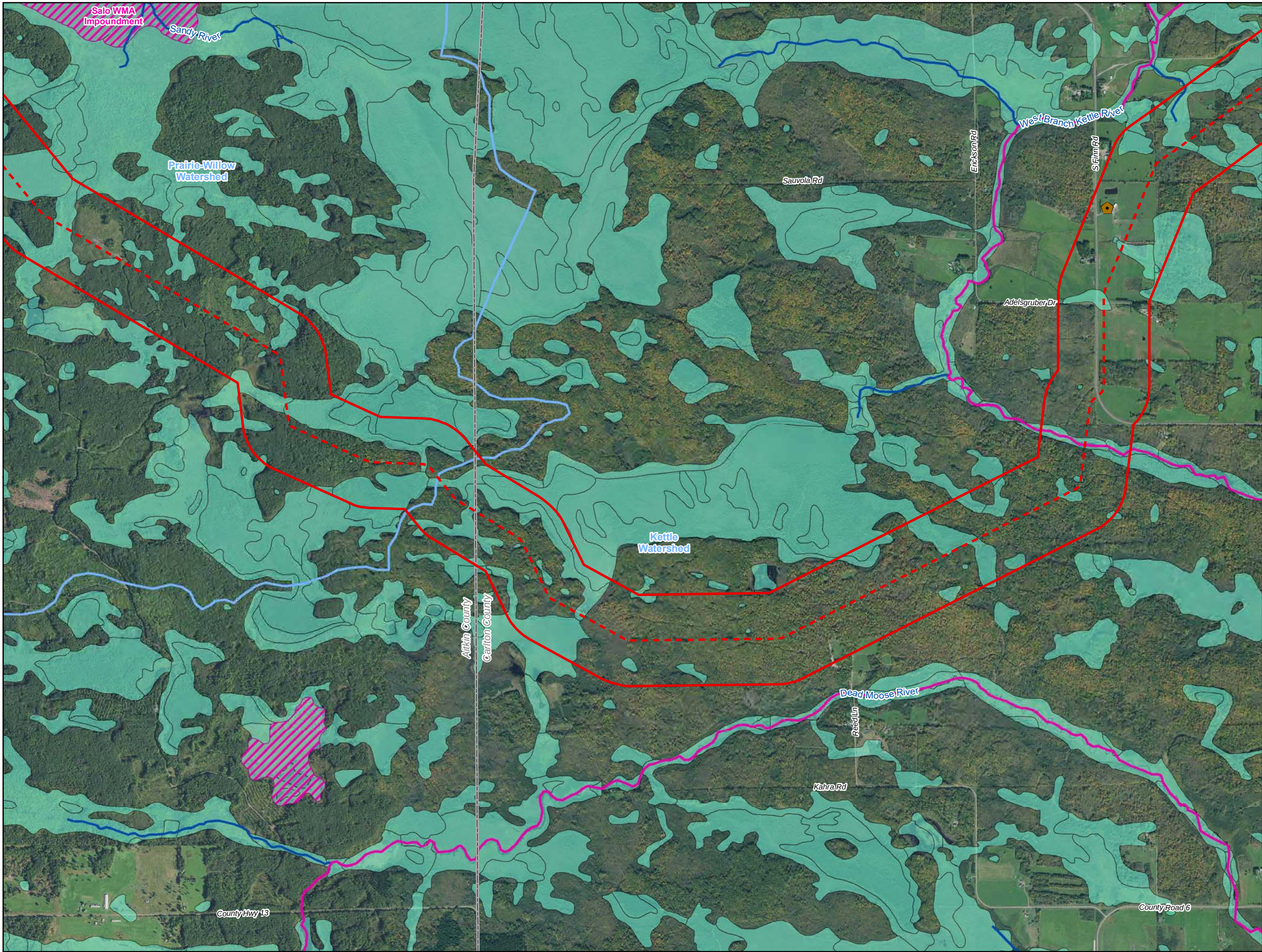
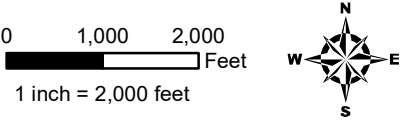
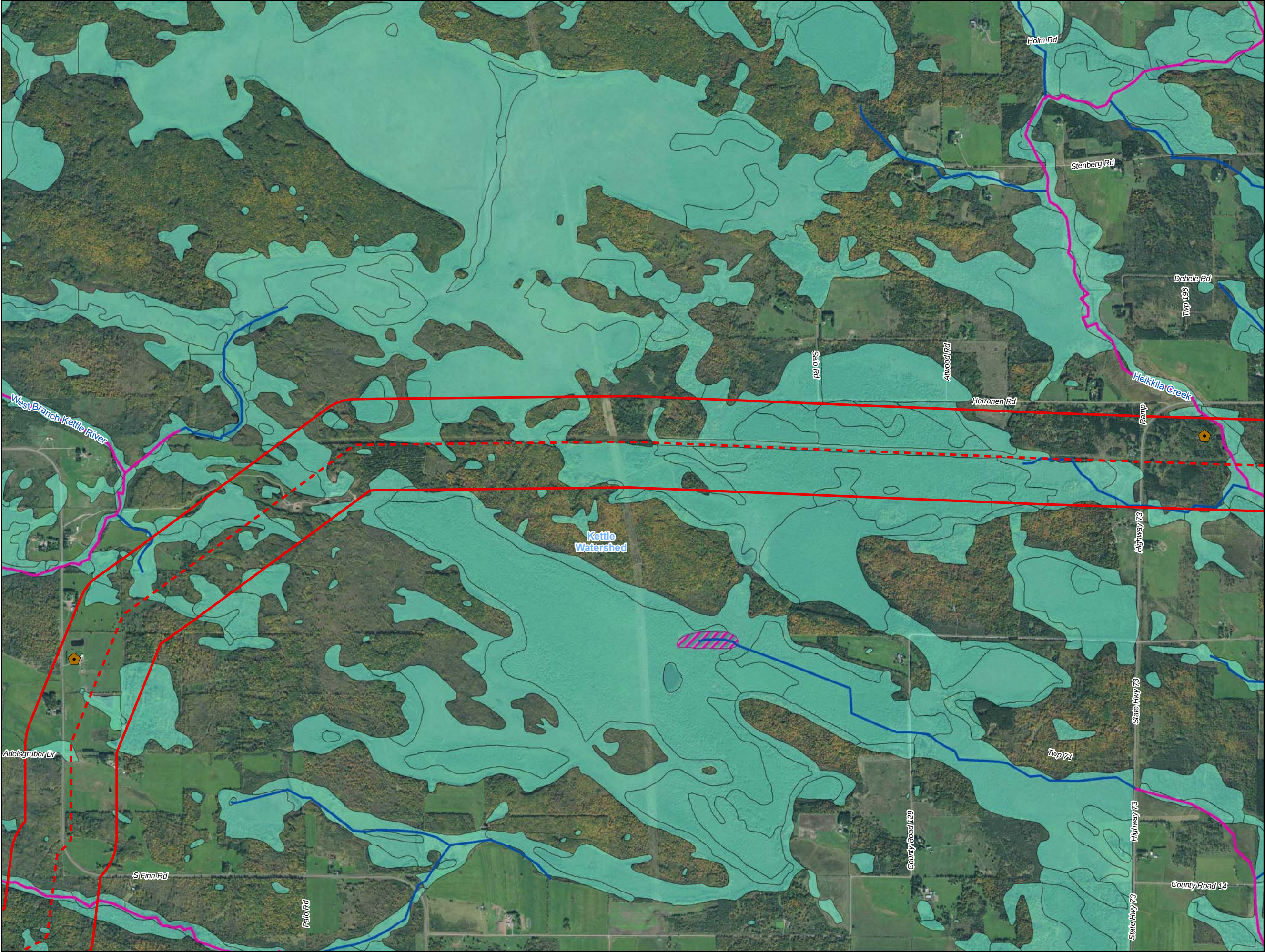


