RED LAKE WATERSHED DISTRICT

November 12, 2026

9:00 a.m.

Agenda

9:00 am	Call to Order	Action
	Review and approve agenda	Action
	Requests to appear	Information
	October 22, 2026 Minutes	Action
	Financial Report as of November 10, 2026	Action
	General Fund Update as of September 30, 2026	Information
	Certificate of Deposit Renewals	Info/Action
	December 2026 Board Meeting Dates	Info/Action
9:30 am	RLWD Project 149A, Thief River 1W1P, Thief River Streambank 2026 Sites Final Payment Hearing	Action
	Clearwater River Bank Stabilization, RLWD Project No. 149B Pay Estimate No. 4	Info/Action
	2027 Whiteford 5 Thief River Streambank Stabilization	Info/Action
	Euclid East Impoundment, RLWD Project No. 60C Land Rental Agreement	Info/Action
	RLWD Project No. 43B. Burnham Creek – Maintenance	Information
	RLWD Project No. 179, Improvement to Polk County Ditch 39 Trees	Info/Action
	Grygla FDR, RLWD Project No. 183	Information
	RLWD Project No. 114, Turtle Connection Cross Lakes	Information
	Houston Avenue – Crookston	Info/Action
	JD1 Petition Meeting Notice – November 12, 2026	Information
	Winsor-Hangaard, RLWD Project No. 113 Ditch Cleaning	Info/Action

RLWD Permit No. 26106: River Falls 19, Pennington County	Info/Action
Permits: 26110, 26139, 26140, 26143, and 26149	Action
River Watch Jackets	Info/Action
RLWD Logo/Merchandise	Info/Action
1W1P Coordinator Position	Information
MN Paid Leave Policy	Info/Action
MN Watersheds Annual Conference and Trade Show Grand View Lodge – Nisswa, MN December 2-4, 2026	Information
Administrator's Report	Information
Legal Counsel Update	Information
Managers' Updates	Information
Adjourn	Action

UPCOMING MEETINGS:

November 12, 2026	RLWD Board Meeting, 9:00 am
November 17, 2026	RRWMB Meeting, 10:00 am, Ada
November 24, 2026	RLWD Board Meeting, 9:00 am
November 26-27, 2026	HOLIDAY-RLWD Closed

RED LAKE WATERSHED DISTRICT
Board of Managers Minutes
October 22, 2026

President, Gene Tiedemann, called the meeting to order at 9:00 a.m. at the Red Lake Watershed District Office, Thief River Falls, MN.

Managers Present: Gene Tiedemann, Tom Anderson, Brian Dwight, Terry Sorenson, LeRoy Ose, Al Page, and Grant Nelson. Staff Present: Tammy Audette, Melissa Bushy, Elaine Rychlock, and Legal Counsel, Delray Sparby.

The Board reviewed the agenda. A motion was made by Ose, seconded by Dwight, and passed by a unanimous vote that the Board approve the agenda, with additions as noted. Motion carried.

The Board reviewed the October 8, 2026, Board meeting minutes. Motion by Nelson, seconded by Sorenson, to approve the October 8, 2026, Board meeting minutes, with corrections as noted. Motion carried.

The Board reviewed the Financial Report as of October 21, 2026. Motion by Nelson, seconded by Page, to approve the Financial Report as of October 21, 2026. Motion carried.

Manager Ose discussed a beaver dam issue located in Marshall County.

Administrator Audette and staff member Rychlock shared there will be three Certificate of Deposit Renewals coming due in the next few weeks that will be up for renewal discussion at the next Board meeting on November 12, 2026.

Jerry Pribula, Pribula Engineering, reviewed the temporary and permanent easements for the Improvement to Polk County Ditch 39, RLWD Project No. 179. Motion by Sorenson, seconded by Page, to approve the easements presented. Motion carried. The contract with RJ Zavoral & Sons, Inc., was also discussed. Motion by Ose, seconded by Anderson, to approve the contract with RJ Zavoral & Sons, Inc., for construction of the Improvement to Polk County Ditch 39, RLWD Project No. 179. Motion carried.

The Final Payment Hearing for the 2026 Thief River Streambank sites, Thief River 1W1P, RLWD Project No. 149A, was discussed. Motion by Nelson, seconded by Ose, to set the Final Payment Hearing date for the construction of the 2026 Thief River Streambank sites, Thief River 1W1P, RLWD Project No. 149A., for November 12, 2026 @ 9:30 am at the District office. Motion carried.

The Board reviewed Pay Estimate No. 3 for the Clearwater River Bank Stabilization, RLWD Project No. 149B, Clearwater 1W1P, in the amount of $287,697.62, to Quality Spray Foam LLC dba Anderson Excavating. Motion by Sorenson, seconded by Nelson, to approve Pay Estimate No. 3 for the Clearwater River Bank Stabilization, RLWD Project No. 149B, Clearwater 1W1P, to Quality Spray Foam LLC dba Anderson Excavating. Motion carried.

Administrator Audette discussed the Houston Avenue Project, in Crookston and a meeting to be held with local legislators, City of Crookston and landowners.

Administrator Audette reviewed the Release of Declaration of Restrictive Covenants for the TRF Westside, RLWD Project No. 178.

Administrator Audette discussed the Moose River Impoundment, RLWD Project No. 13 and potential abandonment of ditches east of the impoundment area

RLWD permit no. 26124 was discussed. The proposed work is in Section 7, Badger Township, in Polk County. Motion by Page, seconded by Nelson, to approve RLWD permit no. 26124. Motion carried.

The Board reviewed the following permits for approval. Motion by Ose, seconded by Anderson, to approve the following permits with conditions stated on the permit: No. 26101, Kraig Kainz, Grand Plain Township, Marshall County; No. 26129, Keith Mack, Mayfield Township, Pennington County; No. 26130, Jerry Glanzer, Wyandotte Township, Pennington County; No. 26131, Josh Krueger, Belgium Township, Polk County; No. 26132, MnDOT, Pine Lake Township, Clearwater County; No. 26133, Chase Schmitz, Browns Creek Township, Red Lake County; No. 26134, Terence Funk, Browns Creek Township, Red Lake County; No. 26135, Terence Funk, Browns Creek Township, Red Lake County; No. 26136, Wayne Wolden, Gully Township, Polk County; No. 26137, Richard Hruby, Jr., Silverton Township, Pennington County; and No. 26138, Browns Creek Township, Browns Creek Township, Red Lake County.

Administrator Audette reviewed the handouts from the MN Watersheds October 2026 Drainage Workgroup Meeting.

Administrator Audette discussed with the Board the proposed 1W1P Coordinator position that would be shared with Clearwater, Red Lake River, and Thief River. After much discussion, the RLWD Board would like to see one person for the position rather than it being a shared position.

Administrator Audette discussed the recent meeting with the Budget and Salary Committee about the Minnesota Paid Leave Policy and implementing that into our existing personnel policy. After much discussion, a motion was made by Ose, seconded by Nelson, to have the Budget and Salary Committee meet again with Legal Counsel Sparby to come up with their recommendations. These recommendations will be brought back to the Board on November 12, 2026. Motion carried.

Administrator's Report:

- Audette participated virtually in the October 20, 2026 RRWMB Meeting.
- Staff members Lindsey Deselich and Corey Hanson attended the BWSR Academy.
- Various staff plan to attend the 2026 MN Watersheds Annual Conference & Trade Show.
- Audette discussed the JD1 conference call with John Kolb & and the November 12th Joint Ditch Board Meeting.

Manager Ose shared he attend the Minnesota Water Resources Conference at the Saint Paul River Centre on October 13-14, 2026.

Motion by Page, seconded by Dwight, to adjourn the meeting. Motion carried.

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LeRoy Ose, Secretary

RED LAKE WATERSHED DISTRICT
Financial Report as of November 11, 2026

Ck#	Check Issued to:	Description	Amount
online	MN Withholding	Withholding MN Tax *(10/7/26 pp)*	$1,244.47
online	EFTPS/MN Withholding	Withholding FICA, Fed, Medi, & MN Tax *(11/4/26 pp)*	$6,657.52
online	PERA	*11/4/26 pp*	$3,419.42
42490	Polk County Recorder	Recording Fee for Project #179	$46.00
42491	Pennington County Recorder	Recording Fee for Project #178	$46.00
42492	Quality Spray Foam/Anderson	Pay Est #3 Clearwater River Stabilization	$287,697.62
42493	Frontier Precision -void-	reprinted check #42472 ($3,976.20)	
42494	Curtis & Betty Amundson	Damage Check for Project #179 Polk Co.Ditch 39	$6,345.00
42495	Scott Enright	Damage Check for Project #179 Polk Co.Ditch 39	$20,504.40
42496	Paul Novacek	Damage Check for Project #179 Polk Co.Ditch 39	$17,699.08
42497	Daniel Altepeter	Damage Check for Project #179 Polk Co.Ditch 39	$2,242.37
42498	Alecia Helms	Damage Check for Project #179 Polk Co.Ditch 39	$1,096.48
42499	Eileen Wurden Trustee	Damage Check for Project #179 Polk Co.Ditch 39	$2,242.37
42500	Kyle & Rebecca Novacek	Damage Check for Project #179 Polk Co.Ditch 39	$3,142.43
42501	Pennington County Recorder	Notary Commission for Melissa	$20.00
42502	Kristie Huseth	Office Cleaning	$402.50
42503	Northdale Oil	Fuel for Vehicle #929	$153.78
42504	Page's Country Creations	New Logo Attire	$293.15
42505	Pitney Bowes Global Financial	Postage Meter Rental	$124.53
42506	Erik Haman	Beaver Trapping Project #51	$400.00
42507	Lyle Wilkens	Cleaned Burnham Creek Channel Project #43B	$9,000.00
42508	Don's Sewing & Vacuum	New Office Vacuum	$399.00
42509	RMB Envirmental Laboritories	Lab Testing & Courier Fees	$1,547.00
42510	Quality Spray Foam/Anderson	Repaired Drop Structure (Flage) 1W1P #149	$1,790.00
42511	Karvakko	Engineer for Northome Stormwater 1W1P #149C	$960.00
42512	Marco	Annual M-files Software & Canon Copier Fee	$4,698.01
42513	Farmers Union Oil Company	Monthly Fuel for Vehicles	$1,286.98
42514	HDR	**see details below	$35,159.00
42515	Mark Beito	Beaver Trapping Project #13 Moose River	$1,500.00
42516	Lunke Construction	Mickelson Gate Installation - Project #14 SD83	$1,000.00
42517	Oil Boyz Express Lube	Oil changes on 4 vehicles	$354.87
42518	Pennington SWCD	**see details below	$9,079.73
online	MN Energy	Utilities	$20.00
online	Pure Water	Office H20	$38.00
online	WEX	Monthly Fee	$11.00
online	WEX	Medical Care Reimbursement	$21.97
online	AT & T	Monthly Cell Phone Bill	$406.20

online	Garden Valley	Monthly Telephone Services	$68.95
online	Corporate Technologies	Microsoft 365 & IT Services	$2,358.80
online	MN PL Fund MN PL Tax	MN Paid Leave Tax for QTR 3	$1,238.17
online	Vestis	Office Rug Rental	$206.99
online	Medica	Health Premiums	$11,319.06
online	Cardmember Services	Monthly Credit Card Expenses	$5,627.48
online	MSRS/Voya	Employee Contributionfor HCSP	$464.41
online	WEX	Mediacal Care Reimbursement	$20.00
online	AFLAC	Staff Insurance	$358.58
online	Delta Dental	Dental Insurance Premium	$631.22
online	NCPERS	Staff Life Insurance	$128.00
direct	Lindsey Deselich	Per diem and fuel for MAWD	$79.27
direct	Corey Hanson	Per diem for MAWD & board room TV Vanco	$176.59
direct	Corey Hanson	Receiver for board room TV	$85.90
direct	Brian Dwight	Mileage & Per Diem	$186.76
direct	Grant Nelson	Mileage	$48.64
direct	Terry Sorenson	Mileage	$205.20
direct	Al Page	Mileage	$193.80
direct	Board & Staff Payroll	*11/4/26 pp*	$18,744.29
	Total Checks		**$463,190.99**

***HDR	JD #1 Improvement #184	$27,147.95
	Mud River Restoration #180	$7,321.51
	Turtle / CC Restoration #114	$689.54
		$35,159.00

**Penn	Red Lake Rvr 1W1P #149 T&E, PD & Admin	$7,369.75
**SWCD	Thief River 1W1P #149A Admin Fees	$204.34
	Clearwater River 1W1P #149B T&E Admin	$1,505.64
		$9,079.73

NSB	Balance as of October 21, 2026	Current interest rate is 2.89%	$17,412.93
	Total Checks Written		-$463,190.99
	Receipt #12577	Transfer Funds from AFB to NSB	$500,000.00
	Receipt #12578	MPCA Wraps Deposit #157B	$4,811.00
	Receipt #12579	State of MN - Market Value Ag Credit	$50,298.57
	Receipt #12580	Beltrami County 149C Time Reimbursement	$13,373.61
	Receipt #12581	October Monthly Interest	$912.00
	Receipt #12583	Dakota Heritage CD Interest October	$7,540.20
		JE # 405 Reversed Payroll tax adjustment	$1,181.55
	Balance as of November 11, 2026		**$132,338.87**

American	Balance as of October 21, 2026	Current interest rate is 3.35%	$4,038,038.71
Federal	Receipt #12577	Transfer Funds from AFB to NSB	-$500,000.00
Fosston	Receipt #12582	October Monthly Interest	$10,545.64
	Balance as of November 11, 2026		**$3,548,584.35**

CD's	**Dakota Heritage**	7 month CD 3.89% DUE Expiry 11-12-26	$ 500,000.00
	Ultima Bank	3 month CD 4.06% Expiry 11-20-26	$ 500,000.00
	Ultima Bank	6 month CD 4.0% Expiry 11-29-26	$ 237,000.00
	Dakota Heritage	12 month CD 4.04% Expiry 2-11-27	$ 250,000.00
	Ultima Bank	12 month CD 3.75% Expiry 2-27-27	$ 500,000.00
	Dakota Heritage	12 month CD 4.04% Expiry 3-4-27	$ 500,000.00
	Dakota Heritage	12 month CD 4.04% Expiry 3-4-27	$ 250,000.00
	Dakota Heritage	12 month CD 4.04% Expiry 5-06-27	$ 500,000.00
	Ultima Bank	9 month CD 4.06% Expiry 5-20-27	$ 500,000.00
	Edward Jones	12 month CD 4.05% Expiry 6-23-27	$ 239,000.00
	Dakota Heritage	12 month CD 4.14% Expiry 8-19-27	$ 250,000.00
		Total CD Investments	**$4,226,000.00**

	NSB, AFB +CD's	**$7,906,923.22**
	Cash that has been recvd and earmarked for projects:	
	(taken from remaining balance on financials)	
10% pmt coming - no reconciliation needed	2023 Grant Clearwater 1W1P Project #149B	-$136,475.20
	2024 Grant Red Lake River 1W1P Project #149	-$82,074.13
	2024 Grant Thief River 1W1P Project #149A	$7,866.56
	2025 Grant Clearwater 1W1P Project #149B	$665,569.57
	2024 CRP Payment Red Lake 1W1P	$2,132.00
	2025 CRP Payment Red Lake 1W1P	$100,000.00
	2026 Grant Red Lake River 1W1P Project #149	$856,311.50
	2026 Grant Thief River 1W1P Project #149A	$352,474.00
	2026 MIDPOINT Red Lake River Project #149	$10,000.00
	2025 MIDPOINT Thief River Project #149A	$21,809.15
		$1,797,613.45
	Payables committed to by board action:	
	City of Grygla	$12,500.00
	Mud River 180C	$500,000.00
		$512,500.00
	Total accessible cash (Est.)	**$5,596,809.77**

2026 GENERAL FUND BUDGET Board Approved September 11, 2025			
	2026 Budget	2026 Expenses as of 09/30/2026	(over) under
Manager's fees, salaries	40,000.00	26,043.04	13,956.96
Board of Manager's expense	24,200.00	18,034.04	6,165.96
Staff salaries	633,000.00	460,474.51	172,525.49
Payroll taxes	49,500.00	39,778.13	9,721.87
Employee benefits	179,000.00	108,700.69	70,299.31
Travel and meetings(inc. mileage & exp.)	7,500.00	1,953.07	5,546.93
Audit	10,400.00	12,500.00	(2,100.00)
Legal	16,000.00	-	16,000.00
Office supplies	20,000.00	11,387.72	8,612.28
Office equipment	20,000.00	9,510.43	10,489.57
Appraiser/Viewer Expense	2,000.00	4,677.28	(2,677.28)
Professional services (inc. Eng. Fees)	54,000.00	26,400.44	27,599.56
Dues and subscriptions	11,000.00	10,692.00	308.00
Insurance and bonds	30,000.00	32,841.00	(2,841.00)
Repairs and maintenance-Building	15,000.00	13,051.46	1,948.54
Utilities	12,000.00	5,380.20	6,619.80
Advertising and publications	4,000.00	1,933.33	2,066.67
Telephone	10,000.00	7,415.97	2,584.03
Vehicle expense and maintenance	15,000.00	14,065.30	934.70
Engineering Costs (supplies)	3,000.00	2,207.67	792.33
Engineering equipment	49,000.00	40,857.56	8,142.44
TOTAL	1,204,600.00	847,903.84	356,696.16
Less: Overhead (1.5 x salary)	$ 929,241.33		
Less: Miscellaneous revenue	$ 3,000.00		
General Fund Budget	$ 252,100.00		

January 1, 2026 Beg. Balance		229,720.00
General Fund Levy	$	339,574.00

Remaining budget to come out of reserve $1,573.50

	Dakota Heritage	American Federal	Northern State Bank	Ultima Bank MN	Edward Jones
	218-253-2265	218-435-1474	218-681-4020	218-435-2265x104	218-683-5436
	Red Lake Falls	Fosston	Thief River Falls	Fosston	Thief River Falls
	Casey	Ryan	Personal Banking	Mike	Kevin (Jennifer)
CD Rates	18 mo. @ 4.14% APY	12 mo. @ 4.05%	13 mo. @ 3.75%	12 mo. @ 4.30% APY	12 mo. @ 4.65%
as of	12 mo. @ 4.14%	6 mo. @ 3.95%	7 mo. @ 3.40%	9 mo. @ 4.30%	9 mo. @ 4.55%
8/11/2026	9 mo. @ 4.04%	3 mo. @ 3.85%		6 mo. @ 4.30%	6 mo. @ 4.40%
	7 mo. @ 4.04%				3 mo. @ 4.20%

Number	Financial Institution	Amount	Rate	Mature Date
79416731	Dakota Heritage	$500,000.00	7 mo. @ 3.89%	11/12/2026
20010172	Ultima Bank	$500,000.00	3 mo. @ 4.06%	11/20/2026
20010047	Ultima Bank	$237,000.00	6 mo. @ 4.0%	11/29/2026
79416727	Dakota Heritage	$250,000.00	12 mo. @ 4.04%	2/11/2027
115183	Ultima Bank	$500,000.00	12 mo. @ 3.75%	2/27/2027
79416728	Dakota Heritage	$500,000.00	12 mo. @ 4.04%	2/26/2027
79416729	Dakota Heritage	$250,000.00	12 mo. @ 4.04%	2/27/2027
79416730	Dakota Heritage	$500,000.00	12 mo. @ 4.04%	5/7/2027
20010173	Ultima Bank	$500,000.00	9 mo. @ 4.06%	5/20/2026
Bank of Amer.	Edward Jones	$239,000.00	12 mo. @ 4.05%	6/23/2027
79416732	Dakota Heritage	$250,000.00	12 mo. @ 4.14%	8/19/2027

FINAL PAYMENT

Client Project No.

