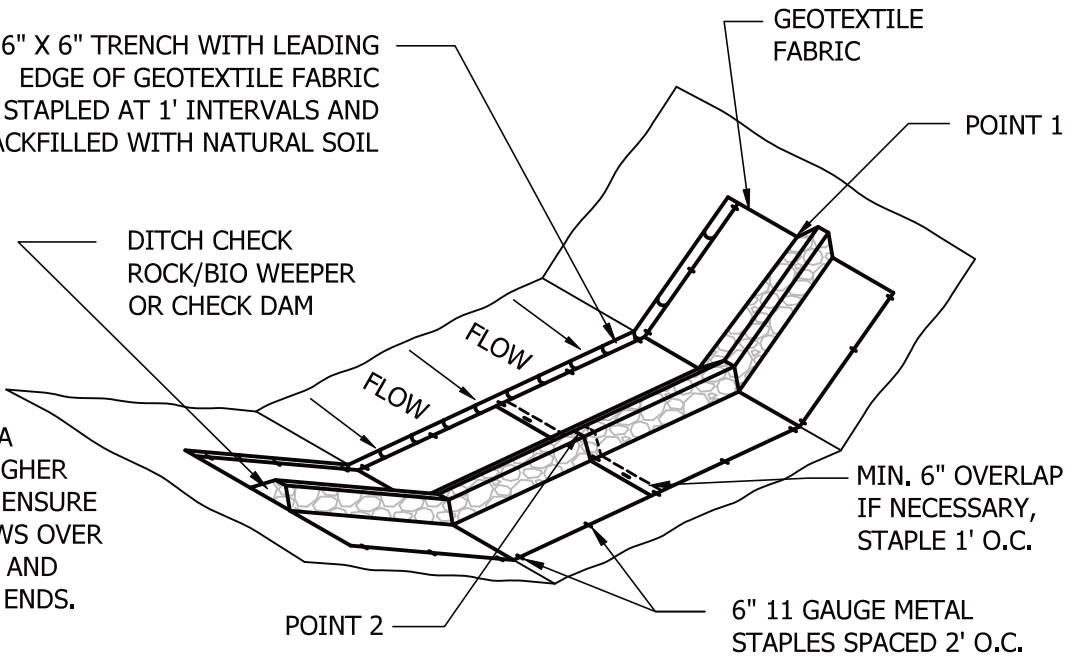
Northern Natural Gas

FLOATATION SILT CURTAIN IN STILL WATER

Figure S-3B

PROJECT NO.
N/A

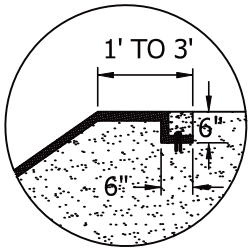
DWG. NO.
TYP1
SHT. 1 OF 1

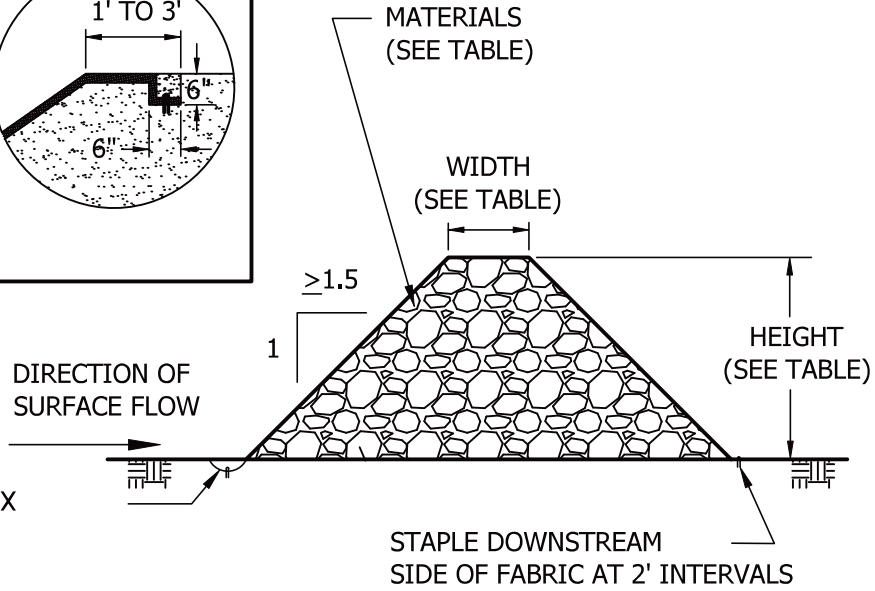


NOTE:
POINT 1 MUST BE A MINIMUM OF 6" HIGHER THAN POINT 2 TO ENSURE THAT WATER FLOWS OVER THE DITCH CHECK AND NOT AROUND THE ENDS.

	HEIGHT (INCHES)	WIDTH (INCHES)	MATERIAL
SMALL CHECK	24	12 - 18	2"-12" ANGULAR WASHED ROCK
LARGE CHECK	36	24 - 30	3"-18" ANGULAR WASHED ROCK
ROCK WEEPER	18	6 - 12	1 1/2" WASHED ROCK

ANCHOR TRENCH
1. DIG 6" X 6" TRENCH
2. LAY BLANKET IN TRENCH
3. STAPLE AT 1.5' INTERVALS
4. BACKFILL WITH NATURAL SOIL AND COMPACT





GEOTEXTILE FABRIC ANCHORED IN 6" X 6" TRENCH WITH 6", 11 GAUGE METAL STAPLES AT 1' INTERVALS

FAC. CODE: N/A		REL. W.O. N/A	
PL#. N/A		CONST. YR 2019	
STA# N/A			
	BY	DATE	
DESIGN		12/23/2019	
DRAWN		1/7/2020	
ASBUILT			
FILE NO.: N/A			
SCALE: N/A			

Northern Natural Gas

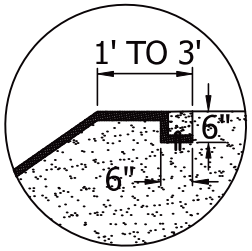
ROCK DITCH CHECK/WEEPER SIZING & MATERIALS

Figure S-4

PROJECT NO.
N/A

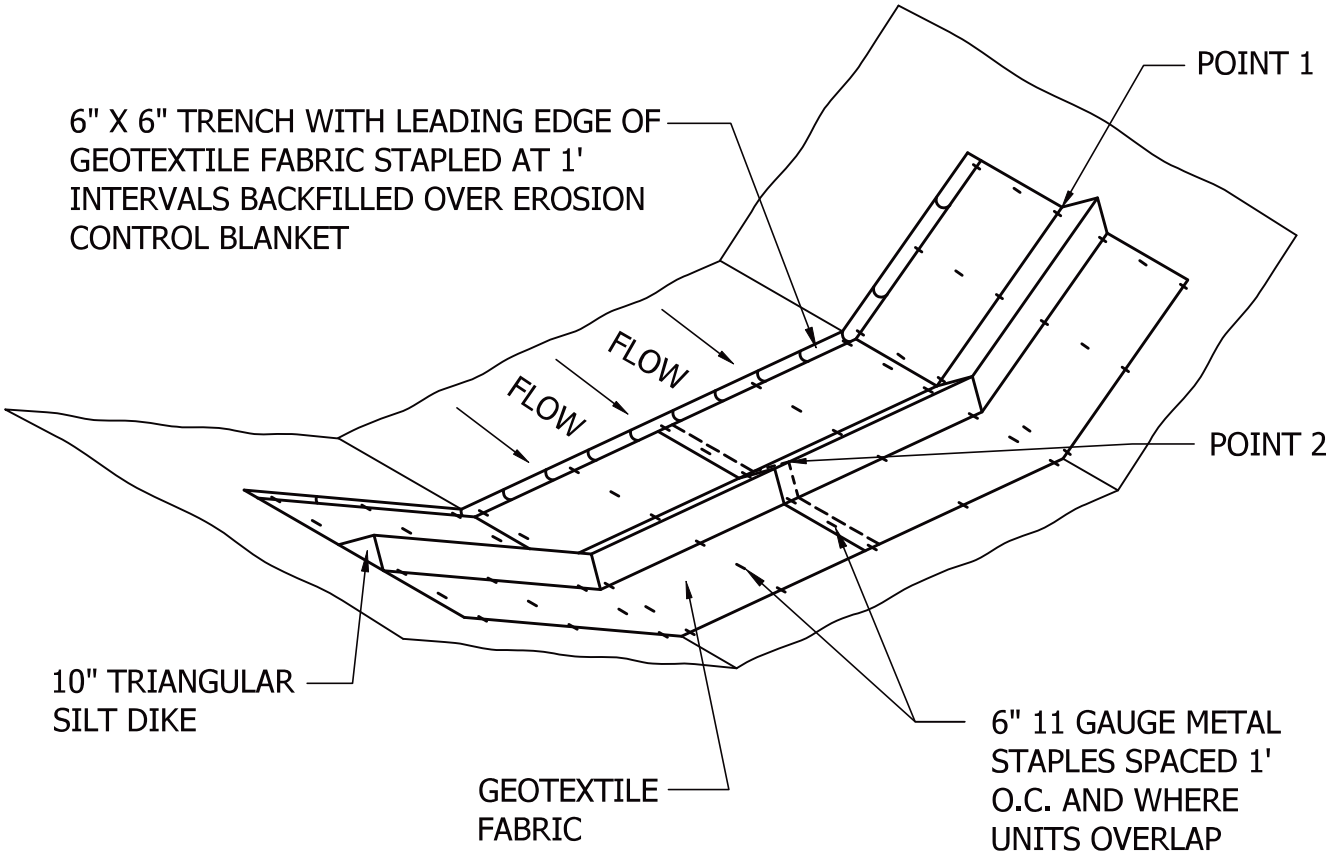
DWG. NO.
TYP1
SHT. 1 OF 1

ANCHOR TRENCH
1. DIG 6" X 6" TRENCH
2. LAY BLANKET IN TRENCH
3. STAPLE AT 1.5' INTERVALS
4. BACKFILL WITH NATURAL SOIL AND COMPACT



NOTE:
STAPLE DENSITY SHALL CONFORM TO MANUFACTURERS SPECIFICATIONS.

NOTE:
POINT 1 MUST BE A MINIMUM OF 6" HIGHER THAN POINT 2 TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.



FAC. CODE: N/A		REL. W.O. N/A	
PL#. N/A		CONST. YR 2019	
STA# N/A			
	BY	DATE	
DESIGN		12/23/2019	
DRAWN		1/7/2020	
ASBUILT			
FILE NO.: N/A			
SCALE: N/A			

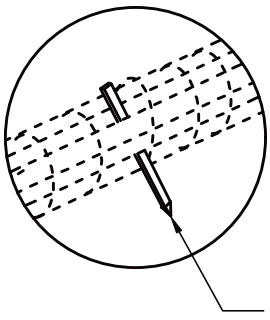
Northern Natural Gas

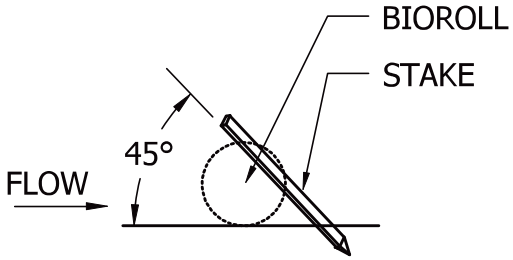
DITCH CHECK
TRIANGULAR SILT DIKE

Figure S-5A

PROJECT NO.
N/A

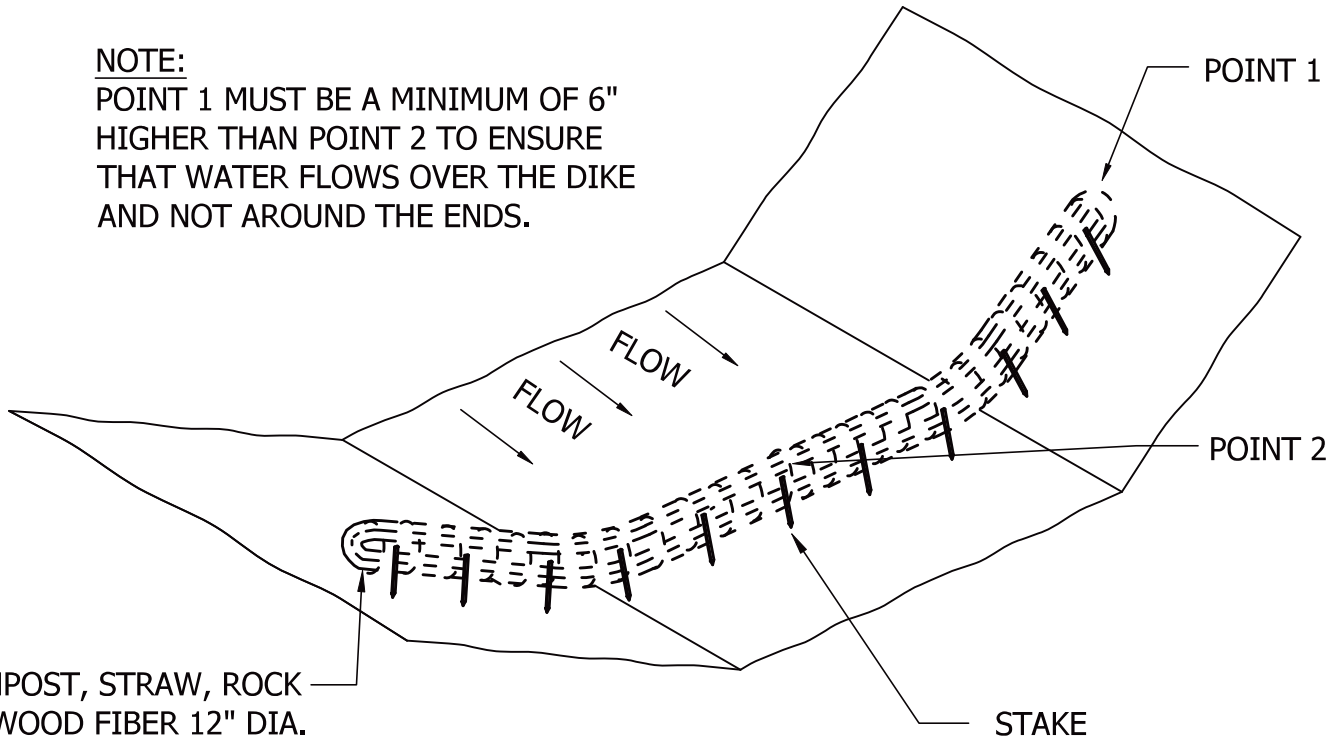
DWG. NO.
TYP1
SHT. 1 OF 1





2" x 2" x 16" LONG WOODEN STAKES AT 1'-0" SPACING . STAKES SHALL BE DRIVEN THROUGH THE BACK HALF OF THE FILTER LOG AT AN ANGLE OF 45° WITH THE TOP OF THE STAKE POINTING UPSTREAM.

NOTE:
POINT 1 MUST BE A MINIMUM OF 6" HIGHER THAN POINT 2 TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.



COMPOST, STRAW, ROCK OR WOOD FIBER 12" DIA. ROLL ENCLOSED IN POLYPROPYLENE NETTING OR A GEOTEXTILE BAG.

FAC. CODE: N/A		REL. W.O. N/A
PL#. N/A		CONST. YR 2019
STA# N/A		
	BY	DATE
DESIGN		12/24/2019
DRAWN		1/7/2020
ASBUILT		
FILE NO.: N/A		
SCALE: N/A		

Northern Natural Gas

FILTER LOG DITCH CHECK

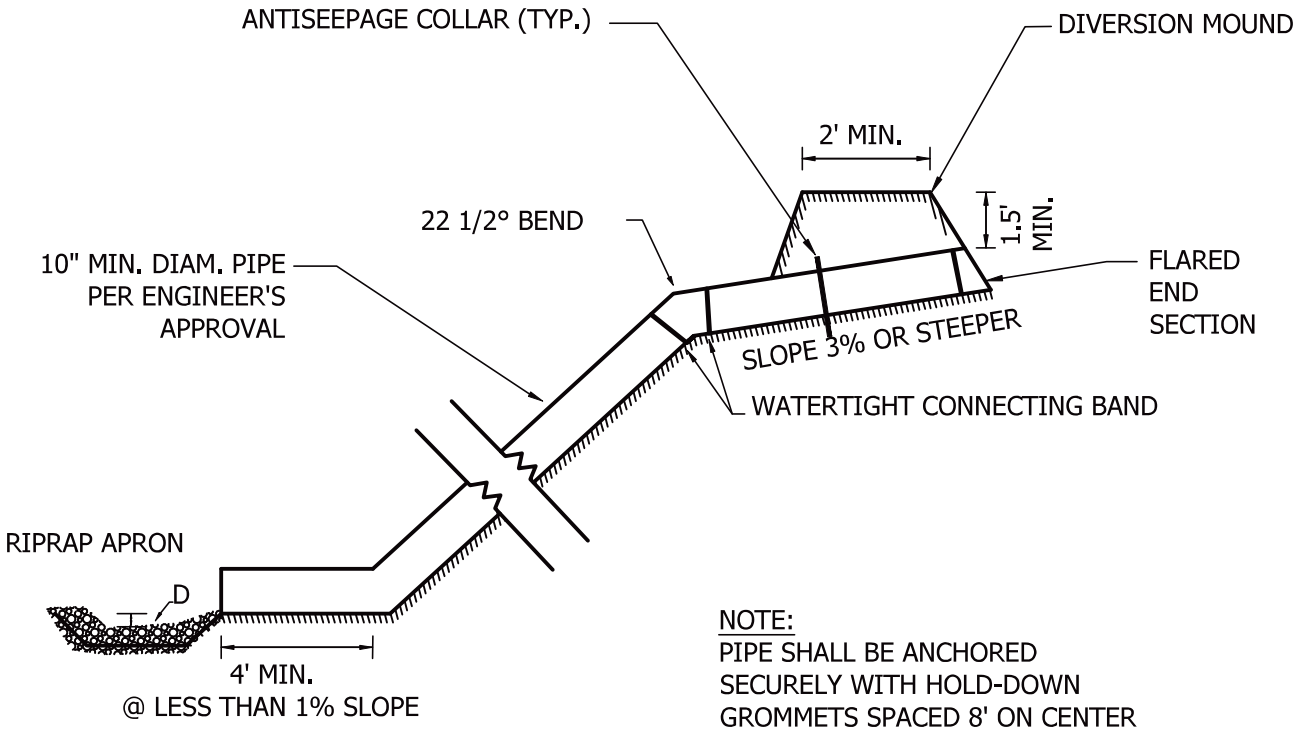
Figure S-5B

PROJECT NO. N/A

DWG. NO. TYP1

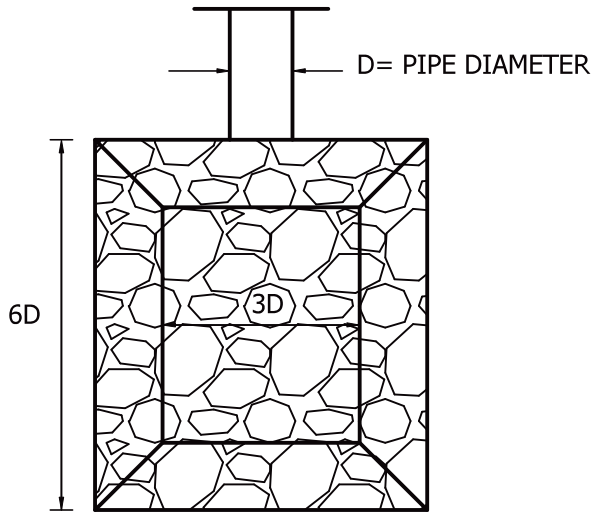
SHT. 1 OF 1

PROFILE VIEW

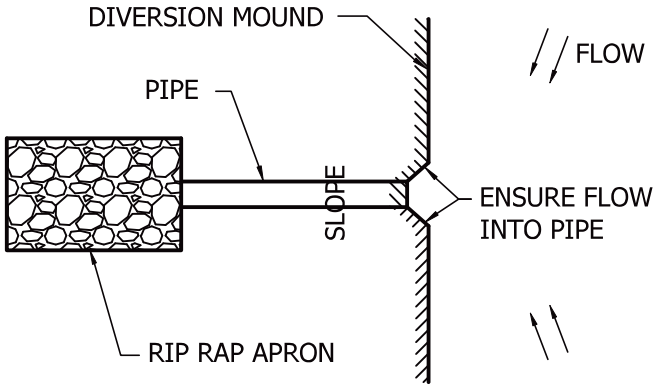


NOTE:
PIPE SHALL BE ANCHORED SECURELY WITH HOLD-DOWN GROMMETS SPACED 8' ON CENTER

RIPRAP APRON PLAN



PLAN VIEW



FAC. CODE: N/A		REL. W.O. N/A
PL#. N/A		CONST. YR 2019
STA# N/A		
	BY	DATE
DESIGN		12/25/2019
DRAWN		1/7/2020
ASBUILT		
FILE NO.: N/A		
SCALE: N/A		