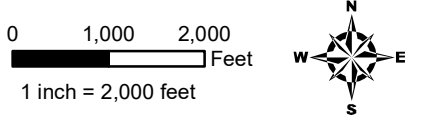
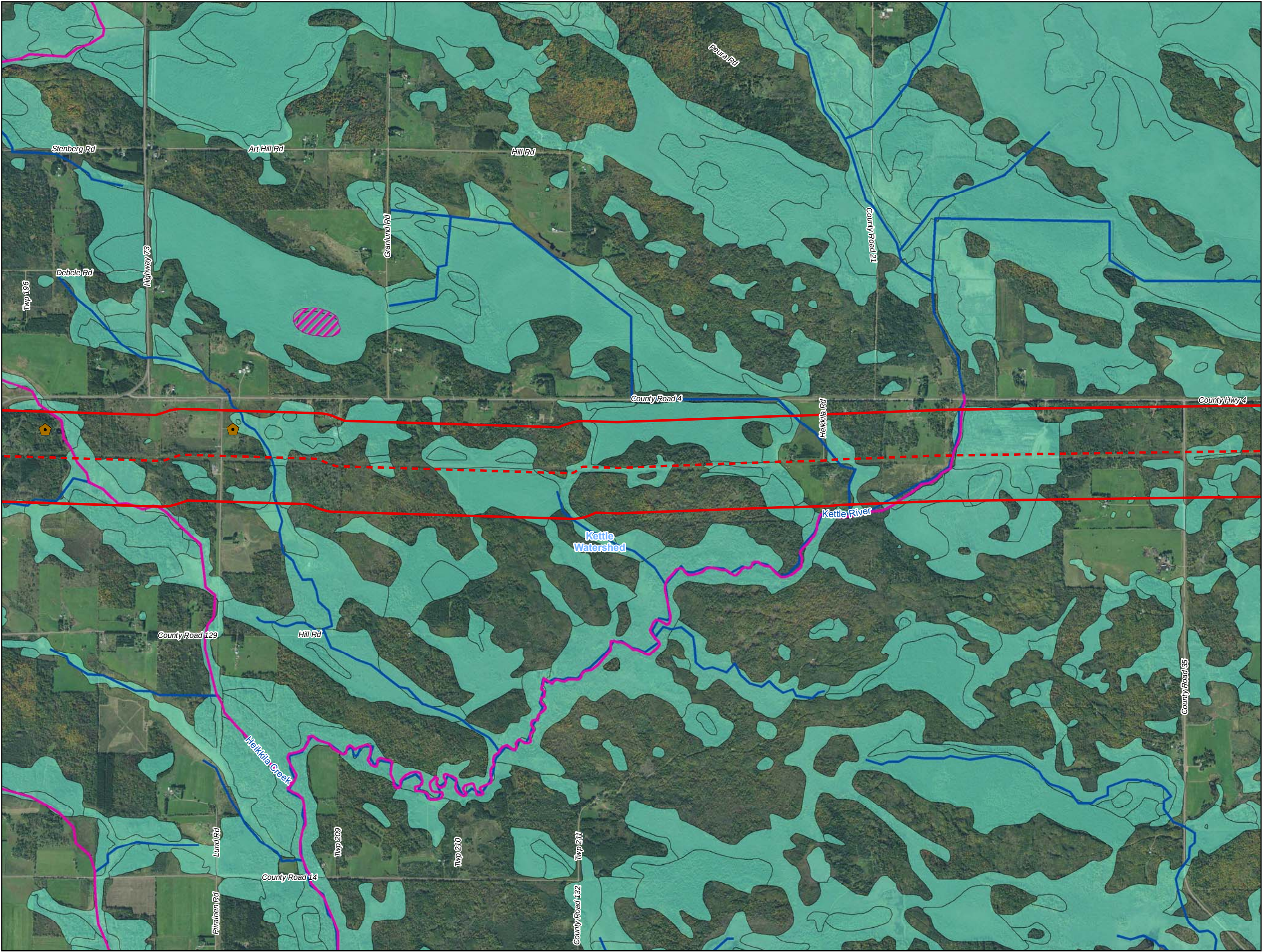
- Line 3 Replacement Milepost
- Water Well
- Surface Water Intake
- Calcareous Fen
- Proposed Line 3 Replacement Pipeline
- Trout Stream
- PWI Stream
- NHD Stream
- PWI Basin
- NWI
- Watershed Boundary
- WHPA
- DWSMA
- 2000 ft Line 3 Replacement Corridor
- County Boundary

