

ATTACHMENT A

Natural Resource and Water Supply Summary Tables and Figures

Line 3 Replacement Project Route Alternative (RA)-06

DRAFT

Table 1 Line 3 Replacement Project – RA-06-L3 Summary of Public Waters Inventory Streams Crossed by the Proposed Route Alternative Centerline and within the 2,000-ft-wide Route Alternative Corridor in Minnesota		
Watershed County	Number Crossed by the Proposed Route Alternative Centerline ^a	Miles Within the 2,000-ft-wide Route Alternative Corridor ^b
Clearwater	7	3.6
Clearwater	4	2.5
Beltrami	3	1.1
Red Lakes	15	9.1
Beltrami	15	9.1
Big Fork	29	18.3
Itasca	29	18.3
Little Fork	6	4.5
Itasca	6	4.5
Prairie-Willow	4	2.2
Itasca	4	2.2
St. Louis	12	6.7
Itasca	5	3.0
St. Louis	5	2.6
Carlton	2	1.1
Grand Total ^c	73	44.3
<i>Public Waters Inventory (PWI) Stream Data Source: https://gisdata.mn.gov/dataset/water-mn-public-waters</i> a Number of Public Waters Inventory streams crossed by the proposed route alternative centerline. b Total miles of Public Waters Inventory stream segment(s) crossed by the 2000-ft-wide route alternative corridor. c Numbers may not total consistently due to rounding.		

Table 2
Line 3 Replacement Project - RA-06-L3
Summary of Waterbodies Crossed by the Proposed Route Alternative Centerline
and within the 2,000-ft-wide Route Alternative Corridor in Minnesota

Watershed County	Number Crossed by the Proposed Route Alternative Centerline ^a				Miles Within the 2,000-ft-wide Route Alternative Corridor ^b			
	Perennial	Intermittent	Canal/Ditch/ Artificial Path/ Connector	Total ^c	Perennial	Intermittent	Canal/Ditch/ Artificial Path/ Connector	Total ^c
Clearwater	4	6	1	11	1.7	5.4	0.3	7.3
Clearwater	1	6	1	8	0.9	4.7	0.3	5.9
Beltrami	3			3	0.8	0.7		1.5
Red Lakes	13	12	4	29	7.0	6.5	2.4	15.9
Beltrami	13	12	4	29	7.0	6.5	2.4	15.9
Big Fork	26	2	6	34	17.9	1.0	3.6	22.5
Itasca	26	2	6	34	17.9	1.0	3.6	22.5
Little Fork	5	4	2	11	4.2	2.5	1.2	7.9
Itasca	5	4	2	11	4.2	2.5	1.2	7.9
Prairie-Willow	4	1	2	7	3.3	1.2	1.5	6.0
Itasca	4	1	2	7	3.3	1.2	1.5	6.0
St. Louis	16	2	16	34	7.6	1.1	9.2	17.9
Itasca	5		6	11	2.4	0.1	3.0	5.5
Aitkin			4	4			1.6	1.6
St. Louis	5	2	4	11	2.9	1.0	3.8	7.6
Carlton	6		2	8	2.3		0.9	3.2
Grand Total ^c	68	27	31	126	41.7	17.7	18.3	77.7
USGS National Hydrography Dataset (NHD) Data Source: ftp://nhdftp.usgs.gov/DataSets/Staged/States/FileGDB/HighResolution/								
a Number of NHD waterbodies crossed by the proposed route alternative centerline.								
b Miles of NHD stream segment(s) crossed by the 2000-ft-wide route alternative corridor.								
c Numbers may not total consistently due to rounding.								

Table 3
Line 3 Replacement Project – RA-06-L3
Summary of USFWS National Wetlands Inventory Crossed by the Proposed Route Alternative Centerline
and within the 2,000-ft-wide Route Alternative Corridor in Minnesota

Watershed County	Miles Crossed by the Proposed Route Alternative Centerline ^a				Acres Within the 2,000-ft-wide Route Alternative Corridor ^b			
	PEM ^c	PFO/PSS ^c	Pond/Lake/ Riverine	Total ^d	PEM ^c	PFO/PSS ^c	Pond/Lake/ Riverine	Total ^d
Clearwater	0.5	1.4	-	1.9	166.8	250.3	10.7	427.8
Clearwater	0.5	1.2	-	1.7	163.2	217.3	2.6	383.0
Beltrami	0.0	0.2	-	0.2	3.7	33.1	8.1	44.8
Red Lakes	3.5	6.6	0.7	10.8	688.9	1553.5	175.4	2417.8
Beltrami	3.4	5.4	0.7	9.4	662.0	1266.7	173.6	2102.4
Itasca	0.1	1.2	<0.1	1.4	26.9	286.7	1.8	315.5
Mississippi Headwaters	-	0.5	-	0.5	5.3	104.9	0.9	111.1
Itasca	-	0.5	-	0.5	5.3	104.9	0.9	111.1
Big Fork	2.5	10.2	1.6	14.2	589.6	2629.1	390.5	3609.2
Itasca	2.5	10.2	1.6	14.2	589.6	2629.1	390.5	3609.2
Little Fork	0.2	7.5	0.1	7.7	88.4	1638.9	51.8	1779.1
Itasca	0.2	7.5	0.1	7.7	88.4	1638.9	51.8	1779.1
Prairie-Willow	1.1	3.8	2.4	7.3	268.0	947.5	415.3	1630.9
Itasca	1.1	3.8	2.4	7.3	268.0	947.5	415.3	1630.9
St. Louis	1.3	21.1	1.9	24.3	288.0	5391.3	439.6	6118.9
Itasca	0.3	7.5	1.8	9.6	104.9	1789.9	406.9	2301.7
Aitkin	-	0.8	-	0.8	-	159.7	-	159.7
St. Louis	0.4	6.9	<0.1	7.3	71.3	2056.0	17.8	2145.0
Carlton	0.6	6.0	0.1	6.7	111.8	1385.8	14.9	1512.5
Kettle	0.5	0.2	<0.1	0.7	54.2	78.1	1.4	133.7
Carlton	0.5	0.2	<0.1	0.7	54.2	78.1	1.4	133.7
Beartrap-Nemadji	-	-	-	-	-	0.4	0.9	1.3
Carlton	-	-	-	-	-	0.4	0.9	1.3
Grand Total ^d	9.5	51.2	6.7	67.5	2149.3	12594.0	1486.5	16229.8

