

Attachment J
Mineral Resource Plan



Mineral Resources Plan

Enbridge Energy, Limited Partnership • Line 3 Replacement Project

September 2020



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ACRONYMS AND ABBREVIATIONS

Enbridge	Enbridge Energy, Limited Partnership
L3R or Project	Line 3 Replacement Project
LAM	Division of Lands and Minerals
MDNR	Minnesota Department of Natural Resources
MPUC	Minnesota Public Utilities Commission
Plan	Mineral Resources Plan

1.0 INTRODUCTION

Enbridge Energy, Limited Partnership's ("Enbridge") Line 3 Replacement Project ("L3R" or "Project") will cross state-owned lands managed by Minnesota Department of Natural Resources ("MDNR") where future mineral resources management activities could occur. Enbridge must obtain a Utility License to Cross State Lands from the MDNR for the Project. In coordination with MDNR Division of Lands and Minerals ("LAM"), Enbridge has prepared this Mineral Resources Plan ("Plan") to establish measures that avoid interference with mineral resources management activities.

This Plan includes:

1. A general description of state-owned mineral resources along the route approved by the Minnesota Public Utilities Commission ("MPUC") as part of the Route Permit proceedings; and
2. Documentation of coordination with the MDNR regarding measures to avoid interference with exploration and encumbrance of state-owned minerals.

In addition, this Plan assesses potential effects on mineral resources resulting from the Project and provides mitigation measures for avoiding or minimizing impacts.

2.0 STATE-OWNED MINERAL RESOURCES IN THE VICINITY OF THE PROJECT

For the purposes of this Plan, mineral resources include metallic minerals, construction aggregate (sand and gravel), and peat. The MDNR is responsible for managing state-owned mineral resources and administering leases that permit mineral activities (i.e., exploration, mining). Aggregate on private or county-owned lands (non-state) are under control of the counties, townships, or municipalities in which they are located.

The Project Route was adjusted during the MPUC Route Permit process to avoid areas of high state-owned metallic mineral resources potential; therefore, metallic minerals are not discussed further in this Plan. Based on data from Minnesota Geospatial Commons and consultation with LAM, Enbridge has identified four areas where state-owned aggregate and peat resources could be impacted by the Project route (see Table 2.0-1 and the maps in Appendix A).

Evaluation of the Project route indicates four active gravel pits, and two inactive gravel pits all on private lands that could also be impacted. MDNR advised Enbridge that the Project may also cross three Cass County tax forfeit parcels where there is a high probability of aggregate resources. The MDNR advised Enbridge that the state does not administer county or private aggregate resources. Enbridge will work with the appropriate landowners regarding aggregate resource concerns on non-state lands. These resources are not addressed further in this Plan, and Enbridge is not aware of any other identified mineral resources crossed by the Project.

**Table 2.0-1
Potential State Mineral Resources in the Vicinity of the Line 3 Replacement Project**

ID No.	County	Nearest Milepost	Estimated Crossing Length (feet) ^a	High-Potential Resource Type	Status	Project Use
1 - 2	Clearwater	921.3	485	Aggregate (Sand and Gravel)	New Pipeline Right-of-Way Adjacent to Existing Pipeline Corridor	Construction Workspace (Temporary); Pipeline and Permanent Right-of-Way (Permanent)
73 - 76; 78 - 80	Cass	1047.4 – 1048.9	2,190	Aggregate (Sand and Gravel)	New Pipeline Right-of-Way Adjacent to Existing Powerline Corridor	Construction Workspace & Right-of-way Access (Temporary); Pipeline and Permanent Right-of-Way (Permanent)
105 -107	Aitkin	1060.3 – 1061.0	3,300	Peat (Reed-Sedge)	New Pipeline Right-of-Way Adjacent to Existing Powerline Corridor	Construction Workspace (Temporary); Pipeline and Permanent Right-of-Way (Permanent)
163 - 165	Aitkin	1082.7 – 1083.3	2,734	Peat (Reed-Sedge)	New Pipeline Right-of-Way Adjacent to Existing Powerline Corridor	Construction Workspace (Temporary); Pipeline and Permanent Right-of-Way (Permanent)
^a Estimated crossing lengths for state-owned resources were developed in consultation with LAM.						