HEI Project No. *3655-0099-006*

PAYMENT NUMBER: 4

Project: Thief River Streambank Stabilization Project

Location: Sec. 24 & 25 Excel Twp., Sec. 7 Agder Twp., Marshall County

PERIOD OF ESTIMATE:

FROM **10/7/2026** TO **10/16/2026**

CONTRACT CHANGE ORDER SUMMARY

Change Order NO.	DATE	AMOUNT ADDITIONS	DEDUCTIONS
TOTALS		$ -	$ -
NET CHANGE		$ -	

ESTIMATE

1. Original Contract		$	385,792.00
2. Change Orders		$	-
3. Revised Contract (1+2)		$	385,792.00
4. Work Completed*		$	385,041.00
5. Stored Materials*		$	-
6. Adjustments*		$	-
7. Subtotal (4+5+6)		$	385,041.00
8. Retainage	0.00%	$	-
9. Previous Payments		$	342,707.75
10. Amount Due (7-8-9)		**$**	**42,333.25**

*Detailed Breakdown Attached if Non-Zero Value

CONTRACT TIME

Completion Date Contract

Original (days)	N/A	On Schedule? Yes	Starting Date: 8/10/2026
Revised	N/A		
Remaining	N/A		Final Completion: 10/16/2026

CONTRACTOR'S CERTIFICATION:

The undersigned Contractor certifies, to the best of his/her knowledge, the following:
(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;
(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all Liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such Liens, security interest, or encumbrances); and
(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

Contractor: **Northern Harbor, LLC**

By: Ryan Bruns

Date: 10/30/2026

ENGINEER'S RECOMMENDATION:

I have reviewed the progress of the work, and to the best of my knowledge, information and belief, in accordance with the terms of the Contract, the Contractor is entitled to a partial payment in the amount requested.

Engineer: HOUSTON engineering, inc.

By: Tony A. Nordby

Tony A. Nordby

Date: 10/27/2026

OWNER'S APPROVAL:

Owner: **Red Lake Watershed District**

By:

Date:

REMIT PAYMENT TO:

Northern Harbor, LLC
8065 Sautbine Rd NW
Walker, MN 56484

HOUSTON engineering, inc.

PAY ESTIMATE

PAY ESTIMATE #:	4
SUBMITTED:	11/12/2026
BEGIN DATE:	10/7/2026
END DATE:	10/16/2026

Client Project No.
HEI Project No. *3655-0099-006*
Project: *Thief River Streambank Stabilization Project*
Location: *Sec. 24 & 25 Excel Twp., Sec. 7 Agder Twp., Marshall County*
Contractor: *Northern Harbor, LLC*

ITEM NO.	DESCRIPTION	UNIT	CONTRACT QUANTITY	CONTRACT PRICE	CONTRACT AMOUNT	CURRENT PAY ESTIMATE QUANTITY	CURRENT PAY ESTIMATE AMOUNT	PREVIOUS PAY ESTIMATES QUANTITY	PREVIOUS PAY ESTIMATES AMOUNT	PAY ESTIMATES TO DATE QUANTITY	PAY ESTIMATES TO DATE AMOUNT
Original Contract Items											
2021.501	MOBILIZATION	LUMP SUM	1.	$ **25,000.00**	$ 25,000.00		$ -	1.	$ 25,000.00	1.	$ 25,000.00
2101.501	CLEARING AND GRUBBING	LUMP SUM	1.	$ **15,000.00**	$ 15,000.00		$ -	1.	$ 15,000.00	1.	$ 15,000.00
2104.503	REMOVE PIPE CULVERTS	LIN. FT.	46.	$ **50.00**	$ 2,300.00		$ -	46.	$ 2,300.00	46.	$ 2,300.00
2106.507	EXCAVATION - COMMON (P)	CU. YD.	15,777.	$ **7.00**	$ 110,439.00		$ -	15,777.	$ 110,439.00	15,777.	$ 110,439.00
2501.502	FLAP GATE FOR 18" CS PIPE	EACH	1.	$ **1,500.00**	$ 1,500.00		$ -	1.	$ 1,500.00	1.	$ 1,500.00
2501.503	18" CS PIPE CULVERT	LIN. FT.	148.	$ **45.00**	$ 6,660.00		$ -	148.	$ 6,660.00	148.	$ 6,660.00
2511.507	RANDOM RIPRAP CLASS II	CU. YD.	10.	$ **130.00**	$ 1,300.00		$ -	10.	$ 1,300.00	10.	$ 1,300.00
2573.502	CULVERT END CONTROLS	EACH	3.	$ **150.00**	$ 450.00	1.	$ 150.00	2.	$ 300.00	3.	$ 450.00
2573.503	FLOATATION SILT CURTAIN TYPE MOVING WATER	LIN. FT.	300.	$ **10.00**	$ 3,000.00	50.	$ 500.00	250.	$ 2,500.00	300.	$ 3,000.00
2573.503	SEDIMENT CONTROL LOG TYPE STRAW	LIN. FT.	6,070.	$ **4.00**	$ 24,280.00	1,998.	$ 7,992.00	4,017.	$ 16,068.00	6,015.	$ 24,060.00
2575.501	TURF ESTABLISHMENT	LUMP SUM	1.	$ **9,000.00**	$ 9,000.00	0.3	$ 2,700.00	0.7	$ 6,300.00	1.	$ 9,000.00
2575.504	ROLLED EROSION PREVENTION CATEGORY 25	SQ. YD.	14,811.	$ **3.00**	$ 44,433.00	4,318.	$ 12,954.00	10,316.	$ 30,948.00	14,634.	$ 43,902.00
2577.601	TOE-WOOD DEBRIS	CU. YD.	3,379.	$ **35.00**	$ 118,265.00		$ -	3,379.	$ 118,265.00	3,379.	$ 118,265.00
2577.601	SOD MAT	SQ. YD.	1,611.	$ **15.00**	$ 24,165.00		$ -	1,611.	$ 24,165.00	1,611.	$ 24,165.00
Totals											
				Original Contract Amount	$ **385,792.00**						
				Extra / Change Order Amount	$ **-**						
						Work Completed	$ **24,296.00**		$ **360,745.00**		$ **385,041.00**

PARTIAL PAYMENT ESTIMATE

Client Project No.

HEI Project No. *3655-0105*

PAYMENT NUMBER: 4

Project: Clearwater River Stabilization

Location: Sections 22 & 27, Greenwood Twp. Clearwater County, MN

PERIOD OF ESTIMATE:

FROM **10/21/2026** TO **11/4/2026**

CONTRACT CHANGE ORDER SUMMARY

Change Order NO.	DATE	AMOUNT ADDITIONS	DEDUCTIONS
TOTALS		$ -	$ -
NET CHANGE		$ -	

ESTIMATE

1. Original Contract		$	897,705.13
2. Change Orders		$	-
3. Revised Contract (1+2)		$	897,705.13
4. Work Completed*		$	792,404.48
5. Stored Materials*		$	-
6. Adjustments*		$	-
7. Subtotal (4+5+6)		$	792,404.48
8. Retainage	5.00%	$	39,620.22
9. Previous Payments		$	633,712.38
10. Amount Due (7-8-9)		**$**	**119,071.88**

*Detailed Breakdown Attached if Non-Zero Value

CONTRACT TIME

Completion Date Contract

Original (days)	N/A	On Schedule? Yes	Starting Date: 8/17/2026
Revised	N/A		
Remaining	N/A		Final Completion: 7/30/2027

CONTRACTOR'S CERTIFICATION:

The undersigned Contractor certifies, to the best of his/her knowledge, the following:
(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;
(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all Liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such Liens, security interest, or encumbrances); and
(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

Contractor: **Quality Spray Foam LLC/dba Anderson Excavating**

By: _____

Date: _____

ENGINEER'S RECOMMENDATION:

I have reviewed the progress of the work, and to the best of my knowledge, information and belief, in accordance with the terms of the Contract, the Contractor is entitled to a partial payment in the amount requested.

Engineer: HOUSTON engineering, inc.

By: Tony A. Nordby

Tony A. Nordby

Date: 11/10/2026

OWNER'S APPROVAL:

Owner: **Red Lake Watershed District**

By: _____

Date: _____

REMIT PAYMENT TO:

Quality Spray Foam LLC/dba Anderson Excavating
11374 215th St. NW
Thief River Falls, MN 56701

HOUSTON engineering, inc.

Client Project No.
HEI Project No. *3655-0105*
Project: *Clearwater River Stabilization*
Location: *Sections 22 & 27, Greenwood Twp. Clearwater County, MN*
Contractor: *Quality Spray Foam LLC/dba Anderson Excavating*

PAY ESTIMATE

PAY ESTIMATE #:	**4**
SUBMITTED:	**11/12/2026**
BEGIN DATE:	**10/21/2026**
END DATE:	**11/4/2026**

ITEM NO.	DESCRIPTION	UNIT	CONTRACT			CURRENT PAY ESTIMATE		PREVIOUS PAY ESTIMATES		PAY ESTIMATES TO DATE	
			QUANTITY	PRICE	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT
Original Contract Items											
2021.501	MOBILIZATION	LUMP SUM	1.	**$ 70,000.00**	$ 70,000.00	0.355	$ 24,850.00	0.645	$ 45,150.00	1.	$ 70,000.00
2501.501	MAINT AND RESTORATION OF HAUL ROADS	LUMP SUM	1.	**$ 25,000.00**	$ 25,000.00	0.24	$ 6,000.00	0.76	$ 19,000.00	1.	$ 25,000.00
2101.501	CLEARING AND GRUBBING	LUMP SUM	1.	**$ 40,000.00**	$ 40,000.00	0.12	$ 4,800.00	0.88	$ 35,200.00	1.	$ 40,000.00
2104.604	SALVAGE RIPRAP SPECIAL	S.Y.	58.	**$ 100.00**	$ 5,800.00	12.5	$ 1,250.00	58.	$ 5,800.00	70.5	$ 7,050.00
2106.507	EXCAVATION - COMMON (P)	C.Y.	12,148.	**$ 9.00**	$ 109,332.00	1,450.	$ 13,050.00	10,698.	$ 96,282.00	12,148.	$ 109,332.00
2511.507	RANDOM RIPRAP CLASS I	C.Y.	259.	**$ 81.43**	$ 21,090.37	174.	$ 14,168.82	82.	$ 6,677.26	256.	$ 20,846.08
2511.507	RANDOM RIPRAP CLASS II	C.Y.	400.	**$ 88.60**	$ 35,440.00		$ -	300.	$ 26,580.00	300.	$ 26,580.00
2511.507	RANDOM RIPRAP CLASS III	C.Y.	1,829.	**$ 97.00**	$ 177,413.00	75.	$ 7,275.00	929.	$ 90,113.00	1,004.	$ 97,388.00
2511.507	GRANULAR FILTER MODIFIED	C.Y.	586.	**$ 99.16**	$ 58,107.76		$ -	440.	$ 43,630.40	440.	$ 43,630.40
2511.601	ROCK WEIR (36" TO 60" DIAMETER BOULDERS)	LIN. FT.	308.	**$ 70.00**	$ 21,560.00	77.	$ 5,390.00	231.	$ 16,170.00	308.	$ 21,560.00
2511.601	ROCK BOULDERS (36" TO 60" DIAMETER BOULDERS)	EACH	14.	**$ 200.00**	$ 2,800.00	11.	$ 2,200.00		$ -	11.	$ 2,200.00
2573.503	FLOATATION SILT CURTAIN TYPE MOVING WATER	LIN. FT.	2,620.	**$ 20.00**	$ 52,400.00	970.	$ 19,400.00	1,780.	$ 35,600.00	2,750.	$ 55,000.00
2573.503	SEDIMENT CONTROL LOG TYPE STRAW	LIN. FT.	2,680.	**$ 4.00**	$ 10,720.00	1,065.	$ 4,260.00	1,472.	$ 5,888.00	2,537.	$ 10,148.00
2573.601	TEMPORARY STREAM CROSSING	LUMP SUM	1.	**$ 15,000.00**	$ 15,000.00		$ -	1.	$ 15,000.00	1.	$ 15,000.00
2574.508	FERTILIZER TYPE 3	POUND	500.	**$ 1.00**	$ 500.00	420.	$ 420.00	296.	$ 296.00	716.	$ 716.00
2575.504	ROLLED EROSION PREVENTION CATEGORY 25	S.Y.	12,379.	**$ 3.00**	$ 37,137.00	5,400.	$ 16,200.00	4,388.	$ 13,164.00	9,788.	$ 29,364.00
2575.505	SEEDING	ACRE	2.5	**$ 2,500.00**	$ 6,250.00	2.1	$ 5,250.00	1.5	$ 3,750.00	3.6	$ 9,000.00
2575.608	SEED NORTHEAST ROADSIDE (NER)	POUND	65.	**$ 15.00**	$ 975.00	55.	$ 825.00	39.	$ 585.00	94.	$ 1,410.00
2577.601	TOE - WOOD DEBRIS	C.Y.	2,732.	**$ 65.00**	$ 177,580.00		$ -	2,732.	$ 177,580.00	2,732.	$ 177,580.00
2577.601	SOD MAT	S.Y.	1,224.	**$ 25.00**	$ 30,600.00		$ -	1,224.	$ 30,600.00	1,224.	$ 30,600.00
Totals											
				Original Contract Amount	**$ 897,705.13**						
				Extra / Change Order Amount	**$ -**						
							Work Completed	**$ 125,338.82**		**$ 667,065.66**		**$ 792,404.48**

2027 Whiteford 5 Thief River Streambank Stabilization

Upper Thief River subwatershed (Tier 1 CWMP Priority)

Landowners: Roger and Pam Nelson

Renter: Barry Walton




Toe-Wood Sod Mat (5-10' wide by 4 feet high, up to about elevation 1152)
4:1 Slope from elevations 1152 to 1154 (approximately 8 feet wide)
State Buffer Requirement - 50 feet from top of slope
Image © 2026 Airbus



RENTAL LEASE AGREEMENT

THIS LEASE AGREEMENT is made and executed on January 11, 2024, revised November 12, 2026 by and between the RED LAKE WATERSHED DISTRICT, 1000 Pennington Avenue South, Thief River Falls, MN 56701, referred to as "Lessor", and ~~Jacqueline Zammert~~ Daniel Fluge and Anthony Zammert, nephew~~sister~~ and uncle~~brother~~, referred to as "Lessee".

The parties agree as follows:

1. DESCRIPTION OF PREMISES. Lessor demises and lets to Lessee, to occupy and use for agricultural purposes and for no other purposes, the following real estate located in the County of Polk, State of Minnesota, described as follows:

28.7 acres located in that part of the East Half of the West Half of the Northeast Quarter (E1/2 W1/2 NE1/4) in Section Twenty-four (24), Township One Hundred Fifty-two (152) North of Range Forty-seven (47) West of the Fifth Principal Meridian referred to as Tract No. T 12091, as part of Farm No. 6910, for Contract period 10-01-14 to 9-30-2029 (see Lease Agreement dated 9/16/14), as set forth in the Conservation Reserve Program Contract between Jacqueline Zammert and Anthony Zammert, (formerly between Robert Zammert and Carole Zammert) and the United States Department of Agriculture, which contract is on file with the West Polk County FSA office in Crookston, MN. Said tract is outlined on the attached Exhibit "A".

2. TERM. The term of this Lease Agreement shall be from October 1, 2014 to September 30, 2029. Lessor reserving the right to re-negotiate the lease term rate in regard to any new lease agreements. However, Lessor shall have no right to terminate said written contract during the term of the CRP contract relating to the leased real property which is in effect at the time of the creation of this lease agreement, as long as Lessee is current in all other lease obligations, unless the same is done under eminent domain.

3. BINDING EFFECT. The provisions of this Lease Agreement shall be binding on the heirs, executors, administrators, successors, and assigns of both Lessor and Lessee in like manner as upon the original parties, unless modified by mutual agreement.

4. RENT. Lessee agrees to pay to Lessor, as annual cash rent for the above described real property, the initial amount of Twenty Five and 25/100ths Dollars ($25.25) per acre, to be paid in annual installments. The first installment is to be paid on December 1, 2015, and subsequent installments on December 1st of each year thereafter for the term of this lease agreement. The last lease payment being due on December 1, 2029. Attached Exhibit "B" shows acres, cost per/acre and total amounts to be paid on a yearly basis during the above described CRP contracts.

5. LAND USE. Lessor and Lessee agree that the leased real property will only be used for hay or other grass crop purposes or may be enrolled in what is commonly known as the CRP program and in that case, all use of said real property by Lessee shall remain consistent with the terms and regulations of said program.

6. LESSOR'S INVESTMENTS AND EXPENSES. Lessor agrees to furnish the property, and to pay the items of expense listed below:

(a) Lessor shall pay all real estate taxes, if any, when due.
(b) All labor and materials necessary for the construction, repair, or maintenance of the Euclid Impoundment, a/k/a Red Lake Watershed District Project 60C.

7. LESSEE'S INVESTMENTS AND EXPENSES. Lessee agrees to furnish the property and services, and to pay the items of expense listed below:

(a) Liability insurance in a minimum amount of $100,000.00.
(b) All machinery, equipment, materials and labor necessary to comply with the terms, rules and regulations of the CRP program, if the leased real property is so enrolled.
(c) Lessee shall bear the full burden and liability for any failure to carry out the provisions or requirements of any enrolled CRP program, and shall hold Lessor harmless therefrom.

8. RIGHT OF RE-ENTRY. Lessor reserves the right to enter upon the leased premises at any reasonable time for the purpose of viewing the leased premises, or making repairs, maintenance or improvements on or to the leased premises, provided that such entry and activity shall not interfere with the occupancy of Lessee or violate any of the provisions of the CRP program requirements. If any action of Lessor results in a violation of any of the conditions or requirements of said program, Lessor agrees to indemnify and hold harmless Lessee for any damages arising as a result of said violations caused by the direct actions of Lessor. If Lessor, in its activities, directly causes any of the leased real property to become out of compliance with the CRP program, Lessor shall be responsible for ensuring that the leased premises are repaired and brought back into compliance with said program.

9. ASSIGNMENT OR SUBLETTING. Lessee shall not assign this Lease Agreement, or any interest in this Lease Agreement, nor sublet the Leased Premises, or any part of the Leased Premises. Lessee shall also not permit the Leased Premises, or any part of the Leased Premises, to be occupied or possessed by any other person or persons other than Lessee's agents and employees. Any such assignment or subletting shall be cause for termination of the Lease Agreement.

10. WATER RIGHTS. Lessee shall take no action, nor alter or improve any portion of the Leased Premises in a manner which would affect the source, flow or outlet of any surface water on said Leased Premises. Lessee shall not affect or divert in any way the surface water now located or to be located on the Leased Premises without the express written permission of Lessor.

11. GOVERNING LAW. It is agreed that this Lease Agreement shall be governed by, construed, and enforced in accordance with the laws of the State of Minnesota.

12. WAIVERS. Waiver by Lessor of any breach of any covenant or duty of Lessee under this Lease Agreement is not a waiver of a breach or of any other covenant or duty of Lessee, or of any subsequent breach of the same covenant or duty.

13. EFFECT OF PARTIAL INVALIDITY. Invalidity of any provision of this Lease Agreement will not and shall not be deemed to affect the validity of any other provision. In the event that any provision of this Lease Agreement is held to be invalid, the parties agree that the remaining provisions shall be deemed to be in full force and effect as if they had been executed by both parties subsequent to the expungement of the invalid provision.

14. ENTIRE AGREEMENT. This Lease Agreement shall constitute the entire agreement between the parties. Any prior understanding or representation of any kind preceding the date of this Lease Agreement shall not be binding upon either party except to the extent incorporated in this Lease Agreement.

17. MODIFICATION OF AGREEMENT. Any modification of this Lease Agreement or additional obligation assumed by either party in connection with this Agreement shall be binding only if evidenced in a writing signed by each party or an authorized representative of each party.

18. HEADINGS. The titles to the paragraphs of this Lease Agreement are solely for the convenience of the parties and shall not be used to explain, modify, simplify, or aid in the interpretation of the provisions of this Lease Agreement.

IN WITNESS WHEREOF, each party to this Lease Agreement has caused it to be executed on the date indicated below.

LESSOR:

RED LAKE WATERSHED DISTRICT

Dated:_____ By:_____

Its:_____

LESSEE:

Dated:_____ _____

~~Jacqueline Zammert~~Daniel Fluge

Dated:_____ _____

Anthony Zammert

"Exhibit B"

Due (Year)	Acres	*Payment per/acre ($)	*Payment
2015	28.7	$25.25	$724.67
2016	28.7	$25.25	$724.67
2017	28.7	$25.25	$724.67
2018	28.7	$25.25	$724.67
2019	28.7	$25.25	$724.67
2020	28.7	$25.25	$724.67
2021	28.7	$25.25	$724.67
2022	28.7	$25.25	$724.67
2023	28.7	$25.25	$724.67
2024	28.7	$25.25	$724.67
2025	28.7	$25.25	$724.67
2026	28.7	$25.25	$724.67
2027	28.7	$25.25	$724.67
2028	28.7	$25.25	$724.67
2029	28.7	$25.25	$724.67

* Payment per/acres($) and Payment is based on contracts signed prior to agreement. Any additional contracts agreed to after agreement date may result in a change of payment per/acre($).