USFWS National Wetlands Inventory (NWI) Data Source: <http://www.fws.gov/wetlands/data/Data-Download.html>

a Total miles of NWI crossed by the proposed route alternative centerline.

b Total acres of NWI within the 2000-ft-wide route alternative corridor.

c PEM = Palustrine Emergent; PSS = Palustrine Scrub Shrub; PFO = Palustrine Forested (Cowardin et al. 1979).

d Numbers may not total consistently due to rounding.

Table 4 Line 3 Replacement Project – RA-06-L3 Summary of Public Waters Inventory Wetlands and Basins Crossed by the Proposed Route Alternative Centerline and within the 2,000-ft-wide Route Alternative Corridor in Minnesota				
Watershed County	Miles Crossed by the Route Alternative Centerline ^a		Acres Within the Route Alternative Corridor ^b	
	Wetlands	Basins	Wetlands	Basins
Clearwater	-	-	8.5	2.5
Clearwater	-	-	8.5	2.5
Red Lakes	0.1	1.0	33.8	188.8
Beltrami	0.1	1.0	33.8	188.8
Big Fork	0.2	1.0	28.4	298.4
Itasca	0.2	1.0	28.4	298.4
Little Fork	-	-	-	3.7
Itasca	-	-	-	3.7
Prairie-Willow	-	1.1	-	219.3
Itasca	-	1.1	-	219.3
St. Louis	0.1	1.9	34.7	410.7
Itasca	0.1	1.9	34.7	410.7
Grand Total ^c	0.4	5.0	105.3	1123.5
PWI Wetland and Basin Data Source: https://gisdata.mn.gov/dataset/water-mn-public-waters a Total miles of PWI wetlands and basins crossed by the route alternative centerline. b Total acres of PWI wetlands and basins crossed by the 2000-ft-wide route alternative corridor. c Numbers may not total consistently due to rounding.				

Table 5 Line 3 Replacement Project – RA-06-L3 Summary of Trout Streams Crossed by the Proposed Route Alternative Centerline and within the 2,000-ft-wide Route Alternative Corridor in Minnesota		
Watershed County	Number Crossed by the Proposed Route Alternative Centerline ^a	Miles Within the 2,000-ft-wide Route Alternative Corridor ^b
Clearwater	3	1.1
Beltrami	3	1.1
Red Lakes	3	1.1
Beltrami	3	1.1
Little Fork	2	2.3
Itasca	2	2.3
St. Louis	2	1.9
Itasca	1	0.6
Carlton	1	1.3
Grand Total ^c	10	6.5
<i>Trout Stream Data Source: https://gisdata.mn.gov/dataset/env-trout-stream-designations</i> ^a Number of trout streams crossed by the route alternative centerline. ^b Total miles of trout stream segment(s) crossed by the 2000-ft-wide route alternative corridor. ^c Numbers may not total consistently due to rounding.		

Table 6 Line 3 Replacement Project – RA-06-L3 Wells within the 2,000-ft-wide Route Alternative Corridor in Minnesota^a				
Watershed Name	County	Well Type	Distance from Centerline (feet)	Total Number of Wells
Clearwater	Clearwater	Domestic	859	4
			681	
			490	
			383	
		Industrial	502	2
			413	
Red Lake	Beltrami	Domestic	40	2
			292	
			621	8
			487	
			47	
			555	
			813	
			367	
			714	
			231	
Big Fork	Itasca	Unknown	238	1
		Abandoned	705	1
		Domestic	365	9
			586	
			855	
			748	
			15	
			83	
			238	
			839	
			189	
		Exploration	412	4
			913	
			441	
			343	
		Other	421	1
		Test Well	705	1
Little Fork	Itasca	Exploration	877	4
			816	
			304	
			127	
Prairie-Willow	Itasca	Abandoned	258	9
			262	

Prairie-Willow (cont.)	Itasca (cont.)	Abandoned (cont.)	273	9 (cont.)
			338	
			371	
			431	
			445	
			582	
			602	
			647	
		Exploration	888	225
			876	
			875	
			875	
			875	
			875	
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			773	
			771	
			692	
			676	
			675	
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675				
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675				

Prairie-Willow (cont.)	Itasca (cont.)	Exploration (cont.)	675	225 (cont.)
			674	
			674	
			674	
			674	
			673	
			673	
			673	
			673	
			492	
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			472	
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			472	
			472	
			394	
			382	
			367	
			318	
			308	
			275	
			275	