3.0 POTENTIAL IMPACTS AND MITIGATION

The Project's Utility License to Cross State Lands will intersect four areas considered by the MDNR to have a high potential for peat or construction aggregate encumbrance (see Table 2.0-1). These areas are not presently being leased or mined but have been identified as possessing the characteristics that may result in mineral exploration, active mining leases, or mining operations in the future.

Through coordination with the MDNR, Enbridge has established that the width of the Project's Utility License to Cross State Lands, in areas considered to be at a high potential for construction aggregate encumbrance, will be a standard 50 feet, plus an additional 3:1 slope to the maximum depth of the resource, which is assumed to be approximately 18 feet in Cass County and 12 feet in Clearwater County. In areas considered to be at a high potential for peat encumbrance, the width of the Utility License to Cross State Lands will be a standard 50 feet, plus an additional 10:1 slope to 6 feet of depth, as determined by the MDNR. Figures showing the 50-foot setback and associated sloping are included in Appendix B. Encumbrance volumes for the Utility License to Cross State Lands will be calculated by the MDNR through the licensing process.

Enbridge has identified the width of the Utility License to Cross State Lands to develop the mineral resource avoidance area to ensure pipeline safety and pipeline integrity. Minnesota's Damage Prevention Laws contained within Minnesota Statutes Chapter 216D identify the actions that must be taken when working in the vicinity of operating utilities. Enbridge has not identified any additional activities that would be prohibited within this area. However, if mining operations were to occur in these areas in the future, Enbridge will coordinate with the MDNR to determine any necessary notifications to mineral lease holders, considering the mining techniques and equipment used at the time of the potential mining activity.

MDNR will require access across the pipeline right-of-way after construction for crossing by vehicles and mining equipment.

4.0 COORDINATION WITH THE MINNESOTA DEPARTMENT OF NATURAL RESOURCES

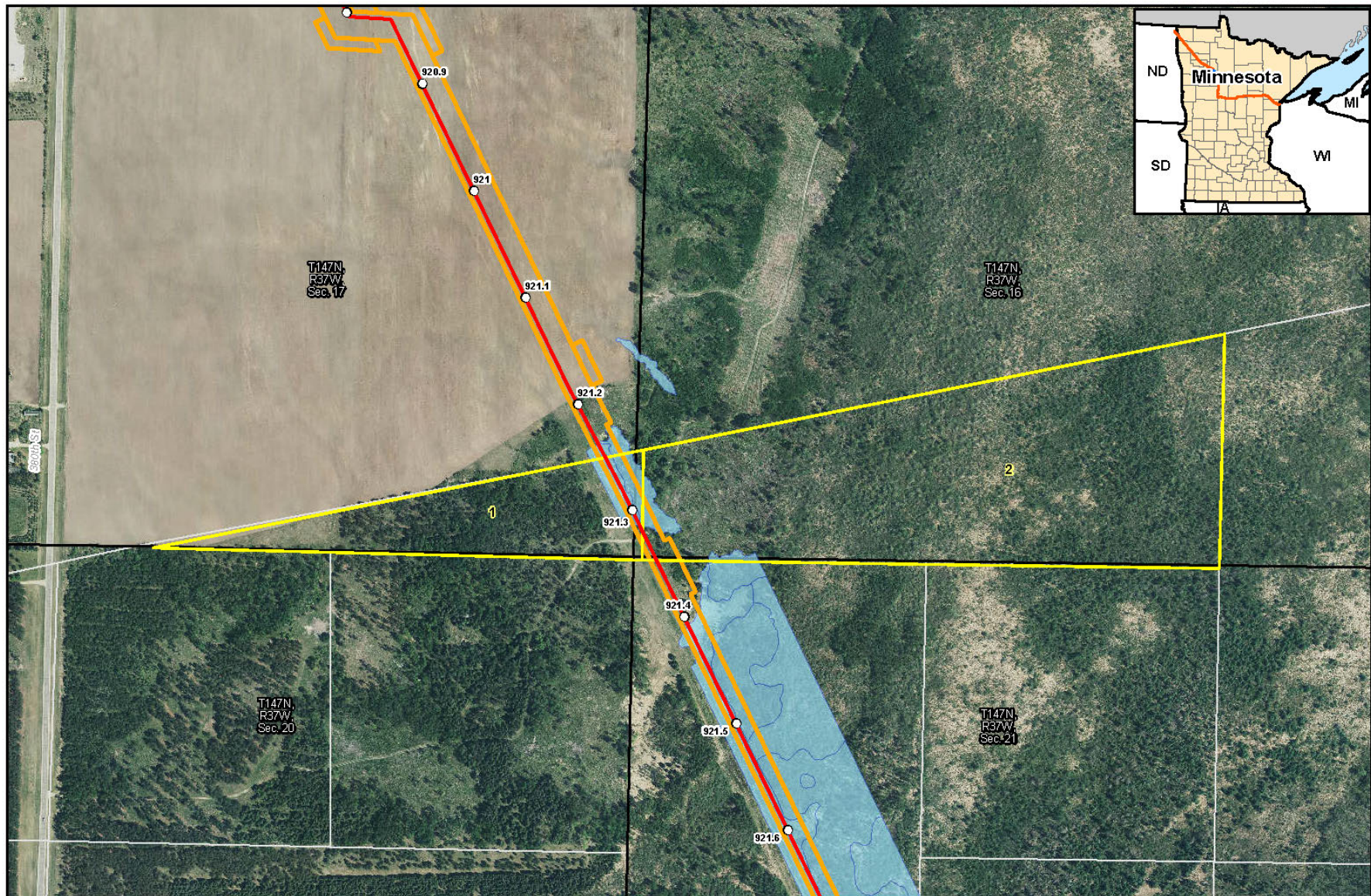
A summary of Enbridge's coordination with the MDNR is provided in Table 4.0-1.