Northern Natural Gas

DIVERSION MOUND AND TEMPORARY PIPE DOWNDRAIN

Figure S-7

PROJECT NO.
N/A

DWG. NO.
TYP1
SHT. 1 OF 1

Appendix C

State DOT Cross Reference Table

Control Type	BMP	Typical Detail	Illinois	Iowa	Michigan	Minnesota	Nebraska	New Mexico	Oklahoma	South Dakota	Texas	Wisconsin
Sediment	**Straw Logs Log**	Figure S-5B	N/A	IA DOT Spec 4169.12A	MI DTMB Spec ES32	MN DOT Spec 3882- Type 3 Mulch	NDOT Spec 806.02 (1); NDOT Spec 806.02 (1.); 812.02	N/A	N/A	SD DOT Spec 734.2.B.2	TX DOT Item 506 (2.10)	WI DOT Temporary ditch check- Bid Item 628.7504
Sediment	**Wood Fiber Log**	Figure S-5B	IL DOT CSSWPC Spec 41-3.01(d)	IA DOT Spec 4169.12A	MI DTMB Spec ES32	Excelsior wood fibers	NDOT Spec 806.02 (1); NE DOT Spec 806.02 (1.); 812/02	N/A	N/A	SD DOT Spec 734.2.B.2	TX DOT Item 506 (2.10)	WI DOT Temporary ditch check- Bid Item 628.7504
Sediment	**Wood Chip Log**	Figure S-5B	N/A	N/A	MI DTMB Spec ES32	MN DOT Spec 3882- Type 6 Mulch	NDOT Spec 806.02 (1); NDOT Spec 806.02 (1.); 812.02	N/A	N/A	N/A	TX DOT Item 506 (2.10)	WI DOT Temporary ditch check- Bid Item 628.7504
Sediment	**Compost/Wood Chip blend Log**	Figure S-5B	N/A	IA DOT Spec 4169.12B	MI DTMB Spec ES32	MN DOT Spec 3890-Grade 2 Compost MN DOT Spec 3882- Type 6 Mulch Consisting of the following blend of compost and wood chips: (a) From 30% to 40%, Grade 2 compost in accordance with MN DOT Spec 3890, "Compost" with at least 70% compost retained on the ⅜ in. sieve, (b) From 60% to 70%, Type 6 mulch in accordance to MN DOT Spec 3882, "Mulch Material"	NDOT Spec 807.02 (d.); 812.02	NM DOT Spec 603.2.6 and 632.2.6	N/A	N/A	TX DOT Item 506 (2.10)	N/A
Sediment	**Rock Log**	Figure S-5B	N/A	N/A	N/A	MN DOT Spec 3137 - Washed 3/4 in to 1 ½ in, Class A, B, C, or D rock	NDOT Spec 812.02	N/A	N/A	N/A	N/A	N/A
Sediment	**Machine Sliced /Hand Installed (MS/HI), high flow geotextile[2]**	Figure S-1	IL DOT CSSWPC Spec 41-3.01(b)	N/A	MI DTMB Spec S51 with post spacing modified to a maximum of 6 foot	MN DOT Spec 3886-modified to use only wooden posts	NDOT Spec 810.02; 811.02	N/A	OK DOT Spec 221.04C and 712.06	N/A	N/A	N/A
Sediment	**Machine Sliced /Hand Installed (MS/HI), wire backed.**	Figure S-2	N/A	N/A	N/A	N/A	NDOT Spec 810.02; 811.02	N/A	N/A	SD DOT Spec 734.2.B.1	TX DOT Item 506 (2.9)	N/A
Sediment	**Pre-Assembled (PA), woven geotextile**	N/A	N/A	N/A	N/A	MN DOT Spec 3886-modified to use only wooden posts	NDOT Spec 810.02; 811.02	N/A	N/A	N/A	N/A	N/A
Sediment	**Super Duty (SD), woven or non-woven geotextile3**	N/A	N/A	N/A	N/A	MN DOT Spec 3886	NDOT Spec 810.02; 811.02	N/A	N/A	N/A	N/A	N/A
Sediment	**Flotation Silt Curtain**	Figures S-3A and S3B	N/A	N/A	MI DTMB Spec S61	MN DOT Spec 3887	NDOT Spec 812.02; 820.02	N/A	N/A	N/A	N/A	WI DOT 1070; 1069
Sediment	**Compost Filter Berms**	Figure ERO-13	N/A	N/A	N/A	MN DOT Spec 3874 (A) MN DOT Spec 3890 (Grade 2)	NDOT Spec 813.02	N/A	N/A	N/A	N/A	WI DOT 1066
Sediment	**Slash Mulch Filter Berms**	Figure ERO-13	N/A	N/A	N/A	MN DOT Spec 3874 (B) MN DOT Spec 3882 (Type 5)	NDOT Spec 813.02	N/A	OK DOT Spec 221.04F	N/A	N/A	WI DOT 1066; 1058
Sediment	**Topsoil Berm**	Figure ERO-13	N/A	N/A	N/A	MN DOT Spec 3874 (D) MN DOT Spec 2105	NDOT Spec 813.02	N/A	OK DOT Spec 221.04F	N/A	N/A	WI DOT 1066
Sediment	**Rock Berm**	Figure ERO-13	IL DOT Spec 1005.01 IL DOT Spec 1005.02	N/A	MI DTMB Spec ES32	MN DOT Spec 3874 (E) MN DOT Spec 3733 (liner) MN DOT Spec 3601 (Class II riprap)	NDOT Spec Table 905.02; 814.02	N/A	OK DOT Spec 221.04G	N/A	TX DOT Item 506 (2.1)	N/A
Sediment	**Down Drains**	Figure S-7	IL DOT CSSWPC Spec 41-2.04(b)	N/A	MI DTMB Spec E15	MN DOT Spec 3892	NDOT Spec 814.02	NM DOT Spec 603.2.2	OK DOT Spec 221.02A	N/A	TX DOT Item 506 (2.2)	N/A
Erosion	**Horizontal Slope Grading**	Figure E-1	N/A	N/A	MI DTMB Spec E3	N/A	NDOT Spec 818.02	N/A	N/A	N/A	N/A	N/A
Erosion/Sediment	**Ditch Checks**	Figure S-4 or Figure ERO-19	IL DOT CSSWPC Spec 41-3.03(a)	N/A	MI DTMB Spec ES31	N/A	NDOT 814.02	N/A	N/A	N/A	TX DOT Item 506 (2.2)	N/A

Control Type	BMP	Typical Detail	Illinois	Iowa	Michigan	Minnesota	Nebraska	New Mexico	Oklahoma	South Dakota	Texas	Wisconsin
Erosion	**Certified Noxious weed free: agricultural grain straw (wheat, oats, rye, barley) or clean straw harvested from native grass production fields.**	N/A	IL DOT CSSWPC Spec 41-2.02(a)	IA DOT Spec 4169.07A	MI DTMB Spec E6	MN DOT Spec 3882.3(D) Type 3	NDOT Spec 810.02	N/A	N/A	SD DOT Spec 732.2.A	TX DOT Item 164 (3.2)	WI DOT 1058
Erosion	**Certified Noxious weed free: agricultural grain straw with hydraulic fiber matrix overspray**	N/A	IL DOT CSSWPC Spec 41-2.02(a)	N/A	MI DTMB Spec E6	MN DOT Spec 3882.3(D) Type 3 MN DOT Spec 3884	NDOT Spec 810.02	N/A	N/A	N/A	N/A	WI DOT 1058
Erosion	**Wood Mulch**	N/A	N/A	N/A	MI DTMB Spec E6	MN DOT Spec 3882.3(E/F) Type 5/6	NDOT Spec 806.02	N/A	N/A	N/A	N/A	WI DOT 1058
Erosion	**Prairie Hay**	N/A	N/A	N/A	N/A	MN DOT Spec 3882.3(H) Type 8	NDOT Spec 806.02	N/A	N/A	SD DOT Spec 732.2.A	TX DOT Item 164 (3.2)	WI DOT 1055
Erosion	**Type 1-erosion control blanket**	Figures E-2A and E-2B	IL DOT CSSWPC Spec 41-2.02(d)	IA DOT Spec 4169.10B1	MI DTMB Spec E9	MN DOT Spec 2575 MN DOT Spec 3885 (Category 0)	NDOT Spec 810.02	NM DOT Spec 603.2.3.2	N/A	SD DOT Spec 734.2.C.1	TX DOT Item 169 (2.1.1)	WI DOT Erosion mat Class I Types A and B - Bid Items 628.2002,628.2004, 628.2006, and 628.2008
Erosion	**Type 2-erosion control blanket**	Figures E-2A and E-2B	N/A	IA DOT Spec 4169.10C1	N/A	MN DOT Spec 2575 MN DOT Spec 3885 (Category 3)	NDOT Spec 810.02	N/A	N/A	N/A	TX DOT Item 169 (2.1.2)	WI DOT Erosion mat Class II Types B and C - Bid Items 628.2023, and 628.2027
Erosion	**Type 3- erosion control blanket**	Figures E-2A and E-2B	N/A	IA DOT Spec 4169.10B2 and 4169.10C2	N/A	MN DOT Spec 2575 MN DOT Spec 3885 (Category 4)	NDOT Spec 810.02	N/A	N/A	N/A	TX DOT Item 169 (2.1.3 and 2.1.4)	WI DOT Erosion mat Class III Types A - D - Bid Items 628.2031,628.2033, 628.2037, and 628.2039
Erosion	**Type 4-erosion control blanket**	Figures E-2A and E-2B	N/A	IA DOT Spec 4169.10E	N/A	MN DOT Spec 2575 MN DOT Spec 3885 (Category 6)	NDOT Spec 810.02	N/A	OK DOT Spec 228.04	SD DOT Spec 734.2.C.2	TX DOT Item 169 (2.2)	N/A
Erosion	**Natural Tackifier**	N/A	N/A	N/A	N/A	MN DOT Spec 2575.3.E	NDOT Spec 807.02 (b) Type HM2	N/A	N/A	N/A	N/A	N/A
Erosion	**Synthetic Tackifier**	N/A	IL DOT CSSWPC Spec 41-2.03	N/A	N/A	MN DOT Spec 2575.3.E	NDOT Spec 807.02 (c) Type HM3	N/A	N/A	N/A	N/A	N/A
Erosion	**Hydromulch**	N/A	IL DOT CSSWPC Spec 41-2.02(b)	IA DOT Spec 4169.07B1	N/A	MN DOT Spec 3884.3-B.2	NDOT Spec 807.02 (b.,c.,and d.)	N/A	N/A	SD DOT Spec 732.2.B	TX DOT Item 164 (3.3)	WI DOT Soil Stabilizer Type B Bid Item 628.6510
Erosion	**Bonded Fiber Matrix**	N/A	N/A	IA DOT Spec 4169.07B2	N/A	MN DOT Spec 3884.3-B.4	NDOT spec 811.02	N/A	N/A	SD DOT Spec 732.2.C	N/A - considered as direct substitute for blankets by TX DOT	WI DOT Soil Stabilizer Type A Bid Item 628.6505
Erosion	**Reinforced Fiber Matrix**	N/A	N/A	IA DOT Spec 4169.07B3	N/A	MN DOT Spec 3884.3-B.5	NDOT spec 811.02	N/A	N/A	SD DOT Spec 732.2.D	N/A - considered as direct substitute for blankets by TX DOT	N/A
Erosion	**Poly Sheeting**	Figures ERO-17a and ERO-17b	N/A	N/A	MI DTMB Spec E18	MN DOT Spec 2575.518 MN DOT Spec 3888	NDOT spec 811.02	N/A	N/A	N/A	N/A	N/A

Control Type	BMP	Typical Detail	Illinois	Iowa	Michigan	Minnesota	Nebraska	New Mexico	Oklahoma	South Dakota	Texas	Wisconsin
Erosion	**Geotextile Fabric**	N/A	N/A	IA DOT Spec 4169.11	N/A	MN DOT Spec: Type V	NDOT spec 811.02	N/A	N/A	N/A	N/A	N/A
Erosion/Sediment	**Straw Bale Dewatering Structure**	Figure ERO-14	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	WI DOT 1061
Erosion/Sediment	**Geotextile Filter Bag**	Figure ERO-15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	WI DOT 1061
Sediment	**Inlet Protection-Drop-in Bag**	Figure ERO-16	IL DOT CSSWPC Spec 41-3.02(a)	N/A	MI DTMB Spec S58	N/A	N/A	N/A	N/A	N/A	N/A	WI DOT Inlet Protection Type A - Bid Item 628.7005
Sediment	**Triangular Silt Dike**	Figure S-5A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	WI DOT Temporary ditch check- Bid Item 628.7504

This table is provided for cross reference only to aid the contractor in obtaining materials. For installation specifications refer to the body of Northern Natural Gas Company's Erosion and Sediment Control Technical Standards. The standards are not intended to address every situation, project specific permits and site conditions may require alteration of the Stormwater Pollution Prevention Plan or practices not outlined in the Technical Standards.

Appendix D
FERC Upland Erosion Control, Revegetation and Maintenance Plan

Federal Energy Regulatory Commission

Office of
Energy Projects

May 2013

UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN

Washington, DC 20426

MAY 2013 VERSION

UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN

TABLE OF CONTENTS

UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN (PLAN)

I. APPLICABILITY

A. The intent of this Plan is to assist project sponsors by identifying baseline mitigation measures for minimizing erosion and enhancing revegetation. Project sponsors shall specify in their applications for a new FERC authorization and in prior notice and advance notice filings, any individual measures in this Plan they consider unnecessary, technically infeasible, or unsuitable due to local conditions and fully describe any alternative measures they would use. Project sponsors shall also explain how those alternative measures would achieve a comparable level of mitigation.

Once a project is authorized, project sponsors can request further changes as variances to the measures in this Plan (or the applicant's approved plan). The Director of the Office of Energy Projects (Director) will consider approval of variances upon the project sponsor's written request, if the Director agrees that a variance:

1. provides equal or better environmental protection;

2. is necessary because a portion of this Plan is infeasible or unworkable based on project-specific conditions; or

3. is specifically required in writing by another federal, state, or Native American land management agency for the portion of the project on its land or under its jurisdiction.

Sponsors of projects planned for construction under the automatic authorization provisions in the FERC's regulations must receive written approval for any variances in advance of construction.

Project-related impacts on wetland and waterbody systems are addressed in the staff's Wetland and Waterbody Construction and Mitigation Procedures (Procedures).

II. SUPERVISION AND INSPECTION

A. ENVIRONMENTAL INSPECTION

1. At least one Environmental Inspector is required for each construction spread during construction and restoration (as defined by section V). The number and experience of Environmental Inspectors assigned to each construction spread shall be appropriate for the length of the construction spread and the number/significance of resources affected.

2. Environmental Inspectors shall have peer status with all other activity inspectors.

3. Environmental Inspectors shall have the authority to stop activities that violate the environmental conditions of the FERC's Orders, stipulations of other environmental permits or approvals, or landowner easement agreements; and to order appropriate corrective action.

B. RESPONSIBILITIES OF ENVIRONMENTAL INSPECTORS

At a minimum, the Environmental Inspector(s) shall be responsible for:

1. Inspecting construction activities for compliance with the requirements of this Plan, the Procedures, the environmental conditions of the FERC's Orders, the mitigation measures proposed by the project sponsor (as approved and/or modified by the Order), other environmental permits and approvals, and environmental requirements in landowner easement agreements.

2. Identifying, documenting, and overseeing corrective actions, as necessary to bring an activity back into compliance;

3. Verifying that the limits of authorized construction work areas and locations of access roads are visibly marked before clearing, and maintained throughout construction;

4. Verifying the location of signs and highly visible flagging marking the boundaries of sensitive resource areas, waterbodies, wetlands, or areas with special requirements along the construction work area;

5. Identifying erosion/sediment control and soil stabilization needs in all areas;

6. Ensuring that the design of slope breakers will not cause erosion or direct water into sensitive environmental resource areas, including cultural resource sites, wetlands, waterbodies, and sensitive species habitats;

7. Verifying that dewatering activities are properly monitored and do not result in the deposition of sand, silt, and/or sediment into sensitive environmental resource areas, including wetlands, waterbodies, cultural resource sites, and sensitive species habitats; stopping dewatering activities if such deposition is occurring and ensuring the design of the discharge is changed to prevent reoccurrence; and verifying that dewatering structures are removed after completion of dewatering activities;

8. Ensuring that subsoil and topsoil are tested in agricultural and residential areas to measure compaction and determine the need for corrective action;

9. Advising the Chief Construction Inspector when environmental conditions (such as wet weather or frozen soils) make it advisable to restrict or delay construction activities to avoid topsoil mixing or excessive compaction;

10. Ensuring restoration of contours and topsoil;

11. Verifying that the soils imported for agricultural or residential use are certified as free of noxious weeds and soil pests, unless otherwise approved by the landowner;

12. Ensuring that erosion control devices are properly installed to prevent sediment flow into sensitive environmental resource areas (e.g., wetlands, waterbodies, cultural resource sites, and sensitive species habitats) and onto roads, and determining the need for additional erosion control devices;

13. Inspecting and ensuring the maintenance of temporary erosion control measures at least:

    a. on a daily basis in areas of active construction or equipment operation;

    b. on a weekly basis in areas with no construction or equipment operation; and

    c. within 24 hours of each 0.5 inch of rainfall;

14. Ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification, or as soon as conditions allow if compliance with this time frame would result in greater environmental impacts;

15. Keeping records of compliance with the environmental conditions of the FERC's Orders, and the mitigation measures proposed by the project sponsor in the application submitted to the FERC, and other federal or state environmental permits during active construction and restoration;

16. Identifying areas that should be given special attention to ensure stabilization and restoration after the construction phase; and

17. Verifying that locations for any disposal of excess construction materials for beneficial reuse comply with section III.E.

III. PRECONSTRUCTION PLANNING

The project sponsor shall do the following before construction:

A. CONSTRUCTION WORK AREAS

1. Identify all construction work areas (e.g., construction right-of-way, extra work space areas, pipe storage and contractor yards, borrow and disposal areas, access roads) that would be needed for safe construction. The project sponsor must ensure that appropriate cultural resources and biological surveys are conducted, as determined necessary by the appropriate federal and state agencies.

2. Project sponsors are encouraged to consider expanding any required cultural resources and endangered species surveys in anticipation of the need for activities outside of authorized work areas.

3. Plan construction sequencing to limit the amount and duration of open trench sections, as necessary, to prevent excessive erosion or sediment flow into sensitive environmental resource areas.

B. DRAIN TILE AND IRRIGATION SYSTEMS

1. Attempt to locate existing drain tiles and irrigation systems.

2. Contact landowners and local soil conservation authorities to determine the locations of future drain tiles that are likely to be installed within 3 years of the authorized construction.

3. Develop procedures for constructing through drain-tiled areas, maintaining irrigation systems during construction, and repairing drain tiles and irrigation systems after construction.

4. Engage qualified drain tile specialists, as needed to conduct or monitor repairs to drain tile systems affected by construction. Use drain tile specialists from the project area, if available.

C. GRAZING DEFERMENT

Develop grazing deferment plans with willing landowners, grazing permittees, and land management agencies to minimize grazing disturbance of revegetation efforts.

D. ROAD CROSSINGS AND ACCESS POINTS

Plan for safe and accessible conditions at all roadway crossings and access points during construction and restoration.

E. DISPOSAL PLANNING

Determine methods and locations for the regular collection, containment, and disposal of excess construction materials and debris (e.g., timber, slash, mats, garbage, drill cuttings and fluids, excess rock) throughout the construction process. Disposal of materials for beneficial reuse must not result in adverse environmental impact and is subject to compliance with all applicable survey, landowner or land management agency approval, and permit requirements.

F. AGENCY COORDINATION

The project sponsor must coordinate with the appropriate local, state, and federal agencies as outlined in this Plan and/or required by the FERC's Orders.

1. Obtain written recommendations from the local soil conservation authorities or land management agencies regarding permanent erosion control and revegetation specifications.

2. Develop specific procedures in coordination with the appropriate agencies to prevent the introduction or spread of invasive species, noxious weeds, and soil pests resulting from construction and restoration activities.

3. Develop specific procedures in coordination with the appropriate agencies and landowners, as necessary, to allow for livestock and wildlife movement and protection during construction.