Figure 64
Line 3 Replacement Project
Enbridge
Aitkin County, Minnesota



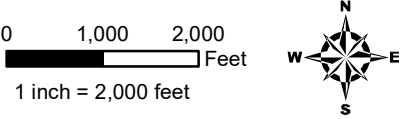
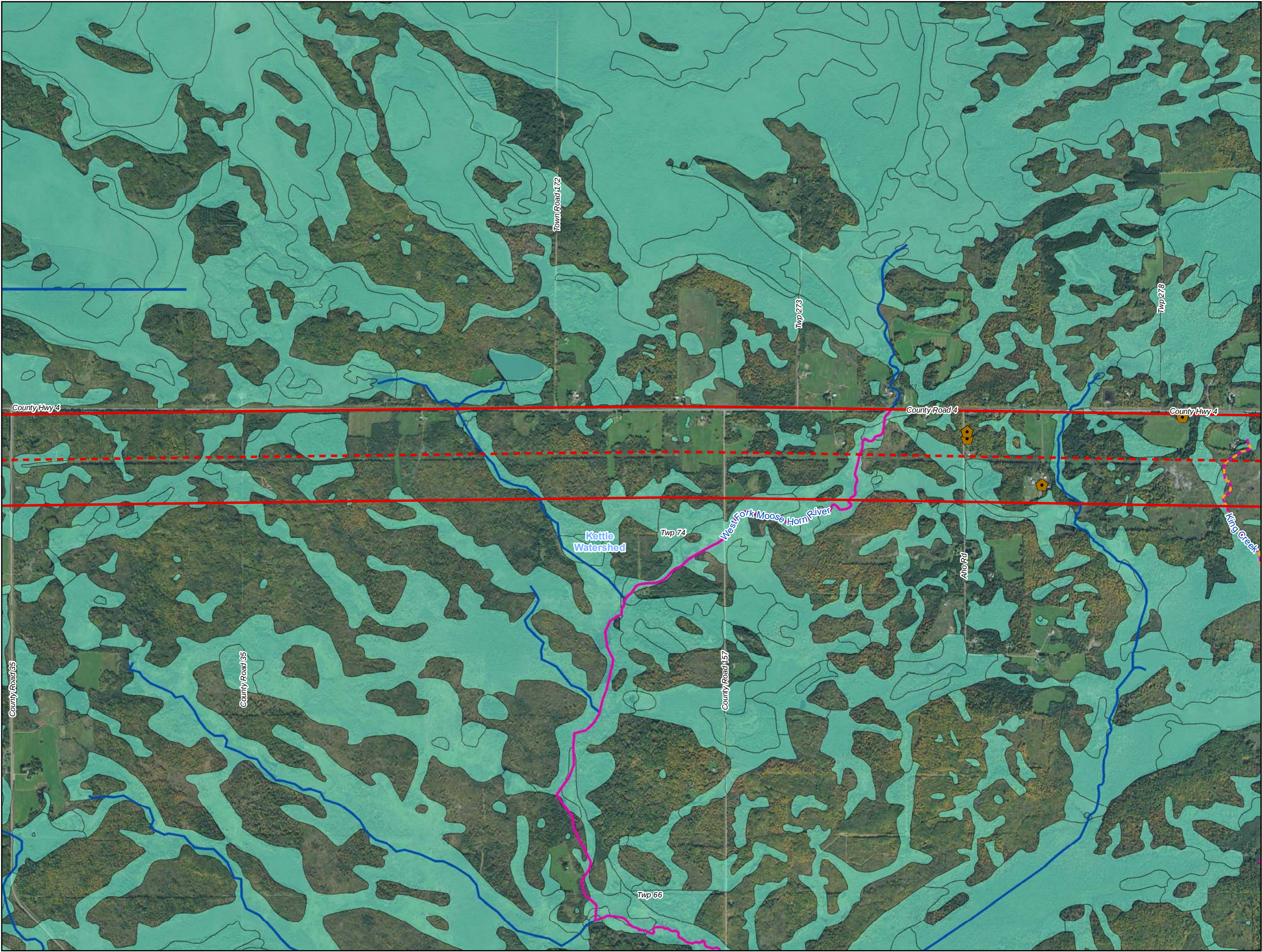
- Line 3 Replacement Milepost
- 🏠 Water Well
- 🟡 Surface Water Intake
- 🌿 Calcareous Fen
- Proposed Line 3 Replacement Pipeline
- 🌊 Trout Stream
- 🌊 PWI Stream
- 🌊 NHD Stream
- 🌊 PWI Basin
- 🌊 NWI
- 🌊 Watershed Boundary
- 🟡 WHPA
- 🟡 DWSMA
- 🔴 2000 ft Line 3 Replacement Corridor
- 🔴 County Boundary

Figure 65
Line 3 Replacement Project
Enbridge
Carlton County, Minnesota



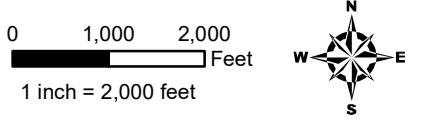
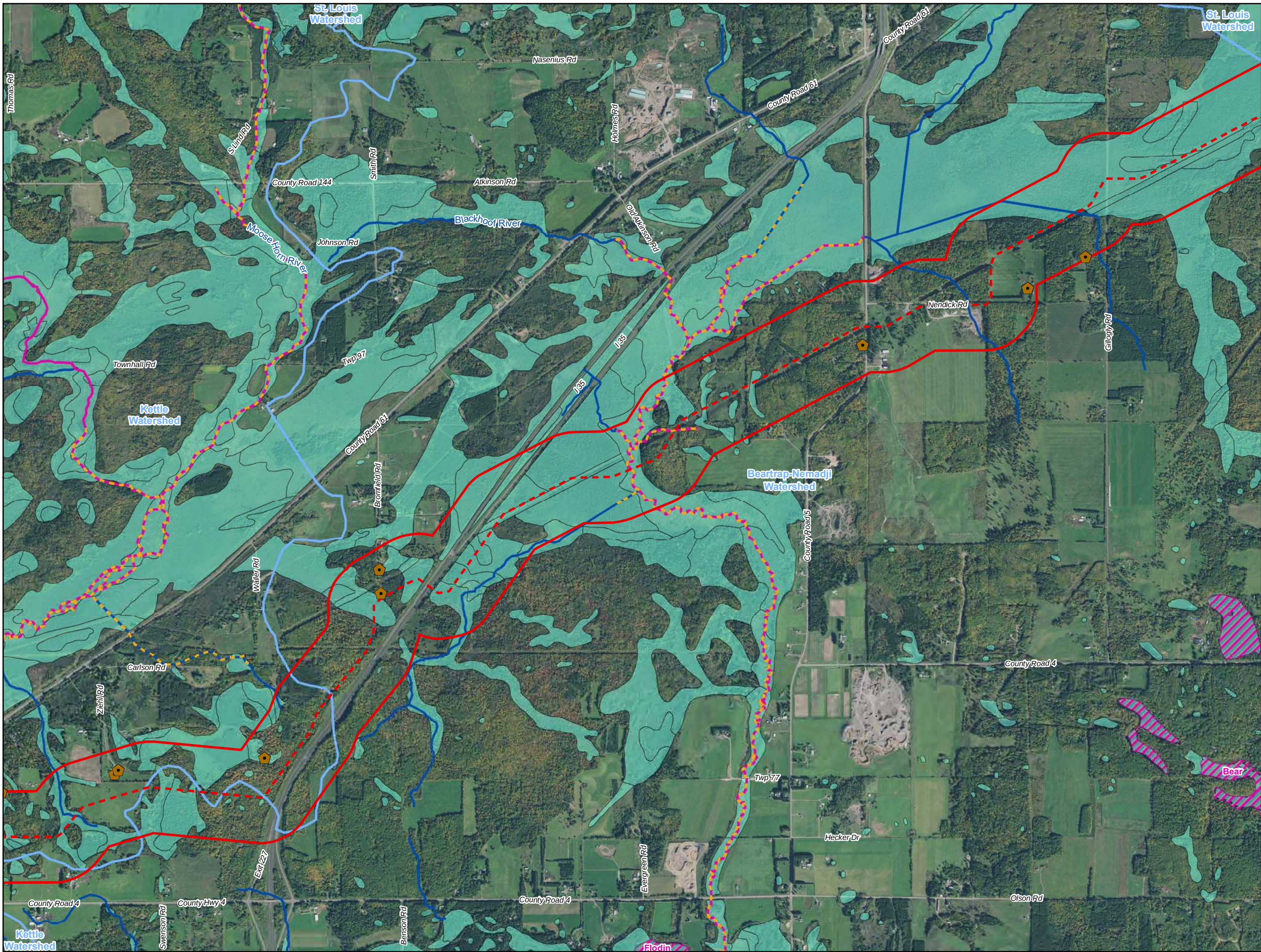
- Line 3 Replacement Milepost
- Water Well
- Surface Water Intake
- Calcareous Fen
- - - Proposed Line 3 Replacement Pipeline
- - - Trout Stream
- ~ PWI Stream
- ~ NHD Stream
- PWI Basin
- NWI
- Watershed Boundary
- WHPA
- DWSMA
- 2000 ft Line 3 Replacement Corridor
- County Boundary