RENTAL LEASE AGREEMENT

THIS LEASE AGREEMENT is made and executed on September 12, 2024, revised November 12, 2026, by and between the RED LAKE WATERSHED DISTRICT, 1000 Avenue South, Thief River Falls, MN 56701, referred to as "Lessor", and ~~Jacqueline Zammert and~~ Anthony Zammert, referred to as "Lessee".

The parties agree as follows:

1. DESCRIPTION OF PREMISES. Lessor demises and lets to Lessee, to occupy and use for agricultural purposes and for no other purposes, the following real estate located in the County of Polk, State of Minnesota, described as follows:

65.59 acres located in that part of the East Half of the Northeast Quarter (E1/2 NE1/4) in Section Twenty-four (24), Township One Hundred Fifty-two (152) North of Range Forty-seven (47) West of the Fifth Principal Meridian referred to as Tract No. T 11635, as part of Farm No. 6911, for Contract period 10-01-14 to 9-30-2029, as set forth in the Conservation Reserve Program Contract between Jacqueline Zammert and Anthony Zammert and the United States Department of Agriculture, which contract is on file with the West Polk County FSA office in Crookston, MN. Said tract is outlined on the attached Exhibit "A".

2. TERM. The term of this Lease Agreement shall be from October 1, 2014 to September 30, 2029. Lessor reserving the right to re-negotiate the lease term rate in regard to any new lease agreements. However, Lessor shall have no right to terminate said written contract during the term of the CRP contract relating to the leased real property which is in effect at the time of the creation of this lease agreement, as long as Lessee is current in all other lease obligations, unless the same is done under eminent domain.

3. BINDING EFFECT. The provisions of this Lease Agreement shall be binding on the heirs, executors, administrators, successors, and assigns of both Lessor and Lessee in like manner as upon the original parties, unless modified by mutual agreement.

4. RENT. Lessee agrees to pay to Lessor, as annual cash rent for the above described real property, the initial amount of Twenty Six and 20/100ths Dollars ($26.20) per acre, to be paid in annual installments. The first installment is to be paid on December 1, 2015, and subsequent installments on December 1st of each year thereafter for the term of this lease agreement. The last lease payment being due on December 1, 2029. Attached is Exhibit "B" shows acres, cost per/acre and total amounts to be paid on a yearly basis during the above described CRP contracts.

5. LAND USE. Lessor and Lessee agree that the leased real property will only be used for hay or other grass crop purposes or may be enrolled in what is commonly known as the CRP program and in that case, all use of said real property by Lessee shall remain consistent with the terms and regulations of said program.

6. LESSOR'S INVESTMENTS AND EXPENSES. Lessor agrees to furnish the property, and to pay the items of expense listed below:

(a) Lessor shall pay all real estate taxes, if any, when due.
(b) All labor and materials necessary for the construction, repair, or maintenance of the Euclid Impoundment, a/k/a Red Lake Watershed District Project 60C.

7. LESSEE'S INVESTMENTS AND EXPENSES. Lessee agrees to furnish the property and services, and to pay the items of expense listed below:

(a) Liability insurance in a minimum amount of $100,000.00.
(b) All machinery, equipment, materials and labor necessary to comply with the terms, rules and regulations of the CRP program, if the leased real property is so enrolled.
(c) Lessee shall bear the full burden and liability for any failure to carry out the provisions or requirements of any enrolled CRP program and shall hold Lessor harmless therefrom.

8. RIGHT OF RE-ENTRY. Lessor reserves the right to enter upon the leased premises at any reasonable time for the purpose of viewing the leased premises, or making repairs, maintenance or improvements on or to the leased premises, provided that such entry and activity shall not interfere with the occupancy of Lessee or violate any of the provisions of the CRP program requirements. If any action of Lessor results in a violation of any of the conditions or requirements of said program, Lessor agrees to indemnify and hold harmless Lessee for any damages arising as a result of said violations caused by the direct actions of Lessor. If Lessor, in its activities, directly causes any of the leased real property to become out of compliance with the CRP program, Lessor shall be responsible for ensuring that the leased premises are repaired and brought back into compliance with said program.

9. ASSIGNMENT OR SUBLETTING. Lessee shall not assign this Lease Agreement, or any interest in this Lease Agreement, nor sublet the Leased Premises, or any part of the Leased Premises. Lessee shall also not permit the Leased Premises, or any part of the Leased Premises, to be occupied or possessed

by any other person or persons other than Lessee's agents and employees. Any such assignment or subletting shall be cause for termination of the Lease Agreement.

10. WATER RIGHTS. Lessee shall take no action, nor alter or improve any portion of the Leased Premises in a manner which would affect the source, flow or outlet of any surface water on said Leased Premises. Lessee shall not affect or divert in any way the surface water now located or to be located on the Leased Premises without the express written permission of Lessor.

11. GOVERNING LAW. It is agreed that this Lease Agreement shall be governed by, construed, and enforced in accordance with the laws of the State of Minnesota.

12. WAIVERS. Waiver by Lessor of any breach of any covenant or duty of Lessee under this Lease Agreement is not a waiver of a breach or of any other covenant or duty of Lessee, or of any subsequent breach of the same covenant or duty.

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14. ENTIRE AGREEMENT. This Lease Agreement shall constitute the entire agreement between the parties. Any prior understanding or representation of any kind preceding the date of this Lease Agreement shall not be binding upon either party except to the extent incorporated in this Lease Agreement.

17. MODIFICATION OF AGREEMENT. Any modification of this Lease Agreement or additional obligation assumed by either party in connection with this Agreement shall be binding only if evidenced in a writing signed by each party or an authorized representative of each party.

18. HEADINGS. The titles to the paragraphs of this Lease Agreement are solely for the convenience of the parties and shall not be used to explain, modify, simplify, or aid in the interpretation of the provisions of this Lease Agreement.

IN WITNESS WHEREOF, Each party to this Lease Agreement has caused it to be executed on the date indicated below.

LESSOR:

RED LAKE WATERSHED DISTRICT

Dated:_____ By:_____

Its:_____

LESSEE:

~~Dated:_____~~ _____

~~Jacqueline Zammert~~

Dated:_____ _____

Anthony Zammert

"Exhibit B"

Due (Year)	Acres	*Payment per/acre($)	*Payment
2015	65.59	$26.20	$1,718.46
2016	65.59	$26.20	$1,718.46
2017	65.59	$26.20	$1,718.46
2018	65.59	$26.20	$1,718.46
2019	65.59	$26.20	$1,718.46
2020	65.59	$26.20	$1,718.46
2021	65.59	$26.20	$1,718.46
2022	65.59	$26.20	$1,718.46
2023	65.59	$26.20	$1,718.46
2024	65.59	$26.20	$1,718.46
2025	65.59	$26.20	$1,718.46
2026	65.59	$26.20	$1,718.46
2027	65.59	$26.20	$1,718.46
2028	65.59	$26.20	$1,718.46
2029	65.59	$26.20	$1,718.46

* Payment per/acres($) and Payment is based on contracts signed prior to agreement. Any additional contracts agreed to after agreement date may result in a change of payment per/acre($).

Looking downstream at MNTH 9- before ditch cleaning

Looking upstream at MNTH 9- before ditch cleaning

Looking upstream at MNTH 9- after ditch cleaning

Looking downstream at MNTH 9- after ditch cleaning

Looking upstream at Polk CR 214 before ditch cleaning

Bridge cleanout upstream of Polk CR 214

Bridge cleanout upstream of Polk CR 214

NRCS Watershed Operations Program

Preliminary Investigation
Findings Report (PIFR)

Mud River Watershed, Grygla, MN

October 27, 2026

NRCS Region 6 Contract Number: 12FPC324D0006
Task Order Number: 12FPC126F0061

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Acronyms

AUID – Assessment Unit Identification

AEP – Annual Exceedance Probability

BANCS – Bank Assessment for Non-point Source

BCC – Birds of Conservation Concern

BMP – Best Management Practice

CFR – Code of Federal Regulations (https://www.ecfr.gov/)

CWMP – Comprehensive Watershed Management Plan

DNR — Department of Natural Resources

DO – Dissolved Oxygen

DWSMA – Drinking Water Source Management Area

EA – Environmental Assessment

E. coli – Escherichia coli

EIS – Environmental Impact Statement

FEMA – Federal Emergency Management Agency

HMGP – Hazard Mitigation Grant Program

HUC – Hydrologic Unit Code

IPaC – Information for Planning and Consultation

JD – Judicial Ditch

MDH – Minnesota Department of Health

MID – Minimal Impact Design

MPCA – Minnesota Pollution Control Agency

MRCL – Multi-Resolution Land Characteristics Consortium

MNDNR – Minnesota Department of Natural Resources

MOU – Memorandum of Understanding

NAAQS – National Ambient Air Quality Standards

NEPA – National Environmental Policy Act

NLCD – National Land Cover Database

NRCS – Natural Resources Conservation Service

NWPH – National Watershed Program Handbook

NWPM – National Watershed Program Manual

PIFR – Preliminary Investigation Findings Report

RLWD – Red Lake Watershed District

SFHA – Special Flood Hazard Area

SNA – Scientific and Natural Area

SWAPA – Soil, Water, Air, Plants, and Animals

SWCD – Soil and Water Conservation District

TMDL – Total Maximum Daily Load

TP – Total Phosphorus

TSS – Total Suspended Solids

USACE – United States Army Corps of Engineers

USC – United States Code

USDA – United States Department of Agriculture

USFWS – United States Fish and Wildlife Service

USEPA – United States Environmental Protection Agency

USFWS – United States Fish and Wildlife Service

WHPA – Wellhead Protection Area

WFPA – Wellfield Protection Area

WFPO – Watershed Flood Prevention Operations

WRAPS – Water Restoration and Protection Strategy

Summary

This Preliminary Investigation Findings Report (PIFR) summarizes the Mud River Watershed near Grygla, MN Project (Project), as detailed in the following Report (PIFR) and involves the following aspects:

Sponsors

The City of Grygla, in partnership with Red Lake Watershed District (RLWD), requested NRCS assistance on December 8th, 2025, to work with governing authorities, watershed planning organizations, regulatory agencies, non-governmental organizations, landowners, residents, and other stakeholders to create a Public Law 83-566 watershed plan for the Mud River Watershed near Grygla, MN (196.6 square miles, HUC 10 #0902030403).

Purpose and resource concerns

The primary purpose of the project is flood prevention along the Mud River. The purpose of flood prevention could bring subsequent secondary benefits of enhanced water quality, depending on the measures considered. In general, flood prevention would decrease the cost of stormwater and flood damage in the vicinity of the Mud River, especially focused in the City of Grygla. Flooding in these areas threatens critical infrastructure such as businesses, municipal assets, residences, and drinking water sources (such as the downstream City of Thief River Falls). Resource concerns to be considered are excess water due to ponding and flooding; seasonal high-water table; water quality due to nutrients transported to surface water; water quality due to pathogens and chemicals from manure, biosolids, or compost applications transported to surface water; water quality due to sediment transported to surface water; and aquatic habitat for fish and other organisms.

Location

The proposed project location is within the northwestern portion of Minnesota in Marshall and Beltrami Counties. Flooding concerns are concentrated around the city of Grygla, located within the Mud River watershed. The study area encompasses the entire watershed, spanning as far East as the Beltrami Island State Forest, and as far West as Northgate Road. The longitudinal limits of the Mud River Watershed extend as far north as the Moose River and Moose River Impoundment, and south just beyond Highway 89. The City of Grygla sits in the southwest portion of the watershed, just west of the Mud River Headwaters, which flows 23 miles west before draining into the Agassiz Pool within the Agassiz National Wildlife refuge and eventually discharging into the Thief River.

Public Law 83-566 compatibility

The following Preliminary Investigation Findings Report indicates the proposed project addresses one or more Public Law 83-566 purpose:

- (i) flood prevention (including structural and land treatment measures);
- (ii) the conservation, development, utilization, and disposal of water; and/or

- (iii) the conservation and proper utilization of land in watershed or subwatershed areas not exceeding 250,000 acres. The project may not include any single structure which provides more than 12,500 acre-feet of floodwater detention capacity and more than 25,000 acre-feet total capacity.

The proposed project meets the primary authorized purpose of Flood Prevention (Flood Damage Reduction) (i) from Sections 3 and 4 of Public Law 83-566.

Potential for 20% Agricultural (Rural[1]) Benefits

The project is expected to provide greater than 20% agricultural benefits and rural benefits, as only 2.4% of the land is characterized as developed, while the remaining 97.6% is divided amongst undeveloped land use, with the greatest portions being wetland and agricultural types. The Grygla population is less than 500 residents and is defined as rural. Alternately, an urban area is defined as a population of over 50,000.

Project significance

The proposed project area is primarily agricultural cropland, wetlands, forested areas, and grassland/pasture. The watershed contains extensive low-gradient systems and wetlands that are highly susceptible to flooding during spring snowmelt and intense rainfall events. The region has experienced significant flooding for many years, with overland flooding and stormwater surcharges occurring nearly annually. These flood events contribute to ponding, water damage, drainage system backups, erosion, sediment transport, and degradation of water quality.

In 2024, a flood event inundated the City of Grygla sanitary lift station, resulting in sewage backups into residences, highlighting the vulnerability of public infrastructure and risk of public health and safety in these flood events. Flooding within the watershed threatens businesses, residences, agricultural lands, transportation infrastructure, and downstream water resource including drinking water supplies.

The primary receiving waterbody for the watershed is the Agassiz National Wildlife Refuge (Agassiz Pool), which receives flows from the Mud River, Thief River, and several smaller drainage ditches. The Agassiz Pool discharges to the Thief River, a tributary of the Red Lake River. The Red Lake River serves as a drinking water source for the City of Thief River Falls. As a result, water quality within the Mud River and Thief River watersheds directly influences the quality of water downstream, including the City of Thief River Falls' municipal water supply.

This PIFR study is the next step in the process to create a plan to reduce future flooding and protect the safety, sustainability, and well-being of the cities, communities, and residents throughout the project area.

Summary of potential alternatives

This preliminary assessment of the Mud River Watershed examines the following potential alternative solutions:

- Alternative No. 1 – No Federal Action: Proceed as the status quo with no change. Flooding and associated damage will continue, resulting in reduced fish and wildlife habitat, loss or damage of infrastructure, and decreases in water quality. The primary purpose of flood prevention would not be accomplished.
- Alternative No. 2 – Structural: Alternatives could include modifications to hydraulic structures such as culverts, bridges and levees. This could also include the construction or modification of stormwater drainage system and construction of permanent pump stations. Structural alternatives could also

[1] All territories of a State that are not within the outer boundary of any city or town that has a population of 50,000 or more according to the latest decennial census of the United States (2010 Census Urban and Rural Classification and Urban Area Criteria). [Source Title 390 – NWPM Part 506.50 Glossary, MMM]

include channel modifications, such as making a wider floodplain for the Mud River (a.k.a. two-stage channel), or creating additional water storage areas upstream of town.

- Alternative No. 3 – Non-Structural: Non-structural alternatives could include a wide range of possibilities with nature-based components, including:
    - Implementation of stormwater ordinances (including restrictions on impervious surface limits, riparian buffers, and minimization of soil compaction).
    - Best Management Practices (BMPs) to establish principles targeting reducing runoff and improving water quality draining from upland areas, specifically agricultural practices (conservation tillage, cover crops, and vegetated buffer strips).
    - Wetland restoration, to convert and restore land area back to healthy wetlands, which can reduce flood damage by minimizing runoff volume and slow the flow of water during storm events.
    - OR a combination of non-structural alternatives like those listed above along with mitigation buyouts.

- Alternative No. 4 – No Restrictions: this alternative is a hybrid Nature-based Solution (NbS), or "green-gray," approach which combines the structural and non-structural components described above to provide maximum benefit to the sponsor minimizing unnecessary impacts to watershed resources.

These are described in greater detail in the section titled "Potential Alternatives." While all the potential alternatives listed may not be carried forward for full analysis, this report documents that there are one or more reasonable alternatives that may be analyzed during the full planning process.

Applicable Agency Authority and Authorized Purposes

Table 1 below provides documentation that the project is eligible for federal assistance and will meet statutory requirements.

Table 1. Watershed Description & Eligibility

Describe the potential watershed project area; how does the area meet the requirements outlined in NRCS's National Watershed Program Manual (See 506.50 NWPM Glossary - TTT. Watershed).		
Response: The project area includes The Mud River watershed, consisting of one HUC 10 watershed labelled 0902030403. The project meets one or more PL-566 general purposes of: • (i) flood prevention (including structural and land treatment measures); • (ii) the conservation, development, utilization, and disposal of water; and/or • (iii) the conservation and proper utilization of land in watershed or subwatershed areas not exceeding 250,000 acres. The project may not include any single structure which provides more than 12,500 acre-feet of floodwater detention capacity and more than 25,000 acre-feet total capacity. The primary purpose for the watershed is Flood Prevention (Flood Damage Reduction). Meetings with the sponsoring local organization and other stakeholders indicate strong support for the proposed project.		
Will the project area exceed 250,000 acres in size? [1,2]	☐YES	■NO
If over 250,000 acres, will it be divided into subwatersheds in one plan?	☐YES	☐NO
→ *Potential Project Area Size: 125,801 acres or 196.6 square miles (does not exceed 250,000 acre threshold)*		
Will any single structure provide more than 12,500 acre-feet of floodwater detention capacity, or have a 25,000 acre-feet of total capacity?	☐YES[3]	■NO
How many recreational developments will be included in the project area?		
• One development in a project area less than 75,000 acres	☐YES	■NO
• Two developments in a project area between 75,000 and 150,000 acres	☐YES	■NO
• Three developments in a project area greater than 150,000 acres → *There can be authorized up to three recreational developments for this size.*	☐YES	■NO

Which authorized purposes will the project address? (Indicate only one purpose as primary):	Primary	Other
• Flood Prevention	■	☐
• Watershed Protection	☐	☐
• Public Recreation	☐	☐
• Public Fish and Wildlife	☐	☐
• Agricultural Water Management	☐	☐
• Municipal or Industrial Water Supply	☐	☐
• Water Quality Management	☐	☐

Will the project produce substantial benefits to the general public, to communities, and to groups of landowners?	■YES	☐NO[3]
Can the project be installed by individual or collective landowners under alternative cost-sharing assistance?	☐YES[3]	■NO
Will the project have strong local citizen and sponsor support through agreements to obtain land rights, permits, contribute the local cost of construction, and carry out operation and maintenance.	■YES	☐NO[3]

Will the project take place in a Special Designated Area? (if yes, check applicable area below.)								YES	■NO
Appalachia	☐	Delaware River Basin	☐	Susquehanna River Basin	☐	Tennessee Valley	☐		

1- For specific appropriations, the 250,000 acres is waived except for watershed projects with the flood prevention purpose.

2- Watersheds exceeding 250,000 acres can be broken up into smaller subwatersheds.

3- The project will not meet the statutory requirements.

References: 16 USC 18 - §1004, Conditions for Federal assistance
7 CFR 611 - 11, Eligible Watershed Projects
Title 390, NWPM – 500.3 Eligible Purposes

Potential for 20% Agricultural (Rural) Benefits

The Watershed Flood Prevention Operations (WFPO) Program requires that 20% of the project benefits are agricultural or rural benefits. This section discusses the watershed characteristics, demonstrating that it is primarily an agricultural area with significant undeveloped land use. Any proposed watershed projects will easily incorporate and provide agricultural or rural benefits to meet the authorized requirement of the program. Chronic flooding has immense impacts on agriculture via soil erosion, nutrient leaching, contamination, infrastructure damage, and more. The entire project area is considered rural, because all municipalities within the project watershed have populations under 50,000. In other words, the majority of any benefits from project improvements will be agricultural and rural benefits (since there are no urban areas), which is greater than the 20% program requirement. By reducing the frequency and severity of flood events, the proposed project will support the continued productivity and sustainability of agricultural producers in the watershed and protect infrastructure— directly benefiting rural communities.

Table 2 shows the tabulated areas for each land cover category across the entire project watershed. Table 2 shows the land cover conditions across the Mud River Watershed (HUC-10: 0902030403) drainage areas defining the project watershed. The four "Developed" land cover categories account for 2.4% of the project watershed area and are located in and around the city of Grygla in the center of the watershed. "Cultivated Crops" and "Hay/Pasture" areas account for 35.1% of the watershed area. The highest amount of land use, including "Woody Wetlands" and "Emergent Herbaceous Wetlands", account for 61.1% of landcover within the watershed and are located in the east portion of the watershed (see Figure 2).