4. Develop specific blasting procedures in coordination with the appropriate agencies that address pre- and post-blast inspections; advanced public notification; and mitigation measures for building foundations, groundwater wells, and springs. Use appropriate methods (e.g., blasting mats) to prevent damage to nearby structures and to prevent debris from entering sensitive environmental resource areas.

G. SPILL PREVENTION AND RESPONSE PROCEDURES

The project sponsor shall develop project-specific Spill Prevention and Response Procedures, as specified in section IV of the staff's Procedures. A copy must be filed with the Secretary of the FERC (Secretary) prior to construction and made available in the field on each construction spread. The filing requirement does not apply to projects constructed under the automatic authorization provisions in the FERC's regulations.

H. RESIDENTIAL CONSTRUCTION

For all properties with residences located within 50 feet of construction work areas, project sponsors shall: avoid removal of mature trees and landscaping within the construction work area unless necessary for safe operation of construction equipment, or as specified in landowner agreements; fence the edge of the construction work area for a distance of 100 feet on either side of the residence; and restore all lawn areas and landscaping immediately following clean up operations, or as specified in landowner agreements. If seasonal or other weather conditions prevent compliance with these time frames, maintain and monitor temporary erosion controls (sediment barriers and mulch) until conditions allow completion of restoration.

I. WINTER CONSTRUCTION PLANS

If construction is planned to occur during winter weather conditions, project sponsors shall develop and file a project-specific winter construction plan with the FERC application. This filing requirement does not apply to projects constructed under the automatic authorization provisions of the FERC's regulations.

The plan shall address:

1. winter construction procedures (e.g., snow handling and removal, access road construction and maintenance, soil handling under saturated or frozen conditions, topsoil stripping);

2. stabilization and monitoring procedures if ground conditions will delay restoration until the following spring (e.g., mulching and erosion controls, inspection and reporting, stormwater control during spring thaw conditions); and

3. final restoration procedures (e.g., subsidence and compaction repair, topsoil replacement, seeding).

IV. INSTALLATION

A. APPROVED AREAS OF DISTURBANCE

1. Project-related ground disturbance shall be limited to the construction right-of-way, extra work space areas, pipe storage yards, borrow and disposal areas, access roads, and other areas approved in the FERC's Orders. Any project-related ground disturbing activities outside these areas will require prior Director approval. This requirement does not apply to activities needed to comply with the Plan and Procedures (i.e., slope breakers, energy-dissipating devices, dewatering structures, drain tile system repairs) or minor field realignments and workspace shifts per landowner needs and requirements that do not affect other landowners or sensitive environmental resource areas. All construction or restoration activities outside of authorized areas are subject to all applicable survey and permit requirements, and landowner easement agreements.

2. The construction right-of-way width for a project shall not exceed 75 feet or that described in the FERC application unless otherwise modified by a FERC Order. However, in limited, non-wetland areas, this construction right-of-way width may be expanded by up to 25 feet without Director approval to accommodate full construction right-of-way topsoil segregation and to ensure safe construction where topographic conditions (e.g., side-slopes) or soil limitations require it. Twenty-five feet of extra construction right-of-way width may also be used in limited, non-wetland or non-forested areas for truck turn-arounds where no reasonable alternative access exists.

   Project use of these additional limited areas is subject to landowner or land management agency approval and compliance with all applicable survey and permit requirements. When additional areas are used, each one shall be identified and the need explained in the weekly or biweekly construction reports to the FERC, if required. The following material shall be included in the reports:

   a. the location of each additional area by station number and reference to previously filed alignment sheets, or updated alignment sheets showing the additional areas;

   b. identification of the filing at FERC containing evidence that the additional areas were previously surveyed; and

c. a statement that landowner approval has been obtained and is available in project files.

Prior written approval of the Director is required when the authorized construction right-of-way width would be expanded by more than 25 feet.

B. TOPSOIL SEGREGATION

1. Unless the landowner or land management agency specifically approves otherwise, prevent the mixing of topsoil with subsoil by stripping topsoil from either the full work area or from the trench and subsoil storage area (ditch plus spoil side method) in:

   a. cultivated or rotated croplands, and managed pastures;

   b. residential areas;

   c. hayfields; and

   d. other areas at the landowner's or land managing agency's request.

2. In residential areas, importation of topsoil is an acceptable alternative to topsoil segregation.

3. Where topsoil segregation is required, the project sponsor must:

   a. segregate at least 12 inches of topsoil in deep soils (more than 12 inches of topsoil); and

   b. make every effort to segregate the entire topsoil layer in soils with less than 12 inches of topsoil.

4. Maintain separation of salvaged topsoil and subsoil throughout all construction activities.

5. Segregated topsoil may not be used for padding the pipe, constructing temporary slope breakers or trench plugs, improving or maintaining roads, or as a fill material.

6. Stabilize topsoil piles and minimize loss due to wind and water erosion with use of sediment barriers, mulch, temporary seeding, tackifiers, or functional equivalents, where necessary.

C. DRAIN TILES

1. Mark locations of drain tiles damaged during construction.

2. Probe all drainage tile systems within the area of disturbance to check for damage.

3. Repair damaged drain tiles to their original or better condition. Do not use filter-covered drain tiles unless the local soil conservation authorities and the landowner agree. Use qualified specialists for testing and repairs.

4. For new pipelines in areas where drain tiles exist or are planned, ensure that the depth of cover over the pipeline is sufficient to avoid interference with drain tile systems. For adjacent pipeline loops in agricultural areas, install the new pipeline with at least the same depth of cover as the existing pipeline(s).

D. IRRIGATION

Maintain water flow in crop irrigation systems, unless shutoff is coordinated with affected parties.

E. ROAD CROSSINGS AND ACCESS POINTS

1. Maintain safe and accessible conditions at all road crossings and access points during construction.

2. If crushed stone access pads are used in residential or agricultural areas, place the stone on synthetic fabric to facilitate removal.

3. Minimize the use of tracked equipment on public roadways. Remove any soil or gravel spilled or tracked onto roadways daily or more frequent as necessary to maintain safe road conditions. Repair any damages to roadway surfaces, shoulders, and bar ditches.

F. TEMPORARY EROSION CONTROL

Install temporary erosion controls immediately after initial disturbance of the soil. Temporary erosion controls must be properly maintained throughout construction (on a daily basis) and reinstalled as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration is complete.

1. Temporary Slope Breakers

   a. Temporary slope breakers are intended to reduce runoff velocity and divert water off the construction right-of-way. Temporary slope

breakers may be constructed of materials such as soil, silt fence, staked hay or straw bales, or sand bags.

b. Install temporary slope breakers on all disturbed areas, as necessary to avoid excessive erosion. Temporary slope breakers must be installed on slopes greater than 5 percent where the base of the slope is less than 50 feet from waterbody, wetland, and road crossings at the following spacing (closer spacing shall be used if necessary):

Slope (%)	Spacing (feet)
5 - 15	300
>15 - 30	200
>30	100

c. Direct the outfall of each temporary slope breaker to a stable, well vegetated area or construct an energy-dissipating device at the end of the slope breaker and off the construction right-of-way.

d. Position the outfall of each temporary slope breaker to prevent sediment discharge into wetlands, waterbodies, or other sensitive environmental resource areas.

2. Temporary Trench Plugs

Temporary trench plugs are intended to segment a continuous open trench prior to backfill.

a. Temporary trench plugs may consist of unexcavated portions of the trench, compacted subsoil, sandbags, or some functional equivalent.

b. Position temporary trench plugs, as necessary, to reduce trenchline erosion and minimize the volume and velocity of trench water flow at the base of slopes.

3. Sediment Barriers

Sediment barriers are intended to stop the flow of sediments and to prevent the deposition of sediments beyond approved workspaces or into sensitive resources.

a. Sediment barriers may be constructed of materials such as silt fence, staked hay or straw bales, compacted earth (e.g., driveable berms across travelways), sand bags, or other appropriate materials.

b. At a minimum, install and maintain temporary sediment barriers across the entire construction right-of-way at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from a waterbody, wetland, or road crossing until revegetation is successful as defined in this Plan. Leave adequate room between the base of the slope and the sediment barrier to accommodate ponding of water and sediment deposition.

c. Where wetlands or waterbodies are adjacent to and downslope of construction work areas, install sediment barriers along the edge of these areas, as necessary to prevent sediment flow into the wetland or waterbody.

4. Mulch

a. Apply mulch on all slopes (except in cultivated cropland) concurrent with or immediately after seeding, where necessary to stabilize the soil surface and to reduce wind and water erosion. Spread mulch uniformly over the area to cover at least 75 percent of the ground surface at a rate of 2 tons/acre of straw or its equivalent, unless the local soil conservation authority, landowner, or land managing agency approves otherwise in writing.

b. Mulch can consist of weed-free straw or hay, wood fiber hydromulch, erosion control fabric, or some functional equivalent.

c. Mulch all disturbed upland areas (except cultivated cropland) before seeding if:

(1) final grading and installation of permanent erosion control measures will not be completed in an area within 20 days after the trench in that area is backfilled (10 days in residential areas), as required in section V.A.1; or

(2) construction or restoration activity is interrupted for extended periods, such as when seeding cannot be completed due to seeding period restrictions.

d. If mulching before seeding, increase mulch application on all slopes within 100 feet of waterbodies and wetlands to a rate of 3 tons/acre of straw or equivalent.

e. If wood chips are used as mulch, do not use more than 1 ton/acre and add the equivalent of 11 lbs/acre available nitrogen (at least 50 percent of which is slow release).

f. Ensure that mulch is adequately anchored to minimize loss due to wind and water.

g. When anchoring with liquid mulch binders, use rates recommended by the manufacturer. Do not use liquid mulch binders within 100 feet of wetlands or waterbodies, except where the product is certified environmentally non-toxic by the appropriate state or federal agency or independent standards-setting organization.

h. Do not use synthetic monofilament mesh/netted erosion control materials in areas designated as sensitive wildlife habitat, unless the product is specifically designed to minimize harm to wildlife. Anchor erosion control fabric with staples or other appropriate devices.

V. RESTORATION

A. CLEANUP

1. Commence cleanup operations immediately following backfill operations. Complete final grading, topsoil replacement, and installation of permanent erosion control structures within 20 days after backfilling the trench (10 days in residential areas). If seasonal or other weather conditions prevent compliance with these time frames, maintain temporary erosion controls (i.e., temporary slope breakers, sediment barriers, and mulch) until conditions allow completion of cleanup.

   If construction or restoration unexpectedly continues into the winter season when conditions could delay successful decompaction, topsoil replacement, or seeding until the following spring, file with the Secretary for the review and written approval of the Director, a winter construction plan (as specified in section III.I). This filing requirement does not apply to projects constructed under the automatic authorization provisions of the FERC's regulations.

2. A travel lane may be left open temporarily to allow access by construction traffic if the temporary erosion control structures are installed as specified in section IV.F. and inspected and maintained as specified in sections II.B.12 through 14. When access is no longer required the travel lane must be removed and the right-of-way restored.

3. Rock excavated from the trench may be used to backfill the trench only to the top of the existing bedrock profile. Rock that is not returned to the trench shall be considered construction debris, unless approved for use as mulch or for some other use on the construction work areas by the landowner or land managing agency.

4. Remove excess rock from at least the top 12 inches of soil in all cultivated or rotated cropland, managed pastures, hayfields, and residential areas, as well as other areas at the landowner's request. The size, density, and distribution of rock on the construction work area shall be similar to adjacent areas not disturbed by construction. The landowner or land management agency may approve other provisions in writing.

5. Grade the construction right-of-way to restore pre-construction contours and leave the soil in the proper condition for planting.

6. Remove construction debris from all construction work areas unless the landowner or land managing agency approves leaving materials onsite for beneficial reuse, stabilization, or habitat restoration.

7. Remove temporary sediment barriers when replaced by permanent erosion control measures or when revegetation is successful.

B. PERMANENT EROSION CONTROL DEVICES

1. Trench Breakers

a. Trench breakers are intended to slow the flow of subsurface water along the trench. Trench breakers may be constructed of materials such as sand bags or polyurethane foam. Do not use topsoil in trench breakers.

b. An engineer or similarly qualified professional shall determine the need for and spacing of trench breakers. Otherwise, trench breakers shall be installed at the same spacing as and upslope of permanent slope breakers.

c. In agricultural fields and residential areas where slope breakers are not typically required, install trench breakers at the same spacing as if permanent slope breakers were required.

d. At a minimum, install a trench breaker at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from a waterbody or wetland and where needed to avoid draining a waterbody or wetland. Install trench breakers at wetland boundaries, as specified in the Procedures. Do not install trench breakers within a wetland.

2. Permanent Slope Breakers

a. Permanent slope breakers are intended to reduce runoff velocity, divert water off the construction right-of-way, and prevent sediment deposition into sensitive resources. Permanent slope breakers may be constructed of materials such as soil, stone, or some functional equivalent.

b. Construct and maintain permanent slope breakers in all areas, except cultivated areas and lawns, unless requested by the landowner, using spacing recommendations obtained from the local soil conservation authority or land managing agency.

In the absence of written recommendations, use the following spacing unless closer spacing is necessary to avoid excessive erosion on the construction right-of-way:

Slope (%)	Spacing (feet)
5 - 15	300
>15 - 30	200
>30	100

c. Construct slope breakers to divert surface flow to a stable area without causing water to pool or erode behind the breaker. In the absence of a stable area, construct appropriate energy-dissipating devices at the end of the breaker.

d. Slope breakers may extend slightly (about 4 feet) beyond the edge of the construction right-of-way to effectively drain water off the disturbed area. Where slope breakers extend beyond the edge of the construction right-of-way, they are subject to compliance with all applicable survey requirements.

C. SOIL COMPACTION MITIGATION

1. Test topsoil and subsoil for compaction at regular intervals in agricultural and residential areas disturbed by construction activities. Conduct tests on the same soil type under similar moisture conditions in undisturbed areas to approximate preconstruction conditions. Use penetrometers or other appropriate devices to conduct tests.

2. Plow severely compacted agricultural areas with a paraplow or other deep tillage implement. In areas where topsoil has been segregated, plow the subsoil before replacing the segregated topsoil.

If subsequent construction and cleanup activities result in further compaction, conduct additional tilling.

3. Perform appropriate soil compaction mitigation in severely compacted residential areas.

D. REVEGETATION

1. General

a. The project sponsor is responsible for ensuring successful revegetation of soils disturbed by project-related activities, except as noted in section V.D.1.b.

b. Restore all turf, ornamental shrubs, and specialized landscaping in accordance with the landowner's request, or compensate the landowner. Restoration work must be performed by personnel familiar with local horticultural and turf establishment practices.

2. Soil Additives

Fertilize and add soil pH modifiers in accordance with written recommendations obtained from the local soil conservation authority, land management agencies, or landowner. Incorporate recommended soil pH modifier and fertilizer into the top 2 inches of soil as soon as practicable after application.

3. Seeding Requirements

a. Prepare a seedbed in disturbed areas to a depth of 3 to 4 inches using appropriate equipment to provide a firm seedbed. When hydroseeding, scarify the seedbed to facilitate lodging and germination of seed.

b. Seed disturbed areas in accordance with written recommendations for seed mixes, rates, and dates obtained from the local soil conservation authority or the request of the landowner or land management agency. Seeding is not required in cultivated croplands unless requested by the landowner.

c. Perform seeding of permanent vegetation within the recommended seeding dates. If seeding cannot be done within those dates, use appropriate temporary erosion control measures discussed in section IV.F and perform seeding of permanent vegetation at the beginning of the next recommended seeding season. Dormant seeding or temporary

seeding of annual species may also be used, if necessary, to establish cover, as approved by the Environmental Inspector. Lawns may be seeded on a schedule established with the landowner.

d. In the absence of written recommendations from the local soil conservation authorities, seed all disturbed soils within 6 working days of final grading, weather and soil conditions permitting, subject to the specifications in section V.D.3.a through V.D.3.c.

e. Base seeding rates on Pure Live Seed. Use seed within 12 months of seed testing.

f. Treat legume seed with an inoculant specific to the species using the manufacturer's recommended rate of inoculant appropriate for the seeding method (broadcast, drill, or hydro).

g. In the absence of written recommendations from the local soil conservation authorities, landowner, or land managing agency to the contrary, a seed drill equipped with a cultipacker is preferred for seed application.

Broadcast or hydroseeding can be used in lieu of drilling at double the recommended seeding rates. Where seed is broadcast, firm the seedbed with a cultipacker or roller after seeding. In rocky soils or where site conditions may limit the effectiveness of this equipment, other alternatives may be appropriate (e.g., use of a chain drag) to lightly cover seed after application, as approved by the Environmental Inspector.

VI. OFF-ROAD VEHICLE CONTROL

To each owner or manager of forested lands, offer to install and maintain measures to control unauthorized vehicle access to the right-of-way. These measures may include:

A. signs;

B. fences with locking gates;

C. slash and timber barriers, pipe barriers, or a line of boulders across the right-of-way; and

D. conifers or other appropriate trees or shrubs across the right-of-way.

VII. POST-CONSTRUCTION ACTIVITIES AND REPORTING

A. MONITORING AND MAINTENANCE

1. Conduct follow-up inspections of all disturbed areas, as necessary, to determine the success of revegetation and address landowner concerns. At a minimum, conduct inspections after the first and second growing seasons.

2. Revegetation in non-agricultural areas shall be considered successful if upon visual survey the density and cover of non-nuisance vegetation are similar in density and cover to adjacent undisturbed lands. In agricultural areas, revegetation shall be considered successful when upon visual survey, crop growth and vigor are similar to adjacent undisturbed portions of the same field, unless the easement agreement specifies otherwise.

   Continue revegetation efforts until revegetation is successful.

3. Monitor and correct problems with drainage and irrigation systems resulting from pipeline construction in agricultural areas until restoration is successful.

4. Restoration shall be considered successful if the right-of-way surface condition is similar to adjacent undisturbed lands, construction debris is removed (unless otherwise approved by the landowner or land managing agency per section V.A.6), revegetation is successful, and proper drainage has been restored.

5. Routine vegetation mowing or clearing over the full width of the permanent right-of-way in uplands shall not be done more frequently than every 3 years. However, to facilitate periodic corrosion/leak surveys, a corridor not exceeding 10 feet in width centered on the pipeline may be cleared at a frequency necessary to maintain the 10-foot corridor in an herbaceous state. In no case shall routine vegetation mowing or clearing occur during the migratory bird nesting season between April 15 and August 1 of any year unless specifically approved in writing by the responsible land management agency or the U.S. Fish and Wildlife Service.

6. Efforts to control unauthorized off-road vehicle use, in cooperation with the landowner, shall continue throughout the life of the project. Maintain signs, gates, and permanent access roads as necessary.

B. REPORTING

1. The project sponsor shall maintain records that identify by milepost:

   a. method of application, application rate, and type of fertilizer, pH modifying agent, seed, and mulch used;

   b. acreage treated;

   c. dates of backfilling and seeding;

   d. names of landowners requesting special seeding treatment and a description of the follow-up actions;

   e. the location of any subsurface drainage repairs or improvements made during restoration; and

   f. any problem areas and how they were addressed.

2. The project sponsor shall file with the Secretary quarterly activity reports documenting the results of follow-up inspections required by section VII.A.1; any problem areas, including those identified by the landowner; and corrective actions taken for at least 2 years following construction.

   The requirement to file quarterly activity reports with the Secretary does not apply to projects constructed under the automatic authorization, prior notice, or advanced notice provisions in the FERC's regulations.

Appendix E
FERC Wetland and Waterbody Construction and Mitigation Procedures

Federal Energy Regulatory Commission

Office of Energy Projects

May 2013

WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES

Washington, DC 20426

MAY 2013 VERSION

WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES

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WETLAND AND WATERBODY
CONSTRUCTION AND MITIGATION PROCEDURES (PROCEDURES)

I. APPLICABILITY

A. The intent of these Procedures is to assist project sponsors by identifying baseline mitigation measures for minimizing the extent and duration of project-related disturbance on wetlands and waterbodies. Project sponsors shall specify in their applications for a new FERC authorization, and in prior notice and advance notice filings, any individual measures in these Procedures they consider unnecessary, technically infeasible, or unsuitable due to local conditions and fully describe any alternative measures they would use. Project sponsors shall also explain how those alternative measures would achieve a comparable level of mitigation.

Once a project is authorized, project sponsors can request further changes as variances to the measures in these Procedures (or the applicant's approved procedures). The Director of the Office of Energy Projects (Director) will consider approval of variances upon the project sponsor's written request, if the Director agrees that a variance:

1. provides equal or better environmental protection;

2. is necessary because a portion of these Procedures is infeasible or unworkable based on project-specific conditions; or

3. is specifically required in writing by another federal, state, or Native American land management agency for the portion of the project on its land or under its jurisdiction.