Figure 66
Line 3 Replacement Project
Enbridge
Carlton County, Minnesota



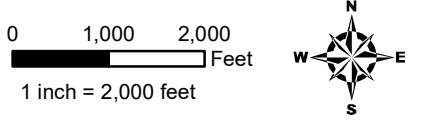
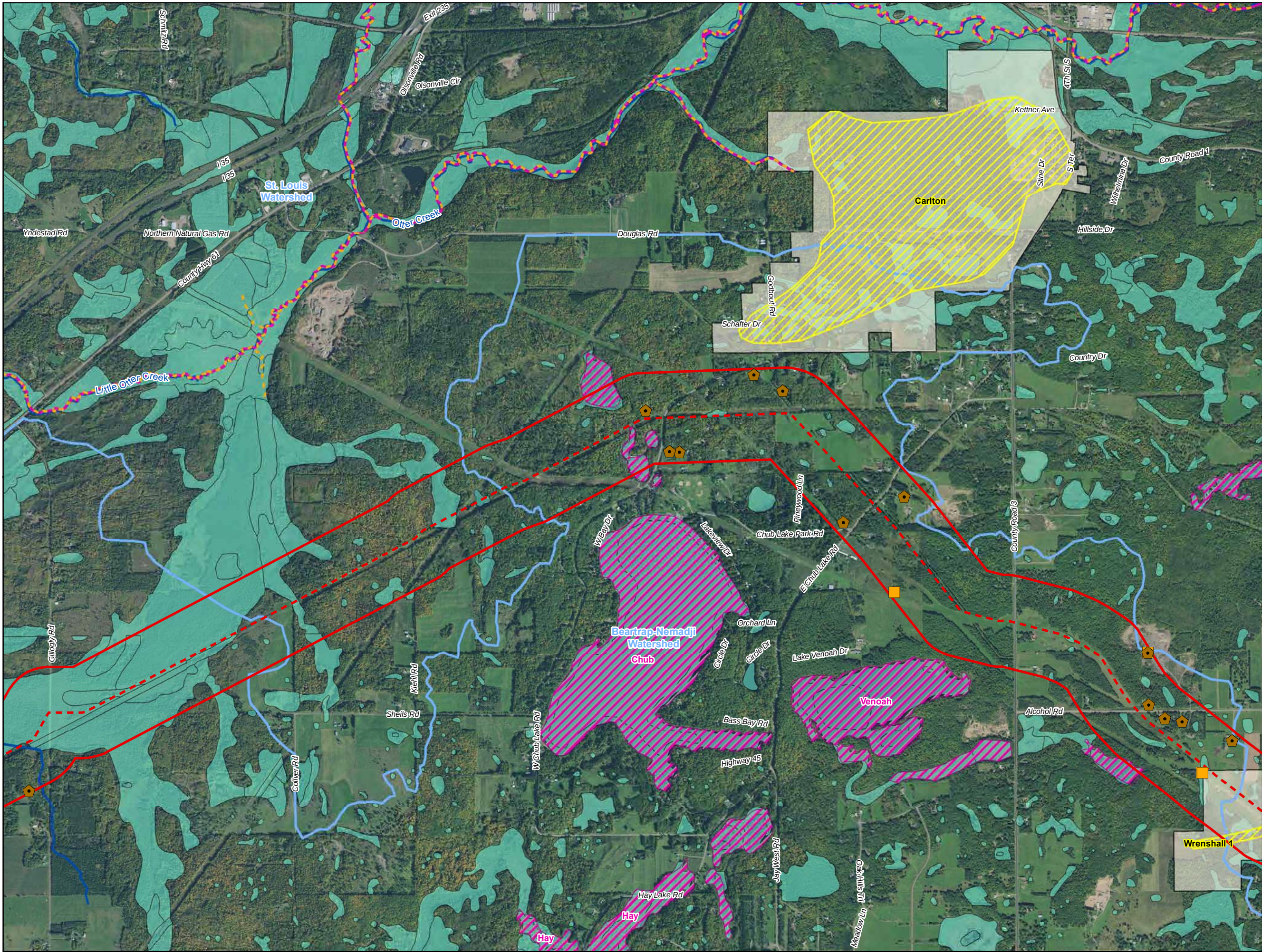
- Line 3 Replacement Milepost
- 🏠 Water Well
- 🟡 Surface Water Intake
- 🌿 Calcareous Fen
- - - Proposed Line 3 Replacement Pipeline
- 🟠 Trout Stream
- 🟡 PWI Stream
- 🟢 NHD Stream
- 🟡 PWI Basin
- 🟢 NWI
- 🟢 Watershed Boundary
- 🟡 WHPA
- 🟡 DWSMA
- 🔴 2000 ft Line 3 Replacement Corridor
- 🔴 County Boundary