Table 2. Land Use (USGS, 2025)

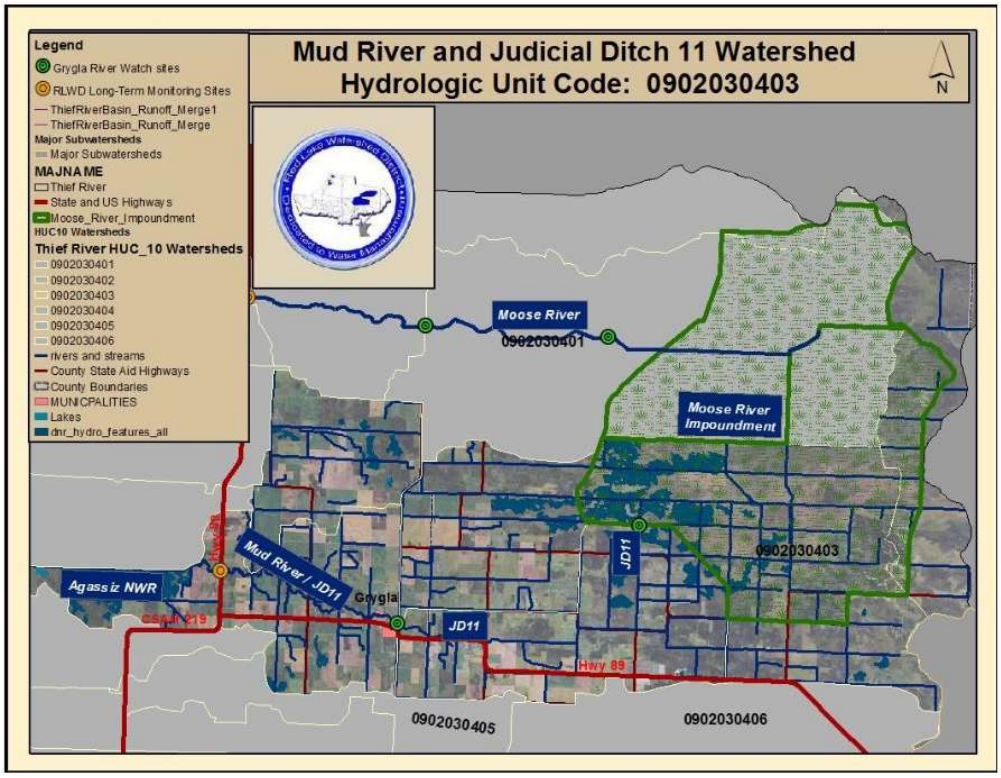
Municipal Land Use	HUC 0902030403	
	Acres	%
Open Water	217	0.2
Perennial Ice/Snow	0	0
Developed, Open Space	1885	1.5
Developed, Low Intensity	722	0.6
Developed, Medium Intensity	316	0.3
Developed, High Intensity	20	0
Barren Land	20	0
Deciduous Forest	1021	0.8
Evergreen Forest	141	0.1
Mixed Forest	67	0.1
Shrub/Scrub	54	0.0
Grassland/Herbaceous	390	0.3
Hay/Pasture	2926	2.3
Cultivated Crops	41241	32.8
Woody Wetlands	36198	28.8
Emergent Herbaceous Wetlands	40584	32.3
Total	**~125,801**	**100.0**

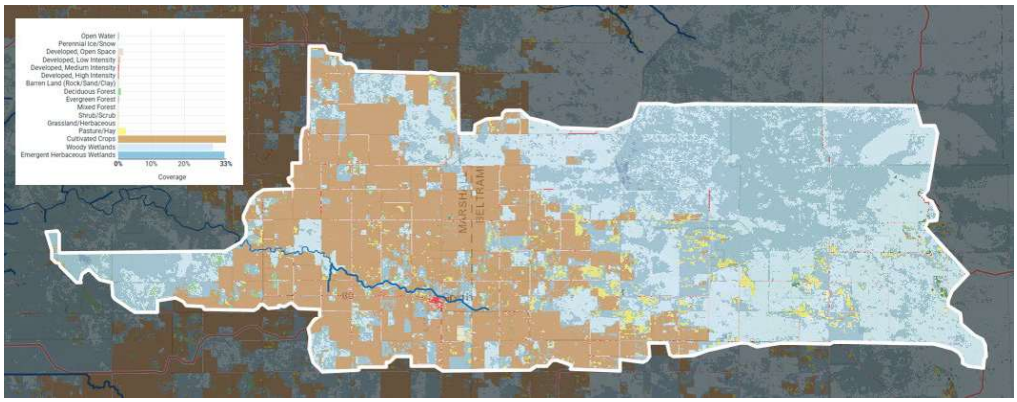
Source: Data | Multi-Resolution Land Characteristics (MRLC) Consortium

Project Overview

Table 3 describes the general project overview.

Table 3. General Project Characteristics

Proposed Project Name	Mud River Watershed PIFR
State	Minnesota
County/Parish	Marshall and Beltrami County
Congressional District(s)	Minnesota Congressional District 7
USGS Hydrologic Unit Code and Watershed Name	Figure 1 shows the Mud River Watershed and surrounding sub watersheds of the greater Thief River Watershed.  **Figure 1. Map of Mud River Watershed, Minnesota.** The Mud River watershed (HUC-10 0902030403) is a watershed of the Thief River watershed (HUC-8 09020304). The Mud River (Headwaters to Agassiz Pool) begins at the outlet of the south pool of the Moose River Impoundment and flows south, then west to Agassiz Pool, within Agassiz National Wildlife Refuge, located about 12 miles north of Thief River Falls and approximately 10 miles west of the City of Grygla. (Source: Thief River Watershed Total Maximum Daily Load Report, 2019)
General Coordinates of the Watershed	95°42’20”W, 48°19’39”N

Project Setting	The project area is located within the Mud River Watershed, a subwatershed of the Thief River Watershed in northwestern Minnesota. The Thief River Watershed is primarily located within Marshall, Pennington, and Beltrami Counties and drains toward Agassiz pool before ultimately contributing flow to the Red Lake River system. The Mud River is one of the principal tributaries within the watershed extending approximately 23 miles from the headwaters to Agassiz Pool. The Mud River flows through the town of Grygla with a total drainage area of 125,801 acres (MPCA, 2019 & USGS, 2025). The project area contains portions of the City of Grygla, the primary municipality within the Mud River watershed. The city of Grygla has a population of 266 residents as of 2024 (U.S. Census Bureau, 2024). Land use within the watershed is dominated by agricultural production and extensive areas of wetlands as seen in Figure 2. The relative flat topography and low-gradient drainage network contribute to recurring flooding, ponding and drainage challenges (USGS, 2025).  **Figure 2. Land Use Within Mud River Watershed (USGS, 2025).** The project area experiences a humid continental climate characterized by warm summer and cold winters with significant seasonal temperature variation. Per the National Centers for Environmental Information (NCEI) climate normals for the Agassiz Refuge Station (1991-2020), the mean annual temperature is 40.7°F, with a mean annual maximum of 51.1°F, and a mean annual minimum of 30.4°F. The mean annual precipitation within Mud River watershed is 24.4 inches (NCEI, 2021). According to the U.S. Department of Agriculture (USDA, 2023), the study area is located within plant hardiness zone 3b-4a with an average annual coldest temperature of -35 to -30 F, so perennial plants can adapt to winter temperatures that can fall below -30 °F.
Potential Project Area	The proposed watershed project area, shown in Figure 2, encompasses the entire Mud River watershed, totaling approximately 196.6 sq mi (USGS, 2025).

Resource Information

Table 4 describes key resources and the available information relevant to the project area.

Table 4. Resource Information Table

Soils and Geology	The Mud River watershed is located within the Glacial Lake Agassiz Plain of northwestern Minnesota. This area of northwestern Minnesota is particularly vulnerable to soil loss through wind erosion because of its typically flat topography and general lack of vegetative cover. The Red River Valley is heavily tilled leaving topsoil exposed and unprotected much of the year. The stripping of topsoil can impact the water quality of downwind resources, damage crops, fill drainage ditches, and degrade soil health. Loss of topsoil of agricultural field can lead to lower crop yields and increase fertilizer inputs (RLWD, 2020). Per the 2016 USDA NRCS Gridded Soil Survey Geographic (gSSURGO), approximately 59.68 percent of the watershed consists of Group B/D soils, which exhibit moderate infiltration rates when drained and very slow infiltration rates when undrained. An additional 28% of the watershed consists of Group C soils with slow infiltration characteristics. Group A soils, characterized by high infiltration rates, comprise approximately 11% percent of the watershed, while Group B soils account for 2% percent. Collectively, nearly 88% of the watershed is composed of soils with moderate to very slow infiltration characteristics, contributing to increased surface runoff, ponding, and flood potential during snowmelt and intense precipitation events (USGS, 2025). The surficial geology of the area is dominated by lake washed till. The till is described as a sandy, clay-silt loam containing fine to medium gravel with a scattering of boulders. The till is covered by very fine to fine grained, uniform glacial lake sand generally less than 20 feet in thickness. Throughout the watershed the till is overlain by a thin covering of peat, a few feet in depth, resulting from a water table that is close to, or at, the land surface. Soil textures in the watershed range from fine-loamy in the west to coarse-loamy in the east. Soil texture results from the relative amount of sand, silt, and clay present in the soil. These particle types vary in size from clay, silt, and sand particles. The combination and relative amount of each particle type influence many soil properties as seen in Figure 3 (RLWD, 2020).

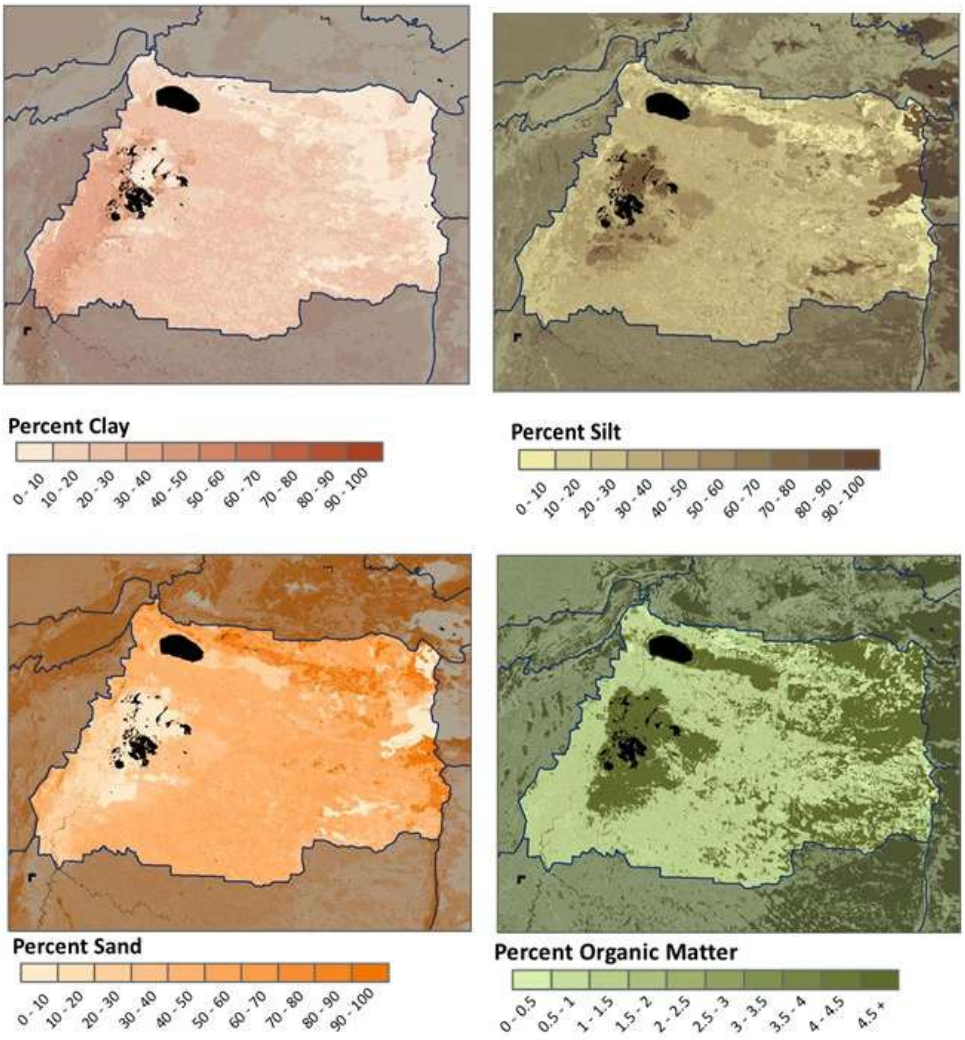


Figure 3. Percentage of Soil Types in Thief River Watershed (RLWD, 2020).

Water	The Mud River is a major tributary to the Thief River. It originates at the outlet of the South Pool of the Moose River Impoundment and flows south before turning west, passing through the city of Grygla at its upstream end, draining into the Agassiz Pool and eventually discharging into the Thief River. The Mud River also serves as the main branch of the Judicial Ditch 11 (JD 11) legal drainage system. According to the 2015 Thief River Geomorphology Report, the Mud River watershed is dominated by modified drainage features. Approximately 44% (138.5 miles) of mapped watercourses are intermittent drainage ditches, 34% are perennial drainage ditches, and 15% are intermittent streams. The remaining 7% consist of perennial streams, undifferentiated drainage ditches, and wetland and lake connectors. Overall, an estimated 96% of channels within the watershed are man-made or altered by channelization. Anthropogenic hydrologic modifications have substantially altered flow regimes throughout the watershed, resulting in impacts to water quality, aquatic habitat, aquatic communities, and agricultural productivity of the greater Thief River

Watershed. A key component of this modified system is the Moose River Impoundment, the largest impoundment operated by the Red Lake Watershed District (RLWD). The impoundment project was a cooperative effort between the RLWD and MNDNR, designed to provide flood control, streamflow maintenance, enhance wildlife value, and fire control.

The South Pool of the Moose River Impoundment discharges to the Mud River (JD 11). Major Infrastructure associated with the South Pool includes approximately 3 miles of diversion ditch, 9 miles of earthen dike (at a crest elevation of 1,220 feet MSL), 4 miles of earthen division dike separating the North and South Pools, a gated outlet structure, and two emergency spillways (both at elevation of 1,218 feet MSL). An inter-pool control structure within the division dike allows water to pass between the North and South Pools. Approximately two-thirds of the total Moose River Impoundment drainage area (83.3 sq mi) ultimately drains to the Mud River through the South Pool. This two-thirds (83.3 sq mi) accounts for nearly 40% of the total Mud River drainage area (197 sq mi), resulting in the operation of the impoundment area having a strong influence on the downstream effects to the Mud River and the City of Grygla (RLWD, 2026a, & City of Grygla, 2026).



Figure 4. Moose River Impoundment, South Pool gated outlet structure (RLWD, 2026a).

The City of Thief River Falls pumps its drinking water from a point between the Thief River Falls dam and the confluence of the Thief River and Red Lake rivers. Therefore, water quality in the Thief River directly affects the city's drinking water.

The above ground and subsurface areas where recharge to a publicly used groundwater source are often managed to prevent contamination, called Wellhead Protection Areas (WHPAs). Surrounding WHPAs, Drinking Water Supply Management Areas (DWSMAs) are created by clear boundaries, like property lines, to plan and manage the area, determined by Source Water Protection Plans (Table 5). These designated zones are established to preserve critical groundwater resources by preventing contamination from sources like abandoned wells, septic systems, aging infrastructure, and fertilizer application. The framework of DWSMAs provides a basis for managing activities within the area to minimize risk of groundwater contamination (MDH, 2025).

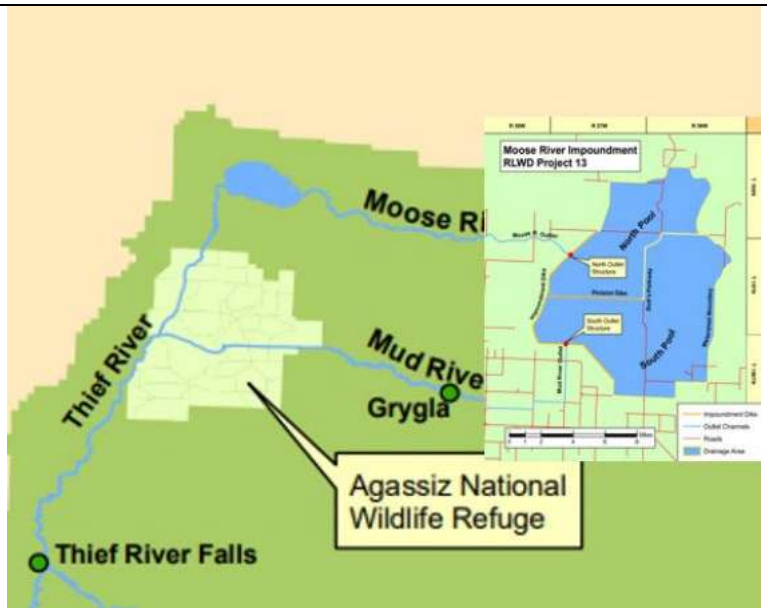


Figure 5. Main watercourses controlled by impoundments within the Thief River Watershed (MPCA, 2025).

Table 5. DWSMAs & WPAs within the Mud River Watershed Area.

DWSMA Name	Public Water Source ID	DWSMA Type	Acres
Thief River Falls	1570003	Surface water	1,080,435.9
Grygla	1450003	Ground water	206.4
WHPA Name	**Public Water Source ID**	**DWSMA Type**	**Acres**
Grygla	1570003	Ground water	86.1

Air

According to the Environmental Protection Agency (U.S. EPA), as of 2026, Marshall & Beltrami Counties have been designated as being in attainment/unclassifiable for all criteria pollutants. This data is current as of June 30, 2026 (U.S. EPA, 2026a).

Plants

The study area lies primarily within Lake Agassiz Plain and Northern MN Wetlands ecoregions. The study area is located within Level IV Ecoregions 48d (Lake Agassiz Plains) and 49a (Peatlands).

The Level III Lake Agassiz Plain ecoregion (48) consists of thick lacustrine sediments over glacial till, with till plains at higher elevations. Historically, the Level IV Lake Agassiz Plains ecoregion (48d) supported tallgrass and wet prairies and portions of aspen parkland, but much of the land has been converted to agriculture. Corn, soybeans, and sugar beets dominate the southern portion, while row crops, small grains, pasture, and hay are more common in the north. The south is characterized by till plains and the north by lacustrine plains. In 2013, land cover was approximately 25% wetlands, 25% soybeans, 12% spring wheat, 10% corn, and 9% deciduous forest.