Sponsors of projects planned for construction under the automatic authorization provisions in the FERC's regulations must receive written approval for any variances in advance of construction.

Project-related impacts on non-wetland areas are addressed in the staff's Upland Erosion Control, Revegetation, and Maintenance Plan (Plan).

B. DEFINITIONS

1. "Waterbody" includes any natural or artificial stream, river, or drainage with perceptible flow at the time of crossing, and other permanent waterbodies such as ponds and lakes:

   a. "minor waterbody" includes all waterbodies less than or equal to 10 feet wide at the water's edge at the time of crossing;

   b. "intermediate waterbody" includes all waterbodies greater than 10 feet wide but less than or equal to 100 feet wide at the water's edge at the time of crossing; and

   c. "major waterbody" includes all waterbodies greater than 100 feet wide at the water's edge at the time of crossing.

2. "Wetland" includes any area that is not in actively cultivated or rotated cropland and that satisfies the requirements of the current federal methodology for identifying and delineating wetlands.

II. PRECONSTRUCTION FILING

A. The following information must be filed with the Secretary of the FERC (Secretary) prior to the beginning of construction, for the review and written approval by the Director:

1. site-specific justifications for extra work areas that would be closer than 50 feet from a waterbody or wetland; and

2. site-specific justifications for the use of a construction right-of-way greater than 75-feet-wide in wetlands.

B. The following information must be filed with the Secretary prior to the beginning of construction. These filing requirements do not apply to projects constructed under the automatic authorization provisions in the FERC's regulations:

1. Spill Prevention and Response Procedures specified in section IV.A;

2. a schedule identifying when trenching or blasting will occur within each waterbody greater than 10 feet wide, within any designated coldwater fishery, and within any waterbody identified as habitat for federally-listed threatened or endangered species. The project sponsor will revise the schedule as necessary to provide FERC staff at least 14 days advance notice. Changes within this last 14-day period must provide for at least 48 hours advance notice;

3. plans for horizontal directional drills (HDD) under wetlands or waterbodies, specified in section V.B.6.d;

4. site-specific plans for major waterbody crossings, described in section V.B.9;

5. a wetland delineation report as described in section VI.A.1, if applicable; and

6. the hydrostatic testing information specified in section VII.B.3.

III. ENVIRONMENTAL INSPECTORS

A. At least one Environmental Inspector having knowledge of the wetland and waterbody conditions in the project area is required for each construction spread. The number and experience of Environmental Inspectors assigned to each construction spread shall be appropriate for the length of the construction spread and the number/significance of resources affected.

B. The Environmental Inspector's responsibilities are outlined in the Upland Erosion Control, Revegetation, and Maintenance Plan (Plan).

IV. PRECONSTRUCTION PLANNING

A. The project sponsor shall develop project-specific Spill Prevention and Response Procedures that meet applicable requirements of state and federal agencies. A copy must be filed with the Secretary prior to construction and made available in the field on each construction spread. This filing requirement does not apply to projects constructed under the automatic authorization provisions in the FERC's regulations.

1. It shall be the responsibility of the project sponsor and its contractors to structure their operations in a manner that reduces the risk of spills or the accidental exposure of fuels or hazardous materials to waterbodies or wetlands. The project sponsor and its contractors must, at a minimum, ensure that:

a. all employees handling fuels and other hazardous materials are properly trained;

b. all equipment is in good operating order and inspected on a regular basis;

c. fuel trucks transporting fuel to on-site equipment travel only on approved access roads;

d. all equipment is parked overnight and/or fueled at least 100 feet from a waterbody or in an upland area at least 100 feet from a wetland boundary. These activities can occur closer only if the Environmental Inspector determines that there is no reasonable alternative, and the

project sponsor and its contractors have taken appropriate steps (including secondary containment structures) to prevent spills and provide for prompt cleanup in the event of a spill;

e. hazardous materials, including chemicals, fuels, and lubricating oils, are not stored within 100 feet of a wetland, waterbody, or designated municipal watershed area, unless the location is designated for such use by an appropriate governmental authority. This applies to storage of these materials and does not apply to normal operation or use of equipment in these areas;

f. concrete coating activities are not performed within 100 feet of a wetland or waterbody boundary, unless the location is an existing industrial site designated for such use. These activities can occur closer only if the Environmental Inspector determines that there is no reasonable alternative, and the project sponsor and its contractors have taken appropriate steps (including secondary containment structures) to prevent spills and provide for prompt cleanup in the event of a spill;

g. pumps operating within 100 feet of a waterbody or wetland boundary utilize appropriate secondary containment systems to prevent spills; and

h. bulk storage of hazardous materials, including chemicals, fuels, and lubricating oils have appropriate secondary containment systems to prevent spills.

2. The project sponsor and its contractors must structure their operations in a manner that provides for the prompt and effective cleanup of spills of fuel and other hazardous materials. At a minimum, the project sponsor and its contractors must:

a. ensure that each construction crew (including cleanup crews) has on hand sufficient supplies of absorbent and barrier materials to allow the rapid containment and recovery of spilled materials and knows the procedure for reporting spills and unanticipated discoveries of contamination;

b. ensure that each construction crew has on hand sufficient tools and material to stop leaks;

c. know the contact names and telephone numbers for all local, state, and federal agencies (including, if necessary, the U. S. Coast Guard and the National Response Center) that must be notified of a spill; and

d. follow the requirements of those agencies in cleaning up the spill, in excavating and disposing of soils or other materials contaminated by a spill, and in collecting and disposing of waste generated during spill cleanup.

B. AGENCY COORDINATION

The project sponsor must coordinate with the appropriate local, state, and federal agencies as outlined in these Procedures and in the FERC's Orders.

V. WATERBODY CROSSINGS

A. NOTIFICATION PROCEDURES AND PERMITS

1. Apply to the U.S. Army Corps of Engineers (COE), or its delegated agency, for the appropriate wetland and waterbody crossing permits.

2. Provide written notification to authorities responsible for potable surface water supply intakes located within 3 miles downstream of the crossing at least 1 week before beginning work in the waterbody, or as otherwise specified by that authority.

3. Apply for state-issued waterbody crossing permits and obtain individual or generic section 401 water quality certification or waiver.

4. Notify appropriate federal and state authorities at least 48 hours before beginning trenching or blasting within the waterbody, or as specified in applicable permits.

B. INSTALLATION

1. Time Window for Construction

Unless expressly permitted or further restricted by the appropriate federal or state agency in writing on a site-specific basis, instream work, except that required to install or remove equipment bridges, must occur during the following time windows:

a. coldwater fisheries - June 1 through September 30; and

b. coolwater and warmwater fisheries - June 1 through November 30.

2. Extra Work Areas

a. Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from water's edge, except where

the adjacent upland consists of cultivated or rotated cropland or other disturbed land.

b. The project sponsor shall file with the Secretary for review and written approval by the Director, site-specific justification for each extra work area with a less than 50-foot setback from the water's edge, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land. The justification must specify the conditions that will not permit a 50-foot setback and measures to ensure the waterbody is adequately protected.

c. Limit the size of extra work areas to the minimum needed to construct the waterbody crossing.

3. General Crossing Procedures

a. Comply with the COE, or its delegated agency, permit terms and conditions.

b. Construct crossings as close to perpendicular to the axis of the waterbody channel as engineering and routing conditions permit.

c. Where pipelines parallel a waterbody, maintain at least 15 feet of undisturbed vegetation between the waterbody (and any adjacent wetland) and the construction right-of-way, except where maintaining this offset will result in greater environmental impact.

d. Where waterbodies meander or have multiple channels, route the pipeline to minimize the number of waterbody crossings.

e. Maintain adequate waterbody flow rates to protect aquatic life, and prevent the interruption of existing downstream uses.

f. Waterbody buffers (e.g., extra work area setbacks, refueling restrictions) must be clearly marked in the field with signs and/or highly visible flagging until construction-related ground disturbing activities are complete.

g. Crossing of waterbodies when they are dry or frozen and not flowing may proceed using standard upland construction techniques in accordance with the Plan, provided that the Environmental Inspector verifies that water is unlikely to flow between initial disturbance and final stabilization of the feature. In the event of perceptible flow, the project sponsor must comply with all applicable Procedure requirements for "waterbodies" as defined in section I.B.1.

4. Spoil Pile Placement and Control

   a. All spoil from minor and intermediate waterbody crossings, and upland spoil from major waterbody crossings, must be placed in the construction right-of-way at least 10 feet from the water's edge or in additional extra work areas as described in section V.B.2.

   b. Use sediment barriers to prevent the flow of spoil or silt-laden water into any waterbody.

5. Equipment Bridges

   a. Only clearing equipment and equipment necessary for installation of equipment bridges may cross waterbodies prior to bridge installation. Limit the number of such crossings of each waterbody to one per piece of clearing equipment.

   b. Construct and maintain equipment bridges to allow unrestricted flow and to prevent soil from entering the waterbody. Examples of such bridges include:

      (1) equipment pads and culvert(s);
      (2) equipment pads or railroad car bridges without culverts;
      (3) clean rock fill and culvert(s); and
      (4) flexi-float or portable bridges.

      Additional options for equipment bridges may be utilized that achieve the performance objectives noted above. Do not use soil to construct or stabilize equipment bridges.

   c. Design and maintain each equipment bridge to withstand and pass the highest flow expected to occur while the bridge is in place. Align culverts to prevent bank erosion or streambed scour. If necessary, install energy dissipating devices downstream of the culverts.

   d. Design and maintain equipment bridges to prevent soil from entering the waterbody.

   e. Remove temporary equipment bridges as soon as practicable after permanent seeding.

   f. If there will be more than 1 month between final cleanup and the beginning of permanent seeding and reasonable alternative access to the right-of-way is available, remove temporary equipment bridges as soon as practicable after final cleanup.

g. Obtain any necessary approval from the COE, or the appropriate state agency for permanent bridges.

6. Dry-Ditch Crossing Methods

a. Unless approved otherwise by the appropriate federal or state agency, install the pipeline using one of the dry-ditch methods outlined below for crossings of waterbodies up to 30 feet wide (at the water's edge at the time of construction) that are state-designated as either coldwater or significant coolwater or warmwater fisheries, or federally-designated as critical habitat.

b. Dam and Pump

(1) The dam-and-pump method may be used without prior approval for crossings of waterbodies where pumps can adequately transfer streamflow volumes around the work area, and there are no concerns about sensitive species passage.

(2) Implementation of the dam-and-pump crossing method must meet the following performance criteria:

(i) use sufficient pumps, including on-site backup pumps, to maintain downstream flows;
(ii) construct dams with materials that prevent sediment and other pollutants from entering the waterbody (e.g., sandbags or clean gravel with plastic liner);
(iii) screen pump intakes to minimize entrainment of fish;
(iv) prevent streambed scour at pump discharge; and
(v) continuously monitor the dam and pumps to ensure proper operation throughout the waterbody crossing.

c. Flume Crossing

The flume crossing method requires implementation of the following steps:

(1) install flume pipe after blasting (if necessary), but before any trenching;

(2) use sand bag or sand bag and plastic sheeting diversion structure or equivalent to develop an effective seal and to divert stream flow through the flume pipe (some modifications to the stream bottom may be required to achieve an effective seal);

(3) properly align flume pipe(s) to prevent bank erosion and streambed scour;

(4) do not remove flume pipe during trenching, pipelaying, or backfilling activities, or initial streambed restoration efforts; and

(5) remove all flume pipes and dams that are not also part of the equipment bridge as soon as final cleanup of the stream bed and bank is complete.

d. Horizontal Directional Drill

For each waterbody or wetland that would be crossed using the HDD method, file with the Secretary for the review and written approval by the Director, a plan that includes:

(1) site-specific construction diagrams that show the location of mud pits, pipe assembly areas, and all areas to be disturbed or cleared for construction;

(2) justification that disturbed areas are limited to the minimum needed to construct the crossing;

(3) identification of any aboveground disturbance or clearing between the HDD entry and exit workspaces during construction;

(4) a description of how an inadvertent release of drilling mud would be contained and cleaned up; and

(5) a contingency plan for crossing the waterbody or wetland in the event the HDD is unsuccessful and how the abandoned drill hole would be sealed, if necessary.

The requirement to file HDD plans does not apply to projects constructed under the automatic authorization provisions in the FERC's regulations.

7. Crossings of Minor Waterbodies

Where a dry-ditch crossing is not required, minor waterbodies may be crossed using the open-cut crossing method, with the following restrictions:

a. except for blasting and other rock breaking measures, complete instream construction activities (including trenching, pipe installation, backfill, and restoration of the streambed contours) within 24 hours.

Streambanks and unconsolidated streambeds may require additional restoration after this period;

b. limit use of equipment operating in the waterbody to that needed to construct the crossing; and

c. equipment bridges are not required at minor waterbodies that do not have a state-designated fishery classification or protected status (e.g., agricultural or intermittent drainage ditches). However, if an equipment bridge is used it must be constructed as described in section V.B.5.

8. Crossings of Intermediate Waterbodies

Where a dry-ditch crossing is not required, intermediate waterbodies may be crossed using the open-cut crossing method, with the following restrictions:

a. complete instream construction activities (not including blasting and other rock breaking measures) within 48 hours, unless site-specific conditions make completion within 48 hours infeasible;

b. limit use of equipment operating in the waterbody to that needed to construct the crossing; and

c. all other construction equipment must cross on an equipment bridge as specified in section V.B.5.

9. Crossings of Major Waterbodies

Before construction, the project sponsor shall file with the Secretary for the review and written approval by the Director a detailed, site-specific construction plan and scaled drawings identifying all areas to be disturbed by construction for each major waterbody crossing (the scaled drawings are not required for any offshore portions of pipeline projects). This plan must be developed in consultation with the appropriate state and federal agencies and shall include extra work areas, spoil storage areas, sediment control structures, etc., as well as mitigation for navigational issues. The requirement to file major waterbody crossing plans does not apply to projects constructed under the automatic authorization provisions of the FERC's regulations.

The Environmental Inspector may adjust the final placement of the erosion and sediment control structures in the field to maximize effectiveness.

10. Temporary Erosion and Sediment Control

Install sediment barriers (as defined in section IV.F.3.a of the Plan) immediately after initial disturbance of the waterbody or adjacent upland.

Sediment barriers must be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration of adjacent upland areas is complete. Temporary erosion and sediment control measures are addressed in more detail in the Plan; however, the following specific measures must be implemented at stream crossings:

a. install sediment barriers across the entire construction right-of-way at all waterbody crossings, where necessary to prevent the flow of sediments into the waterbody. Removable sediment barriers (or driveable berms) must be installed across the travel lane. These removable sediment barriers can be removed during the construction day, but must be re-installed after construction has stopped for the day and/or when heavy precipitation is imminent;

b. where waterbodies are adjacent to the construction right-of-way and the right-of-way slopes toward the waterbody, install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil within the construction right-of-way and prevent sediment flow into the waterbody; and

c. use temporary trench plugs at all waterbody crossings, as necessary, to prevent diversion of water into upland portions of the pipeline trench and to keep any accumulated trench water out of the waterbody.

11. Trench Dewatering

Dewater the trench (either on or off the construction right-of-way) in a manner that does not cause erosion and does not result in silt-laden water flowing into any waterbody. Remove the dewatering structures as soon as practicable after the completion of dewatering activities.

C. RESTORATION

1. Use clean gravel or native cobbles for the upper 1 foot of trench backfill in all waterbodies that contain coldwater fisheries.

2. For open-cut crossings, stabilize waterbody banks and install temporary sediment barriers within 24 hours of completing instream construction activities. For dry-ditch crossings, complete streambed and bank stabilization before returning flow to the waterbody channel.

3. Return all waterbody banks to preconstruction contours or to a stable angle of repose as approved by the Environmental Inspector.

4. Install erosion control fabric or a functional equivalent on waterbody banks at the time of final bank recontouring. Do not use synthetic monofilament

mesh/netted erosion control materials in areas designated as sensitive wildlife habitat unless the product is specifically designed to minimize harm to wildlife. Anchor erosion control fabric with staples or other appropriate devices.

5. Application of riprap for bank stabilization must comply with COE, or its delegated agency, permit terms and conditions.

6. Unless otherwise specified by state permit, limit the use of riprap to areas where flow conditions preclude effective vegetative stabilization techniques such as seeding and erosion control fabric.

7. Revegetate disturbed riparian areas with native species of conservation grasses, legumes, and woody species, similar in density to adjacent undisturbed lands.

8. Install a permanent slope breaker across the construction right-of-way at the base of slopes greater than 5 percent that are less than 50 feet from the waterbody, or as needed to prevent sediment transport into the waterbody. In addition, install sediment barriers as outlined in the Plan.

   In some areas, with the approval of the Environmental Inspector, an earthen berm may be suitable as a sediment barrier adjacent to the waterbody.

9. Sections V.C.3 through V.C.7 above also apply to those perennial or intermittent streams not flowing at the time of construction.

D. POST-CONSTRUCTION MAINTENANCE

1. Limit routine vegetation mowing or clearing adjacent to waterbodies to allow a riparian strip at least 25 feet wide, as measured from the waterbody's mean high water mark, to permanently revegetate with native plant species across the entire construction right-of-way. However, to facilitate periodic corrosion/leak surveys, a corridor centered on the pipeline and up to 10 feet wide may be cleared at a frequency necessary to maintain the 10-foot corridor in an herbaceous state. In addition, trees that are located within 15 feet of the pipeline that have roots that could compromise the integrity of the pipeline coating may be cut and removed from the permanent right-of-way. Do not conduct any routine vegetation mowing or clearing in riparian areas that are between HDD entry and exit points.

2. Do not use herbicides or pesticides in or within 100 feet of a waterbody except as allowed by the appropriate land management or state agency.

3. Time of year restrictions specified in section VII.A.5 of the Plan (April 15 – August 1 of any year) apply to routine mowing and clearing of riparian areas.

VI. WETLAND CROSSINGS

A. GENERAL

1. The project sponsor shall conduct a wetland delineation using the current federal methodology and file a wetland delineation report with the Secretary before construction. The requirement to file a wetland delineation report does not apply to projects constructed under the automatic authorization provisions in the FERC's regulations.

   This report shall identify:

   a. by milepost all wetlands that would be affected;

   b. the National Wetlands Inventory (NWI) classification for each wetland;

   c. the crossing length of each wetland in feet; and

   d. the area of permanent and temporary disturbance that would occur in each wetland by NWI classification type.

   The requirements outlined in this section do not apply to wetlands in actively cultivated or rotated cropland. Standard upland protective measures, including workspace and topsoiling requirements, apply to these agricultural wetlands.

2. Route the pipeline to avoid wetland areas to the maximum extent possible. If a wetland cannot be avoided or crossed by following an existing right-of-way, route the new pipeline in a manner that minimizes disturbance to wetlands. Where looping an existing pipeline, overlap the existing pipeline right-of-way with the new construction right-of-way. In addition, locate the loop line no more than 25 feet away from the existing pipeline unless site-specific constraints would adversely affect the stability of the existing pipeline.

3. Limit the width of the construction right-of-way to 75 feet or less. Prior written approval of the Director is required where topographic conditions or soil limitations require that the construction right-of-way width within the boundaries of a federally delineated wetland be expanded beyond 75 feet. Early in the planning process the project sponsor is encouraged to identify site-specific areas where excessively wide trenches could occur and/or where spoil piles could be difficult to maintain because existing soils lack adequate unconfined compressive strength.

4. Wetland boundaries and buffers must be clearly marked in the field with signs and/or highly visible flagging until construction-related ground disturbing activities are complete.

5. Implement the measures of sections V and VI in the event a waterbody crossing is located within or adjacent to a wetland crossing. If all measures of sections V and VI cannot be met, the project sponsor must file with the Secretary a site-specific crossing plan for review and written approval by the Director before construction. This crossing plan shall address at a minimum:

   a. spoil control;

   b. equipment bridges;

   c. restoration of waterbody banks and wetland hydrology;

   d. timing of the waterbody crossing;

   e. method of crossing; and

   f. size and location of all extra work areas.

6. Do not locate aboveground facilities in any wetland, except where the location of such facilities outside of wetlands would prohibit compliance with U.S. Department of Transportation regulations.

B. INSTALLATION

1. Extra Work Areas and Access Roads

   a. Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from wetland boundaries, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land.

   b. The project sponsor shall file with the Secretary for review and written approval by the Director, site-specific justification for each extra work area with a less than 50-foot setback from wetland boundaries, except where adjacent upland consists of cultivated or rotated cropland or other disturbed land. The justification must specify the site-specific conditions that will not permit a 50-foot setback and measures to ensure the wetland is adequately protected.

   c. The construction right-of-way may be used for access when the wetland soil is firm enough to avoid rutting or the construction right-of-way has been appropriately stabilized to avoid rutting (e.g., with timber riprap, prefabricated equipment mats, or terra mats).