Figure 67
Line 3 Replacement Project
Enbridge
Carlton County, Minnesota



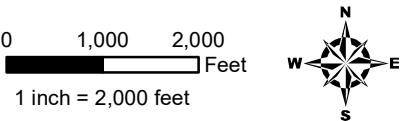
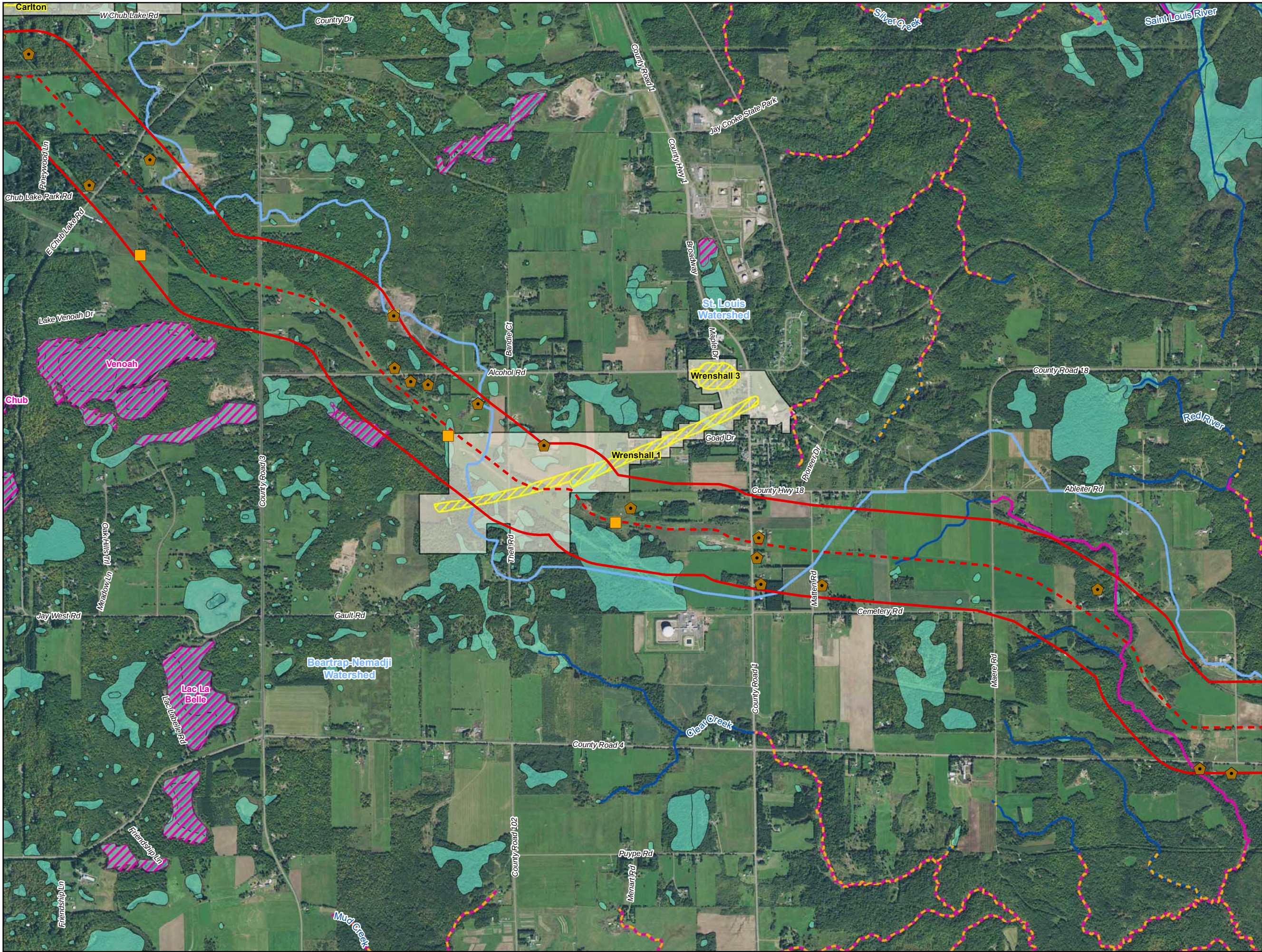
- Line 3 Replacement Milepost
- 🏠 Water Well
- 📏 Surface Water Intake
- 🌿 Calcareous Fen
- Proposed Line 3 Replacement Pipeline
- 👉 Trout Stream
- 🌊 PWI Stream
- 🌊 NHD Stream
- 🌊 PWI Basin
- 🌊 NWI
- 🌊 Watershed Boundary
- 📏 WHPA
- 📏 DWSMA
- 📏 2000 ft Line 3 Replacement Corridor
- 📏 County Boundary