The Level III Northern Minnesota Wetlands ecoregion is characterized by extensive, nearly level wetlands that are sparsely populated and dominated by conifer bogs,

	mixed forests, and boreal forest vegetation. Formed within the basins of former glacial lakes, much of the landscape remains covered by standing water, with low-gradient streams and eroded river channels occurring in the eastern portion of the region. The Level IV Peatlands (49a) ecoregion is one of the largest contiguous wetland complexes in the contiguous United States. The landscape is dominated by peat soils, including Hemists and Saprists, interspersed with wet forest soils, sandy Aquents, and localized sandy Psamments. Characteristic landforms include raised bogs, water tracks, and spring-fen channels. The region's cold climate and saturated, frigid soils limit agricultural production. In 2013, approximately 75% of the ecoregion consisted of wetlands and 15% was open water (U.S. EPA, 2026c).
Animals	The Multi-Resolution Land Characteristics (MRLC) consortium is a group of federal agencies who coordinate and generate consistent and relevant land cover information at the national scale for a wide variety of environmental, land management, and modeling applications. The creation of this consortium has resulted in the mapping of the lower 48 United States, Hawaii, Alaska and Puerto Rico into a comprehensive land cover product termed the National Land Cover Database (NLCD). This product was developed from decadal Landsat satellite imagery and other supplementary datasets. The majority land use areas of the project area are Wetlands (~61.1%) and Hay & Cultivated Crops (35.1%). The remaining includes small portions of forest, grassland, and open water. The crop land, pastures, and wetlands in the Northwest Minnesota provide habitat for animal species such plains hog-nosed snake (*Heterodon nasicus*), Canadian toad (*Anaxyrus hemiophrys*), tiger salamander (*Ambystoma tigrinum*), prairie skink (*Plestiodon septentrionalis*), mudpuppy (*Necturus maculosus*), Blanding's turtle (*Emydoidea blandingii*), creek heel splitter mussels (*Platynaias compressa*). Some birds of notes are the bald eagle (*Haliaeetus leucocephalus*), common loon (*Gavia immer*), trumpeter swan (*Cygnus buccinator*), osprey (*Pandion haliaetus*), prairie chicken (*Tympanuchus cupido*), and sandhill crane (Grus canadensis). Mammals like least weasel (*Mustela nivalis*) and northern long-eared bat (Myotis septentrionalis) are often found in the region (MNDNR, 2026c).
Energy	Coal-fired power plants produced most of Minnesota's electricity up until 2020, According to the U.S. Energy Information Administration (EIA). That year marked the first time their share of power generation dropped below the combined output from renewable resources and nuclear power. In 2024, natural gas-fired generation in the state hit an all-time high, and for the second year in a row, generated more electricity than coal. Total renewable generation in 2024–driven mainly by wind–was nearly two-thirds higher than ten years earlier, while nuclear generation declined to its lowest usage since 2013. As of 2024, Minnesota was one of only 10 states where wind power made up the largest share of in-state energy generation (U.S. EIA, 2025). The majority of the watershed, including The City of Grygla, receives energy from Roseau Electric Coop, which is a member-owned rural electric distribution cooperative that purchases wholesale power from Minnkota Power Cooperative, headquartered in Grand Forks N.D. (Roseau Electric Cooperative, Inc., 2023). The smaller western portion of the watershed receives energy from Red Lake Electric

	Coop, which similarly purchases power from Minnkota Power Cooperative. Minnkota generates the majority of its power from a combination of coal, wind, hydropower, and with minor amounts from other sources (https://www.redlakeelectric.com/). This energy mix supports Minnesota's goals under Senate File 4, signed into law by Governor Tim Walz in 2023, which aims to achieve 100% carbon-free electricity by 2040 and net-zero greenhouse gas emissions by 2050 (MNDC, 2023 & https://mn.gov/puc/activities/maps).

Human	• *Demographics:* Marshall County is relatively sparsely populated, with a total population of 8,909 residents. The City of Grygla had an estimated population of 266 in 2024 (Census Reporter, 2024). Given the city's area of approximately 0.6 square miles, this equates to a population density of approximately 430 people per square mile. The median age in Grygla is 37.4 years, and approximately 54% of the population identifies as male. The racial composition of the city is approximately 94% White, 1% Black or African American, 2% American Indian or Alaska Native, and 4% identifying as two or more races. The median household income in Grygla is $69,167, compared to $72,543 in Marshall County and $89,062 statewide in Minnesota. Approximately 9% of Grygla residents live below the poverty line. Within Marshall County, the largest occupational groups are management, business, science, and arts occupations (37.5%); sales and office occupations (20.0%); production, transportation, and material moving occupations (18.4%); natural resources, construction, and maintenance occupations (13.8%); and service occupations (10.2%). The largest industry sectors in Marshall County are educational services, health care, and social assistance (20.0%); manufacturing (15.4%); and agriculture, forestry, fishing and hunting, and mining (14.1%) (U.S. Census Bureau, 2026).
	• *Transportation:* Grygla is a small community located within Valley Township in Marshall County, Minnesota. The city's transportation network is primarily served by state and county roadways that provide local and regional connectivity.
	  ○ Minnesota State Highway 89 (MN-89) is the primary transportation corridor through the community and serves as the main route into and out of Grygla. The highway generally runs north-south through northwestern Minnesota and passes through the city near the Mud River, providing connections to surrounding communities and regional destinations.
	  ○ Marshall County Road 54 (CR 54) is another important local roadway that intersects with MN-89 and provides access to agricultural lands, residences, and surrounding rural areas. The roadway serves as a key component of the local transportation network.
	  ○ Additional regional access is provided by nearby highways, including Minnesota State Highway 1 (MN-1) and Minnesota State Highway 219 (MN-219). These routes connect Grygla to larger population centers such as Thief River Falls and Roseau, as well as other communities throughout Marshall County and northwestern Minnesota.

	Further analysis may be needed in the planning phase to identify the number of crossings between the transportation routes or any utility lines within Grygla. • *Recreation:* The City of Grygla provides a variety of recreational amenities, including public parks, athletic fields and courts, hiking trails, camping facilities, and an indoor ice arena. Winter recreation is a significant component of the local economy and community identity, with Grygla serving as a hub within the Fourtown-Grygla snowmobile trail network, which connects to the broader northwest Minnesota trail system. The surrounding area also supports hunting, fishing, hiking, cross-country skiing, and ATV riding, providing year-round outdoor recreation opportunities for residents and visitors (City of Grygla Recreation Department, 2023). • *Agriculture:* Land use in the Thief River Watershed, dominated by cropland and wetlands, has an important agricultural economy due to its fertile soils. Agriculture is the dominant land use within the Mud River watershed and throughout Marshall County. In 2022, Marshall County contained approximately 912,128 acres of cropland and pastureland, with wheat, soybeans, corn, sugar beets, oats, and sunflowers representing the primary agricultural commodities produced in the county. Agricultural activities are a major contributor to the local economy but can also affect watershed health through nutrient and sediment runoff and alterations to natural hydrology. (RLWD, 2020 & USDA, 2022)

Table 6 describes resources of special concern within the project area.

Table 6. Resources of Special Concern

Clean Water Act	The Clean Water Act 303(d) List is a federally mandated inventory of impaired and threatened water bodies that fail to meet state water quality standards. Under the Clean Water Act, states are required to submit updated lists to the U.S Environmental Protection Agency (USEPA) for review and approval every two years. Inclusion on the List initiates a legal requirement to develop a Total Maximum Daily Load (TMDL) or other restoration strategy to address the specific pollutant or condition causing the impairment. The Mud River was included on the EPA's 2014 section 303(d) List from the State of Minnesota due to impairments associated with dissolved oxygen (DO) and Escherichia coli (E. coli) bacteria. Analysis conducted at that time determined that low dissolved oxygen concentrations were primarily the result of insufficient streamflow conditions, which limited the river's ability to consistently achieve Minnesota's dissolved oxygen standard of 5 mg/L, rather than being caused by a specific pollutant source. A significant portion of the Thief River Watershed was historically altered to sustain agriculture in the area, resulting in approximately 96% of channels within the watershed having been channelized in the early 1900s. The channel straightening and channelization of streams within the watershed has significantly altered hydrology within the watershed and impacted the water quality, in this case, contributing to their inability to reach sufficient streamflow to achieve state standard DO levels

(Figure 6). Consequently, TMDLs were not developed for these impairments at that time (USEPA, 2026b).





Figure 6. Early 1900s channelization of the Thief River Watershed (MPCA, 2019).

Additional monitoring conducted through the Water Restoration and Protection Strategy (WRAPS) process indicated that the Mud River met E. Coli water quality standards during the 2011-2015 assessment period, resulting in recommendations for delisting of some reaches. However, more recent monitoring and assessment efforts have found that portions of the river continue to experience water quality impairments. As a result, a TMDL was subsequently developed, the Mud River remains listed as impaired for aquatic life due to low dissolved oxygen concentrations and for aquatic recreation due to elevated E. coli levels from its headwaters to its drainage at the Agassiz Pool (Figure 7).

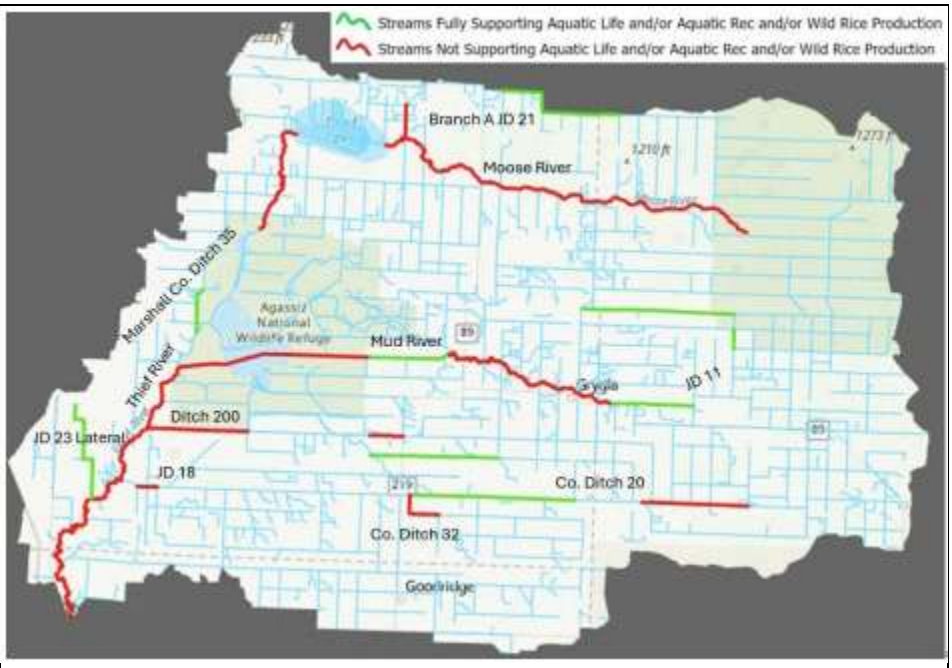


Figure 7. Existing impairments within the Thief River Watershed (MPCA, 2025).

Although several reaches of the Mud River have since been removed from the impaired waters list, site-specific analyses determined that water quality standards continue to be exceeded within the City of Grygla. Therefore, the Minnesota Pollution Control Agency (MPCA) did not recommend delisting the E. Coli impairment for this portion of the river.

Water quality assessments have also identified emerging concerns within the watershed. Biological monitoring data suggests the potential for future aquatic life impairments, while total suspended solids (TSS) concentrations have become an increasing concern. Following the 2016 sampling season, the TSS exceedance rate surpassed 10%, indicating a heightened risk of future impairment listings, and earning its placement as “potentially impaired” for TSS. In response to recurring blue-green algae concerns, intensive water quality monitoring was initiated near Grygla in 2015. Data collected between 2015-16 along with historical monitoring records revealed that Monitoring stations S002-977 and S008-122 showed August and September geometric mean E. coli concentrations of 275 and 244 MPN/100mL, respectively, well exceeding the state standard of 126 MPN/100mL. In contrast, the downstream long-term monitoring station (S002-078) continued to meet the applicable standard. Based on these findings, the E. coli TMDL was developed for the mud river at the CSAH 54 crossing (S002-977) near Grygla. Subsequent investigations in the Grygla area detected human fecal DNA markers in the Mud River, indicating that failing septic systems may be contributing to the elevated E. coli concentrations.

Most recently, portions of the Mud River Watershed were identified as impaired by the Minnesota Pollution Control Agency’s draft 2026 Impaired

Waters List, which includes revisions and updates to the previous 2024 assessment cycle. The following impairments remain in the Mud River Watershed:

Table 7. Impaired reaches within Mud River Watershed (MPCA, 2026)

Name	Description	Year added to list	AUID	Affected designated use	Pollutant or stressor
Mud River	Headwaters to -95.694 48.318	2008	09020304-567	Aquatic Life	Dissolved oxygen
Mud River	Headwaters to -95.694 48.318	2014	09020304-567	Aquatic Recreation	Escherichia coli (E. coli)
Mud River	-95.694 48.318 to JD 11	2020	09020304-568	Aquatic Life	Fish bioassessments
Mud River	-95.694 48.318 to JD 11	2008	09020304-568	Aquatic Life	Dissolved oxygen
Mud River	-95.694 48.318 to JD 11	2014	09020304-568	Aquatic Recreation	Escherichia coli (E. coli)

TMDL investigations identify failing septic systems and upstream livestock operations as primary contributors to E. coli loading within the Mud River. Recommended pollutant reduction strategies include targeted grazing management, livestock exclusion from streams and drainage ditches, and implementation of additional agricultural BMPs to reduce runoff. TMDL also recommends updating county ordinances to identify, inspect, and replace failing subsurface sewage treatment systems. To address DO impairments, efforts should focus on improving base flow conditions and overall stream hydrology. Given the results of microbial source tracking analyses, which identified significant human and livestock-related bacterial sources near the city of Grygla, the Mud River should remain a priority watershed for restoration and water quality improvement efforts under the Clean Water Act (MPCA, 2018; MPCA, 2019; MPCA, 2025; & https://www.pca.state.mn.us/sites/default/files/wq-iw1-85.xlsxMPCA, 2026).

Clean Air Act	As of June 11, 2026, all counties included in the study area have been designated as in attainment for all criteria pollutants (U.S. EPA). The area meets all National Ambient Air Quality Standards (NAAQS) set to protect public health (U.S. EPA, 2026a).
Coastal Zone Management	NA – The project area is not within a coastal zone management area.
Coral Reefs	NA – There are no coral reefs within the project area.
Cultural Resources	A review of architectural property data available through the Minnesota State Historic Preservation Office (MnSHPO) Statewide Historic Inventory Portal and the Minnesota Office of the State Archaeologist (OSA) Portal, done by cultural resources specialist, provided a total of 12 inventoried architectural properties (8 buildings, 3 sites, and 1 structure), 9 cemeteries within, or intersecting, the Mud River Sub watershed study area. There were no recorded archaeological or alpha sites and none of the properties are

currently listed or eligible to be registered by the National Register of Historic Places (NRHP). Of these inventoried architectural properties and cemeteries within the sub watershed, six fall within the municipality of The City of Grygla (Table 8). However, all within the sub watershed are relevant to consider, as they may affect the feasibility of projects located upstream or downstream of The City. An additional review of the NRHP according to the National Park Service (NPS) identified 16 listed properties within Marshall and Beltrami Counties, none of which fall within the City of Grygla municipality (NPS, 2026) (Table 9).

Table 8. Historic and Cultural Resources Identified by MnSHPO (MN SHPO, 2026).

Property Category	Historic Inventory Number	Historic Name	Located Within Grygla
Building	BL-BEN-00001	farmhouse	
Building	BL-BEN-00002	Dalos Farmstead	
Building	BL-LEE-00001	Bethesda Lutheran Church	
Building	BL-SGR-00001	Grande Corner	
Building	BL-SGR-00002	Four Town Store	
Building	BL-SGR-00003	Fourtown Chapel	
Building	MA-GYC-00001	church	X
Building	MA-GYC-00002	railroad depot	X
Site	BL-MIN-00001	fire tower	
Site	BL-MIN-00002	hunting cabin	
Site	BL-MIN-00003	hunting cabin	
Structure	XX-ROD-00167	Trunk Highway 89	
Cemetery	—	Valley Cemetery	X
Cemetery	—	Bethesda Church	X
Cemetery	—	Minnie Cemetery	
Cemetery	—	Minnie Township Cemetery	
Cemetery	—	Stratton Family Cemetery	
Cemetery	—	Sundberg Cemetery	
Cemetery	—	Unknown - Cemetery	
Cemetery	—	Saint Clements Catholic Cemetery	X
Cemetery	—	St. Olaf Cemetery	X

Table 9. NRHP Listings within Marshall & Beltrami Counties (NPS, 2026)

Reference No.	City/Town	Property Name
76001046	Blackduck	Rabideau Civilian Conservation Corps Camp
80001937	Kelliher	Saum Schools
80001936	Bemidji	Bemidji Carnegie Library
88000204	Bemidji	Paul Bunyan and Babe the Blue Ox
88000566	Bemidji	Park, David, House
88000665	Bemidji	Beltrami County Courthouse
88000673	Bemidji	Great Northern Depot
88002083	Pinewood	District No. 132 School
89001674	Bemidji	Lake Bemidji State Park CCC/NYA/Rustic Style Historic Resources
89001849	Bemidji	Nymore Bridge
96001311	Puposky	Buena Vista Archaeological Historic District
12000427	Tenstrike	Three Island Park Site
13001144	Blackduck	Minnesota and International Railway Trestle at Blackduck
73000983	Argyle	Larson Mill
89001667	Argyle	Old Mill State Park WPA/Rustic Style Historic Resources
2000938	Warren	Taralseth, K.J., Company

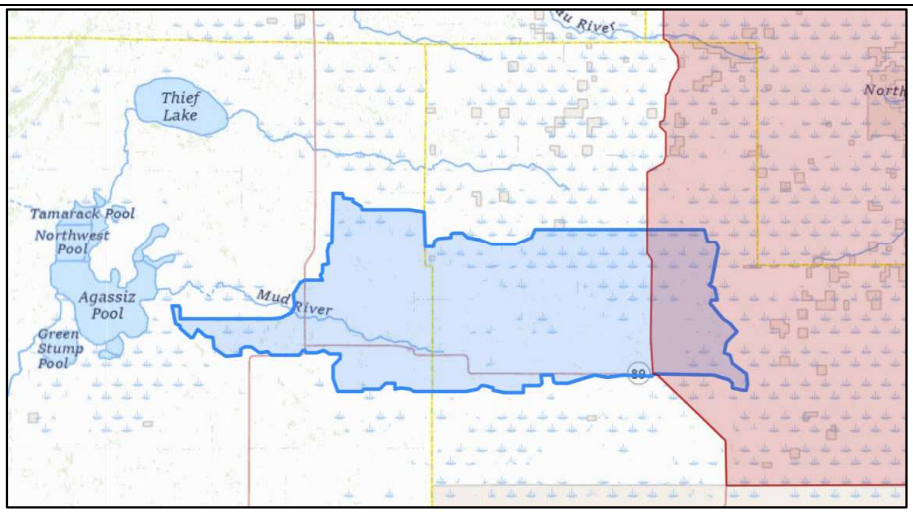
In compliance with Section 106 of the National Historic Preservation Act and the National Environmental Policy Act, Natural Resources Conservation Service (NRCS) will consult with MnSHPO during the planning process if the project continues past the PIFR stage (MNSHPO, 2026).

Endangered & Threatened Species

The US Fish and Wildlife Service Information for Planning and Consultation (IPaC) website lists the following threatened and endangered species within the Mud River (USFWS, 2025):

- Canada Lynx – *Lynx canadensis*
- Gray Wolf – *Canis lupus*
- Northern Long-Eared Bat – *myotis septentrionalis*
- Tricolored bat – *Perimyotis suflavus*
- Monarch Butterfly – *Danaus Plexippus*
- Suckley's cuckoo bumble bee – *Bombus suckleyi*

Critical habitat for the Gray wolf is designated east of, and overlaps with, the study area (red area shown in Figure 8).