Prairie-Willow (cont.)	Itasca (cont.)	Exploration (cont.)	274	225 (cont.)
			274	
			274	
			274	
			274	
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			274	
			273	
			273	
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			72	
			72	
			98	
			115	
			116	

Prairie-Willow (cont.)	Itasca (cont.)	Exploration (cont.)	116	225 (cont.)
			117	
			118	
			118	
			125	
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			415	
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			418	

Prairie-Willow (cont.)	Itasca (cont.)	Exploration (cont.)	418	225 (cont.)
			426	
			426	
			427	
			443	
			444	
			444	
			488	
			505	
			522	
			524	
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			725	
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			727	
			728	
			728	
			728	

Prairie-Willow (cont.)	Itasca (cont.)	Exploration (cont.)	729	225 (cont.)
			752	
			881	
			925	
			926	
			926	
			926	
			926	
			927	
			928	
			928	
			937	
			937	
			973	
		Scientific Investigation	968	5
			943	
			659	
			240	
			876	
St. Louis	St. Louis	Abandoned	2	3
			7	
			10	
		Domestic	259	5
			284	
			588	
			749	
			728	
		Monitoring	426	8
			270	
			9	
			56	
			108	
			388	
			274	
			386	
	Carlton	Domestic	4	16
			732	
			904	
			634	
			609	
			515	
			94	
			561	
			293	
			435	

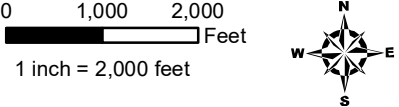
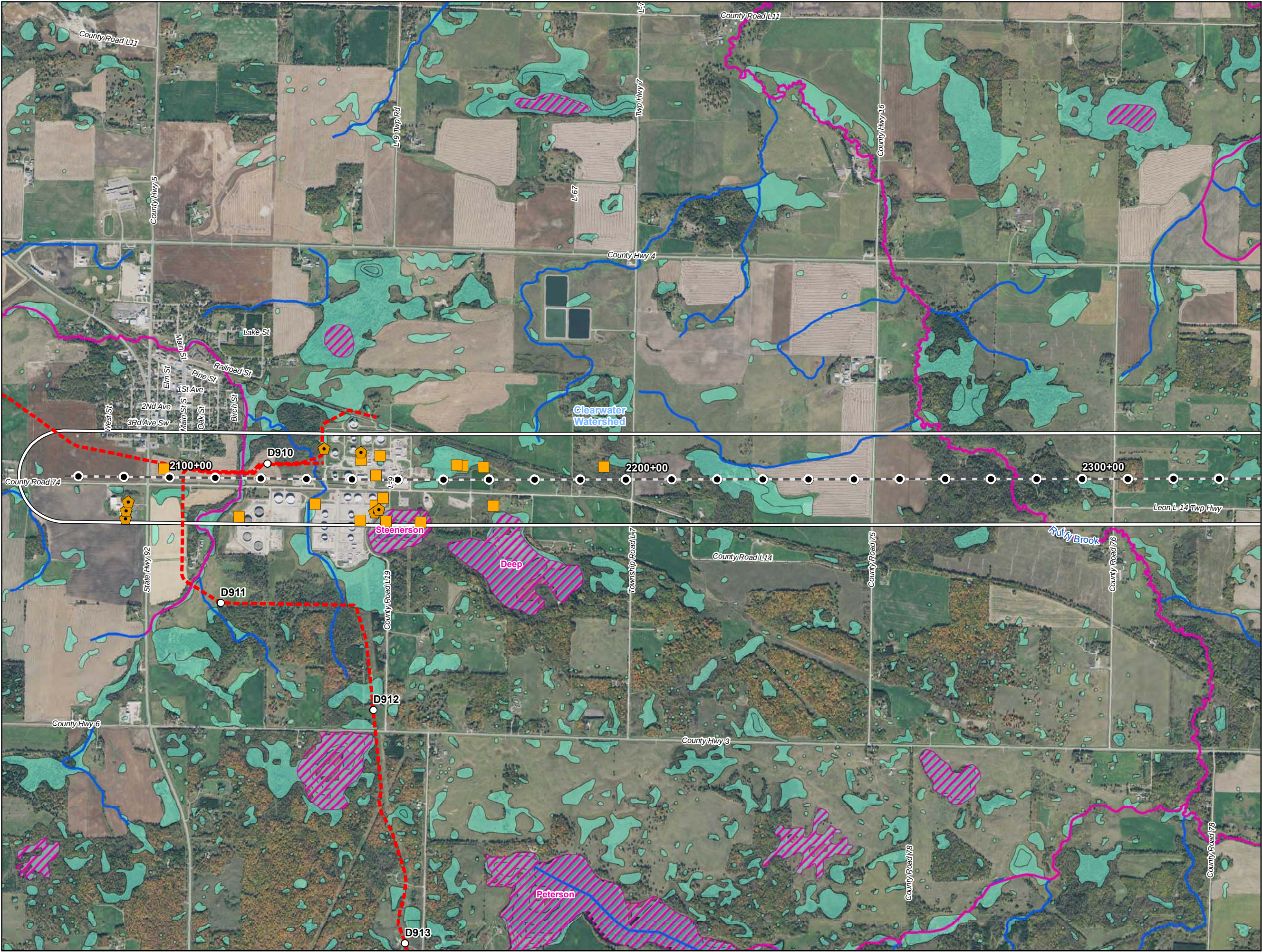
St. Louis (cont.)	Carlton (cont.)	Domestic (cont.)	21	16 (cont.)
			655	
			576	
			254	
			147	
			35	
		Monitoring	752	3
			693	
			747	
		Other	56	3
			54	
			54	

County Well Index (CWI) Data Source: ftp://mgssun6.mnngs.umn.edu/pub2/cwi4/cwilocs_nps.zip

a Municipal wells are not included in the source data.