      In wetlands that cannot be appropriately stabilized, all construction equipment other than that needed to install the wetland crossing shall

use access roads located in upland areas. Where access roads in upland areas do not provide reasonable access, limit all other construction equipment to one pass through the wetland using the construction right-of-way.

d. The only access roads, other than the construction right-of-way, that can be used in wetlands are those existing roads that can be used with no modifications or improvements, other than routine repair, and no impact on the wetland.

2. Crossing Procedures

a. Comply with COE, or its delegated agency, permit terms and conditions.

b. Assemble the pipeline in an upland area unless the wetland is dry enough to adequately support skids and pipe.

c. Use "push-pull" or "float" techniques to place the pipe in the trench where water and other site conditions allow.

d. Minimize the length of time that topsoil is segregated and the trench is open. Do not trench the wetland until the pipeline is assembled and ready for lowering in.

e. Limit construction equipment operating in wetland areas to that needed to clear the construction right-of-way, dig the trench, fabricate and install the pipeline, backfill the trench, and restore the construction right-of-way.

f. Cut vegetation just above ground level, leaving existing root systems in place, and remove it from the wetland for disposal.

The project sponsor can burn woody debris in wetlands, if approved by the COE and in accordance with state and local regulations, ensuring that all remaining woody debris is removed for disposal.

g. Limit pulling of tree stumps and grading activities to directly over the trenchline. Do not grade or remove stumps or root systems from the rest of the construction right-of-way in wetlands unless the Chief Inspector and Environmental Inspector determine that safety-related construction constraints require grading or the removal of tree stumps from under the working side of the construction right-of-way.

h. Segregate the top 1 foot of topsoil from the area disturbed by trenching, except in areas where standing water is present or soils are

saturated. Immediately after backfilling is complete, restore the segregated topsoil to its original location.

i. Do not use rock, soil imported from outside the wetland, tree stumps, or brush riprap to support equipment on the construction right-of-way.

j. If standing water or saturated soils are present, or if construction equipment causes ruts or mixing of the topsoil and subsoil in wetlands, use low-ground-weight construction equipment, or operate normal equipment on timber riprap, prefabricated equipment mats, or terra mats.

k. Remove all project-related material used to support equipment on the construction right-of-way upon completion of construction.

3. Temporary Sediment Control

Install sediment barriers (as defined in section IV.F.3.a of the Plan) immediately after initial disturbance of the wetland or adjacent upland. Sediment barriers must be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench). Except as noted below in section VI.B.3.c, maintain sediment barriers until replaced by permanent erosion controls or restoration of adjacent upland areas is complete. Temporary erosion and sediment control measures are addressed in more detail in the Plan.

a. Install sediment barriers across the entire construction right-of-way immediately upslope of the wetland boundary at all wetland crossings where necessary to prevent sediment flow into the wetland.

b. Where wetlands are adjacent to the construction right-of-way and the right-of-way slopes toward the wetland, install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil within the construction right-of-way and prevent sediment flow into the wetland.

c. Install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil and sediment within the construction right-of-way through wetlands. Remove these sediment barriers during right-of-way cleanup.

4. Trench Dewatering

Dewater the trench (either on or off the construction right-of-way) in a manner that does not cause erosion and does not result in silt-laden water flowing into any wetland. Remove the dewatering structures as soon as practicable after the completion of dewatering activities.

C. RESTORATION

1. Where the pipeline trench may drain a wetland, construct trench breakers at the wetland boundaries and/or seal the trench bottom as necessary to maintain the original wetland hydrology.

2. Restore pre-construction wetland contours to maintain the original wetland hydrology.

3. For each wetland crossed, install a trench breaker at the base of slopes near the boundary between the wetland and adjacent upland areas. Install a permanent slope breaker across the construction right-of-way at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from the wetland, or as needed to prevent sediment transport into the wetland. In addition, install sediment barriers as outlined in the Plan. In some areas, with the approval of the Environmental Inspector, an earthen berm may be suitable as a sediment barrier adjacent to the wetland.

4. Do not use fertilizer, lime, or mulch unless required in writing by the appropriate federal or state agency.

5. Consult with the appropriate federal or state agencies to develop a project-specific wetland restoration plan. The restoration plan shall include measures for re-establishing herbaceous and/or woody species, controlling the invasion and spread of invasive species and noxious weeds (e.g., purple loosestrife and phragmites), and monitoring the success of the revegetation and weed control efforts. Provide this plan to the FERC staff upon request.

6. Until a project-specific wetland restoration plan is developed and/or implemented, temporarily revegetate the construction right-of-way with annual ryegrass at a rate of 40 pounds/acre (unless standing water is present).

7. Ensure that all disturbed areas successfully revegetate with wetland herbaceous and/or woody plant species.

8. Remove temporary sediment barriers located at the boundary between wetland and adjacent upland areas after revegetation and stabilization of adjacent upland areas are judged to be successful as specified in section VII.A.4 of the Plan.

D. POST-CONSTRUCTION MAINTENANCE AND REPORTING

1. Do not conduct routine vegetation mowing or clearing over the full width of the permanent right-of-way in wetlands. However, to facilitate periodic corrosion/leak surveys, a corridor centered on the pipeline and up to 10 feet wide may be cleared at a frequency necessary to maintain the 10-foot corridor in an herbaceous state. In addition, trees within 15 feet of the pipeline with roots that could compromise the integrity of pipeline coating may be selectively cut and removed from the permanent right-of-way. Do not conduct any routine vegetation mowing or clearing in wetlands that are between HDD entry and exit points.

2. Do not use herbicides or pesticides in or within 100 feet of a wetland, except as allowed by the appropriate federal or state agency.

3. Time of year restrictions specified in section VII.A.5 of the Plan (April 15 – August 1 of any year) apply to routine mowing and clearing of wetland areas.

4. Monitor and record the success of wetland revegetation annually until wetland revegetation is successful.

5. Wetland revegetation shall be considered successful if all of the following criteria are satisfied:

   a. the affected wetland satisfies the current federal definition for a wetland (i.e., soils, hydrology, and vegetation);

   b. vegetation is at least 80 percent of either the cover documented for the wetland prior to construction, or at least 80 percent of the cover in adjacent wetland areas that were not disturbed by construction;

   c. if natural rather than active revegetation was used, the plant species composition is consistent with early successional wetland plant communities in the affected ecoregion; and

   d. invasive species and noxious weeds are absent, unless they are abundant in adjacent areas that were not disturbed by construction.

6. Within 3 years after construction, file a report with the Secretary identifying the status of the wetland revegetation efforts and documenting success as defined in section VI.D.5, above. The requirement to file wetland restoration reports with the Secretary does not apply to projects constructed under the automatic authorization, prior notice, or advance notice provisions in the FERC's regulations.

   For any wetland where revegetation is not successful at the end of 3 years after construction, develop and implement (in consultation with a

professional wetland ecologist) a remedial revegetation plan to actively revegetate wetlands. Continue revegetation efforts and file a report annually documenting progress in these wetlands until wetland revegetation is successful.

VII. HYDROSTATIC TESTING

A. NOTIFICATION PROCEDURES AND PERMITS

1. Apply for state-issued water withdrawal permits, as required.

2. Apply for National Pollutant Discharge Elimination System (NPDES) or state-issued discharge permits, as required.

3. Notify appropriate state agencies of intent to use specific sources at least 48 hours before testing activities unless they waive this requirement in writing.

B. GENERAL

1. Perform 100 percent radiographic inspection of all pipeline section welds or hydrotest the pipeline sections, before installation under waterbodies or wetlands.

2. If pumps used for hydrostatic testing are within 100 feet of any waterbody or wetland, address secondary containment and refueling of these pumps in the project's Spill Prevention and Response Procedures.

3. The project sponsor shall file with the Secretary before construction a list identifying the location of all waterbodies proposed for use as a hydrostatic test water source or discharge location. This filing requirement does not apply to projects constructed under the automatic authorization provisions of the FERC's regulations.

C. INTAKE SOURCE AND RATE

1. Screen the intake hose to minimize the potential for entrainment of fish.

2. Do not use state-designated exceptional value waters, waterbodies which provide habitat for federally listed threatened or endangered species, or waterbodies designated as public water supplies, unless appropriate federal, state, and/or local permitting agencies grant written permission.

3. Maintain adequate flow rates to protect aquatic life, provide for all waterbody uses, and provide for downstream withdrawals of water by existing users.

4. Locate hydrostatic test manifolds outside wetlands and riparian areas to the maximum extent practicable.

D. DISCHARGE LOCATION, METHOD, AND RATE

1. Regulate discharge rate, use energy dissipation device(s), and install sediment barriers, as necessary, to prevent erosion, streambed scour, suspension of sediments, or excessive streamflow.

2. Do not discharge into state-designated exceptional value waters, waterbodies which provide habitat for federally listed threatened or endangered species, or waterbodies designated as public water supplies, unless appropriate federal, state, and local permitting agencies grant written permission.

Appendix F
Spill Prevention Containment and Countermeasure Plan

Northern Natural Gas
Spill Prevention, Control and Countermeasure (SPCC) Plan For Construction Projects

Introduction

This SPCC Plan describes planning, prevention and control measures to minimize impacts resulting from spills of fuels, petroleum products, or other regulated substances as a result of pipeline facility construction. These measures will be implemented by the contractor, unless otherwise indicated, during Northern Natural Gas (Northern) pipeline facility construction projects. This SPCC Plan was developed in accordance with the Federal Energy Regulatory Commission's Wetland and Waterbody Construction and Mitigation Procedures (FERC Procedures) and satisfies the requirements for SPCC Plans described therein. This plan must remain on-site.

1 Planning and Prevention

Northern requires its contractors to implement proper planning and preventative measures to minimize the likelihood of spills, and to quickly and successfully clean up a spill should one occur. Northern developed this SPCC Plan to set forth the minimum standards for handling and storing regulated substances, and for cleaning up spills. Potential sources of construction-related spills include storage tank leaks, machinery and equipment failure, and fuel handling and transfer accidents. The contractor will be responsible for implementing, at a minimum, the following planning and prevention measures.

1.1 Roles and Responsibilities:

Contractor Spill Coordinator

1.1.1 A contractor spill coordinator shall be designated and employed by the contractor, subject to approval by Northern on projects where outside contractors are used for construction. The spill coordinator may also be a designated Northern employee.

1.1.2 The contractor spill coordinator shall notify the environmental inspector (EI) immediately of any spill, regardless of volume. If the EI is not available, the contractor spill coordinator shall notify Northern's Operations Communication Center (OCC) at 888-367-6671 within 30 minutes of the occurrence.

1.1.3 The contractor spill coordinator shall mobilize on-site personnel, equipment, and materials for containment and/or clean-up commensurate with the extent of the spill.

1.1.4 The contractor spill coordinator will assist the EI in completion of the Spill Release/Report form (environmental procedure 320.101a, Appendix A: Spill/Release Report Form).

1.1.5 The contractor spill coordinator will identify available emergency response contractors. The emergency response contractors will be subject to Northern's approval.

1.1.6 The contractor spill coordinator shall assist the emergency response contractor and monitor containment activities to ensure the actions are consistent with the requirements of this SPCC Plan.

1.1.7 The contractor spill coordinator, in consultation with the Division Environmental Specialist (DES), on-site Northern representative or appropriate agencies, will assist in determining when it is necessary to evacuate spill sites to safeguard human health.

1.1.8 The contractor spill coordinator should **not** contact any agency regarding a spill without authorization from Northern's environmental department.

Environmental Inspector (EI)

1.1.9 The EI may be a designated Northern employee or a third-party inspector assigned to monitor environmental compliance on the project.

1.1.10 The EI will monitor the contractor's compliance with the provisions of this SPCC Plan.

1.1.11 The EI will immediately report all spills to the OCC at 888-367-6671, the construction coordinator and other Northern personnel, as required.

1.1.12 The EI, with assistance from the contractor spill coordinator, is responsible for completing a Spill Release/Report Form and submitting it to the DES within 24 hours of the occurrence for all spills, regardless of volume.

1.1.13 Both the contractor spill coordinator and the EI, in conjunction with the DES or appropriate agencies, will assist in determining when it is necessary to evacuate spill sites to safeguard human health.

1.1.14 The EI should not contact any agency regarding a spill without authorization from the DES.

Construction Coordinator

1.1.15 The construction coordinator is a designated Northern representative who is responsible for the management of construction activities on the project.

1.1.16 The construction coordinator is responsible for documenting the general information regarding any spills such as, work stoppages, injuries, fires and the extent of exposure to on-site personnel.

1.1.17 The construction coordinator, in consultation with the DES or appropriate agencies, will assist in determining when it is necessary to evacuate spill sites to safeguard human health.

1.1.18 The construction coordinator is responsible for coordinating any emergency response services that may be required such as the Fire Department, the Sherriff's Department, or for contacting emergency response contractors.

Authorized Personnel

1.1.19 Authorized personnel are representatives of the contractor who are designated to handle fuel, lubricants or other regulated substances.

1.1.20 Authorized personnel shall be familiar with the requirements of this SPCC Plan and the consequences of non-compliance.

Contractor's Construction Superintendent

1.1.21 The contractor's construction superintendent, or representative, must immediately notify the EI of any spill of any liquid, (i.e. a petroleum product, hazardous liquid, water, casing wax, etc.), regardless of volume.

1.1.22 The contractor's construction superintendent is ultimately responsible for ensuring that construction personnel understand and comply with this SPCC Plan.

Construction Personnel

1.1.23 Construction personnel are representatives of the contractor involved with installation of the pipeline facility.

1.1.24 Construction personnel shall notify the crew foreman and/or contractor's spill coordinator immediately of any spill of any liquid (i.e. a petroleum product or hazardous liquid, water, casing wax, etc.), regardless of volume.

1.1.25 Construction personnel are responsible for beginning the initial spill containment and clean-up.

Environmental Specialist

1.1.26 The environmental specialist is a designated Northern employee who is responsible for the management of environmental compliance on the project.

1.1.27 The environmental specialist is the EI's initial point of contact when a spill occurs and will assist in determining the containment measures that may be required.

1.1.28 The environmental specialist will promptly report spills to appropriate Federal, State, and local agencies as required.

1.1.29 The environmental specialist will coordinate with these agencies regarding contacting additional parties or agencies.

1.1.30 The environmental specialist will promptly notify the U.S. Coast Guard National Response Center of spills, regardless of size, that enter lakes, streams or other standing or flowing waters. (The National Response Center phone number is listed in section 4.2 of this SPCC Plan).

1.1.31 The environmental specialist, in consultation with appropriate agencies, will assist in determining when spill sites will be evacuated, as necessary, to safeguard human health.

1.2 Training:

1.2.1 The contractor spill coordinator shall train all employees handling fuels and other regulated substances to follow and comply with this SPCC Plan.

1.2.2 The contractor's construction superintendent will be responsible for ensuring that such training is received prior to construction activities.

1.2.3 The EI will specifically address compliance with this SPCC Plan while delivering Environmental Training-Construction, environmental training Type B to contractor personnel and/or while reviewing safety procedure 110.180b, Contractor Orientation Checklist and Roster with contractor personnel. (See

environmental procedure 380.201, Environmental Compliance for Construction Projects, for training program requirements.)

1.3 Equipment:

1.3.1 All equipment must be thoroughly cleaned prior to arrival on-site. Equipment with existing fluid leaks will not be allowed on-site.

1.3.2 All equipment repairs and maintenance must be completed offsite. In the event that a repair is required to remove the equipment, or removing the equipment is more likely to cause a spill than an onsite repair, adequate liquid storage must be utilized in addition to secondary containment to contain any liquids during the repair. Ensure the capacity of existing secondary containment is adequate for the repair.

1.3.3 Each piece of self-propelled equipment (i.e. dozers, excavators, side booms, etc.) must be equipped with a spill kit. At a minimum, the spill kit must include sufficient absorbent pads and plastic lining material to contain spills resulting from mechanical failure.

1.3.4 Directional drilling rigs must be equipped with a spill kit of appropriate size to contain any potential spills. At a minimum, spill kits must include absorbent pads, booms, a temporary disposal bag, disposable nitrile gloves and plastic lining material to contain spills resulting from mechanical failure.

1.3.5 Each piece of stationary equipment, excluding directional drilling rigs, (i.e. generators, air compressors, water pumps, etc.) must have access to a spill kit. The spill kit must be located in the immediate vicinity of the stationary equipment and in an easily accessible area no farther than 100 yards. At a minimum, spill kits must include absorbent pads, booms, a temporary disposal bag, disposable nitrile gloves and plastic lining material to contain spills resulting from mechanical failure. The appropriate quantities will depend on the number of pieces of stationary equipment and are subject to approval by the on-site Northern representatives.

1.3.6 Each piece of stationary equipment, including drilling rigs, must be parked inside appropriately sized and constructed secondary containment. Any self-propelled equipment parked for more than 24 hours is considered stationary.

1.3.7 Each contractor vehicle must be equipped with a catch pan and a spill kit containing a sufficient quantity of absorbent and barrier materials to adequately contain and recover foreseeable spills. These kits may include, but are not limited to absorbent pads, straw bales, absorbent clay, sawdust, floor-drying agents, spill containment barriers, plastic sheeting, skimmer pumps and holding tanks.

1.3.8 For personal vehicles driven by contractor personnel and parked daily at construction project contractor yards, the contractor spill coordinator must provide on-site spill kits of adequate size to be stationed in easily accessible areas in the event of a spill resulting from a personal vehicle.

1.3.9 All fuel and service vehicles shall carry materials that are adequate to control foreseeable spills. Such material may include, but is not limited to, absorbent pads, commercial absorbent material, plastic bags with ties and a shovel.

1.3.10 Suitable plastic lining materials must also be available for placement below and on top of temporarily stored contaminated soils and materials.

1.3.11 The contractor spill coordinator will make known to authorized personnel, construction personnel, and the EI, the locations of spill control equipment and materials and have them readily accessible during construction activity. Spill kits must be replenished following each spill clean-up.

1.3.12 Construction equipment shall not be parked overnight or fueled within 200 feet of residential water wells, within 400 feet of municipal or community water wells, or within 100 feet of a wetland or waterbody. These activities may occur closer only if the EI finds, in advance, no reasonable alternative and the contractor has taken appropriate steps to prevent spills. These steps include secondary containment structures.

1.3.13 All fuel nozzles shall be equipped with functional automatic shut-offs.

1.3.14 In large wetlands where no upland site is available for refueling, auxiliary fuel tanks on construction equipment are recommended.

1.3.15 Fuel trucks transporting fuel to on-site construction equipment shall travel only on approved access roads.

1.4 Supervision and Inspection:

1.4.1 Prior to construction, the contractor spill coordinator, or designee, shall perform an inspection and test of all equipment to ensure that it is in good condition and free of leaks.

1.4.2 During construction, the contractor spill coordinator, or designee, shall perform daily inspections on hoses, hydraulic cylinders, fluid reservoirs, hydraulic connections, valves, pipes and tanks to ensure equipment is free of leaks.

1.4.3 On a daily basis, prior to commencing construction activities, the contractor spill coordinator, or designee, must complete Northern's Daily Equipment Spill Prevention Checklist (environmental procedure 380.201c, Daily Equipment Spill Prevention Checklist) and provide the original copy to the on-site EI or a Northern representative. The EI maintains these documents in a file for the course of a week. If a spill occurs within the week, this document is attached to the Spill/Release Report Form.

2 Liquid Transfer Plans:

2.1 The contractor spill coordinator will prepare a site-specific liquid transfer plan prior to the transfer of any liquids for construction activities which require manipulation of valves or removal of plugs (e.g., pipeline liquids, hydrostatic test water, fuel, glycol or oil) where spills can occur.

2.2 The liquid transfer plan must also address any other activities that have potential to result in a liquid release without proper planning (e.g., pipeline cutting pig launching/removing or draining of drips).

2.2.1 For pipeline cutting activities, the liquid transfer plan must include step-by-step instructions with diagramed drawings for how to check for liquids prior to performing any cutting activities.

2.3 At a minimum, the liquid transfer plan must include detail for the correct location of secondary containment and positioning of all valves, plugs and hoses prior to, during and at the completion of the liquid transfer process.

2.4 The liquid transfer plan must be reviewed by the EI prior to execution of any liquid transfer. In the EI's absence, the chief inspector will review the liquid transfer plan.

2.5 The liquid transfer plan must be maintained by contractor personnel responsible for the respective liquid transfer process and updated as needed when procedures or processes change.