Table 4.0-1
Coordination with MDNR Regarding Mineral Resources

Date	Coordination Type	Topics Discussed
December 14, 2016	Email	Enbridge initiated coordination with MDNR and asked for clarification about active metallic mineral lease data.
January 10, 2017	Email	MDNR provided clarification and points of contact for further questions regarding active metallic mineral lease data.
August 24, 2017	Email	Enbridge requested updated active metallic mineral lease data.
August 28, 2017	Email	MDNR updated data and provided information regarding pending active metallic mineral leases.
August 30, 2017	Email	MDNR provided information regarding metallic mineral leases that are smaller than the 40 in which they are located.
December 14, 2017	Email	MDNR provided an example mineral resources plan submitted for the Great Northern project.
January 22, 2019	Phone Call	MDNR and Enbridge discussed mineral encumbrances and next steps.
January 23, 2019	Email	MDNR provided four areas of High Potential for Peat / Construction Aggregate Encumbrance.
March 20, 2019	Email	Enbridge responded to MDNR with its understanding of the length of crossing of state-owned mineral resources and a proposal for slope assumptions.
April 30, 2019	Email	MDNR responded to Enbridge's March 20, 2019 email with revised crossing lengths in areas of peat and construction aggregate encumbrances.
May 2, 2019	Email	MDNR provided additional comments on the Mineral Resources Plan regarding land ownership.
May 6, 2019	Email	Enbridge confirms agreement with MDNR crossing lengths as provided in the April 30, 2019 correspondence.
July 1, 2019	Email	Enbridge provides Revision 1 to the MDNR for review and comment.
November 7, 2019	Email	MDNR provides comment on Revision 1
December 2019	Permit Application	Enbridge submits Revision 2 to the MDNR along with an update to the License to Cross Public Lands application.
February 12, 2020	Email	MDNR provides comment on Revision 2
February 19, 2020	Email	Enbridge submits Revision 3 to the MDNR
February 28, 2020	Email	MDNR approves Revision 3.