Table 7 Line 3 Replacement Project – RA-06-L3 Drinking Water Supply Management Areas (DWSMA) and Wellhead Protection Areas (WHPA) Crossed by the Proposed Route Alternative Centerline and within the 2,000-ft-wide Route Alternative Corridor in Minnesota					
Watershed	County	Approximate Stationing ^a	Name	Miles Crossed by the Route Alternative Centerline ^b	Acres Within the Route Alternative Corridor ^c
Prairie Willow	Itasca	8961+00	Keetac WHPA (2 crossings)	0.9	205.8
		8967+00	Keetac DWSMA (2 crossings)	1.2	287.1
		8990+00			
		8992+00			
Prairie Willow	Itasca	8990+00	Keewatin WHPA (2 crossings)	1.0	231.2
		8992+00	Keewatin DWSMA (2 crossings)	1.2	282.2
		9020+00			
		9022+00			
DWSMA Data Source: https://gisdata.mn.gov/dataset/water-drinking-water-supply WHPA Data Source: https://gisdata.mn.gov/dataset/water-wellhead-protection-areas a Stationing for features not crossed by the centerline are interpolated based on the closest route alternative centerline stationing. b Total miles of DWSMA and WHPA crossed by the route alternative centerline. c Total acres of DWSMA and WHPA crossed by the 2000-ft-wide route alternative corridor.					

Table 8				
Line 3 Replacement Project – RA-06-L3				
Surface Water Intakes within the 2,000-ft-wide Route Alternative Corridor in Minnesota ^a				
Watershed Name	County	Permit Type	Permit Status	Total
Clearwater	Clearwater	General Permit Authorization	Active	1
			Inactive	4
		Individual Permit	Inactive	11
Big Fork	Itasca	Individual Permit	Inactive	1
Prairie-Willow	Itasca	General Permit Authorization	Active	1
			Individual Permit	Active
		Inactive		1
Little Fork	Itasca	Individual Permit	Inactive	1
Prairie-Willow	Itasca	Individual Permit	Active	3
Little Fork	Itasca	Individual Permit	Inactive	1
Prairie-Willow	Itasca	Individual Permit	Inactive	2
St. Louis	Aitkin	General Permit Authorization	Inactive	1
	St. Louis	General Permit Authorization	Active	1
			Inactive	36
		Individual Permit	Inactive	1
	Carlton	General Permit Authorization	Inactive	11
		Individual Permit	Inactive	4
Kettle	Carlton	General Permit Authorization	Inactive	1
St. Louis	Carlton	General Permit Authorization	Active	4
			Inactive	3
		Individual Permit	Inactive	2
MPARS Minnesota DNR, Ecological and Water Resources, Sean Hunt, 651-259-5679				
^a Municipal wells are not included in the source data.				



- Water Well
- Surface Water Intake
- Calcareous Fen
- Line 3 Milepost
- Alternative Stationing
- Proposed Line 3 Replacement Pipeline
- Alternative Centerline
- 2,000 ft Alternative Corridor
- Trout Stream
- PWI Stream
- NHD Stream
- PWI Basin
- NWI
- Watershed Boundary
- WHPA
- DWSMA
- County Boundary