2.6 Contractor personnel will review the status of liquid transfer configurations during shift changes to ensure proper communication between crews.

3 Storage and Handling of Fuels/Hazardous Liquids

3.1 Typical Fuels, Lubricant and Hazardous Liquids:

3.1.1 The following table identifies fuels, lubricants and coolants generally present on pipeline construction spreads and identifies typical total volumes, storage and transportation methods. Contractors will have appropriate Safety Data Sheets (SDS) on-site, as required by the Occupation Safety and Health Administration (OSHA).

Typical Petroleum Storage and Handling Volumes on a Construction Spread

	Fluids	Typical Amounts	Storage	Typical Transport Mode
Fuels	Diesel	6,000-12,000 Gallons	1-3 Tanks or Tankers stored at contractor yard 5 gallon cans, 100 gallon storage in pickups, etc.	1-3 Fuel Trucks 1-3 "Fuel Skids"
	Military Aviation Kerosene [1]	6,000-12,000 Gallons		
	Kerosene [1]	6,000-12,000 Gallons		
	Gasoline	5,000 Gallons		
Lubricant	Engine Oil	< 500 Gallons	Bulk Storage or Retail Packaging at contractor yard warehouse	1-3 "Grease" Trucks
	Transmission/ Drive Train Oil	< 500 Gallons		
	Hydraulic Oil	< 500 Gallons		
	Gear Oil	< 500 Gallons		
	Lubricating Grease	20-30 cases of 24 cans per case		
Coolants	Ethylene Glycol	100 Gallons		
	Propylene Glycol	100 Gallons		

[1] Used straight or as additives only in extremely cold weather.

3.2 Storage of Fuel and Hazardous Liquids – General:

3.2.1 The contractor shall follow proper storage practices for fuels and hazardous liquids including, but not limited to, the following:

3.2.1.1 Fuel storage shall be at contractor yards only, or as approved by Northern.

3.2.1.2 Tools and materials to stop the flow of leaking tanks and pipes shall be kept on-site. Such equipment must include, but not be limited to, plugs of various sizes, a hammer, assorted sizes of metal screws with rubber washers, a screwdriver and plastic tape.

3.2.1.3 Fuels, lubricants, waste oil and any other regulated substances shall be stored in aboveground tanks only.

3.2.1.4 Storage tanks and containers must conform to all applicable industry codes.

3.2.1.5 A suitable secondary containment structure must be utilized at each fuel storage site. Portable secondary containment structures are preferred over site-constructed structures. If portable structures are not available, the site-constructed structures must be lined with seamless plastic sheeting. All structures must provide a minimum containment volume equal to the volume of the largest storage vessel; and provide at least 1 foot of freeboard.

3.2.1.6 If earthen containment dikes are used, they shall be constructed with slopes no steeper than 3:1 (horizontal to vertical) to limit erosion and provide structural stability.

3.2.1.7 It is the contractor's responsibility to remove all secondary containment structures at the conclusion of the project. The contractor is also responsible for returning the storage impoundment area to its original contour and appearance upon completion of the project.

3.2.1.8 Secondary containment areas must not have drains. If visual inspection indicates that no spillage has occurred in the secondary containment structure, accumulated water may be drawn off and sprayed on the surrounding upland areas in accordance with applicable permits. If spillage has occurred in the structure, accumulated waste shall be drawn off and pumped into drum storage for disposal. Water with a visible sheen must not be discharged on-site and must be hauled out for proper disposal.

3.2.1.9 Vehicle wastes resulting from equipment failure, including used oils and other fluids, shall be handled and managed by personnel trained in the procedures outlined in this Plan. Vehicle wastes will be stored and disposed of in accordance with section 6.0 of this SPCC Plan.

3.3 Refueling:

3.3.1 Fuels shall be dispensed by authorized personnel only. The contractor must provide adequate lighting for refueling after dark.

3.3.2 Personnel shall be actively holding the nozzle during all refueling. Absorbent pads shall be within reaching distance in the event of a nozzle malfunction.

3.3.3 Refueling shall not occur within 100 feet of a wetland or waterbody. These activities may occur closer only if the EI finds, in advance, no reasonable alternative and the contractor has taken appropriate steps to prevent spills. These steps include secondary containment structures.

3.3.4 Refueling shall not occur within 200 feet of residential water wells or within 400 feet of municipal or community water wells.

3.4 Refueling and Fuel Storage near Wetlands, Waterbodies or Rural Residences:

3.4.1 Northern requires that the storage of petroleum products, refueling and lubricating operations take place in upland areas that are more than 100 feet from wetlands, streams, and waterbodies (including drainage ditches), and 200 feet of residential water wells or within 400 feet of municipal or community water wells. In addition, the contractor must store hazardous materials, chemicals, fuel and lubricating oils, and perform concrete coating activities outside of these areas. Auxiliary fuel tanks solidly attached to construction equipment or pumps are not considered storage and are acceptable.

3.4.2 In certain instances, refueling or fuel storage may be unavoidable due to site-specific conditions or unique construction requirements. Examples include continuously operating pumps and temporary stationary equipment associated with horizontal directional drilling (HDD) activities. These locations must be approved in advance by the EI. In addition to those practices described above, the following precautions will be taken when refueling within 100 feet of streams, wetlands, and waterbodies; within 200 feet of private water wells; or within 400 feet of municipal or community water wells:

3.4.2.1 Adequate amounts of absorbent materials and containment booms must be kept on-site by each construction crew to enable the rapid containment and clean-up of a spill incident.

3.4.2.2 If fuel must be stored within wetlands or near streams for refueling of continuously operating pumps, secondary containment must be provided.

3.4.2.3 A suitable secondary containment structure must be utilized at each fuel storage site. Portable secondary containment structures are preferred over site-constructed structures. If portable structures are not available, the site-constructed structures must be lined with seamless plastic sheeting. All structures must provide a minimum

containment volume equal to the volume of the largest storage vessel; and provide at least 1 foot of freeboard.

3.4.2.4 Procedures regarding excavation and disposal of contaminated soil material from wetlands or near waterbodies are described in section 6.3 of this SPCC Plan.

3.4.2.5 Equipment operating within wetlands must be manned continuously or placed within proper secondary containment.

4 Initial Spill Management

4.1 Immediate Response:

4.1.1 Immediately upon learning of any fuel, oil, hazardous material or other regulated substance spill, or upon learning of conditions that will lead to an imminent spill, the person discovering the situation must:

4.1.1.1 Initiate actions to contain the fluid that has spilled or is about to spill, and initiate action to eliminate the source of the spill to the maximum extent that is safely possible.

4.1.1.2 Notify the contractor spill coordinator and the EI, and provide them with the following information:

4.1.1.2.1 Location and cause of the spill

4.1.1.2.2 The type and amount of material that has spilled

4.1.1.2.3 Whether the spill has reached, or is likely to reach, any surface water

4.1.1.3 Upon learning of a spill or a potential spill the contractor spill coordinator shall:

4.1.1.3.1 Assess the situation and determine the need for further action.

4.1.1.3.2 Direct subsequent activities and/or further assign responsibilities to other personnel.

4.1.1.3.3 Notify the EI

4.1.2 The EI will notify the OCC at 888-367-6671 and the construction coordinator.

4.2 Mobilization:

4.2.1 The contractor spill coordinator shall mobilize on-site personnel, equipment, and materials for containment and/or clean-up commensurate with the extent of the spill and notify the EI.

4.2.2 The DES will work with the EI and contractor spill coordinator to determine if a spill is reportable to an agency.

4.2.3 If the contractor spill coordinator and/or the EI determine that a spill is beyond the scope of on-site equipment and personnel, the contractor spill coordinator and/or the EI will immediately notify the contractor construction superintendent that an emergency response contractor is needed to contain

and/or clean up the spill. The contractor is responsible for obtaining the services of an emergency response contractor.

4.2.4 The contractor spill coordinator shall assist the emergency response contractor and monitor containment procedures to ensure that the actions are consistent with the requirements of this SPCC Plan.

5 Spill Notification Responsibilities

5.1 The EI will immediately report all spills, regardless of volume, to Northern's OCC at 888-367-6671. The EI, or an applicable company representative, will participate on the OCC call to assess the spill. An environmental department representative will determine any requirements for further agency notification(s).

5.2 Spill Release/Report Form:

5.2.1 The EI, with assistance from the contractor spill coordinator, shall complete a Spill Release/Report Form for each release of a regulated substance, regardless of volume. The Spill Release/Report Form must be submitted to the DES within 24 hours of the occurrence of the spill.

5.2.2 All associated laboratory analysis and other documentation that may be required separately, on a case-specific basis, will be the responsibility of the contractor and should be provided to the EI. The EI will forward the information to the DES.

5.3 Agency Notification:

5.3.1 In the event of a reportable spill the DES will determine who is responsible for any required agency notification(s).

5.3.2 For projects in Minnesota, if there is any discharge of any substance or material, including hazardous materials, which, if not recovered, may cause pollution to waters of the state, the Minnesota Duty Officer shall be notified immediately. The Minnesota Duty Officer's phone numbers are 651-649-5451 and 800-422-0798.

5.3.3 For any spills that are determined to be the responsibility of Northern, the DES will promptly notify the appropriate Federal, State, and/or local agencies.

5.3.4 For any spills that are determined to be the responsibility of the contractor, the DES will request that the contractor spill coordinator promptly notify the appropriate Federal, State and/or local agencies.

5.3.5 The DES will promptly notify the National Response Center (NRC) at 800-424-8802 for all spills that impact streams, lakes or other waterbodies containing standing or flowing water.

5.3.6 The contractor spill coordinator will provide the EI and/or the Northern on-site representative all Spill Release/Report forms and associated information resulting from agency contact no later than 24 hours from the receipt of such documentation.

5.3.7 Northern's DESs and construction compliance personnel are listed below.

Name	Office Phone	Cell Phone
Kelly Henry	651-456-1712	612-759-8287
Naomi Cavalieri	402-398-7847	531-301-1176
*Steve San Miguel	402-398-7305	402-595-8554*
Michelle Brown	402-530-3502	806-231-4960
Christa Webber	402-398-7980	402-810-3769
Terry Plucker	402-398-7226	402-332-7081

6 Spill Containment and Clean-Up

6.1 In the event of a spill, the contractor will abide by applicable Federal, State and local regulations, in respect to cleaning up the spill. All clean-up and other construction related spill activities must be completed by, and costs assumed by, the contractor. Specific control and clean-up measures for both upland and wetland/waterbody spills are described below.

6.2 Spill Control and Clean-Up for Upland Areas:

6.2.1 If a spill should occur during refueling operations, **STOP** the operation until the spill can be controlled and the situation corrected.

6.2.1.1 Spill sources must be immediately identified and contained.

6.2.1.2 For large spills on land, the spills must be contained and pumped immediately into tank trucks. The contractor or, if necessary, an emergency response contractor, shall excavate the contaminated soil. It is the responsibility of the contractor to obtain Northern's approval prior to activities if waste vendors other than those approved by Northern (Clean Harbors and Safety-Kleen) may be used.

6.2.1.3 Spilled material and contaminated soil must be treated and/or disposed of in accordance with applicable Federal, State, and local requirements (section 6.0) and Northern's procedures.

6.2.1.4 Smaller spills on land shall be cleaned up with absorbent materials. Contaminated soil or other materials associated with these releases shall also be collected and disposed of in accordance with applicable regulations (section 6.0) and Northern's procedures.

6.2.1.5 Flowing spills must be contained and/or absorbed before reaching surface waters or wetlands.

6.2.1.6 Absorbent material(s) shall be placed over spills to minimize spreading and to reduce penetration into the soil.

6.2.1.7 The contractor spill coordinator and/or the DES, in consultation with appropriate agencies, shall determine when spill sites will be evacuated, as necessary, to safeguard human health. Evacuation parameters shall include consideration for the potential of fire, explosion, and hazardous gases.

6.3 Spill Control and Clean-Up for Wetlands and Waterbodies:

6.3.1 In addition to the measures described previously in this SPCC Plan, the following conditions shall apply if a spill, regardless of size, occurs near or into a stream, wetland or other waterbody:

6.3.1.1 If a spill should occur during refueling operations, **STOP** the operation until the spill can be controlled and the situation corrected.

6.3.1.2 For spills into streams, lakes or other waterbodies containing standing or flowing water, the contractor spill coordinator will immediately notify the nearest Northern representative and the OCC at 888-367-6671. The DES will promptly notify the NRC. (The NRC phone number is listed in section 4.2 of this SPCC Plan).

6.3.1.3 For spills in standing water floating booms, skimmer pumps and holding tanks shall be on-hand and used by the contractor to recover and contain released materials on the surface of the water.

6.3.1.4 If deemed necessary for large spills in waterbodies, the contractor must secure an emergency response contractor to further contain and clean up the spill. All contractors must be approved by Northern prior to construction.

6.3.1.5 Contaminated soils in wetlands must be excavated, and placed on, and covered by, plastic sheeting in bermed areas a minimum of 100 feet away from the wetland. Dispose of contaminated soil as soon as possible in accordance with section 6.0 of this SPCC Pan and Northern's procedures.

6.4 Inadvertent Mud Releases:

6.4.1 In the event of a drilling mud release (i.e., frac-out) to a sensitive resource area, including a waterbody, the contractor shall follow environmental procedure 380.203i, Appendix I: Plan for Inadvertent Release of Drilling Mud.

7 Storage and Disposal of Contaminated Materials

7.1 Environmental procedure 390.107, Approved Disposal Facilities, describes that all selected wastes generated at Northern facilities must be disposed of at Northern-approved waste facilities. The procedure also lists the locations of each Northern-approved disposal facility.

7.2 All contaminated soils, absorbent materials, and other wastes shall be stored and properly disposed by the contractor in accordance with applicable Federal and State regulations and Northern's procedures.

7.3 Only approved and licensed waste vendors and carriers may be used to transport contaminated material from the site to a Northern-approved disposal facility.

7.4 Used oil, glycol or hazardous wastes must be disposed by a Northern-approved contractor.

7.5 Environmental procedures regarding hazardous waste are located in the 390.000, Hazardous Waste Management, series of Northern's environmental operating procedures manual. The series includes procedures on manifesting and other transport requirements for off-site disposal.

7.6 Disposal of domestic wastes must be determined by the contractor and the information provided to the EI.

7.7 If it is necessary to temporarily store excavated soils on-site, these materials shall be 1) contained in plastic bags or, 2) placed on and covered by plastic sheeting. In addition, the perimeter of the storage area must include a berm to prevent and contain runoff.

8 REVISION HISTORY:

Responsibility for Procedure:

Address all questions on this procedure to the director of environmental.

Revisions:

Rev. 0	05/17/11	Initial procedure released.
Rev. 1	08/15/12	Changed Northern employee to Northern representative in section 1.1, Roles and Responsibilities, under Construction Coordinator. Updated information regarding spill kits in section 1.3, Equipment. Referenced Environmental Training-Construction. Included Minnesota Duty Officer contact information. Stated that the contractor shall follow Northern's Inadvertent Mud Release Plan for frac-outs. Added requirement for all contractor vehicles to be equipped with a catch pan. Updated formatting.
Rev. 2	12/14/12	Publish Only: Updated DES contact information.
Rev. 3	02/26/14	Added a section for liquid transfer planning and updated environmental department staff contact information.
Rev. 4	08/19/15	Publish Only: Updated DES and construction compliance personnel contact information.
Rev. 5	01/30/19	Publish Only: Division environmental specialists and construction compliance personnel contact information were updated in this procedure revision.
Rev. 6	01/06/21	Publish Only: Added section 1.3.5 stating existing practice for secondary containment for stationary equipment.
Rev. 7	02/17/21	Publish Only: Stated requirements for equipment repairs and maintenance.
Rev. 8	02/01/22	Publish Only: Division environmental specialist contact information was updated.

City of La Crosse, Wisconsin

City Hall
400 La Crosse Street
La Crosse, WI 54601

Text File

File Number: 25-1470

Agenda Date: 1/5/2026 **Version:** 1 **Status:** Agenda Ready

In Control: Board of Public Works **File Type:** General Item

City of La Crosse, Wisconsin

City Hall
400 La Crosse Street
La Crosse, WI 54601

Text File

File Number: 25-1473

Agenda Date: 1/5/2026 **Version:** 1 **Status:** Agenda Ready

In Control: Board of Public Works **File Type:** General Item

TO FUNDING SOURCE:

City of La Crosse
400 La Crosse Street
La Crosse, Wisconsin 54601

PROJECT:

2025 Miscellaneous Sidewalk Infill
La Crosse, Wisconsin 54601

APPLICATION NO: 2
INVOICE NO: Final - December 2025
PERIOD: 11/28/25 - 12/26/25
PROJECT NO: 25-014
CONTRACT DATE:

FROM CONTRACTOR:

Pember Companies Inc
N4449 469th St
Menomonie, Wisconsin 54751

VIA ARCHITECT/ENGINEER:

Cullen Haldeman (City of La Crosse)
400 La Crosse St
La Crosse, Wisconsin 54601

CONTRACT FOR: Res. 25-0570

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. Continuation Sheet is attached.

1.	Original Contract Sum		$137,470.00
2.	Net change by change orders		$0.00
3.	Contract Sum to date (Line 1 ± 2)		$137,470.00
4.	Total completed and stored to date (Column G on detail sheet)		$125,645.00
5.	Retainage:		
	a. 0.00% of completed work	$0.00	
	b. 0.00% of stored material	$0.00	
	Total retainage (Line 5a + 5b or total in column I of detail sheet)		$0.00
6.	Total earned less retainage (Line 4 less Line 5 Total)		$125,645.00
7.	Less previous certificates for payment (Line 6 from prior certificate)		$99,908.24
8.	Current payment due:		$25,736.76
9.	Balance to finish, including retainage (Line 3 less Line 6)		$11,825.00

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Funding Source:	$0.00	$0.00
Total approved this month:	$0.00	$0.00
Totals:	$0.00	$0.00
Net change by change orders:	$0.00	

The undersigned certifies that to the best of the Contractor's knowledge, information and belief, the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work which previous Certificates for payment were issued and payments received from the Funding Source, and that current payments shown herein is now due.

CONTRACTOR: Pember Companies Inc

By: _____ Date: _____

State of:
County of:
Subscribed and sworn to before
me this day of
Notary Public:
My commission expires:

ARCHITECT'S/ENGINEER'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on the on-site observations and the data comprising this application, the Architect/Engineer certifies to the Funding Source that to the best of the Architect's/Engineer's knowledge, information and belief that Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED: $25,736.76

(Attach explanation if amount certified differs from the amount applied for. Initial all figures on this Application and on the Continuation Sheet that are changed to confirm the amount certified.)

ARCHITECT/ENGINEER:

DocuSigned by:
By: _____ Date: 12/17/2025
BC3376604AE44DF...

This certificate is not negotiable. The amount certified is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to the rights of the Funding Source or Contractor under this Contract.

A		B	C			D		E		F		G			H	I
ITEM NO.	BUDGET CODE	DESCRIPTION OF WORK	SCHEDULED VALUE			FROM PREVIOUS APPLICATION (D + E)		WORK COMPLETED THIS PERIOD		MATERIALS PRESENTLY STORED (NOT IN D OR E)		TOTAL COMPLETED AND STORED TO DATE (D + E + F)			BALANCE TO FINISH (C - G)	RETAINAGE
			QTY	UNIT PRICE	VALUE	QTY	VALUE	QTY	VALUE	QTY	VALUE	QTY	VALUE	% (G / C)		
1 **CIP-762 - CIP #762**																
	1.1 **BOR - Borrowed**				$112,470.00		$102,470.00		$10,000.00		$0.00		$112,470.00	100.00%	$0.00	$0.00
CIP-762 - CIP #762 Subtotals					$112,470.00		$102,470.00		$10,000.00		$0.00		$112,470.00	100.00%	$0.00	$0.00
2 **CIP-527 - CIP #527**																
	2.1 **BOR - Borrowed**				$25,000.00		$0.00		$13,175.00		$0.00		$13,175.00	52.70%	$11,825.00	$0.00
CIP-527 - CIP #527 Subtotals					$25,000.00		$0.00		$13,175.00		$0.00		$13,175.00	52.70%	$11,825.00	$0.00
Grand Totals					$137,470.00		$102,470.00		$23,175.00		$0.00		$125,645.00	91.40%	$11,825.00	$0.00

12/17/2025

Signed by:
David Tauscher
B7509F2EE0F24E5...

AUDITOR

Signed by:
Chadwick Hawkins
A93F306A40954A6...