	 **Figure 8. Area of potential effects to critical Gray Wolf habitat (IPAC, 2026).** The State of Minnesota has an extensive list of endangered, threatened, and species of special concern. There are two threatened species of mammals, and 19 mammals which qualify as species of special concern. Minnesota has 9 endangered bird species, two threatened, and 21 bird species of special concern. Minnesota Department of Natural Resource (MNDNR) defines two species of endangered amphibians and reptiles, 4 threatened, and 10 amphibians and reptile species of special concern. Of the fish species, 4 are endangered, 5 are threatened, and 25 are fish species of special concerns. 13 Mollusk species are endangered, 11 are threatened, and 9 are of special concern. There are 16 endangered insects, 15 threatened insects, and 32 insects of special concerns. Lastly, Minnesota has one threatened arachnid species, and 9 of special concern. See Appendix A for a detailed list of Minnesota's endangered, threatened, and species of special concern (USFWS, 2025 & MDNR, 2013).
Essential Fish Habitat	NA – There is no essential fish habitat present within the project area (NOAA Fisheries, 2026).
Floodplain Management	Historic channelization throughout the Mud River and upper Thief River watershed has substantially altered natural floodplain processes within the watershed. Extensive channel modifications were completed more than a century ago to improve drainage of organic glacial soils and wetlands, resulting in narrow, confined channels with limited floodplain connectivity and a reduced ability to manage high- flow events. As a result, many reaches experience increased channel instability, driven by excessive sedimentation, flashy flows, and degraded riparian buffers (Thief River Geomorphology Report, 2015). The Mud River is a predominantly channelized system located adjacent to Highway 89. Much of the river exhibits a low width-to-depth ratio, with floodplain access varying by location. While some reaches can access the floodplain during approximately the 50-year flood event, other sections

	remain confined by steep banks and historic spoil piles, limiting overbank flow and reducing opportunities for floodwater storage (Thief River Geomorphology Report, 2015). Floodplains function together with river channels as an integrated hydrologic and geomorphic system, allowing the exchange of water and sediment during high-flow events. Restoring this connectivity could reduce flood velocities, increase temporary flood water storage, and improve sediment deposition across the floodplain rather than within the channel. The 2015 geomorphic assessment identified the adjacent floodplain as an important area for flood storage and characterized floodplain connectivity at approximately the bank elevation (associated with the 1.5- to 2-year recurrence interval), as an important component of channel and floodplain function (MNDNR, 2015). Although floodplain capacity has not been specifically reported for the Mud River, the assessment found that the existing upper Mud River channel geometry and adjacent floodplain contribute to overall floodplain function. The MPCA similarly identified floodplain, streambank, channel, and buffer conditions as factors influencing total suspended solids (TSS) and sediment delivery within the watershed (MCPA, 2018).
Invasive Species	The Red River, located near the project area in Marshall County has been listed as "infested" by the MNDNR– meaning it contains an aquatic invasive species that could spread to other waters. The dominant invasive plant species that can be found infesting The Red River is zebra mussel. Invasive aquatic plants commonly occurring in Minnesota include: • Curly-leaf pondweed – *Potamogeton crispus* • Eurasian watermilfoil – *Myriophyllum spicatum* • European common reed – *Phragmites australis spp.* • Flowering rush – *Butomus umbellatus* • Narrow-leaf cattail – Typha *angustifolia* • Non-native waterlilies – *Nymphaea spp.* • Purple loosestrife – *Lythrum salicaria* • Reed canary grass – *Phalaris arundinacea* • Water hyacinth – *Eichhornia crassipes* • Water lettuce – *Pistia stratiotes* • Yellow iris – *Iris pseudacorus* (University of Minnesota, 2026 & MNDNR, 2025) Although not specific to the proposed project area, terrestrial invasive mammals such as Asian Racoon dog (Nyctereutes procyonoides), European rabbit (oryctolagus cuniculus), European wild boar (Sus scrofa scrofa), and nutria (Mycocastor coypu), may be found in the state of Minnesota. Common Minnesota invasive trees and shrubs include:

	• Amur maple – *Acer ginnala* • Black locust – Robinia *pseudocacia* • Buckthorns – *Rhamnus cathartica & Frangula alnus* • Exotic honeysuckles – *Lonicera tartarica, L. morrowii, L. x bella* • Japanese barberry – *Berberis thunbergii* • Norway maple – *Acer platanoides* • Russian olive – *Elaeagnus angustifolia* • Siberian elm – *Ulmus pumila* • Siberian peashrub – *Caragana arborescens* Additionally, common Minnesota invasive grasses and wildflowers that may be found in the area include: • Bird's-foot trefoil – *Lotus corniculatus* • Bull thistle – *Cirsium vulgare* • Butter and eggs – *Linaria vulgaris* • Canada thistle – *Cirsium arvense* • Cow vetch & hairy vetch – *Vicia cracca & V. villosa* • Creeping Charlie – *Glechoma hederacea* • Creeping miscanthus – *Miscanthus sacchariflorus* • Crown vetch or axseed – *Coronilla varia* • Garlic mustard – *Alliaria petiolata* • Grecian foxglove – *Digitalis lanata* • Hoary alyssum – *Berteroa incana* • Japanese knotweed – *Polygonum cuspidatum* • Leafy spurge – *Euphorbia virgata* • Musk or nodding thistle – *Carduus nutans* • Ox-eye daisy – *Chrysanthemum leucanthemum* • Perennial sow thistle – Sonchus arvensis • Queen Anne's lace – *Daucus carota* • Smooth brome grass – *Bromus inermis* • Spotted knapweed – *Centaurea maculosa* • White and yellow sweet clover – *Melilotus alba & M. officinalis* • Wild parsnip – *Pastinaca sativa*
Migratory Birds/Bald & Golden Eagle Protection Act	The IPaC website (USFWS 2026) lists 22 migratory bird species of conservation concern (BCC) that warrant special attention within the Mud River watershed: • American Golden-plover – *Pluvialis dominica* • Bald Eagle – *Haliaeetus leucocephalus* • Black Tern – *Chlidonias niger surinamenisis* • Black-billed Cuckoo – *Coccyzus erythrophalmus* • Bobolink – *Dolichonyx oryzivorus* • Canada Warbler – *Cardellina canadensis* • Common Tern – *Sterna hirundo*

	• Evening Grosbeak – *Coccothraustes vespertinus* • Franklin's Gull – *Leucophaeus pipixcan* • Golden-winged Warbler – *Vermivora chrysoptera* • Grasshopper Sparrow – *Ammodramus savannarum perpallidus* • Hudsonian Godwit – *Limosa haemastica* • Le Conte's Sparrow – *Ammospiza leconteii* • Lesser Yellowlegs – *Tringa flavipes* • Marbled Godwit – *Limosa fedoa* • Northern Harrier – *Circus hudsonius* • Olive-sided Flycatcher – *Contopus cooperi* • Pectoral Sandpiper – *Calidris melanotos* • Red-headed Woodpecker – *Melanerpes erythrocephalus* • Short-billed Dowitcher – *Limnodromus griseus* • Veery – *Catharus fuscescens fuscescens* • Western Grebe – *Aechmophorus occidentalis* The presence of such migratory bird species of conservation concern highlights the ecological significance of the Mud River Watershed and the need to consider possible impacts of a potential watershed project in the area (USFWS, 2025 & MNDNR, 2013).
Natural Areas	The MNDNR has designated many Scientific and Natural Areas (SNAs) throughout the state, which are public lands which have been identified for their ecological and geological features for which the state works to protect. Within the Mud River Watershed project area and Marshall County there are no designated SNAs. However, there are 2 nearby SNAs in Beltrami County, Red Lake Peatland SNA and the Mulligan Lake Peatland SNA. The Red Lake Peatland SNA is approximately 50 miles long and 12 miles wide and formed on the flat, poorly drained lake plain of former Glacial Lake Agassiz. It contains a wide variety of classic peatland landforms, including water tracks, ribbed fens, tear-drop islands, circular islands, ovoid islands, and raised bogs. The Mulligan Lake Peatland SNA straddles the border between Beltrami and Lake of the Woods Counties and includes the headwaters of the Roseau River, which flows west and north into Manitoba, Canada. Both SNAs provide opportunities for birding, wildlife viewing, photography, hiking, snowshoeing, and cross-country skiing. (Source: https://www.dnr.state.mn.us/snas/list.html)
Prime and Unique Farmlands	Referring to Table 2, 35.1% of the Mud River sub watershed is classified as agricultural land, categorized as either hay/pasture or cultivated crops. As shown in Figure 9, a large portion of the farmland is designated as prime farmland or farmland of statewide importance. There are no identified unique farmlands within the study area (USDA, 2026).

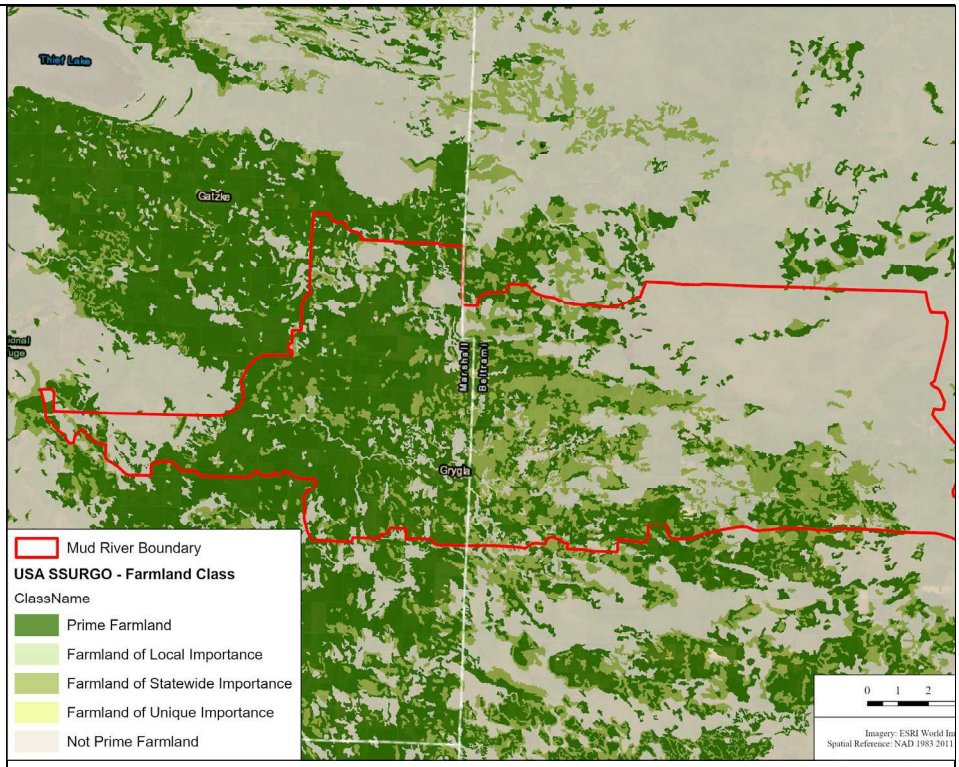


Figure 9. Map of Prime and Unique Farmlands within the Mud River sub watershed (USA SSURGO, 2026).

Riparian Area	Riparian soil along the Mud River consists primarily of poorly drained fine sandy loams that transition to fluvaquents adjacent to the channel. Much of the river is highly channelized, making channel stability heavily dependent on the presence and condition of riparian vegetation. However, the riparian corridor is often narrow, degraded, or absent, limiting its ability to stabilize streambanks, filter sediment, and dissipate flood flows. Where riparian vegetation is present, it is dominated by reed canary grass (*Phalaris arundinacea*), with only limited occurrences of goldenrod and thistle. The lack of vegetative diversity reduces the structural complexity and rooting strength needed to maintain a stable streambank. The Thief River Geomorphology Report identified limited riparian width and diversity as a primary factor in contributing to bank erosion and channel instability throughout the Mud River. Three sites were evaluated along the Mud River to assess the relationship between riparian conditions and channel stability. The upstream site adjacent to Highway 89, a highly channelized reach, exhibited the second-highest erosion rates among the total 13 sites evaluated throughout the Thief River Watershed, but was designated a “stable” Pfankuch stability rating. Bank Assessment for Non-point Source Consequences of Sediment (BANCS) modeling estimated sediment contributions of approximately 239 tons per year per mile from this upstream reach. The report concluded that expanding the width and diversity of the riparian buffer and improving floodplain

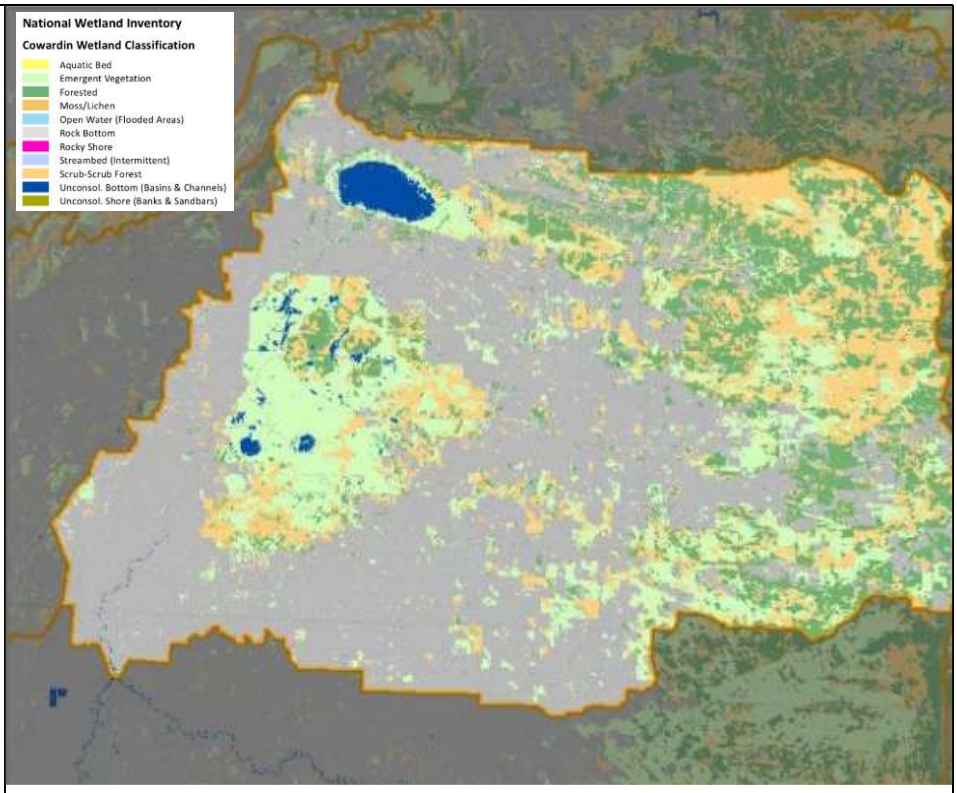
connectivity would substantially increase channel stability. Although the river can access its floodplain during approximately a 50-year flood event, portions of the reach remain confined by channelization. A second site located west of the City of Grygla at 390th Avenue was classified as unstable. Indicators included extensive upper bank mass wasting, significant lower bank undercutting (12-24”), excessive sediment deposition, low percentages of stable bed material, widespread scour and deposition throughout the channel, and little to no perennial aquatic vegetation (Figure 10). These conditions reflect the limited capacity of the riparian corridor to protect streambanks and support channel stability. Farther downstream of Grygla the last site generated a “moderately stable” Pfankuch stability rating. Here the riparian buffer conditions remained poor, and evidence of sediment deposition persisted; however, erosion rates decreased to approximately 135-137 tons per year per mile. This reduction is attributed to the presence of a more continuous and diverse riparian corridor, which provided greater bank stabilization despite continued watershed alterations.



Figure 10. Cut bank pictured in the lower Mud River (MNDNR, 2015).

The report identifies restoration and maintenance of riparian buffers as the most effective strategy for improving channel stability and reducing sediment inputs. Many of the Thief River headwaters, including the Mud River, were channelized following construction of Judicial Ditch 11 in 1910 to improve agricultural drainage. While this increased drainage efficiency, it confined the river within a narrow floodplain and reduced opportunities for floodplain interaction. The combination of channelization, limited riparian vegetation, and reduced floodplain connectivity continues to promote bank erosion,

	sediment transport, and channel instability through the Mud River (MNDNR, 2015).
Scenic Beauty	The Mud River watershed remains largely rural and underdeveloped, contributing to its open landscape and scenic area. The watershed lies in the former basin of Glacial Lake Agassiz, resulting in broad, flat plains with expansive agricultural fields, wetlands, meandering waterways, and remnant beach ridges that create distinctive landscape characteristic of northwestern Minnesota. Agriculture is the dominant land use; however, extensive wetlands and natural habitat associated with the Agassiz National Wildlife Refuge provides important scenic and ecological value. The refuge supports a diverse array of wildlife and offers expansive views of marshes, grasslands, and open water that reflect the region's natural heritage. Together, these natural features contribute to the visual quality of the watershed while highlighting the importance of protecting its remaining wetlands and associated habitat.
Wetlands	The State of Minnesota experienced an estimated 42% wetland loss from the 1780-1980s. Within the Thief River watershed, there are approximately 330,233 acres of wetlands, 76,782 of which are within the Mud River sub watershed (Figure 11). Existing wetlands are categorized based on their coverage types– emergent, scrub-shrub, and forested. The greater Thief River watershed includes wide stretches of prime wetland habitat, including the Agassiz National Wildlife Refuge and the Thief Lake Wildlife Management Area. The Thief River Comprehensive Watershed Management Plan (Thief River CWMP, 2020) notes wetlands are a resource concern within the watershed area, as sediment deposition within the large expanses of wetland leads to degraded hydrologic function, nonnative plant species establishment, and degrades downstream water quality by elevating turbidity, organic content, and diminishing dissolved oxygen levels. As previously mentioned, the majority of the waterways within the Mud River watershed have been altered, including wetlands, which have been largely drained for agricultural production. This concurrently results in the loss of wildlife habitat and the ability for temporary water storage on the landscape, contributing to flooding concerns. The destruction and degradation of existing wetlands has resulted in the loss and fragmentation of wildlife habitat, ecological corridors, and breeding territory for all protected, threatened, species of special concern, and unprotected species. For these reasons the TRCWMP identifies wetland loss as a priority one resource concern within the watershed.

	 **Figure 11. Existing wetland coverage within the Thief River Watershed (RLWD, 2020).**
Wild and Scenic Rivers	The National Wild and Scenic Rivers System, created by the Wild and Scenic Rivers Act of 1968, designates stretches of rivers for preservation with outstanding natural, cultural, and recreational values. Minnesota's Wild and Scenic Rivers Act of 1973 classifies six river segments within the state, each having their own set of regulations in addition to the state standard rules. No rivers or streams within the study area have been designated as National Wild and Scenic Rivers or Minnesota's Wild and Scenic Rivers (MNDNR, 2026d).

Proposed Project Purpose and Need Statement

The primary purpose of the proposed project is flood prevention. Flooding events pose hazards to public health and safety by carrying pollutants and causing damage to roads, homes, utilities, and water control structures. To meet this purpose, the project may also include secondary benefits of reducing pollutant and nutrient loading within the watershed.

Flooding Background

The City of Grygla and surrounding areas have experienced chronic flooding for many years. Historic accounts recall devastating floods as early as 1919, causing many farmers to sell their cattle and evacuate their land. Another significant flood occurred in 1950, and reported destroying bridges, roads, and properties in the area. 1982 FEMA Flood Insurance Study of the City of Grygla documented flooding in the spring of 1978, overtopping State Highway 89 on the west side of the city (FEMA, 1982).

The area suffers from localized flooding and regional flooding, which differ in their extent and primary sources. Localized flooding occurs after extreme precipitation events are focused over the City of Grygla, overwhelming the existing levee system, and requiring temporary pump stations. Alternately, regional flooding extends beyond the City of Grygla, affecting upstream drainage areas. This flooding is associated with larger weather events across the surrounding cities and counties, and some with statewide FEMA disaster declarations issued in numerous locations statewide. The conditions of 2022 were primarily driven by regional flooding. This problem arose from rapid snow melt and precipitation over the broader upstream drainage area. Flooding was observed at locations outside the levees. The Moose River impoundment pools (north and south) both set record high water levels in 2022, and the emergency spillway was engaged for the south pool. On the other hand, 2024 was primarily driven by local flooding. Heavy precipitation fell directly on the City of Grygla. The Mud River rose significantly, but the main problem was that the heavy precipitation overwhelmed the drainage system within the levee (Figure 14 and Figure 15). Examples of these types of flooding, regional and local, are documented further below.

According to the MNDNR, rainfall events having > 3 inches of rain have increased in frequency by 65% since 2000, bringing a greater risk of flood damage compared to typical high-risk areas. These risks include basement flooding, sewer backups, erosion, and stream instability, subsequently leading to damages to roads, bridges, sewers, and utilities. In response to the rising risks, the MNDNR has recommended that high risk areas preserve flood-prone areas as public open spaces, adopt protective regulatory standards to preserve natural waterway areas, to work in partnership at a watershed level, and implement flood risk reduction projects (Source: Floodplain Management in Minnesota: Past, Present, and Future | Minnesota DNR). More recently, The City of Grygla experienced severe spring and summer flooding during three consecutive years (2022-2024), with each event resulting in a Federal Emergency Management Agency (FEMA) declared disaster. Annual peak flows recorded at USGS-05075700 (Mud River near Grygla), correspond with the timing of these flooding events and indicate elevated flows in the Mud River during this period. Although no stream gage is located directly in the City of Grygla, the Mud River gage provides a direct record of streamflow near the community (Table 10). Regional discharge data is collected continuously from USGS 05075000 (Red Lake River at high landing near Goodridge) which also show a pattern of elevated flows during 2022-2024, providing broader hydrologic context for the period of flooding in the region. However, this gage is located on the Red Lake River and is not directly representative of flows in the Mud River or outflow from the Moose River Impoundment (Figure 12).

Table 10. Annual peak flows recorded at USGS 0507500 (Mud River near Grygla, MN), 2022-2024

Location	Peak Flow (cfs)	Date
USGS-05075700	2250	4/25/2022
USGS-05075700	1680	4/14/2023
USGS-05075700	1020	7/28/2024



Figure 12. Daily mean discharge recorded at USGS 05075000 (Red Lake River at High Landing near Goodridge, MN) illustrating elevated flows from within the region 2022-2024.