Appendix A

Maps of Mineral Resources Crossed by the Project



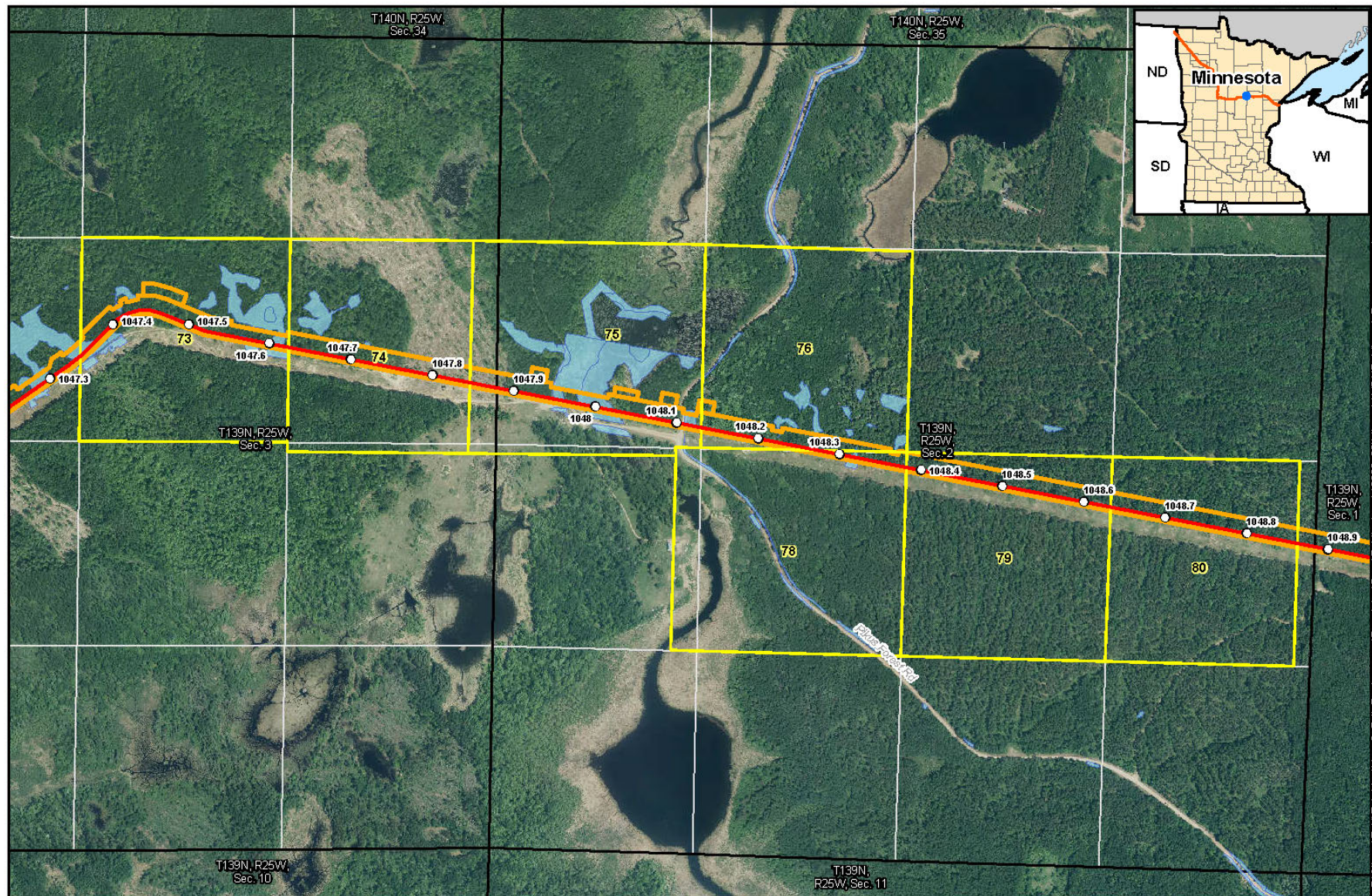
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Feet
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ENBRIDGE
For Environmental Review Purposes Only

Line 3 Replacement Project Area of Peat Encumbrance Clearwater County, MN

- Milepost
- Centerline
- L3R Workspace
- MDNR Lands License ID (Cadastral)
- MDNR Admin 40
- Delineated Wetland
- PLSS Section