COMPTROLLER

TO FUNDING SOURCE:

City of La Crosse
400 La Crosse Street
La Crosse, Wisconsin 54601

PROJECT:

2025 Annual Sidewalk & ADA Ramp Replacement Program
400 La Crosse St
La Crosse, Wisconsin 54601

APPLICATION NO: 2
INVOICE NO: Final December 2025
PERIOD: 11/28/25 - 12/31/25
PROJECT NO: 25-012
CONTRACT DATE:

FROM CONTRACTOR:

Fowler & Hammer, Inc.
313 Monitor Street
La Crosse, Wisconsin 54603

VIA ARCHITECT/ENGINEER:

Cullen Haldeman (City of La Crosse)
400 La Crosse St
La Crosse, Wisconsin 54601

CONTRACT FOR: Res. 25-0326

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. Continuation Sheet is attached.

1.	Original Contract Sum		$148,662.00
2.	Net change by change orders		$0.00
3.	Contract Sum to date (Line 1 ± 2)		$148,662.00
4.	Total completed and stored to date (Column G on detail sheet)		$148,662.00
5.	Retainage:		
	a. 0.00% of completed work	$0.00	
	b. 0.00% of stored material	$0.00	
	Total retainage (Line 5a + 5b or total in column I of detail sheet)		$0.00
6.	Total earned less retainage (Line 4 less Line 5 Total)		$148,662.00
7.	Less previous certificates for payment (Line 6 from prior certificate)		$140,718.80
8.	Current payment due:		$7,943.20
9.	Balance to finish, including retainage (Line 3 less Line 6)		$0.00

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Funding Source:	$0.00	$0.00
Total approved this month:	$0.00	$0.00
Totals:	$0.00	$0.00
Net change by change orders:	$0.00	

The undersigned certifies that to the best of the Contractor's knowledge, information and belief, the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work which previous Certificates for payment were issued and payments received from the Funding Source, and that current payments shown herein is now due.

CONTRACTOR: Fowler & Hammer, Inc.

By: _____ Date: _____

State of:
County of:
Subscribed and sworn to before
me this day of
Notary Public:
My commission expires:

ARCHITECT'S/ENGINEER'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on the on-site observations and the data comprising this application, the Architect/Engineer certifies to the Funding Source that to the best of the Architect's/Engineer's knowledge, information and belief that Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED: $7,943.20

(Attach explanation if amount certified differs from the amount applied for. Initial all figures on this Application and on the Continuation Sheet that are changed to confirm the amount certified.)

ARCHITECT/ENGINEER:

By: DocuSigned by: BG3376604AE44DE... Date: 12/17/2025

This certificate is not negotiable. The amount certified is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to the rights of the Funding Source or Contractor under this Contract.

A		B	C			D		E		F		G			H	I
ITEM NO.	BUDGET CODE	DESCRIPTION OF WORK	SCHEDULED VALUE			FROM PREVIOUS APPLICATION (D + E)		WORK COMPLETED THIS PERIOD		MATERIALS PRESENTLY STORED (NOT IN D OR E)		TOTAL COMPLETED AND STORED TO DATE (D + E + F)			BALANCE TO FINISH (C - G)	RETAINAGE
			QTY	UNIT PRICE	VALUE	QTY	VALUE	QTY	VALUE	QTY	VALUE	QTY	VALUE	% (G / C)		
1 **CIP-648 - CIP #648**																
	1.1 **BOR - Borrowed**				$99,667.00		$95,332.00		$4,335.00		$0.00		$99,667.00	100.00%	$0.00	$0.00
CIP-648 - CIP #648 Subtotals					$99,667.00		$95,332.00		$4,335.00		$0.00		$99,667.00	100.00%	$0.00	$0.00
2 **RES. 25-0477 - Res. 25-0477**																
	2.1 **BOR - Borrowed**				$48,995.00		$48,995.00		$0.00		$0.00		$48,995.00	100.00%	$0.00	$0.00
RES. 25-0477 - Res. 25-0477 Subtotals					$48,995.00		$48,995.00		$0.00		$0.00		$48,995.00	100.00%	$0.00	$0.00
Grand Totals					$148,662.00		$144,327.00		$4,335.00		$0.00		$148,662.00	100.00%	$0.00	$0.00

12/18/2025

Signed by:
David Tauscher
B7509F2EE0F24E5...

AUDITOR

Signed by:
Chadwick Hawkins
A93F306A40954A6...

COMPTROLLER

BOARD OF PUBLIC WORKS - MONTHLY ESTIMATE

Contractor	**Visu-Sewer, LLC**		**FINAL**
	W230 N4855 Betker Drive, Pewaukee, WI 53072	**Estimate Number**	**#2 January**
Contract	**2024 Sewer Lining**	**Resolution Number**	**24-0685**
Date	**January-26**	**Contingency Amount**	**$64,029.60**
EDF #	**24-044**	**Contract Amount**	**$426,864.00**
Job Number	**SANS-24-37**		

Section Title	Line Item	Item Code	Item Description	Unit of Measure	Quantity	Unit Price	Total
Segment 1 - Base							
	1	630	Sewer Liner - CIPP (8")	LF	230.0	$30.00	$6,900.00
	4	631	Re-open Lateral Connections	EA	8.0	$100.00	$800.00
	2	1001	Sewer Line Cleaning	LF	230.0	$1.50	$345.00
	3	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	5	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Segment 2 - Base							
	6	630	Sewer Liner - CIPP (8")	LF	813.0	$30.00	$24,390.00
	9	631	Re-open Lateral Connections	EA	7.0	$100.00	$700.00
	7	1001	Sewer Line Cleaning	LF	813.0	$1.50	$1,219.50
	8	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	10	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Segment 3 - Base							
	11	630	Sewer Liner - CIPP (8")	LF	641.0	$30.00	$19,230.00
	14	631	Re-open Lateral Connections	EA	21.0	$100.00	$2,100.00
	12	1001	Sewer Line Cleaning	LF	641.0	$1.50	$961.50
	13	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	15	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Segment 4 - Base							
	16	630	Sewer Liner - CIPP (8")	LF	1253.0	$30.00	$37,590.00
	19	631	Re-open Lateral Connections	EA	33.0	$100.00	$3,300.00
	17	1001	Sewer Line Cleaning	LF	1253.0	$1.50	$1,879.50
	18	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	20	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Segment 5 - Base							
	21	630	Sewer Liner - CIPP (8")	LF	473.0	$30.00	$14,190.00
	24	631	Re-open Lateral Connections	EA	10.0	$100.00	$1,000.00
	22	1001	Sewer Line Cleaning	LF	473.0	$1.50	$709.50
	23	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	25	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Page 1 of 4							

BOARD OF PUBLIC WORKS - MONTHLY ESTIMATE

Contractor	**Visu-Sewer, LLC**		**FINAL**
	W230 N4855 Betker Drive, Pewaukee, WI 53072	**Estimate Number**	**#2 January**
Contract	**2024 Sewer Lining**	**Resolution Number**	**24-0685**
Date	**January-26**	**Contingency Amount**	**$64,029.60**
EDF #	**24-044**	**Contract Amount**	**$426,864.00**
Job Number	**SANS-24-37**		

Section Title	Line Item	Item Code	Item Description	Unit of Measure	Quantity	Unit Price	Total
Segment 6 - Base							
	26	630	Sewer Liner - CIPP (8")	LF	1595.0	$30.00	$47,850.00
	29	631	Re-open Lateral Connections	EA	45.0	$100.00	$4,500.00
	27	1001	Sewer Line Cleaning	LF	1595.0	$1.50	$2,392.50
	28	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	30	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Segment 7 &7b - Base							
	31	630	Sewer Liner - CIPP (8")	LF	886.0	$30.00	$26,580.00
	32	630	Sewer Liner - CIPP (10")	LF	132.0	$38.50	$5,082.00
	35	631	Re-open Lateral Connections	EA	15.0	$100.00	$1,500.00
	33	1001	Sewer Line Cleaning	LF	1018.0	$1.50	$1,527.00
	34	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	36	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Segment 8 &8b - Base							
	37	630	Sewer Liner - CIPP (8")	LF	729.0	$30.00	$21,870.00
	38	630	Sewer Liner - CIPP (10")	LF	549.0	$38.50	$21,136.50
	41	631	Re-open Lateral Connections	EA	18.0	$100.00	$1,800.00
	39	1001	Sewer Line Cleaning	EA	1278.0	$1.50	$1,917.00
	40	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	42	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Segment 9 - Base							
	43	630	Sewer Liner - CIPP (8")	LF	934.0	$30.00	$28,020.00
	46	631	Re-open Lateral Connections	EA	23.0	$100.00	$2,300.00
	44	1001	Sewer Line Cleaning	LF	934.0	$1.50	$1,401.00
	45	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	47	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Page 2 of 4							

BOARD OF PUBLIC WORKS - MONTHLY ESTIMATE

Contractor	**Visu-Sewer, LLC**		**FINAL**
	W230 N4855 Betker Drive, Pewaukee, WI 53072	**Estimate Number**	**#2 January**
Contract	**2024 Sewer Lining**	**Resolution Number**	**24-0685**
Date	**January-26**	**Contingency Amount**	**$64,029.60**
EDF #	**24-044**	**Contract Amount**	**$426,864.00**
Job Number	**SANS-24-37**		

Section Title	Line Item	Item Code	Item Description	Unit of Measure	Quantity	Unit Price	Total
Segment 10 - Alt #1							
	48	630	Sewer Liner - CIPP (8")	LF	1299.0	$30.00	$38,970.00
	51	631	Re-open Lateral Connections	EA	36.0	$100.00	$3,600.00
	49	1001	Sewer Line Cleaning	LF	1299.0	$1.50	$1,948.50
	50	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	52	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Segment 11 - Alt #2							
	53	630	Sewer Liner - CIPP (8")	LF	415.0	$60.00	$24,900.00
	56	631	Re-open Lateral Connections	EA	4.0	$100.00	$400.00
	54	1001	Sewer Line Cleaning	EA	415.0	$1.50	$622.50
	55	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	57	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Segment 12 - Alt #3							
	60	631	Re-open Lateral Connections	EA	0.0	$700.00	$0.00
	58	1001	Sewer Line Cleaning	EA	0.0	$3.00	$0.00
	59	1002	Lateral Testing	EA	0.0	$750.00	$0.00
	61	1003	Grout Lateral	EA	0.0	$10.00	$0.00

BOARD OF PUBLIC WORKS - MONTHLY ESTIMATE

Contractor	**Visu-Sewer, LLC**		**FINAL**
	W230 N4855 Betker Drive, Pewaukee, WI 53072	**Estimate Number**	**#2 January**
Contract	**2024 Sewer Lining**	**Resolution Number**	**24-0685**
Date	**January-26**	**Contingency Amount**	**$64,029.60**
EDF #	**24-044**	**Contract Amount**	**$426,864.00**
Job Number	**SANS-24-37**		

Section Title	Line Item	Item Code	Item Description	Unit of Measure	Quantity	Unit Price	Total
			Current Payment is for 2025 Work				
			Total Completed				$353,632.00
			Less 0% Retainage				$0.00
			Amount due on Contract of total amount of work to date:				$353,632.00

Audited Signed by: David Tauscher B7509F2EE0F24E5.. ..... 12/18/2025 ..... 20.....

COMPTROLLER..... Signed by: Chadwick Hawkins A93F306A40954A6... .....

Total Previous Estimates	$344,791.20
Estimate No. #2 January	$8,840.80

RESOLUTION

RESOLVED: That an order be drawn in favor of ..... Visu-Sewer, LLC..... for the sum of ***$8,840.80***
the same being payment of the estimate for the 2024 Sewer Lining

Respectfully Submitted,
COUNCIL COMMITTEE

APPROVED BY BOARD OF PUBLIC WORKS

BOARD OF PUBLIC WORKS - MONTHLY ESTIMATE

Contractor	**Fowler & Hammer, Inc.**		**FINAL**
	313 Monitor Street, La Crosse, WI 54603	**Estimate Number**	**#5 January**
Contract	**2025 Annual Miscellaneous Curb & Gutter and Pavement Replacement**	**Resolution Number**	**25-0175**
Date	**January-26**	**Contingency Amount**	**$18,185.00**
EDF #	**25-003**	**Contract Amount**	**$131,815.00**
Job Number	**CURB-25-18**		

Section Title	Line Item	Item Code	Item Description	Unit of Measure	Quantity	Unit Price	Total
Removals							
	1	5.01	Sawing (Concrete)	LF	235.0	$5.50	$1,292.50
	2	5.02	Sawing (Bituminous)	LF	756.0	$5.50	$4,158.00
	3	10	Remove Concrete Curb & Gutter	LF	1279.5	$6.00	$7,677.00
	4	11	Remove Concrete Flatwork (Any Thickness)	SF	1959.0	$2.70	$5,289.30
	5	12.01	Remove Concrete Pavement (Standard)	SY	72.0	$27.50	$1,980.00
	6	15.01	Remove Bituminous Concrete Pavement (Standard)	SY	225.0	$21.15	$4,758.75
Installations							
	7	100.01	Base Course (Furnished, Compacted, & Graded) (6")	SY	110.0	$27.00	$2,970.00
	8	114.01	Drilled Tie Bars	EA	161.0	$7.00	$1,127.00
	9	114.02	Drilled Dowel Bars	EA	32.0	$16.00	$512.00
	10	115.03	Concrete Pavement (9")	SY	65.0	$100.20	$6,513.00
	11	115.1	High-Early Concrete Pavement (9")	SY	0.0	$124.20	$0.00
	12	115.2	High-Early Colored Concrete Pavement (Red, 9")	SY	0.0	$161.30	$0.00
	13	121.01	Detectable Warning Surfaces	SF	12.0	$56.25	$675.00
	14	122.01	Pedestrian Curb (Type A)	LF	28.3	$35.40	$1,001.82
	15	122.02	Pedestrian Curb (Type B)	LF	0.0	$54.75	$0.00
	16	120.01	Concrete Sidewalk (4")	SF	507.0	$8.35	$4,233.45
	17	120.02	Concrete Sidewalk (5")	SF	588.0	$10.85	$6,379.80
	18	120.03	Concrete Sidewalk (6")	SF	426.0	$8.70	$3,706.20
	19	115.06	Concrete Apron (6")	SY	85.0	$77.25	$6,566.25
	20	115.07	Concrete Apron (7")	SY	17.0	$85.95	$1,461.15
	21	125.01	Curb & Gutter (Standard)	LF	1229.5	$37.10	$45,614.45
	22	125.03	Curb & Gutter (Bus Stop)	LF	50.0	$53.95	$2,697.50
	23	125.1	High-Early Curb & Gutter (Reinforced Driveway)	LF	0.0	$53.20	$0.00
	24	140.01	Erosion Control Installation & Maintenance	LS	0.0	$750.00	$0.00
	25	145.01	Restoration (Hydro)	SY	96.0	$45.00	$4,320.00
Streetscape							
	26	870	Install V-Loc Sign Support	EA	0.0	$225.00	$0.00
	27	851.05	Brick Paver Repair (LC)	SF	5.0	$35.00	$175.00
Page 1 of 2							

BOARD OF PUBLIC WORKS - MONTHLY ESTIMATE

Contractor	**Fowler & Hammer, Inc.**		**FINAL**
	313 Monitor Street, La Crosse, WI 54603	**Estimate Number**	**#5 January**
Contract	**2025 Annual Miscellaneous Curb & Gutter and Pavement Replacement**	**Resolution Number**	**25-0175**
Date	**January-26**	**Contingency Amount**	**$18,185.00**
EDF #	**25-003**	**Contract Amount**	**$131,815.00**
Job Number	**CURB-25-18**		

Section Title	Line Item	Item Code	Item Description	Unit of Measure	Quantity	Unit Price	Total
			Current Payment is for 2025 Work				
			Total Completed				$113,108.17
			Less 0% Retainage				$0.00
			Amount due on Contract of total amount of work to date:				$113,108.17

12/18/2025

Audited Signed by: David Tauscher B7509F2EE0F24B5... .....20.....

COMPTROLLER..... Signed by: Chadwick Hawkins A93F306A40954A6...

Total Previous Estimates	$103,298.89
Estimate No. #5 January	$9,809.28

RESOLUTION

RESOLVED: That an order be drawn in favor of ..... Fowler & Hammer, Inc..... for the sum of ***$9,809.28***
the same being payment of the estimate for the 2025 Annual Miscellaneous Curb & Gutter and Pavement Replacement

Respectfully Submitted,
COUNCIL COMMITTEE

APPROVED BY BOARD OF PUBLIC WORKS

City of La Crosse, Wisconsin

City Hall
400 La Crosse Street
La Crosse, WI 54601

Text File

File Number: 26-0009

Agenda Date: 1/5/2026 **Version:** 1 **Status:** Agenda Ready

In Control: Board of Public Works **File Type:** General Item

REVOCABLE OCCUPANCY / STREET PRIVILEGE PERMIT APPLICATION

City of La Crosse Engineering Department

Phone: 608-789-7505 Email: engineering@cityoflacrosse.org http://cityoflacrosse.org

Property Owner: ETBN LLC

Address: 1810 State Street City: La Crosse State: WI Zip: 54601

Phone # 608-606-3173 Email Address kyle.christopherson@yahoo.com

Application Preparer (if different from above) Sign Pro of La Crosse

Relationship with Owner: Sign Company

Phone # 782-3456 Email Address jim@signprousa.com

Description of Proposed Encroachment:

Existing pole sign hanging over sidewalk.

Encroachment Address(es):

1810 State Street

Benefiting Tax Parcel ID #(s):

17-20062-120

I certify that I have reviewed the Municipal Code and understand all that is related to this permit request. I further certify that I have the full authority to make the foregoing application; the information in the application and the required submittals are complete and correct; the Work or Use performed shall comply with all the laws of the State of Wisconsin, and all ordinances, rules, regulations, policies and special conditions of the City of La Crosse. The applicant agrees to perform the work covered by an approved permit with diligence and convenience to the public.

Signature of Owner : _____ Date: 12/2/25

Print Name and Title: Kyle Christopherson, Managing Member of ETBN LLC

Please return this completed application along with required information and fees noted on checklist below to: City of La Crosse, Engineering Department, 400 La Crosse Street, La Crosse, WI 54601. You will then be given notice of when your request will be on the Board of Public Works agenda for consideration. Once approved an agreement document will be drafted by City and sent to Owner for signatures. Permit will then be valid once recorded with the County's Register of Deeds department. Applicant shall obtain all other necessary permits as required by City Departments. **Average completion time for validation 45 days.**

BELOW THIS LINE TO BE COMPLETED BY CITY STAFF ONLY

Required items to be provided by Applicant:

- Scale Drawing of encroachment on letter size paper(s) ☐
- Legal Description of benefiting parcel(s) ☐
- Certificate of Insurance (City as additional Insured) ☐
- Initial Application / Annual Fee $_____ ☐
- City Utility Potential Conflict Notification and Sign-Off ☐

All Fees are Non-Refundable & Subject to change by City Council

Board of Public Works Approval Date:
Encroachment Type:
Permit Number:

CITY OF LA CROSSE
ENGINEERING DEPARTMENT
400 LA CROSSE ST
LA CROSSE, WI 54601-3396
PHONE: 608-789-7505
Email: Engineering@cityoflacrosse.org

Revocable Occupancy Street Privilege Permit Factsheet

See Municipal Code Sec. 40-106 for complete information

- When is a permit needed?
  - Anytime there is a long term (Over 89 days) Encroachment into City's Right of Way
- Cost
  - Most encroachments are $100 initial fee plus $50 annual renewal fee or as modified by City Council.
  - Off-premise Signs, News boxes, Vending machines and boathouse fees vary.
  - Telecommunications company fees vary.
- Application Process averages 45 days for approval.
- Bond
  - Bonds may be required as directed by the Board of Public Works
- Insurance
  - Must Carry Minimum Liability and Contractual Liability Insurance in the amount of $100,000.00 each person, $300,000.00 each accident for bodily injury and $100,000.00 for property damage for the duration of the permit and file annually with the City of La Crosse Engineering Department.
  - Insurance must name the City of La Crosse as additional insured.
- Misc.
  - Must comply with Municipal Code Sec. 40-106.
  - All Street privilege permits expire January 1st each year and must be renewed with annual fee, renewal form and updated insurance.
  - Permittee is obligated to remove encroachment upon ten days' notice by the City of La Crosse for any reason.
- Procedure to obtain permit:
  - Submit application, initial fee, insurance certificate, legal description of benefiting property and scale drawing of encroachment
  - Obtain Board of Public Works approval (may require your appearance for explanation of reason for encroachment).