With increasing frequency of extreme precipitation events and associated flood risk, the City of Grygla constructed a levee north of the City in 1999 to protect Grygla from overflow of the Mud River during high-discharge events. The levee was constructed at an elevation of approximately 1,176-1,178 feet (NAVD88), which FEMA identifies as sufficient to prevent overtopping during the 1% annual exceedance probability (AEP) flood event. While the levee provides protection from the Mud River flows reaching the City, it also limits the ability of rainfall and stormwater runoff occurring within the protected area to drain naturally toward the river. During periods of heavy precipitation, this can result in water accumulation behind the levee and create localized ponding that must be removed through pumping (Figure 13 & Figure 14). The ponding effect created by the levee, combined with highly channelized modified reaches of the Mud River upstream and downstream of the city of Grygla, can further exacerbate flooding. These combined conditions have been demonstrated by several recent flooding events.



Figure 13. Grygla Mayor helping to pump flooded streets during 2024 flood (Grygla Eagle Newspaper, 2024).



Figure 14. Floodwaters being pumped out of Grygla over the dike on July 31, 2024 (Grygla Eagle Newspaper, 2024).

From April 22nd – June 15th, 2022, northern Minnesota experienced severe storms, straight-line winds, snow melt, and flooding. Figure 16 documents snowy conditions on April 20, 2022, which was only a few days before the storms and warmer temperatures arrived (source: Grygla Eagle). The Beltrami County Sheriff's Office submitted a press release on April 26, 2022 for a State of Emergency (Figure 16). Some photos shown in the Grygla Eagle on April 27, 2022 document flooding at a location outside of the city's levee system (Figure 17).

Information provided by the Red Lake Watershed District (email communications) documents that the high water levels in each pool on May 12-14, 2022 were the most extreme since the early 2000s (Figure 18).



$1.00

GRYGLA EAGLE

Today Rain/Snow H 42 L 32 | Thurs Cloudy H 42 L 30 | Fri Rain H 45 L 38 | Sat Rain H 51 L 34 | Sun Rain H 38 L 27

Wednesday, April 20, 2022 WE'RE ONLINE www.tricocanary.com

In this issue ... Grygla Prom flashbacks from years gone by. (5

Real date: April 20th. Feels like: January 120th

Other possible captions for this photo: 'Tis the season to be freezin'. Favorite thing about winter? When it's over. Let it snow, let it snow, let it snow....somewhere else. On a positive note, we haven't seen any mosquitoes yet, AND like the saying goes, "If you choose not to find joy in the snow, you will have less joy in your life but still the same amount of snow." Let's just use these extra peaceful, snowy days to pause, reflect and renew for the spring that's sure to be coming soon! *Photo by Grygla Eagle Newspaper*

Source: Grygla Eagle Apr. 27, 2022

Spring flooding

Heavy rainfall combined with a late spring snow melt has resulted in overland flooding across many areas in the region. Pictured are a few scenes from Grygla over the weekend.

Numerous township and county roadways are under water or have experienced a washout due to flooding. Motorists are reminded never to drive through flooded roadways as you don't know if the roadway has been washed out below the flowing water.

Homeowners are encouraged to be prepared for flooding. Maintain drainage systems and ensure sump pumps are functioning. If your home floods, disconnect power sources to avoid electrical shock hazards.

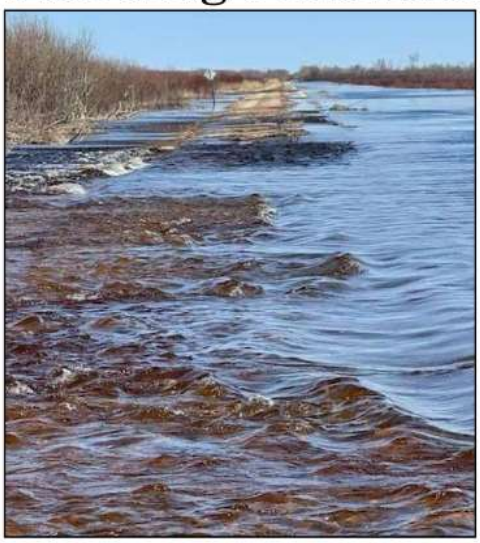
A note from the Grygla School

Due to extremely wet conditions, if you think the bus will have a difficult time getting to your pickup point, please call the school at 218-294-6155. The buses will not be driving into driveways.

Figure 15. Snippets from the Grygla Eagle Newspaper for April 20, 2022 (Left) and April 27, 2022 (Right).

This special colored issue is sponsored by American State

Flooding continued over the weekend





These pictures were taken over the weekend by Terry Cleven of Lee Township (between the Grygla/Fourtown area.) After much rainfall, water continued to rise and wash out roads over the weekend, making many impassible. ***Photos courtesy of Beltrami County Emergency Management***

Beltrami County declared a State of Emergency

Press Release submitted by Beltrami County Sheriff's Office on April 26th

Beltrami County has been impacted by flooding due to heavy rainfall and a late snow melt after several feet of snow during the winter of 2021-2022. Many gravel county and township roads have been impacted by significant frost heaves, snow melt and persistent precipitation in the month of April resulting in substantially deteriorated road conditions. In the early morning hours of April 23rd, 2022, many areas of the county received in excess of three inches of rainfall from thunderstorms that combined with snow melt resulted in considerable overland flooding across much of Beltrami County. The City of Bemidji experienced flooding of city hall due to the storm drainage system being overwhelmed from heavy rainfall and numerous roadways experienced culvert washouts and roadway washouts. Preliminary estimates indicate tens of thousands of dollars of damage and expense related to the emergency response to flooding. It is likely that Beltrami County will exceed the threshold to qualify for state disaster assistance through the State of Minnesota. Due to overland flooding continuing to impact the county with additional repairs needed, the Beltrami County Board Chair has declared Beltrami County to be in a State of Emergency. This enables the Beltrami County Sheriff's Office Division of Emergency Management and other county departments to respond to the flooding with increased resources and pursue disaster assistance reimbursement for expenses and damages to public infrastructure in Beltrami County. Local governments and agencies who have had damages or expenses related to the flooding should report them to Beltrami County Emergency Management Director Christopher Muller by email at chris.muller@co.beltrami.mn.us The Beltrami County Board will have a special meeting on Friday, April 29th, 2022, at 10:00am in the Beltrami County Board Room to discuss the emergency declaration.





Last Thursday, April 28th, Grygla Juniors and Seniors assisted the Grygla Fire and Rescue Department with sand bagging efforts around the Grygla area where water was still in plentiful supply and threatening the homes of some rural residents. ***Photos courtesy of Grygla Fire Department***

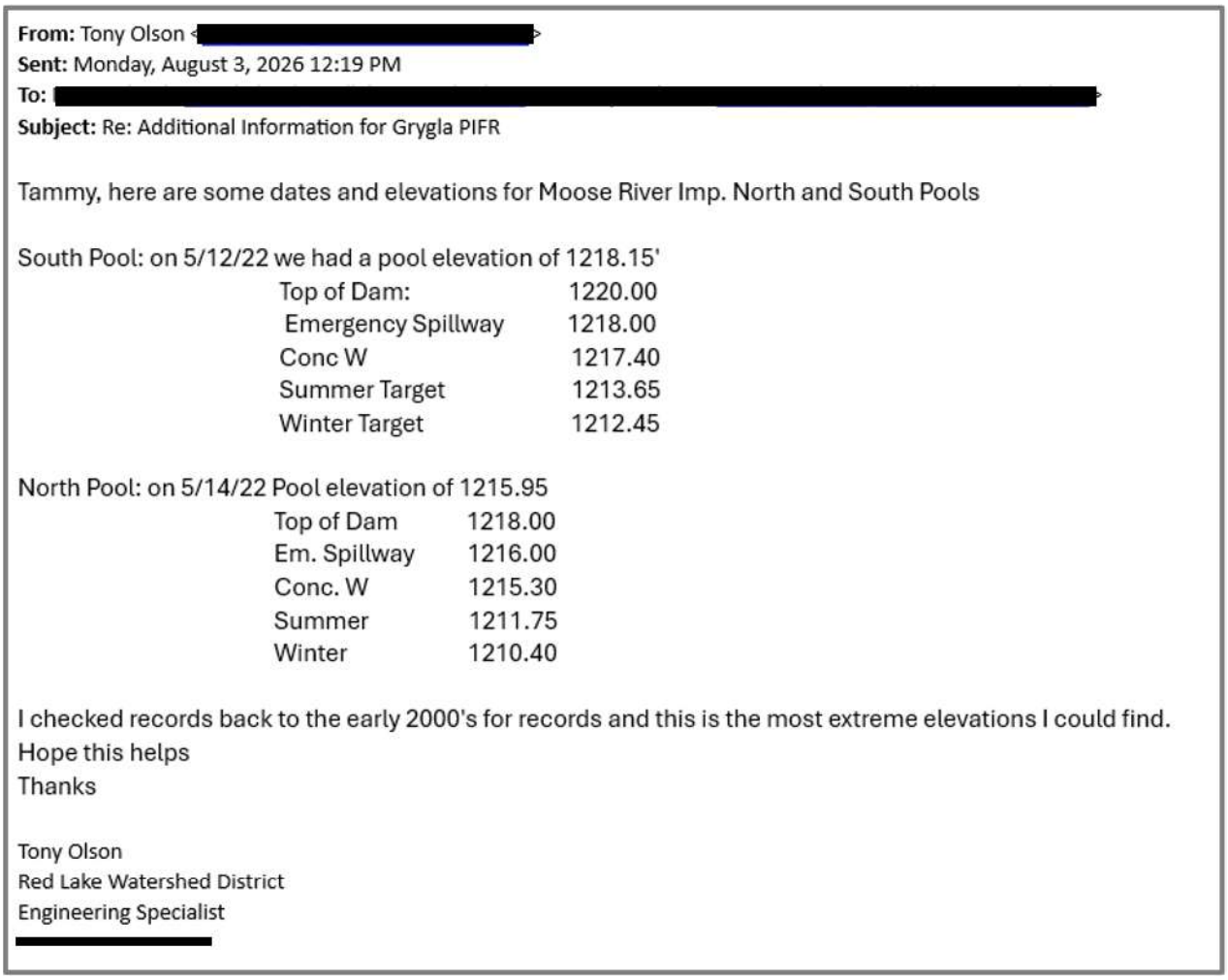
Figure 16. Grygla Eagle newspaper from May 5, 2022 showing County declaration of emergency.



[redacted] is among the many places to be hit by the rising, flood waters we are currently experiencing. This picture was taken last Saturday. *Photo by Grygla Eagle Newspaper*



Figure 17. Photo of flooding in Grygla Eagle (top; Apr. 27, 2022) and its location (bottom; yellow arrow).



From: Tony Olson <[redacted]>
Sent: Monday, August 3, 2026 12:19 PM
To: [redacted]
Subject: Re: Additional Information for Grygla PIFR

Tammy, here are some dates and elevations for Moose River Imp. North and South Pools

South Pool: on 5/12/22 we had a pool elevation of 1218.15'

Top of Dam:	1220.00
Emergency Spillway	1218.00
Conc W	1217.40
Summer Target	1213.65
Winter Target	1212.45

North Pool: on 5/14/22 Pool elevation of 1215.95

Top of Dam	1218.00
Em. Spillway	1216.00
Conc. W	1215.30
Summer	1211.75
Winter	1210.40

I checked records back to the early 2000's for records and this is the most extreme elevations I could find.
Hope this helps
Thanks

Tony Olson
Red Lake Watershed District
Engineering Specialist
[redacted]

Figure 18. Red Lake Watershed District recorded high water levels of 2022.

Governor Tim Walz requested a major disaster declaration on June 23, 2022, calling for public assistance to 15 counties and four tribes statewide, including both Marshall and Beltrami Counties (Figure 19). FEMA declared a disaster on the following July 13th, 2022 (DR-4659-MN). The total public assistance cost across MN for the disaster was 11.5 million dollars, with a total $33,773 of cleanup costs for the City of Grygla in 2022 alone. The City of Grygla experienced severe flood conditions, warranting FEMA assisted cleanup efforts from 4/23-5/6, 2022. The City faced more late summer flooding, requiring additional cleanup from 8/15-8/18 (source: Grygla FEMA records shared by The City). Early spring and summer flooding is not localized to Grygla alone- storms often affect large portions of the state.

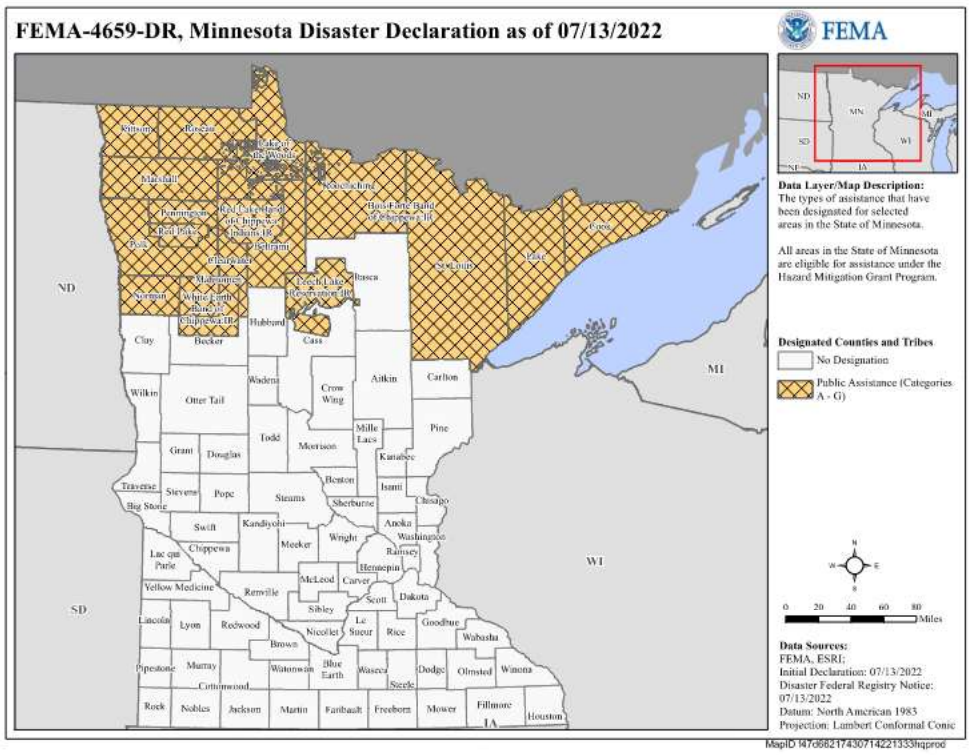


Figure 19. Counties affected by the 2022 FEMA disaster (FEMA, 2026).

The following June 28 the governor requested another disaster declaration due to severe storms and flooding which occurred from April 11-30, 2023. The public assistance request for 23 counties (DR-4722-MN), included Marshall County (Figure 20). The disaster had a total public assistance cost estimate of 10.5 million across the state and $11,000 in support to the City of Grygla. Grygla held additional cleanup efforts later that same year Sept-December 2023.

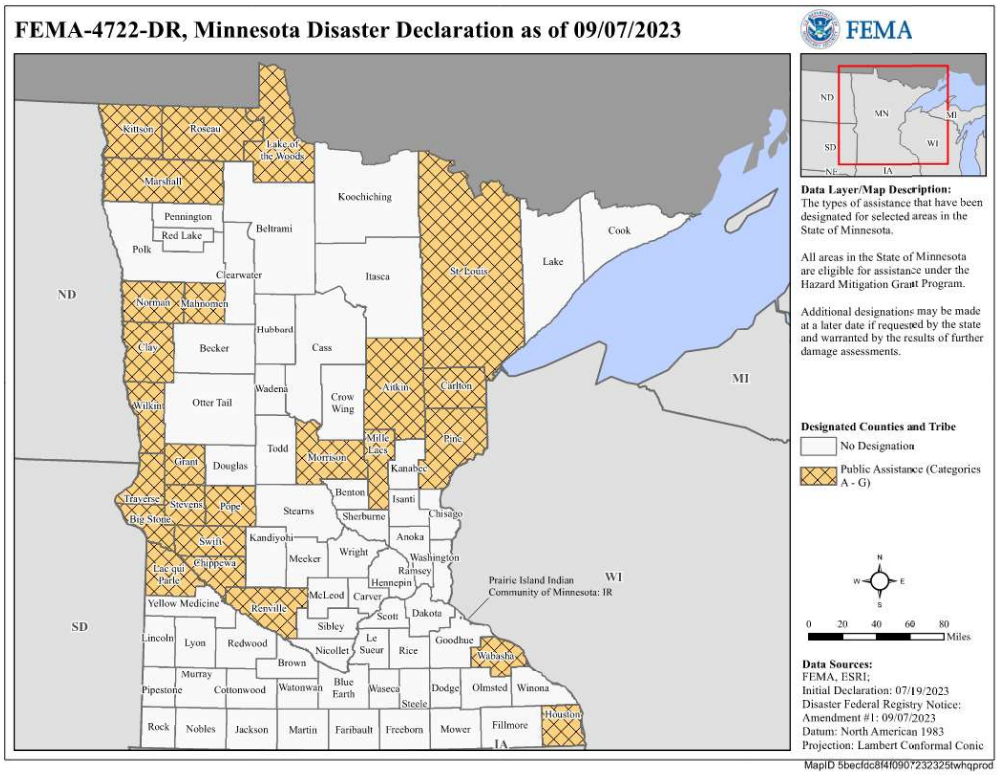


Figure 20. Counties affected by the 2023 FEMA disaster (FEMA, 2026).

The most recent FEMA major disaster declaration was issued on June 28, 2024, with more than 30 counties initially designated as adversely impacted. Although Marshall and Beltrami counties were not included among the areas identified as severely impacted in the original declaration, the statewide major disaster designation made all jurisdictions within Minnesota eligible for assistance through the Hazard Mitigation Grant Program (HMGP). Severe storms and flooding continued across Minnesota throughout July, bringing additional heavy rainfall to communities such as Grygla, which received 8 inches of rain on July 27th (Discharge Monitoring Report, 2024). The resulting flood inundated many residential basements, and some residents reported kayaking nearly 4 miles to reach the nearest dry land (Figure 21). As impacts expanded, FEMA issued six amendments to the original disaster declaration, adding additional counties as severely impacted areas. The City of Grygla alone incurred an estimated $20,000 in cleanup costs. These estimates likely do not capture the full extent of the flood-related damages, including residential basement flooding and sewer backups, lift station repairs, agricultural and crop losses, damage to local roads and infrastructure, and other economic impacts to residents and businesses. Flooding may also have downstream implications for areas such as Agassiz National Wildlife Refuge. A more comprehensive planning-level assessment could further document both reported and unreported damages and associated costs to better characterize the community-wide impacts of flooding and inform mitigation planning (FEMA, 2026).



Figure 21. Local news report Mud River overflow in July 2024 (Grygla Eagle Newspaper, 2024).

Grygla has performed emergency pumping operations during the flooding in recent years to pump the floodwater from inside the levee out of the system to the Mud River side of the levee. From photos and social media reports, pumping occurred during the 2024 flooding in at least these two spots shown by yellow arrows in the map of Figure 22.



Figure 22. Locations of pumping operations during July 2024, moving flood water out of Grygla's levee system.

Current Projects within the Watershed

The downstream Mud River is currently the focus of a watershed enhancement project being developed through a Flood Damage Reduction Project Work Team. Led by RLWD in partnership with the MNDNR and USFWS, the project is intended to improve migratory bird habitat within the Agassiz National Wildlife Refuge while addressing several of the watershed resource concerns identified in this report. Project objectives include enhancing natural riverine, riparian, and floodplain functions along the Mud River, restoring ecological functions lost due to historical drainage practices, and mitigating upstream influences that negatively affect wetlands within the refuge.

Using aerial imagery and soil borings, the project team identified an ancient river channel buried beneath several feet of peat. The proposed restoration would reestablish this approximately 6-mile channel and reconnect channelized JD 11 to its historic alignment. Restoring flow to the former channel would reconnect approximately 700 acres of floodplain that were isolated by channelization in the early 1900s, allowing sediment to be deposited across the floodplain rather than transported downstream. This restoration is expected to improve floodplain connectivity, reduce sediment delivery to downstream waters, and enhance wetland and wildlife habitat. The RLWD has applied for funding through the Lessard-Sams Outdoor Heritage Council to implement the estimated $5.1 million project (RLWD, 2026b).