Figure 69
Line 3 Replacement Project
Enbridge
Carlton County, Minnesota



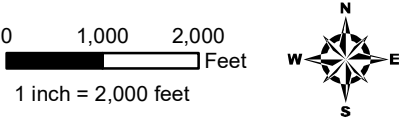
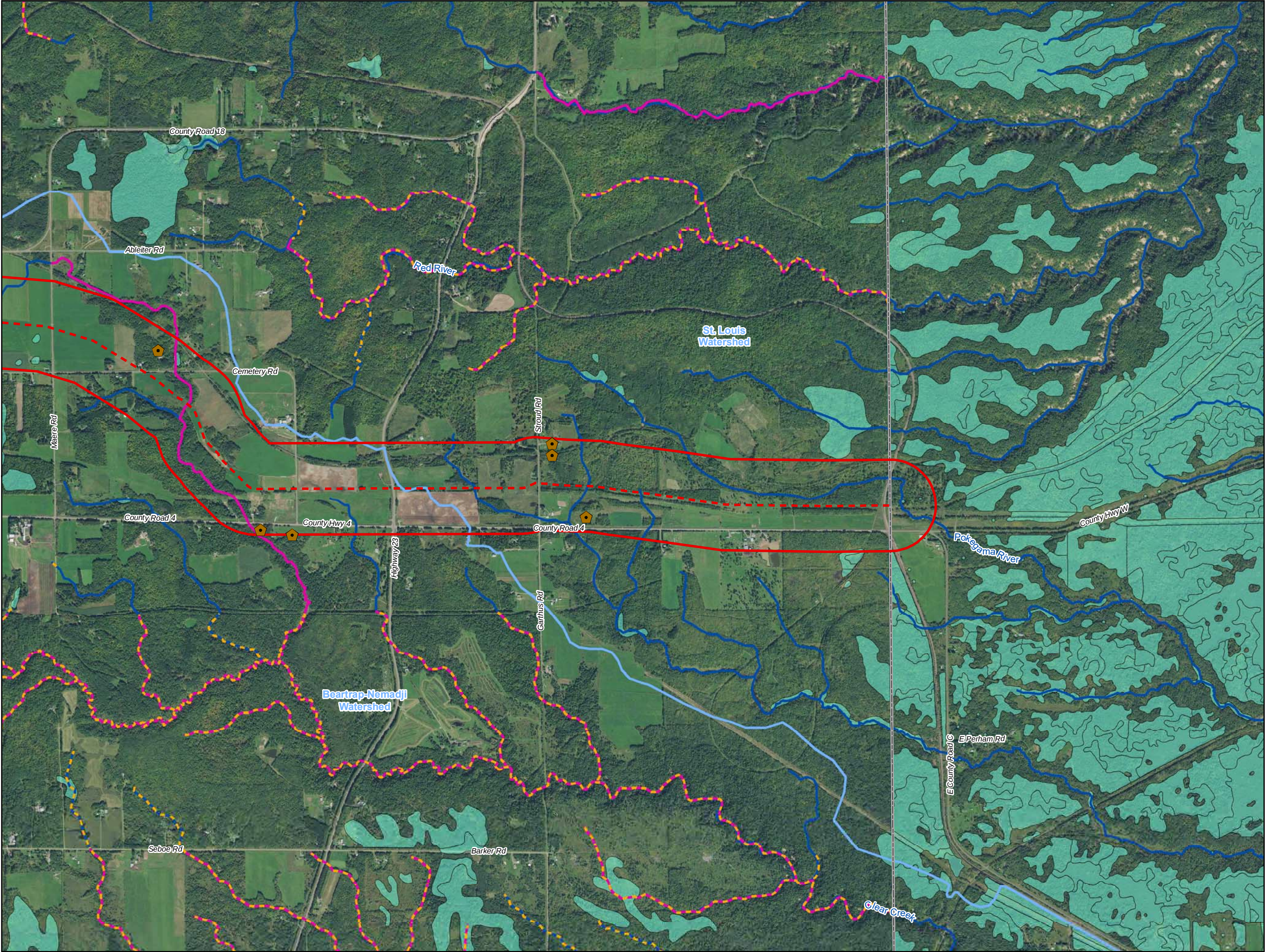
- Line 3 Replacement Milepost
- ⬢ Water Well
- Surface Water Intake
- ✂ Calcareous Fen
- - - Proposed Line 3 Replacement Pipeline
- - - Trout Stream
- ~ PWI Stream
- ~ NHD Stream
- ▨ PWI Basin
- ▨ NWI
- ▨ Watershed Boundary
- ▨ WHPA
- ▨ DWSMA
- ▨ 2000 ft Line 3 Replacement Corridor
- ▨ County Boundary

Figure 70
Line 3 Replacement Project
Enbridge
Carlton County, Minnesota



- Line 3 Replacement Milepost
- ⬢ Water Well
- Surface Water Intake
- ✂ Calcareous Fen
- - - Proposed Line 3 Replacement Pipeline
- - - Trout Stream
- ~ PWI Stream
- ~ NHD Stream
- ▨ PWI Basin
- NWI
- Watershed Boundary
- ▨ WHPA
- DWSMA
- ▭ 2000 ft Line 3 Replacement Corridor
- ▭ County Boundary

Figure 71
Line 3 Replacement Project
Enbridge
Carlton County, Minnesota



- Line 3 Replacement Milepost
- 🏠 Water Well
- 📏 Surface Water Intake
- 🌿 Calcareous Fen
- Proposed Line 3 Replacement Pipeline
- Trout Stream
- ~ PWI Stream
- ~ NHD Stream
- 🌿 PWI Basin
- 🌿 NWI
- 🌿 Watershed Boundary
- 📏 WHPA
- 📏 DWSMA
- 📏 2000 ft Line 3 Replacement Corridor
- 📏 County Boundary

Figure 72
Line 3 Replacement Project
Enbridge
Carlton County, Minnesota

ATTACHMENT A

Natural Resource and Water Supply Summary Tables and Figures

Line 3 Replacement Project System Alternative (SA)-04

DRAFT

Table 1 Line 3 Replacement Project – SA-04-L3 Summary of Public Waters Inventory Streams Crossed by the Proposed System Alternative Centerline and within the 2,000-ft-wide System Alternative Corridor in Minnesota		
Watershed County	Number Crossed by the Proposed System Alternative Centerline ^a	Miles Within the 2,000-ft-wide System Alternative Corridor ^b
Bois De Sioux	2	1.1
Traverse	2	1.1
Mustinka	5	3.8
Stevens	2	2.3
Traverse	3	1.5
Pomme De Terre	4	2.0
Stevens	4	2.0
Chippewa	3	1.8
Chippewa	1	0.6
Stevens	1	0.8
Swift	1	0.5
Middle Minnesota	2	2.7
Blue Earth	1	1.5
Nicollet	1	1.2
Le Sueur	5	6.1
Blue Earth	2	1.9
Waseca	3	4.2
Upper Cedar	3	2.1
Freeborn	-	0.6
Mower	3	1.5
Grand Total ^c	24	19.7
<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 system alternative centerline. ^b Total miles of Public Waters Inventory stream segment(s) crossed by the 2000-ft-wide system alternative corridor. ^c Numbers may not total consistently due to rounding.		

Table 2
Line 3 Replacement Project – SA-04-L3
Summary of Waterbodies Crossed by the Proposed System Alternative Centerline
and within the 2,000-ft-wide System Alternative Corridor in Minnesota