92 7/8 in
68 3/4 in
The Vintage Kitchen
31 in
148 3/8 in
GARAGE
of La Crosse

BOARD OF PUBLIC WORKS - MONTHLY ESTIMATE

Contractor	**Fowler & Hammer, Inc.**		**FINAL**
	313 Monitor Street, La Crosse, WI 54603	**Estimate Number**	**#5 January**
Contract	**2025 Annual Miscellaneous Curb & Gutter and Pavement Replacement**	**Resolution Number**	**25-0175**
Date	**January-26**	**Contingency Amount**	**$18,185.00**
EDF #	**25-003**	**Contract Amount**	**$131,815.00**
Job Number	**CURB-25-18**		

Section Title	Line Item	Item Code	Item Description	Unit of Measure	Quantity	Unit Price	Total
Removals							
	1	5.01	Sawing (Concrete)	LF	235.0	$5.50	$1,292.50
	2	5.02	Sawing (Bituminous)	LF	756.0	$5.50	$4,158.00
	3	10	Remove Concrete Curb & Gutter	LF	1279.5	$6.00	$7,677.00
	4	11	Remove Concrete Flatwork (Any Thickness)	SF	1959.0	$2.70	$5,289.30
	5	12.01	Remove Concrete Pavement (Standard)	SY	72.0	$27.50	$1,980.00
	6	15.01	Remove Bituminous Concrete Pavement (Standard)	SY	225.0	$21.15	$4,758.75
Installations							
	7	100.01	Base Course (Furnished, Compacted, & Graded) (6")	SY	110.0	$27.00	$2,970.00
	8	114.01	Drilled Tie Bars	EA	161.0	$7.00	$1,127.00
	9	114.02	Drilled Dowel Bars	EA	32.0	$16.00	$512.00
	10	115.03	Concrete Pavement (9")	SY	65.0	$100.20	$6,513.00
	11	115.1	High-Early Concrete Pavement (9")	SY	0.0	$124.20	$0.00
	12	115.2	High-Early Colored Concrete Pavement (Red, 9")	SY	0.0	$161.30	$0.00
	13	121.01	Detectable Warning Surfaces	SF	12.0	$56.25	$675.00
	14	122.01	Pedestrian Curb (Type A)	LF	28.3	$35.40	$1,001.82
	15	122.02	Pedestrian Curb (Type B)	LF	0.0	$54.75	$0.00
	16	120.01	Concrete Sidewalk (4")	SF	507.0	$8.35	$4,233.45
	17	120.02	Concrete Sidewalk (5")	SF	588.0	$10.85	$6,379.80
	18	120.03	Concrete Sidewalk (6")	SF	426.0	$8.70	$3,706.20
	19	115.06	Concrete Apron (6")	SY	85.0	$77.25	$6,566.25
	20	115.07	Concrete Apron (7")	SY	17.0	$85.95	$1,461.15
	21	125.01	Curb & Gutter (Standard)	LF	1229.5	$37.10	$45,614.45
	22	125.03	Curb & Gutter (Bus Stop)	LF	50.0	$53.95	$2,697.50
	23	125.1	High-Early Curb & Gutter (Reinforced Driveway)	LF	0.0	$53.20	$0.00
	24	140.01	Erosion Control Installation & Maintenance	LS	0.0	$750.00	$0.00
	25	145.01	Restoration (Hydro)	SY	96.0	$45.00	$4,320.00
Streetscape							
	26	870	Install V-Loc Sign Support	EA	0.0	$225.00	$0.00
	27	851.05	Brick Paver Repair (LC)	SF	5.0	$35.00	$175.00
Page 1 of 2							

BOARD OF PUBLIC WORKS - MONTHLY ESTIMATE

Contractor	**Fowler & Hammer, Inc.**		**FINAL**
	313 Monitor Street, La Crosse, WI 54603	**Estimate Number**	**#5 January**
Contract	**2025 Annual Miscellaneous Curb & Gutter and Pavement Replacement**	**Resolution Number**	**25-0175**
Date	**January-26**	**Contingency Amount**	**$18,185.00**
EDF #	**25-003**	**Contract Amount**	**$131,815.00**
Job Number	**CURB-25-18**		

Section Title	Line Item	Item Code	Item Description	Unit of Measure	Quantity	Unit Price	Total
			Current Payment is for 2025 Work				
			Total Completed				$113,108.17
			Less 0% Retainage				$0.00
			Amount due on Contract of total amount of work to date:				$113,108.17

12/18/2025

Audited Signed by: David Tauscher B7509F2EE0F24B5... .....20.....

COMPTROLLER..... Signed by: Chadwick Hawkins A93F306A40954A6...

Total Previous Estimates	$103,298.89
Estimate No. #5 January	$9,809.28

RESOLUTION

RESOLVED: That an order be drawn in favor of ..... Fowler & Hammer, Inc..... for the sum of ***$9,809.28***
the same being payment of the estimate for the 2025 Annual Miscellaneous Curb & Gutter and Pavement Replacement

Respectfully Submitted,
COUNCIL COMMITTEE

APPROVED BY BOARD OF PUBLIC WORKS

BOARD OF PUBLIC WORKS - MONTHLY ESTIMATE

Contractor	**Visu-Sewer, LLC**		**FINAL**
	W230 N4855 Betker Drive, Pewaukee, WI 53072	**Estimate Number**	**#2 January**
Contract	**2024 Sewer Lining**	**Resolution Number**	**24-0685**
Date	**January-26**	**Contingency Amount**	**$64,029.60**
EDF #	**24-044**	**Contract Amount**	**$426,864.00**
Job Number	**SANS-24-37**		

Section Title	Line Item	Item Code	Item Description	Unit of Measure	Quantity	Unit Price	Total
Segment 1 - Base							
	1	630	Sewer Liner - CIPP (8")	LF	230.0	$30.00	$6,900.00
	4	631	Re-open Lateral Connections	EA	8.0	$100.00	$800.00
	2	1001	Sewer Line Cleaning	LF	230.0	$1.50	$345.00
	3	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	5	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Segment 2 - Base							
	6	630	Sewer Liner - CIPP (8")	LF	813.0	$30.00	$24,390.00
	9	631	Re-open Lateral Connections	EA	7.0	$100.00	$700.00
	7	1001	Sewer Line Cleaning	LF	813.0	$1.50	$1,219.50
	8	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	10	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Segment 3 - Base							
	11	630	Sewer Liner - CIPP (8")	LF	641.0	$30.00	$19,230.00
	14	631	Re-open Lateral Connections	EA	21.0	$100.00	$2,100.00
	12	1001	Sewer Line Cleaning	LF	641.0	$1.50	$961.50
	13	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	15	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Segment 4 - Base							
	16	630	Sewer Liner - CIPP (8")	LF	1253.0	$30.00	$37,590.00
	19	631	Re-open Lateral Connections	EA	33.0	$100.00	$3,300.00
	17	1001	Sewer Line Cleaning	LF	1253.0	$1.50	$1,879.50
	18	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	20	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Segment 5 - Base							
	21	630	Sewer Liner - CIPP (8")	LF	473.0	$30.00	$14,190.00
	24	631	Re-open Lateral Connections	EA	10.0	$100.00	$1,000.00
	22	1001	Sewer Line Cleaning	LF	473.0	$1.50	$709.50
	23	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	25	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Page 1 of 4							

BOARD OF PUBLIC WORKS - MONTHLY ESTIMATE

Contractor	**Visu-Sewer, LLC**		**FINAL**
	W230 N4855 Betker Drive, Pewaukee, WI 53072	**Estimate Number**	**#2 January**
Contract	**2024 Sewer Lining**	**Resolution Number**	**24-0685**
Date	**January-26**	**Contingency Amount**	**$64,029.60**
EDF #	**24-044**	**Contract Amount**	**$426,864.00**
Job Number	**SANS-24-37**		

Section Title	Line Item	Item Code	Item Description	Unit of Measure	Quantity	Unit Price	Total
Segment 6 - Base							
	26	630	Sewer Liner - CIPP (8")	LF	1595.0	$30.00	$47,850.00
	29	631	Re-open Lateral Connections	EA	45.0	$100.00	$4,500.00
	27	1001	Sewer Line Cleaning	LF	1595.0	$1.50	$2,392.50
	28	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	30	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Segment 7 &7b - Base							
	31	630	Sewer Liner - CIPP (8")	LF	886.0	$30.00	$26,580.00
	32	630	Sewer Liner - CIPP (10")	LF	132.0	$38.50	$5,082.00
	35	631	Re-open Lateral Connections	EA	15.0	$100.00	$1,500.00
	33	1001	Sewer Line Cleaning	LF	1018.0	$1.50	$1,527.00
	34	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	36	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Segment 8 &8b - Base							
	37	630	Sewer Liner - CIPP (8")	LF	729.0	$30.00	$21,870.00
	38	630	Sewer Liner - CIPP (10")	LF	549.0	$38.50	$21,136.50
	41	631	Re-open Lateral Connections	EA	18.0	$100.00	$1,800.00
	39	1001	Sewer Line Cleaning	EA	1278.0	$1.50	$1,917.00
	40	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	42	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Segment 9 - Base							
	43	630	Sewer Liner - CIPP (8")	LF	934.0	$30.00	$28,020.00
	46	631	Re-open Lateral Connections	EA	23.0	$100.00	$2,300.00
	44	1001	Sewer Line Cleaning	LF	934.0	$1.50	$1,401.00
	45	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	47	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Page 2 of 4							

BOARD OF PUBLIC WORKS - MONTHLY ESTIMATE

Contractor	**Visu-Sewer, LLC**		**FINAL**
	W230 N4855 Betker Drive, Pewaukee, WI 53072	**Estimate Number**	**#2 January**
Contract	**2024 Sewer Lining**	**Resolution Number**	**24-0685**
Date	**January-26**	**Contingency Amount**	**$64,029.60**
EDF #	**24-044**	**Contract Amount**	**$426,864.00**
Job Number	**SANS-24-37**		

Section Title	Line Item	Item Code	Item Description	Unit of Measure	Quantity	Unit Price	Total
Segment 10 - Alt #1							
	48	630	Sewer Liner - CIPP (8")	LF	1299.0	$30.00	$38,970.00
	51	631	Re-open Lateral Connections	EA	36.0	$100.00	$3,600.00
	49	1001	Sewer Line Cleaning	LF	1299.0	$1.50	$1,948.50
	50	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	52	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Segment 11 - Alt #2							
	53	630	Sewer Liner - CIPP (8")	LF	415.0	$60.00	$24,900.00
	56	631	Re-open Lateral Connections	EA	4.0	$100.00	$400.00
	54	1001	Sewer Line Cleaning	EA	415.0	$1.50	$622.50
	55	1002	Lateral Testing	EA	0.0	$350.00	$0.00
	57	1003	Grout Lateral	EA	0.0	$1.00	$0.00
Segment 12 - Alt #3							
	60	631	Re-open Lateral Connections	EA	0.0	$700.00	$0.00
	58	1001	Sewer Line Cleaning	EA	0.0	$3.00	$0.00
	59	1002	Lateral Testing	EA	0.0	$750.00	$0.00
	61	1003	Grout Lateral	EA	0.0	$10.00	$0.00

BOARD OF PUBLIC WORKS - MONTHLY ESTIMATE

Contractor	**Visu-Sewer, LLC**		**FINAL**
	W230 N4855 Betker Drive, Pewaukee, WI 53072	**Estimate Number**	**#2 January**
Contract	**2024 Sewer Lining**	**Resolution Number**	**24-0685**
Date	**January-26**	**Contingency Amount**	**$64,029.60**
EDF #	**24-044**	**Contract Amount**	**$426,864.00**
Job Number	**SANS-24-37**		

Section Title	Line Item	Item Code	Item Description	Unit of Measure	Quantity	Unit Price	Total
			Current Payment is for 2025 Work				
			Total Completed				$353,632.00
			Less 0% Retainage				$0.00
			Amount due on Contract of total amount of work to date:				$353,632.00

Audited Signed by: David Tauscher B7509F2EE0F24E5.. ..... 12/18/2025 ..... 20.....

COMPTROLLER..... Signed by: Chadwick Hawkins A93F306A40954A6... .....

Total Previous Estimates	$344,791.20
Estimate No. #2 January	$8,840.80

RESOLUTION

RESOLVED: That an order be drawn in favor of ..... Visu-Sewer, LLC..... for the sum of ***$8,840.80***
the same being payment of the estimate for the 2024 Sewer Lining

Respectfully Submitted,
COUNCIL COMMITTEE

APPROVED BY BOARD OF PUBLIC WORKS

TO FUNDING SOURCE:

City of La Crosse
400 La Crosse Street
La Crosse, Wisconsin 54601

PROJECT:

2025 Annual Sidewalk & ADA Ramp Replacement Program
400 La Crosse St
La Crosse, Wisconsin 54601

APPLICATION NO: 2
INVOICE NO: Final December 2025
PERIOD: 11/28/25 - 12/31/25
PROJECT NO: 25-012
CONTRACT DATE:

FROM CONTRACTOR:

Fowler & Hammer, Inc.
313 Monitor Street
La Crosse, Wisconsin 54603

VIA ARCHITECT/ENGINEER:

Cullen Haldeman (City of La Crosse)
400 La Crosse St
La Crosse, Wisconsin 54601

CONTRACT FOR: Res. 25-0326

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. Continuation Sheet is attached.

1.	Original Contract Sum		$148,662.00
2.	Net change by change orders		$0.00
3.	Contract Sum to date (Line 1 ± 2)		$148,662.00
4.	Total completed and stored to date (Column G on detail sheet)		$148,662.00
5.	Retainage:		
	a. 0.00% of completed work	$0.00	
	b. 0.00% of stored material	$0.00	
	Total retainage (Line 5a + 5b or total in column I of detail sheet)		$0.00
6.	Total earned less retainage (Line 4 less Line 5 Total)		$148,662.00
7.	Less previous certificates for payment (Line 6 from prior certificate)		$140,718.80
8.	Current payment due:		$7,943.20
9.	Balance to finish, including retainage (Line 3 less Line 6)		$0.00

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Funding Source:	$0.00	$0.00
Total approved this month:	$0.00	$0.00
Totals:	$0.00	$0.00
Net change by change orders:	$0.00	

The undersigned certifies that to the best of the Contractor's knowledge, information and belief, the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work which previous Certificates for payment were issued and payments received from the Funding Source, and that current payments shown herein is now due.

CONTRACTOR: Fowler & Hammer, Inc.

By: _____ Date: _____

State of:
County of:
Subscribed and sworn to before
me this day of
Notary Public:
My commission expires:

ARCHITECT'S/ENGINEER'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on the on-site observations and the data comprising this application, the Architect/Engineer certifies to the Funding Source that to the best of the Architect's/Engineer's knowledge, information and belief that Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED: $7,943.20

(Attach explanation if amount certified differs from the amount applied for. Initial all figures on this Application and on the Continuation Sheet that are changed to confirm the amount certified.)

ARCHITECT/ENGINEER:

By: DocuSigned by: BG3376604AE44DE... Date: 12/17/2025

This certificate is not negotiable. The amount certified is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to the rights of the Funding Source or Contractor under this Contract.

A		B	C			D		E		F		G			H	I
ITEM NO.	BUDGET CODE	DESCRIPTION OF WORK	SCHEDULED VALUE			FROM PREVIOUS APPLICATION (D + E)		WORK COMPLETED THIS PERIOD		MATERIALS PRESENTLY STORED (NOT IN D OR E)		TOTAL COMPLETED AND STORED TO DATE (D + E + F)			BALANCE TO FINISH (C - G)	RETAINAGE
			QTY	UNIT PRICE	VALUE	QTY	VALUE	QTY	VALUE	QTY	VALUE	QTY	VALUE	% (G / C)		
1 **CIP-648 - CIP #648**																
	1.1 **BOR - Borrowed**				$99,667.00		$95,332.00		$4,335.00		$0.00		$99,667.00	100.00%	$0.00	$0.00
CIP-648 - CIP #648 Subtotals					$99,667.00		$95,332.00		$4,335.00		$0.00		$99,667.00	100.00%	$0.00	$0.00
2 **RES. 25-0477 - Res. 25-0477**																
	2.1 **BOR - Borrowed**				$48,995.00		$48,995.00		$0.00		$0.00		$48,995.00	100.00%	$0.00	$0.00
RES. 25-0477 - Res. 25-0477 Subtotals					$48,995.00		$48,995.00		$0.00		$0.00		$48,995.00	100.00%	$0.00	$0.00
Grand Totals					$148,662.00		$144,327.00		$4,335.00		$0.00		$148,662.00	100.00%	$0.00	$0.00

12/18/2025

Signed by:
David Tauscher
B7509F2EE0F24E5...

AUDITOR

Signed by:
Chadwick Hawkins
A93F306A40954A6...

COMPTROLLER

TO FUNDING SOURCE:

City of La Crosse
400 La Crosse Street
La Crosse, Wisconsin 54601

PROJECT:

2025 Miscellaneous Sidewalk Infill
La Crosse, Wisconsin 54601

APPLICATION NO: 2
INVOICE NO: Final - December 2025
PERIOD: 11/28/25 - 12/26/25
PROJECT NO: 25-014
CONTRACT DATE:

FROM CONTRACTOR:

Pember Companies Inc
N4449 469th St
Menomonie, Wisconsin 54751

VIA ARCHITECT/ENGINEER:

Cullen Haldeman (City of La Crosse)
400 La Crosse St
La Crosse, Wisconsin 54601

CONTRACT FOR: Res. 25-0570

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. Continuation Sheet is attached.

1.	Original Contract Sum		$137,470.00
2.	Net change by change orders		$0.00
3.	Contract Sum to date (Line 1 ± 2)		$137,470.00
4.	Total completed and stored to date (Column G on detail sheet)		$125,645.00
5.	Retainage:		
	a. 0.00% of completed work	$0.00	
	b. 0.00% of stored material	$0.00	
	Total retainage (Line 5a + 5b or total in column I of detail sheet)		$0.00
6.	Total earned less retainage (Line 4 less Line 5 Total)		$125,645.00
7.	Less previous certificates for payment (Line 6 from prior certificate)		$99,908.24
8.	Current payment due:		$25,736.76
9.	Balance to finish, including retainage (Line 3 less Line 6)		$11,825.00

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Funding Source:	$0.00	$0.00
Total approved this month:	$0.00	$0.00
Totals:	$0.00	$0.00
Net change by change orders:	$0.00	

The undersigned certifies that to the best of the Contractor's knowledge, information and belief, the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work which previous Certificates for payment were issued and payments received from the Funding Source, and that current payments shown herein is now due.

CONTRACTOR: Pember Companies Inc

By: _____ Date: _____

State of:
County of:
Subscribed and sworn to before
me this day of
Notary Public:
My commission expires:

ARCHITECT'S/ENGINEER'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on the on-site observations and the data comprising this application, the Architect/Engineer certifies to the Funding Source that to the best of the Architect's/Engineer's knowledge, information and belief that Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED: $25,736.76

(Attach explanation if amount certified differs from the amount applied for. Initial all figures on this Application and on the Continuation Sheet that are changed to confirm the amount certified.)

ARCHITECT/ENGINEER:

DocuSigned by:
By: _____ Date: 12/17/2025
BC3376604AE44DF...

This certificate is not negotiable. The amount certified is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to the rights of the Funding Source or Contractor under this Contract.

A		B	C			D		E		F		G			H	I
ITEM NO.	BUDGET CODE	DESCRIPTION OF WORK	SCHEDULED VALUE			FROM PREVIOUS APPLICATION (D + E)		WORK COMPLETED THIS PERIOD		MATERIALS PRESENTLY STORED (NOT IN D OR E)		TOTAL COMPLETED AND STORED TO DATE (D + E + F)			BALANCE TO FINISH (C - G)	RETAINAGE
			QTY	UNIT PRICE	VALUE	QTY	VALUE	QTY	VALUE	QTY	VALUE	QTY	VALUE	% (G / C)		
1 **CIP-762 - CIP #762**																
	1.1 **BOR - Borrowed**				$112,470.00		$102,470.00		$10,000.00		$0.00		$112,470.00	100.00%	$0.00	$0.00
CIP-762 - CIP #762 Subtotals					$112,470.00		$102,470.00		$10,000.00		$0.00		$112,470.00	100.00%	$0.00	$0.00
2 **CIP-527 - CIP #527**																
	2.1 **BOR - Borrowed**				$25,000.00		$0.00		$13,175.00		$0.00		$13,175.00	52.70%	$11,825.00	$0.00
CIP-527 - CIP #527 Subtotals					$25,000.00		$0.00		$13,175.00		$0.00		$13,175.00	52.70%	$11,825.00	$0.00
Grand Totals					$137,470.00		$102,470.00		$23,175.00		$0.00		$125,645.00	91.40%	$11,825.00	$0.00

12/17/2025

Signed by:
David Tauscher
B7509F2EE0F24E5...

AUDITOR

Signed by:
Chadwick Hawkins
A93F306A40954A6...

COMPTROLLER