Figure 1

Line 3 Replacement Project

RA-06-L3

Enbridge

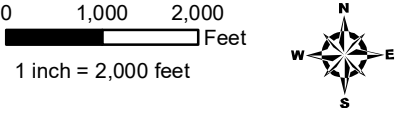
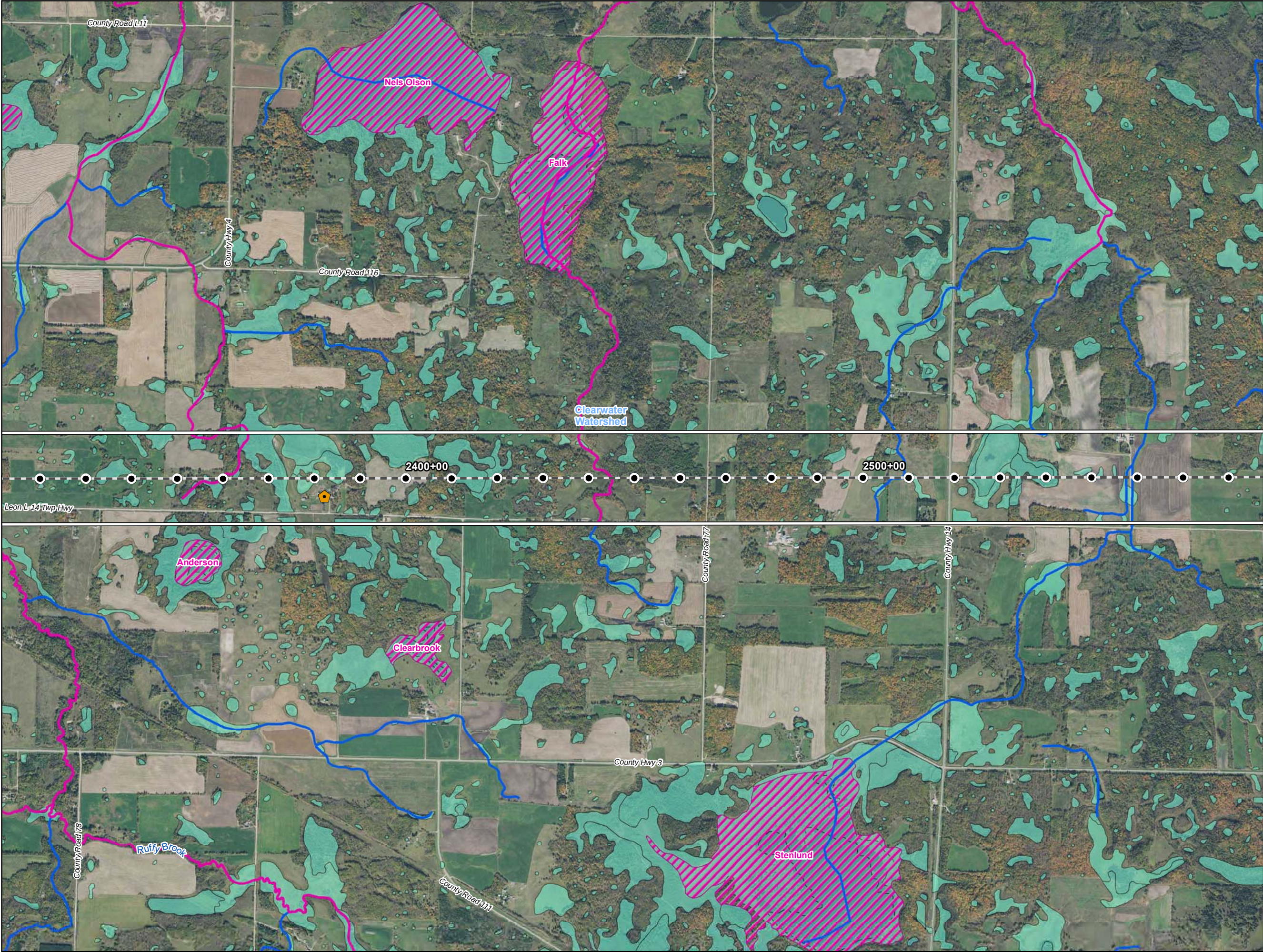
Clearwater County, Minnesota