Watershed County	Number Crossed by the Proposed System Alternative Centerline ^a				Miles Within the 2,000-ft-wide System Alternative Corridor ^b			
	Perennial	Intermittent	Canal/Ditch/ Artificial Path/ Connector	Total ^c	Perennial	Intermittent	Canal/Ditch/ Artificial Path/ Connector	Total ^c
Bois De Sioux	1	2	1	4	0.5	1.1	0.3	1.8
Traverse	1	2	1	4	0.5	1.1	0.3	1.8
Mustinka	3	12	13	28	1.1	7.8	7.6	16.5
Traverse	2	5	11	18	1.0	3.9	5.9	10.7
Stevens	1	7	2	10	0.1	3.9	1.8	5.8
Pomme De Terre	1	6	-	7	0.7	3.5	0.1	4.4
Stevens	1	6	-	7	0.7	3.5	0.1	4.4
Chippewa	5	29	1	35	2.2	20.0	0.3	22.6
Chippewa	1	7	-	8	0.6	4.4	0.3	5.2
Stevens		2	1	3	-	2.5	-	2.5
Swift	4	20	-	24	1.7	13.1	-	14.8
Hawk-Yellow Medicine	-	3	16	19	-	2.0	10.2	12.2
Chippewa	-	2	1	3	-	1.4	0.9	2.3
Kandiyohi	-	1	15	16	-	0.6	9.3	10.0
South Fork Crow	-	-	11	11	-	0.1	6.3	6.4
Kandiyohi	-	-	1	1	-	0.1	0.7	0.7
Renville	-	-	10	10	-	-	5.6	5.6
Lower Minnesota	-	3	20	23	-	1.7	12.7	14.5
Nicollet	-	-	6	6	-	-	4.0	4.1
Renville	-	-	1	1	-	-	0.5	0.5
Sibley	-	3	13	16	-	1.7	8.1	9.8
Middle Minnesota	1	5	7	13	1.4	7.0	5.1	13.5
Blue Earth	-	4	-	4	-	5.7	-	5.7
Le Sueur	1	1	-	2	0.5	0.6	-	1.2
Nicollet	-	-	7	7	0.9	0.6	5.1	6.6
Le Sueur	4	13	3	20	4.3	9.1	2.7	16.1
Blue Earth	2	3	2	7	2.4	3.2	1.8	7.4
Freeborn	-	1	1	2	-	0.5	0.4	0.9
Waseca	2	9	-	11	1.9	5.4	0.4	7.8
Shell Rock	-	2	6	8	-	1.2	3.3	4.5
Freeborn	-	2	6	8	-	1.2	3.3	4.5
Upper Cedar	3	3	3	9	1.4	2.8	3.3	7.6
Freeborn	-	1	1	2	-	1.4	2.4	3.8
Mower	3	2	2	7	1.4	1.4	1.0	3.8
Grand Total ^c	18	78	81	177	11.8	56.3	52.0	120.1

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 system alternative centerline.

b Miles of NHD stream segment(s) crossed by the 2000-ft-wide system alternative corridor.

c Numbers may not total consistently due to rounding.

Table 3
Line 3 Replacement Project – SA-04-L3
Summary of USFWS National Wetlands Inventory Crossed by the System Alternative Proposed Centerline
and within the 2,000-ft-wide System Alternative Corridor in Minnesota

Watershed County	Miles Crossed by the Proposed System Alternative Centerline ^a				Acres Within the 2,000-ft-wide System Alternative Corridor ^b			
	PEM ^c	PFO/PSS ^c	Pond/Lake/ Riverine	Total ^d	PEM ^c	PFO/PSS ^c	Pond/Lake/ Riverine	Total ^d
Bois De Sioux	0.3	-	-	0.3	56.4	-	6.9	63.3
Traverse	0.3	-	-	0.3	56.4	-	6.9	63.3
Mustinka	0.3	-	0.1	0.4	80.8	9.0	6.9	96.7
Stevens	0.2	-	-	0.2	43.3	5.6	2.0	50.8
Traverse	0.1	-	-	0.2	37.5	3.5	5.0	45.9
Pomme De Terre	0.5	-	0.1	0.5	156.7	0.1	44.0	200.8
Stevens	0.5	-	0.1	0.5	156.7	0.1	44.0	200.8
Chippewa	1.1	0.2	-	1.3	222.4	45.7	8.2	276.2
Chippewa	0.3	0.1	-	0.3	68.9	17.1	-	86.0
Stevens	-	-	-	0.1	6.2	-	0.2	6.4
Swift	0.7	0.2	-	0.9	147.3	28.5	8.0	183.8
Hawk-Yellow Medicine	0.6	-	-	0.6	100.1	1.7	-	101.8
Chippewa	-	-	-	-	11.0	0.3	-	11.2
Kandiyohi	0.6	-	-	0.6	89.1	1.4	-	90.5
South Fork Crow	0.6	-	-	0.6	142.3	-	-	142.3
Kandiyohi	0.4	-	-	0.4	81.8	-	-	81.8
Renville	0.2	-	-	0.2	60.5	-	-	60.5
Lower Minnesota	0.6	-	0.2	0.8	159.1	-	58.3	217.4
Nicollet	-	-	-	-	40.2	-	-	40.2
Renville	0.1	-	-	0.1	49.3	-	0.4	49.7
Sibley	0.4	-	0.2	0.7	69.6	-	57.9	127.5
Middle Minnesota	1.0	0.4	0.1	1.4	151.2	123.4	52.3	327.0
Blue Earth	0.9	-	-	0.9	116.7	5.9	0.2	122.8
Le Sueur	0.1	0.1	0.1	0.3	9.2	50.1	46.0	105.3
Nicollet	-	0.2	-	0.2	25.3	67.5	6.2	98.9
Le Sueur	0.7	-	-	0.7	175.1	31.3	3.2	209.6
Blue Earth	0.5	-	-	0.5	126.0	16.8	-	142.9
Freeborn	-	-	-	-	0.2	-	-	0.2
Waseca	0.2	-	-	0.2	48.8	14.4	3.2	66.5
Shell Rock	-	-	-	-	2.0	-	-	2.0
Freeborn	-	-	-	-	2.0	-	-	2.0
Upper Cedar	-	-	-	0.1	11.1	2.3	5.5	18.9
Freeborn	-	-	-	-	2.8	-	0.9	3.7
Mower	-	-	-	-	8.3	2.3	4.6	15.2
Grand Total ^d	5.6	0.6	0.5	6.7	1257.1	213.5	185.5	1656.0

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 system alternative centerline.

b Total acres of NWI within the 2000-ft-wide system 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 – SA-04-L3 Summary of Public Waters Inventory Wetlands and Basins Crossed by the Proposed System Alternative Centerline and within the 2,000-ft-wide System Alternative Corridor in Minnesota				
Watershed County	Miles Crossed by the System Alternative Centerline ^a		Acres Within the System Alternative Corridor ^b	
	Wetlands	Basins	Wetlands	Basins
Mustinka	-	0.1	-	25.8
Stevens	-	0.1	-	25.8
Pomme De Terre	-	-	-	66.0
Stevens	-	-	-	66.0
Chippewa	-	-	-	14.2
Chippewa	-	-	-	14.2
Hawk-Yellow Medicine	-	-	11.0	0.7
Chippewa	-		11.0	
Kandiyohi	-	-	-	0.7
Lower Minnesota	-	0.3	-	63.0
Sibley	-	0.3	-	63.0
Middle Minnesota	-	-	11.0	-
Nicollet	-	-	11.0	-
Le Sueur	0.2	-	24.0	-
Waseca	0.2	-	24.0	-
Grand Total ^c	0.2	0.3	46.0	169.7
<i>PWI Wetland and Basin Data Source: https://gisdata.mn.gov/dataset/water-mn-public-waters</i> a Total miles of PWI wetlands and basins crossed by the system alternative centerline. b Total acres of PWI wetlands and basins crossed by the 2000-ft-wide system alternative corridor. c Numbers may not total consistently due to rounding.				