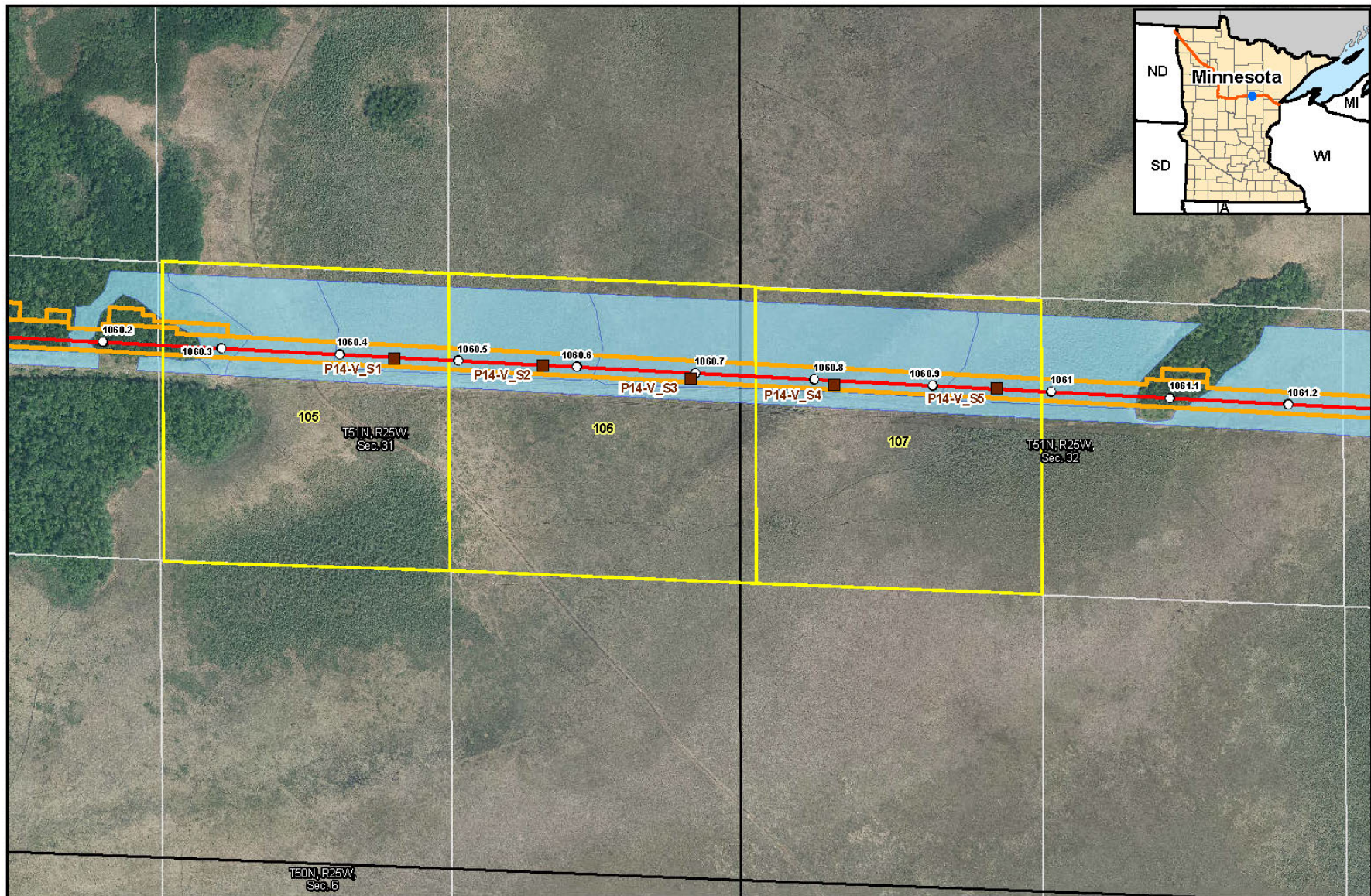
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ENBRIDGE
For Environmental Review Purposes Only

Line 3 Replacement Project
Area of Peat Encumbrance
Aitkin County, MN

- Milepost
- Centerline
- L3R Workspace
- MDNR Lands License ID (Cadastral)
- MDNR Admin
- Delineated Wetland
- PLSS Section

Data: (7/25/2020)



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Feet
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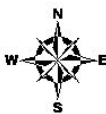
ENBRIDGE
For Environmental Review Purposes Only

Line 3 Replacement Project Area of Peat Encumbrance Aitkin County, MN

- Peat Survey Location
- Milepost
- Centerline
- L3R Workspace
- MDNR Lands License ID (Cadastral)
- MDNR Admin
- Delineated Wetland
- PLSS Section



0 210 420 630
Feet
1:7,000



ENBRIDGE
For Environmental Review Purposes Only

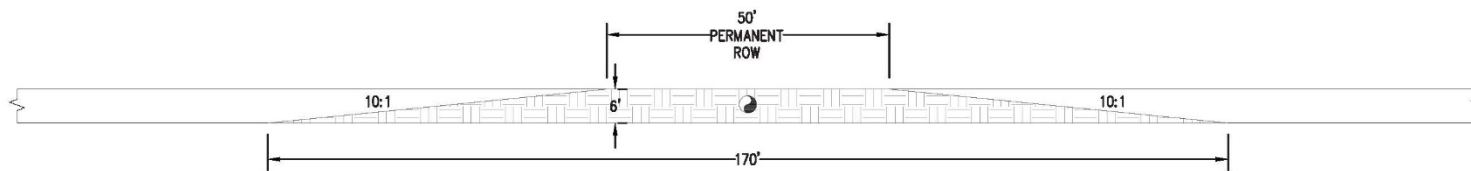
Line 3 Replacement Project Area of Peat Encumbrance Cass County, MN

- Peat Survey Location
- Milepost
- Centerline
- L3R Workspace
- MDNR Lands License ID (Cadastral)

- MDNR Admin 40
- Delineated Wetland
- PLSS Section

Appendix B

Figures Depicting Setbacks and Sloping Requirements



Know what's below.
Call before you dig.