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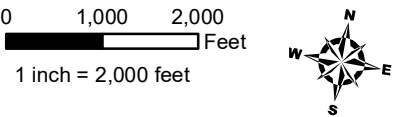
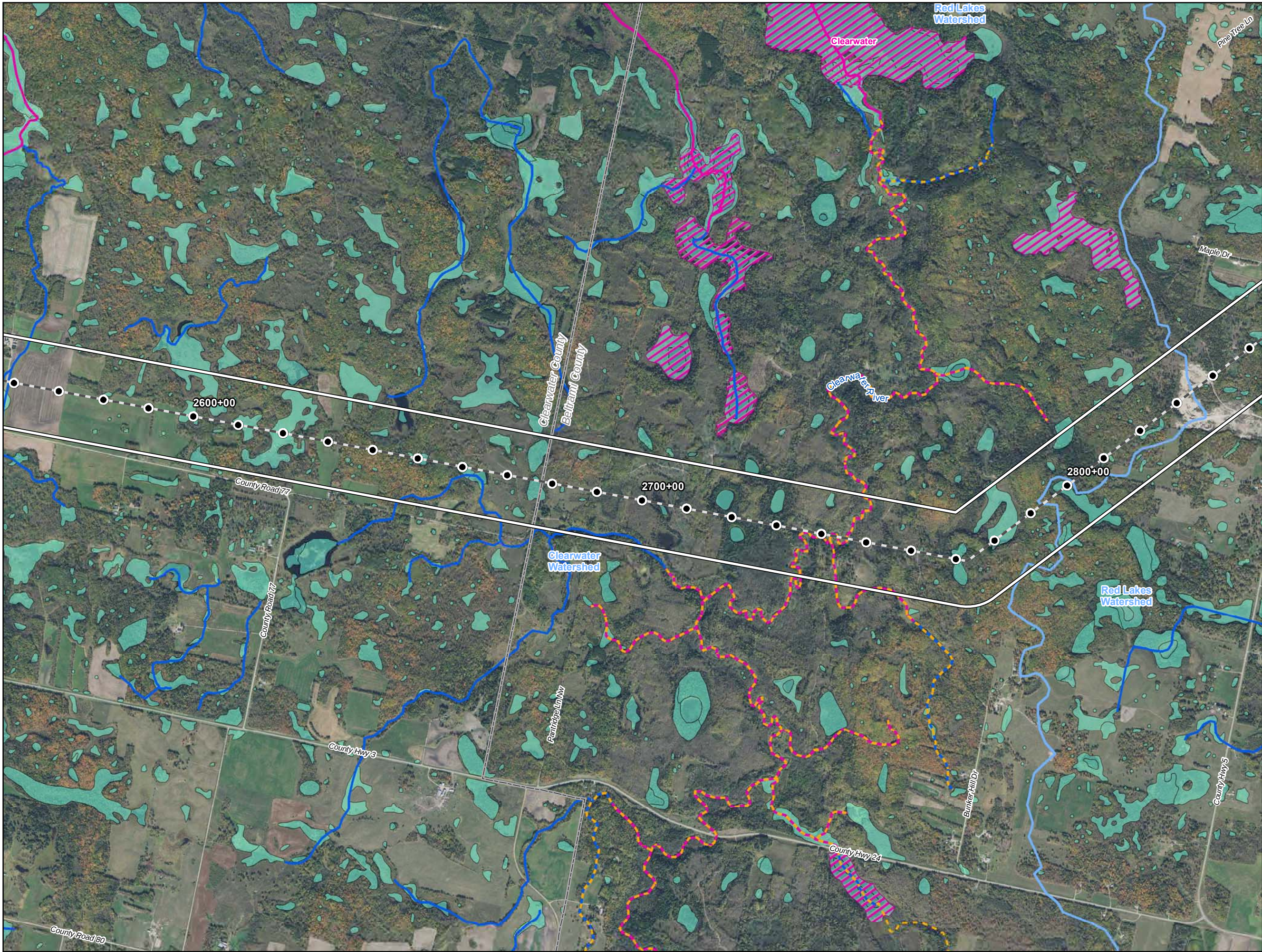
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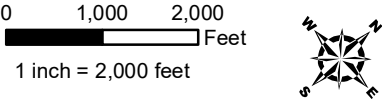
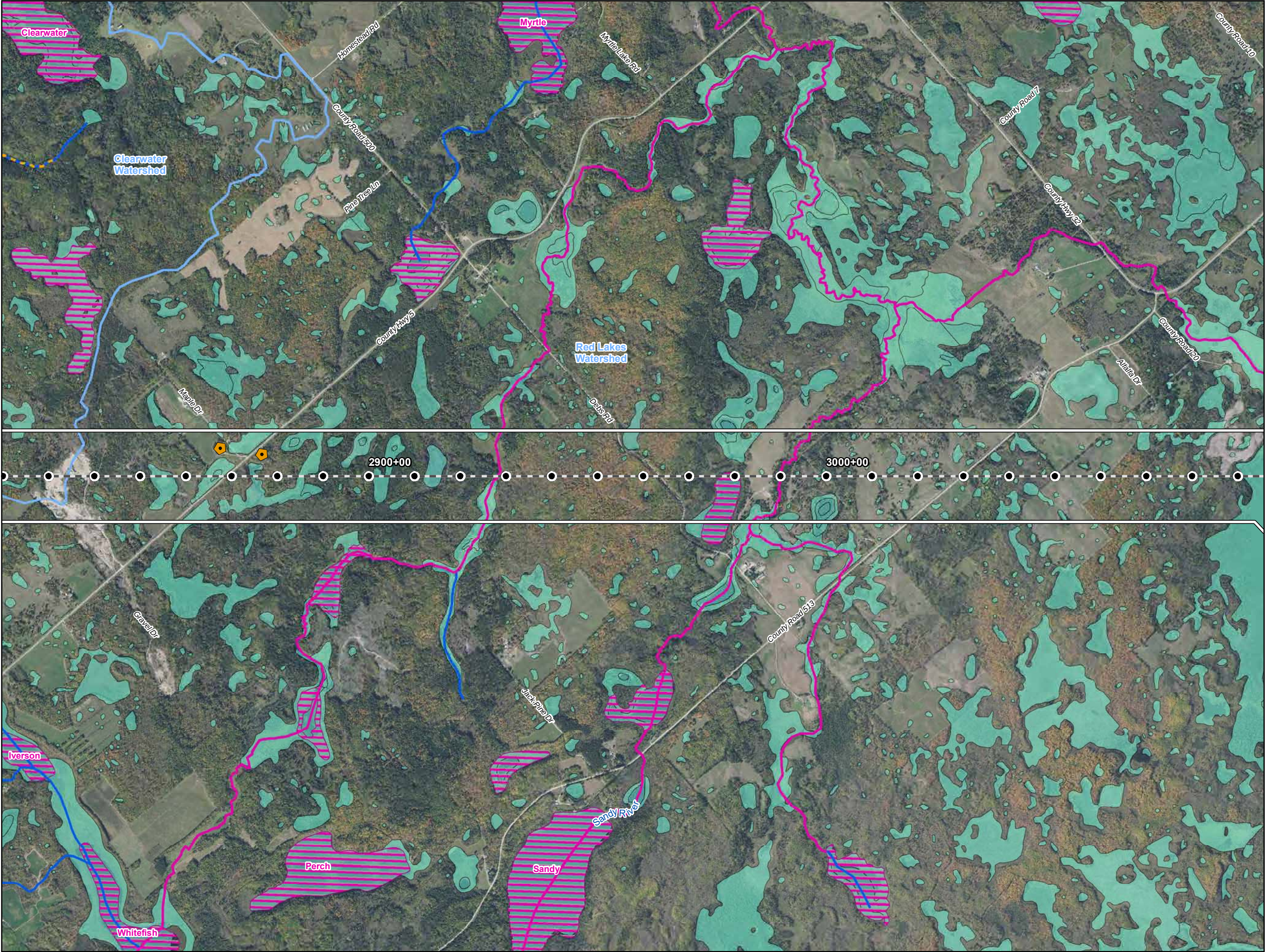
- Water Well
- Surface Water Intake
- Calcareous Fen
- Line 3 Milepost
- Alternative Stationing
- Proposed Line 3 Replacement Pipeline
- Alternative Centerline
- 2,000 ft Alternative Corridor
- Trout Stream
- PWI Stream
- NHD Stream
- PWI Basin
- NWI
- Watershed Boundary
- WHPA
- DWSMA
- County Boundary