Table 5 Line 3 Replacement Project – SA-04-L3 Wells within the 2,000-ft-wide System Alternative Corridor in Minnesota^a				
Watershed Name	County	Well Type	Distance from Centerline (feet)	Total Number of Wells
Bois De Sioux	Traverse	Domestic	432	1
Mustinka	Traverse	Domestic	252	2
			611	
	Stevens	Domestic	482	3
			422	
			133	
Pomme De Terre	Stevens	Domestic	551	7
			757	
			839	
			95	
			444	
			167	
			802	
Chippewa	Stevens	Domestic	457	3
			884	
			992	
	Swift	Domestic	706	1
			532	7
			862	
			658	
			638	
			62	
			381	
			368	
		Industrial	591	1
		Irrigation	385	2
			910	
		Observation	717	1
	Chippewa	Domestic	384	1
Hawk-Yellow Medicine	Kandiyohi	Abandoned	998	2
			730	
		Domestic	732	8
			442	
			253	
			69	
			715	
			549	
			707	
			201	
		Other	69	1
South Fork Crow	Kandiyohi	Domestic	863	2

South Fork Crow (cont.)	Kandiyohi (cont.)	Domestic (cont.)	531	2 (cont.)
		Test Well	861	2
			866	
	Renville	Domestic	748	1
Hawk-Yellow Medicine	Renville	Domestic	868	2
			873	
South Fork Crow	Renville	Domestic	84	10
			84	
			532	
			672	
			39	
			39	
			716	
			644	
			45	
			382	
		Irrigation	583	1
Lower Minnesota	Renville	Domestic	561	2
			685	
	Sibley	Domestic	825	11
			208	
			700	
			166	
			997	
			44	
			274	
			291	
			861	
			476	
			11	
		Unknown	123	1
	Nicollet	Domestic	255	6
			804	
			856	
			840	
			57	
			605	
		Other	785	1
		Unknown	16	9
			869	
			825	
			905	
			801	
			982	
			891	

Lower Minnesota (cont.)	Nicollet (cont.)	Unknown (cont.)	810	9 (cont.)
			617	
Middle Minnesota	Nicollet	Domestic	82	13
			996	
			801	
			355	
			530	
			636	
			937	
			601	
			944	
			633	
			522	
			239	
			397	
		Unknown	36	10
			428	
			327	
			976	
			436	
			666	
			42	
			486	
			530	
			861	
	Le Sueur	Domestic	1	1
		Monitoring	288	1
	Blue Earth	Domestic	391	9
			444	
			825	
			705	
			484	
			50	
			907	
			362	
			278	
		Irrigation	764	1
Le Sueur	Blue Earth	Domestic	683	12
			240	
			619	
			654	
			550	
			854	
			999	
			547	
			747	
			201	

Le Sueur (cont.)	Blue Earth (cont.)	Domestic (cont.)	713	12 (cont.)	
			756		
		Test Well	52	1	
	Waseca	Domestic		998	6
				553	
				404	
				184	
				500	
				329	
	Freeborn	Domestic		946	5
				641	
				784	
				873	
			190		
Test Well		690	1		
Shell Rock	Freeborn	Domestic	870	3	
	185				
	622				
Upper Cedar	Freeborn	Domestic	593	4	
			98		
			673		
			712		
Shell Rock	Freeborn	Domestic	923	1	
Upper Cedar	Freeborn	Domestic	618	1	
	Mower	Abandoned	366	7	
			85		
			938		
			404		
			398		
			320		
			338		
		Domestic	304	13	
			703		
			682		
			946		
			669		
			932		
			62		
	755				
	424				
	280				
	897				
	335				
	663				
	Irrigation	654	2		
		615			

County Well Index (CWI) Data Source: ftp://mgssun6.mngs.umn.edu/pub2/cwi4/cwilocs_nps.zip
^a Municipal wells are not included in the source data.

Table 6 Line 3 Replacement Project – SA-04-L3 Drinking Water Supply Management Areas (DWSMA) and Wellhead Protection Areas (WHPA) Crossed by the Proposed System Alternative Centerline and within the 2,000-ft-wide System Alternative Corridor in Minnesota					
Watershed	County	Approximate Stationing ^a	Name	Miles Crossed by the System Alternative Centerline ^b	Acres Within the System Alternative Corridor ^c
Hawk-Yellow Medicine	Kandiyohi	1454+00	Raymond 5 DWSMA	-	0.1
Le Sueur	Blue Earth	2903+00	Eagle Lake DWSMA	-	26.2
Upper Cedar	Mower	3970+00	Lyle WHPA	0.5	138.2
		3972+00	Lyle DWSMA	0.8	182.3
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 system alternative centerline stationing. b Total miles of DWSMA and WHPA crossed by the system alternative centerline. c Total acres of DWSMA and WHPA crossed by the 2000-ft-wide system alternative corridor.					

Table 7 Line 3 Replacement Project – SA-04-L3 Surface Water Intakes within the 2,000-ft-wide System, Alternative Corridor in Minnesota^a				
Watershed Name	County	Permit Type	Permit Status	Total
Mustinka	Stevens	Individual Permit	Inactive	1
Pomme De Terre	Stevens	Individual Permit	Active	1
			Inactive	2
Chippewa	Stevens	Individual Permit	Active	2
	Swift	Individual Permit	Active	6
			Inactive	2
Lower Minnesota	Sibley	Individual Permit	Inactive	1
Middle Minnesota	Le Sueur	Individual Permit	Inactive	1
	Blue Earth	Individual Permit	Active	4
			Inactive	2
Le Sueur	Blue Earth	Individual Permit	Inactive	3
	Waseca	General Permit Authorization	Inactive	2
Upper Cedar	Freeborn	Individual Permit	Inactive	1
	Mower	Individual Permit	Active	2
MPARS Minnesota DNR, Ecological and Water Resources, Sean Hunt, 651-259-5679 ^a Municipal wells are not included in the source data.				