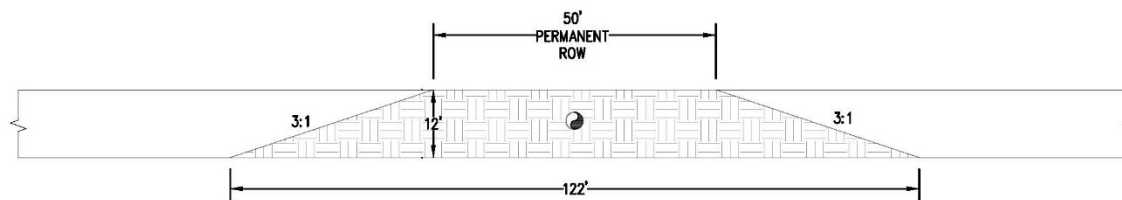
ISSUED
FOR
REVIEW
11/19/2019

A	ISSUED FOR REVIEW	AM	11/19/19	NKD	BB
NO.	REVISION DESCRIPTION	BY	DATE	CHK'D	APP'D



DWN. BY:	AM	DATE	11/19/19	PROPOSED 36" N. LINE 3 REPLACEMENT AITKIN COUNTY PEAT	
CHK.	NKD				
PROJ. ENGR.	BB				
PROJ. MGR.					
CLIENT APP.		SCALE	NOTED	DWG. NO.	

AITKIN COUNTY MINNESOTA



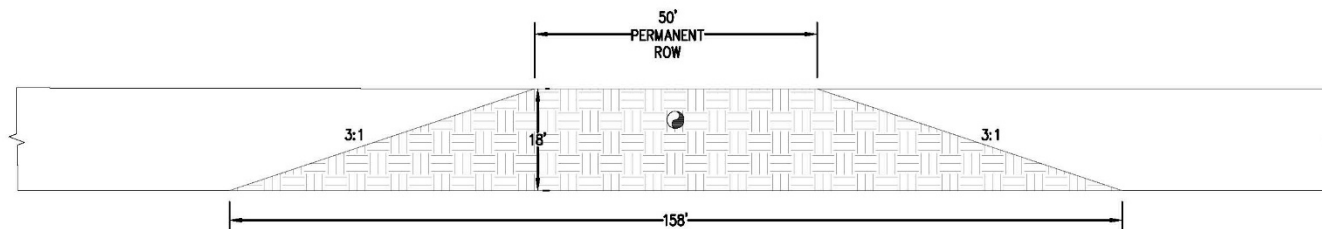
Know what's below.
Call before you dig.

ISSUED
FOR
REVIEW
11/19/2019

A	ISSUED FOR REVIEW	AM	11/19/19	NKD	BB
NO.	REVISION DESCRIPTION	BY	DATE	CHK'D	APP'D



OWN. BY:	AM	DATE:	11/19/19	PROPOSED 36" N. LINE 3 REPLACEMENT CASS COUNTY AGGREGATE CASS COUNTY MINNESOTA	
CHK:	NKD				
PROJ. ENGR:	BB				
PROJ. MGR:					
CLIENT APP:		SCALE:	NOTED	DWG. NO.	



Know what's below.
Call before you dig.

ISSUED
FOR
REVIEW
11/19/2019

A	ISSUED FOR REVIEW	AM	11/19/19	NKD	BB
NO.	REVISION DESCRIPTION	BY	DATE	CHK'D	APP'D



OWN. BY:	AM	DATE	11/19/19	PROPOSED 36IN. LINE 3 REPLACEMENT CLEARWATER COUNTY AGGREGATE CLEARWATER COUNTY MINNESOTA
CHK:	NKD			
PROJ. ENGR	BB			
PROJ. MGR.				
CLIENT APP.		SCALE	NOTED	DWG. NO.