Figure 2
Line 3 Replacement Project
RA-06-L3
Enbridge
Clearwater County, Minnesota



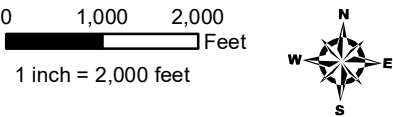
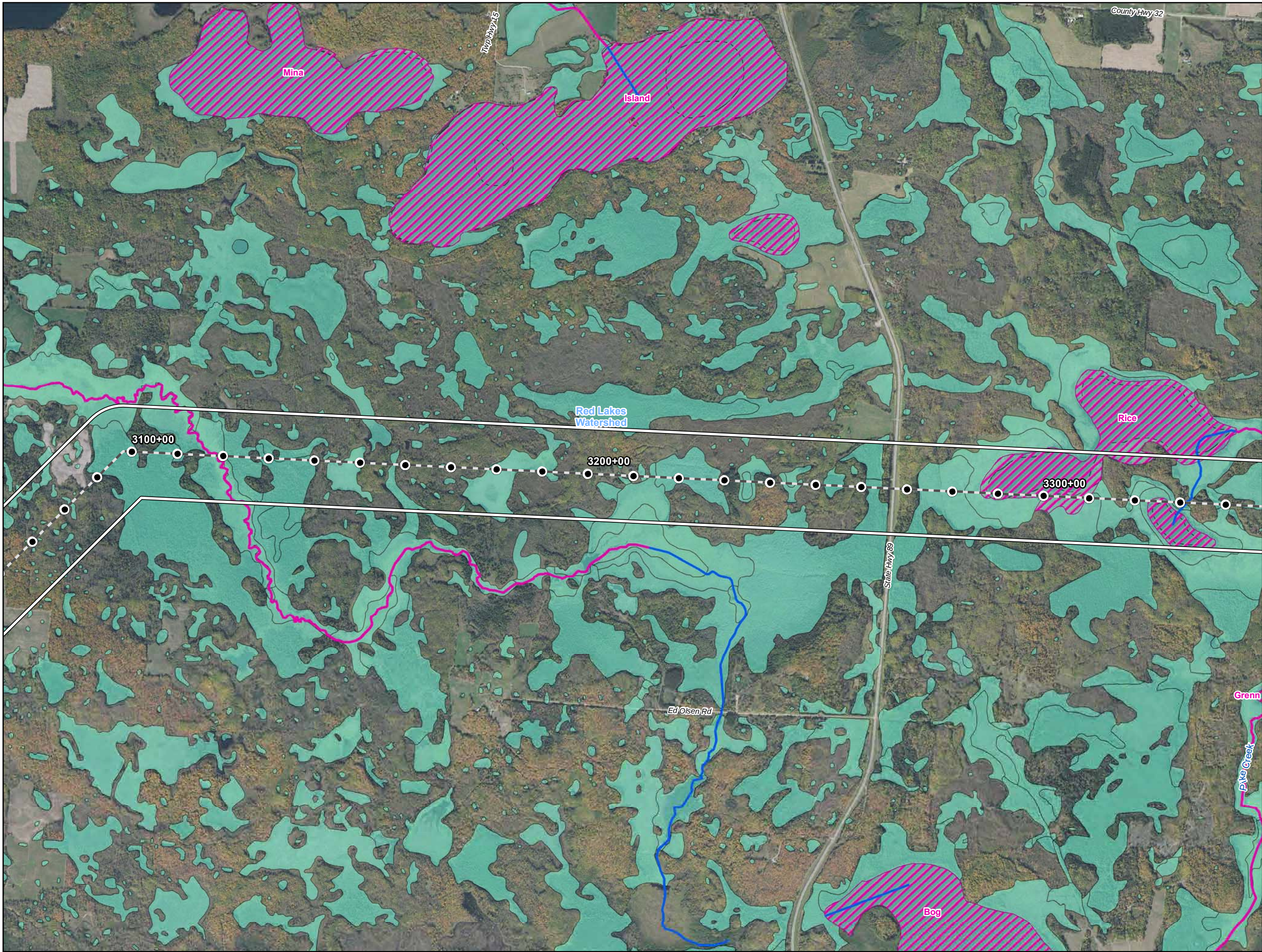
- Water Well
- Surface Water Intake
- Calcareous Fen
- Line 3 Milepost
- Alternative Stationing
- Proposed Line 3 Replacement Pipeline
- Alternative Centerline
- 2,000 ft Alternative Corridor
- Trout Stream
- PWI Stream
- NHD Stream
- PWI Basin
- NWI
- Watershed Boundary
- WHPA
- DWSMA
- County Boundary

Figure 3
Line 3 Replacement Project
RA-06-L3
Enbridge
Beltrami County, Minnesota



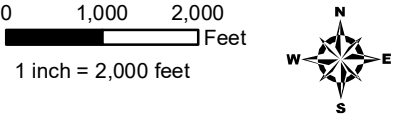
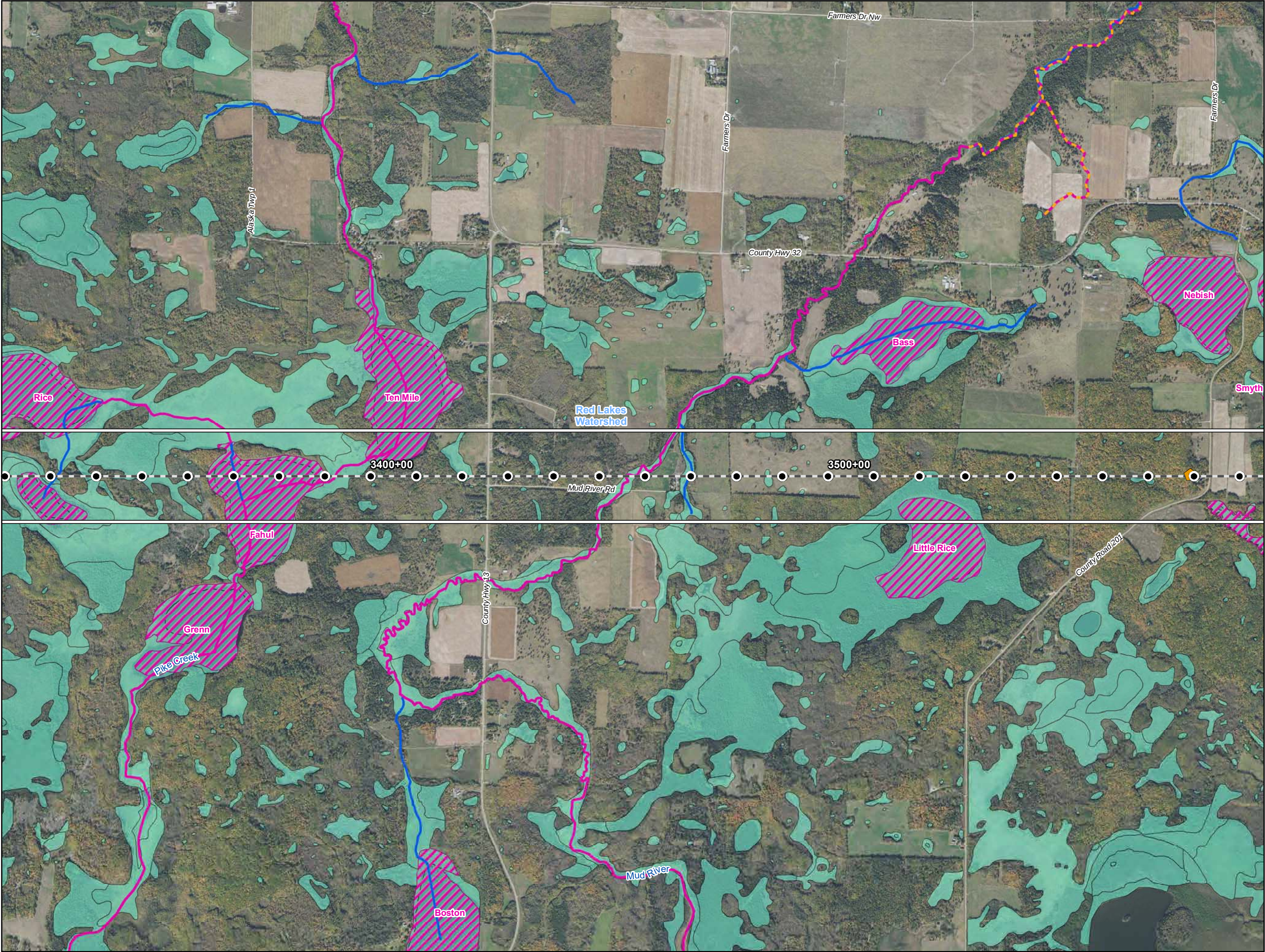
- Water Well
- Surface Water Intake
- Calcareous Fen
- Line 3 Milepost
- Alternative Stationing
- Proposed Line 3 Replacement Pipeline
- Alternative Centerline
- 2,000 ft Alternative Corridor
- Trout Stream
- PWI Stream
- NHD Stream
- PWI Basin
- NWI
- Watershed Boundary
- WHPA
- DWSMA
- County Boundary

Figure 4
Line 3 Replacement Project
RA-06-L3
Enbridge
Beltrami County, Minnesota



- Water Well
- Surface Water Intake
- Calcereous Fen
- Line 3 Milepost
- Alternative Stationing
- Proposed Line 3 Replacement Pipeline
- Alternative Centerline
- 2,000 ft Alternative Corridor
- Trout Stream
- PWI Stream
- NHD Stream
- PWI Basin
- NWI
- Watershed Boundary
- WHPA
- DWSMA
- County Boundary

Figure 5
Line 3 Replacement Project
RA-06-L3
Enbridge
Beltrami County, Minnesota



- Water Well
- Surface Water Intake
- Calcareous Fen
- Line 3 Milepost
- Alternative Stationing
- Proposed Line 3 Replacement Pipeline
- Alternative Centerline
- 2,000 ft Alternative Corridor
- Trout Stream
- PWI Stream
- NHD Stream
- PWI Basin
- NWI
- Watershed Boundary
- WHPA
- DWSMA
- County Boundary

Figure 6
Line 3 Replacement Project
RA-06-L3
Enbridge
Beltrami County, Minnesota