The downstream Mud River is also the focus of the Mud River Project (RLWD Project No. 180C), which was discussed at the RLWD Board meeting on July 10, 2025. Project modeling by HDR, determined that excavation upstream of existing weirs may be necessary to improve hydraulic conveyance. The proposed excavation could result in slight increases in water levels (~1/4”) on several properties during a 10-year rainfall events. RLWD representatives planned to meet with potentially affected landowners to evaluate impacts and identify the appropriate next steps (RLWD, 2025). Based on our current understanding of the proposed projects, both projects are downstream of the City of Grygla and are not anticipated to result in negative impacts to the city.

Resource Concerns

This section describes the resource concerns that may potentially be impacted by implementation of the proposed project. The effects of the proposed project can be either negative or positive. These PIFR resources were identified as within and adjacent to the proposed project area, as well as any regional or national impacts that may occur because of implementation of the project. The following section, including Table 11, highlights the significant problems or opportunities found.

Potential Effects of Proposed Alternatives on SWAPA + E + H Resources and Resources of Special Concern

Table 11. Resource Concerns: SWAPA + Energy + Human

	Alt 1 – No Federal Action The sponsor does not implement watershed improvements using Federal funds	**Alt 2 – Structural** Description: One or more terrain modification, channel modification, culvert resizing, off-channel storage, or drainage modifications.	**Alt 3 – Nonstructural** Description: Implementing wetland restoration, best management practices, stormwater ordinances, or buyouts.	**Alt 4 – No Restrictions** Description: combination of structural and nonstructural alternatives
Soil	-	+	+	+
Water	-	+ / -	+	+
Air	0	0	0	0
Plants	-	0	+	+
Animals	-	0	+	+
Energy	0	0	0	0
Human	-	+	+	+
Resources of Special Concern				
Clean Air Act	0	0	0	0
Clean Water Act/Waters of the U.S.	-	+/-	+	+
Coastal Zone Management	0	0	0	0
Coral Reefs	0	0	0	0
Cultural Resources/Historic Properties	0 / -	TBD	TBD	TBD
Endangered & Threatened Species	0	0 / +	+	+
Essential Fish Habitat	0	0	0	0
Floodplain Management	-	+	+	+
Invasive Species	0	0	0	0
Migratory Birds/Bald and Golden Eagle Protection Act	0	0	+	+
Natural Areas	-	0	+	+
Prime and Unique Farmlands	-	0 / -	0 / -	0 / -
Riparian Area	-	+	+	+
Scenic Beauty	-	+	+	+

Table symbols: "+" is a Positive Impact, "-" is a Negative Impact, "0" is No Impact, "TBD" is unknown

Opportunities

The following opportunities were identified to help address the previous section's listed resource concerns:

The primary purpose of the proposed project is flood prevention. Flooding events pose hazards to public health and safety by carrying pollutants and causing damage to roads, homes, utilities, and water control structures.

The proposed project intends primarily to prevent flooding. To meet this purpose, the project may include improvement of water storage on the landscape which has the potential for ancillary benefits through the reduction of pollutant and nutrient loading within the watershed, and improvement of recreational opportunities to the public.

- For decades, the Mud River Watershed has experienced severe flooding events, dating as far back as 1919. Such events have, and are expected to, increase in frequency, creating a growing threat to the health and safety of residents and property. It is the sponsor's expressed goal to develop and implement a watershed plan designed to reduce the frequency and severity of flooding events while safeguarding the health, safety and welfare of residents, as well as protecting property, water quality, and groundwater, in the greater watershed area. The sponsor and the stakeholders are supportive in allowing NRCS to implement alternatives that will reduce the frequency and associated cost of flooding.
- The restoration of wetland areas presents a significant opportunity to directly support the primary goal of reducing flood risks. Wetlands function as natural water retention systems by capturing and temporarily storing stormwater during high-intensity rainfall events. This storage slows the rate of runoff and attenuates peak flows that would otherwise contribute to downstream flooding, thereby protecting surrounding communities and infrastructure. In the project area, continued agricultural land use and altered hydrologic conditions have accelerated the surface water flows and increased agricultural runoff to surface waters.
    - The implementation of structural and non-structural measures to reduce flooding would provide the opportunity to improve the human resource concerns of public safety and access. Less frequent flooding would alleviate the concerns of safety around transportation routes and other infrastructure that have repeatedly been damaged by flooding events. Reducing damage would also help improve the local economy that has been hampered by past flooding events.
- Wetland restoration can support the sponsors' primary goal of flood prevention but also has subsequent effects on improving water quality within the watershed. By retaining and filtering stormwater runoff, restored wetlands can reduce land-borne, and groundwater, contamination and remove excess nutrients and sediments–including nitrates, phosphates, and TSS. Restoring wetlands in the area can address several water quality concerns simultaneously by offering stormwater storage, thus reducing flood damage, improving lake and downstream water quality by biological uptake, and enhancing groundwater recharge–especially in the heavily fragmented agricultural project area. In addition to water quality and hydrologic benefits, wetland restoration presents the opportunity to provide critical habitat for migratory birds, with which there are 6 threatened, endangered, and species of special concern in the project area. Establishing and restoring wetlands would positively impact this resource by improving habitat availability for these and many other species. Wetlands collectively strengthen the overall health of the watershed and address multiple resources concerns simultaneously.
- Along with flood prevention, another supplementary benefit to wetland creation is the opportunity for public recreation within the watershed. Recreational opportunities can be achieved through the proposed structural and non-structural measures as described below. Wetland restoration can offer significant recreational, educational, and cultural benefits to local communities. They serve as beautiful, tranquil spaces for activities such as birdwatching, hiking, and photography, fostering a connection to nature and improving mental well-being. Wetlands are often used as outdoor classrooms where students and researchers can study ecology, hydrology, and conservation.

The proposed project provides the opportunity to review the watershed through a holistic approach to address issues shared throughout the watershed.

The proposed project measures may be implemented on both public and private lands within the watershed near and along the Mud River. Stakeholders have expressed support for the project and are committed to collaborating to ensure successful implementation of these resource improvements.

Potential Alternatives

Alternatives are actions proposed to meet underlying needs or to achieve a desired future condition and must correlate with the project's stated purpose and need. Each viable potential alternative may consist of a combination of structural and/or nonstructural measures, land treatment practices or locally preferred strategies. Reasonable potential alternatives may also include actions that are not covered by NRCS program authority. For the formulation of alternatives there are four criteria that must be considered: completeness, effectiveness, efficiency and acceptability (PR&G Chapter 7. a. iv.).

The purpose and need for the project identified flood risk prevention as the primary purpose. While not all the potential alternatives considered may be carried forward for full analysis during the National Environment Policy Act (NEPA) process, this report documents the existence of one or more reasonable alternatives that may be analyzed during the full planning process.

Alternative 1: No Federal Action

One of the alternatives that must be included in the plan is the "no federal action/future without project" alternative. A "business as usual" approach would involve no change to the existing conditions. Alternative 1 would not meet the purpose and need of the project.

Potential Alternative 2: Structural

In general, structural alternatives can be focused on two primary causes of flooding experience by the City of Grygla; upstream river flooding, and interior drainage and runoff. These two sources of flooding require different types of structural measures. Upstream measures could include modifications to the river channel and surrounding terrain, hydraulic structures such as culverts and bridges, and shallow impoundments or other storage measures intended to reduce or delay flows in reaching Grygla. Interior drainage measures could include improvements to local drainage systems, culverts, and other hydraulic structures as well as terrain modifications or storage designed to reduce localized ponding and manage runoff within Grygla.

Structural Upstream River Measures:

- 2a. Terrain modifications without impacting the channel. This alternative considers changing the river's floodplain in targeted reaches to improve flow conveyance during floods. One option is to implement a wider floodplain bench, which would restore natural floodplain functionality, allowing water to have a larger area adjacent to the channel for spreading out during floods. This alternative could include restoring a natural connection to a historic floodplain that has since been disconnected, similar to the efforts of the Mud River Enhancement Plan (RLWD, 2026). This benching and natural floodplain alternative would avoid changes to the primary river channel and only change the terrain above the channel's bank. This alternative would include restoring the riparian area along the river to provide stability of native vegetation and habitat.
- 2b. Channel modifications. This alternative would change the cross-sectional shape of the river, including the channel itself, in targeted areas to improve flow conveyance. Changes to the channel can be effective hydraulically, especially in areas where the water is constricted. However, channel changes could require additional analysis to evaluate potential negative environmental impacts (e.g. disruptions to benthic habitat). Channel modifications could include dredging of the channel bottom, removing flow restrictions, or widening the channel. Potential applications could include channel modifications either upstream or downstream of town in order to reduce flood damage near Grygla. Potential applications downstream of town would focus on increasing the efficiency of conveying the water, reducing backwater effects near town. Potential applications upstream of town could include implementing a two-stage ditch design, east of the City of Grygla where the channel is narrow and closely bordered by

agricultural land. Any of these modifications would be pursued with a stream restoration mindset, factoring in long-term channel stability, habitat diversity, and native vegetation.

- 2c. Modifications to culverts/crossings. The existing openings at road crossings or lake outlets could be resized to change their hydraulic behavior. As is strategized in the MPCA 2018 WRAPS report, locations where the culverts are constricting the flow, a larger opening will increase the flow through the culvert, reducing peak flows, increasing base flows, and reduce water levels upstream of the constriction. Decreasing the sizes of culvert openings could also be considered with this alternative, in order to attenuate the flow downstream, but this could have negative impacts upstream (higher water levels upstream).
- 2d. Off-channel storage. This alternative would designate one or more large land areas adjacent to the Mud River as flooding zones, potentially upstream of the Grygla flood-damage areas, as passive flood storage areas. The hydraulic benefit would arise from temporarily storing a portion of the river's flow during high-flow events, thereby reducing downstream flood peaks and water surface elevations through Mud River. Under this alternative, water would enter the storage area passively when river water levels exceed a designated elevation, such as through an overflow berm or similar connection to the river channel. The storage area would fill as water levels in the Mud River rise and would drain as river levels recede. Off-channel storage could also include excavating or grading the storage area to increase the available storage volume. An active storage system, in which gates are used to actively manage the movement of water out of storage, is not proposed as a separate application of this alternative because of the existing active storage system at the Moose River Impoundment ~17 miles northeast of the City of Grygla. Accordingly, this alternative focuses on the potential development of new passive off-channel storage areas associated with the Mud River.

Structural Interior Drainage Measures:

- 2e. Drainage / conveyance modifications. This alternative would improve the capacity of the interior drainage system within the levee-protected area of Grygla to convey rainfall runoff and other accumulated water back to the Mud River during high rainfall and flood events. The hydraulic benefit would arise from within the protected area, reducing the duration and extent of interior flooding and maintaining available capacity within the drainage system during subsequent rainfall events. The alternative could include constructing new pump stations at strategic locations within the levee-protected area to increase pumping capacity from temporary stations used currently. Pump stations would discharge water back into the Mud River, allowing water to be removed from the protected area when gravity drainage is insufficient or when high river stage prevent effective drainage through existing outlets. The effectiveness of this alternative would depend on the available capacity of the Mud River to receive the pumped discharge during high rainfall events. Pumping capacity could be sized to address specific design rainfall events or targeted areas of interior drainage concern. This alternative could also include modifications to existing drainage channels, pipes, or other conveyance features within the protected area to improve the collection and delivery of water to the proposed permanent pump stations.

Potential Alternative 3: Non-Structural

The non-structural alternatives include several options that would require wide-spread implementation throughout the watershed. A single non-structural alternative has minimal impact; however, when implemented on a global scale throughout the watershed, it could have a significant benefit.

- 3a. Wetland restoration. This alternative would convert and restore land area to healthy wetlands. The restored wetlands would reduce the flood damages by reducing the volume of runoff (by increasing the amount of infiltration) and by slowing down the timing of the runoff. This alternative would also have

water quality benefits and reductions in sediment loads. This alternative could also explore hydrologic connections between wetlands and water bodies (similar to 2d above), restoring those wetland connections.

- 3b. Best Management Practices (BMPs). BMPs are a set of practices targeted at improving the quantity and quality of water draining from upland areas. A few examples of BMPs include conservation tillage, cover crops, and vegetated buffer strips. Ideally, these practices would be implemented voluntarily by land owners, but there could also be incentives offered for implementing BMPs. BMPs would also have water quality benefits and reductions in sediment and nutrient loads arriving to the stream.
- 3c. Stormwater Ordinances: This alternative would include the establishment of Minimal Impact Design Standards (MIDS) associated with land development projects. Stormwater ordinances could be implemented to enhance stormwater minimal impact practices to increase infiltration and detention locally. Practices could include impervious surface limits, riparian buffers, minimization of soil compaction, and regulation so that post-development flows would be no greater than pre-development flows.
- 3d. Implement mitigation buyouts. This alternative is purchasing properties that experience, or could experience, flood damages in order to eliminate the long-term costs of future damages to make repairs to those properties. Ideally, these buyouts would occur voluntarily. This may include the acquisition of conservation or floodplain easements to restrict future development and reduce flooding risk exposure. The purchasing of the properties could also include restoration concepts for land conversion.

Potential Alternative 4: No Restrictions

The no restrictions alternative is if money was no object, and all rules, regulations, and permitting were approved (may also be an action outside of NRCS program authority). The Mud River Watershed has some challenging flooding dynamics, so a combination of structural and non-structural projects could be considered. Accordingly, the no restrictions alternative is a combination of several structural and non-structural alternatives described above to produce the maximum potential benefit in accordance with the project purpose. For example, this could include upstream floodplain benching (2a), wetland restoration (3a), and constructing permanent pump stations to move flood water out of the leveed area (2e).

Table 12. Positive and Adverse Effects of Alternatives

Alternatives	Possible Positive Impacts and Effects	Possible Adverse Impacts and Effects
Alternative 1 – No Action/Future Without Project Description: The sponsor does not implement project measures using Federal funds	• Situation will remain as-is • No investment in infrastructure	• Flooding will continue to occur at its current frequency and severity in the near-term
Alternative 2 – Structural 2a. Terrain modifications w/out impacting the channel 2b. Channel modifications 2c. Modifications to culverts/crossings 2d. Off-channel control structures. 2e. Drainage / conveyance modifications	• Reduced flood risk to adjacent properties • Improve hydraulic efficiency at crossings • Improved floodplain connection to the river • Reduce traffic interruptions • Improved drainage system efficiency	• Some measures may require significant private land acquisition and unfavorable conditions near residences, such as ponded water • Possible increased long-term maintenance • Potential downstream impacts of altered natural flow regime • temporary degradation of water quality (during construction/ sediment mobilization)

Alternatives	Possible Positive Impacts and Effects	Possible Adverse Impacts and Effects
Alternative 3 – Non-Structural 3a. Wetland restoration 3b. Best Management Practices (BMPs) 3c. Stormwater Ordinances 3d. Implement mitigation buyouts	• Increase infiltration, reduce runoff, and attenuate peak flows • Ecosystem benefits • Reduce soil erosion and nutrient runoff • Improve water quality • Reduced long-term maintenance needs • Compatibility with natural systems and ecosystem-based flood prevention • Possible multi-use benefits (recreation, etc.)	• Real estate (property or easement) challenges • Potential difficulty implementing measures at a large scale • Some measures require significant participation/cooperation • Time required for vegetation establishment before full benefits are realized
Alternative 4 – No Restrictions: If money was no object, all rules, regulations and permitting were approved (may be an action outside of NRCS program authority) Maximize flood reduction / feasibility using structural and non-structural measures above	• Improve hydraulic efficiency at crossings • Reduce traffic interruptions • Increase infiltration, reduce runoff, and attenuate peak flows • Reduce soil erosion and nutrient runoff • Ecosystem benefits • Improve water quality	• Some measures may require significant private land acquisition and unfavorable conditions near residences, such as ponded water. • Increase development costs • Real Estate (property or easement) challenges • Potential difficulty implementing measures at a large scale

While all the potential alternatives listed may not be carried forward for full analysis, this table documents that there are one or more reasonable alternatives that may be analyzed during the full planning process.

Facilitating Factors

Facilitating factors make it possible or easier for something to happen and/or assist in attaining a specified goal or improve the desired end result. The following facilitating factors were identified:

Alternative 1 – No Action

- The No Action alternative would not require action by the sponsor for additional study or the requirement to allocate funds for a possible solution. However, the No Action alternative would not meet the goals or desired result as identified in the purpose and need.

Alternative 2 – Structural

- Off-channel storage and terrain modifications w/out impacting the channel: Allows flood control and flow management while maintaining existing stream alignment and natural channel morphology.
    - Reduces regulatory and environmental complexities by avoiding in-channel structural changes.
    - Opportunity to restore native vegetation, having secondary benefits of improved nutrient and soil health management, and
    - Reducing downstream TSS, which threatens downstream drinking water sources
- Modifications to culverts/crossings: potentially smaller-scale measures that could have significant impacts, improve hydraulic efficiency at crossings.
    - Can be targeted and implemented in reaches where floodplain reconnection would provide the greatest benefit.

- Any of these structural flood reduction methods are potentially compatible with a stream-restoration/nature-based approach.

Alternative 3 – Non-Structural

- Small-scale measures on forested lands and farmland runoff reduction measures: could address a large part of the drainage area.
- Wetland restoration: Restoring wetlands in the area may increase viability, and have co-benefits of improved water quality, enhanced recreational value, and ecosystem benefits.
- Implement mitigation buyouts: Potential for multi-purpose land use after buyout, such as parks, wetlands, or other uses that could serve as public amenities while reducing flood risk.
- BMPs can be implemented incrementally across agricultural areas, allowing benefits to accumulate throughout the watershed.
- Stormwater ordinances and MIDs can prevent increase in runoff from future development, reducing the need for future flood control infrastructure.

Alternative 4 – No Restrictions

- This alternative is a combination of the structural and non-structural measures identified above that would produce the maximum possible benefit to the sponsor while avoiding unnecessary impacts to watershed resources. See the list of facilitating factors for structural and non-structural alternatives above.

Obstructing Factors

Obstructing factors make it more difficult for an action to happen and/or decreases the ability to attain a specified goal. The following obstructing factors were identified:

All work within regulatory floodplains is subject to Federal, State, and Local floodplain laws and potential permitting.

Before any excavation or alteration of a waterway or drainage feature takes place, review by and potential approval by the Minnesota Department of Natural Resources (DNR) must occur prior to work commencing. The DNR will evaluate the stream's history to determine jurisdiction, flow patterns, and ecological significance. This evaluation considers whether any changes made will, or will not, disrupt the stream's health, impact local wildlife, or cause unintended environmental consequences. The evaluation will also determine whether permit(s), or what kind of permit(s), is/are required for the proposed activity. Further, the placement of any dredged or fill material into wetlands will also require review by and potential approval by the DNR and USACE prior to work commencing.

Alternative 1 – No Action

- Not considered a reasonable alternative because the purpose and need of the project is not met.

Alternative 2 – Structural

- Permitting requirements.
    - Any in-channel work could disturb aquatic habitat and water quality, thus requiring more extensive environmental review and permitting.
- Modifications to culverts/crossings, channel modifications, and terrain modifications: may not be of sufficient scale to address the flood problem.
    - Increasing conveyance through crossings could increase downstream flows and water levels.

- Off-channel storage and terrain modifications may require significant land acquisition, potentially increasing project cost.
    - Potential storage sites are underlain by peat, which may present geotechnical challenges for embankment-type storage, including potential settlement, reduced foundation stability, and seepage. Additional geotechnical investigations may be required, thus increasing project complexity and cost.

Alternative 3 – Non-Structural

- Permitting requirements.
- Depending on the scale of the project, cost may be more than sponsor can provide for the required cost-sharing (e.g., land acquisition costs).
- Best Management Practices (BMPs), Stormwater Ordinances, and mitigation buyouts: reliant on public cooperation. Preferably, participation is voluntary. Local residents might be resistant to land acquisition, especially.
    - Benefits may be limited where development is sparse and existing flooding is primarily driven by agricultural runoffs and large watershed-scale events.
- Measures may not be sufficient to address the flood problem in scale.
- Wetland restoration alternative may present real estate challenges regarding existing properties or easements.

Alternative 4 – No Restrictions

This alternative is a combination of the structural and non-structural measures identified above that would produce the maximum possible benefit to the sponsor while avoiding unnecessary impacts to watershed resources. See the list of obstructing factors for structural and non-structural alternatives above.

Environmental Document

NRCS is required to develop a watershed project plan environmental document for each planning effort that may be authorized by the chief. This section identifies what type of watershed project plan environmental document will be developed for the potential project. CPA-52 Sections P, Q, and R, when completed, should support the decision. In general, the level of documentation is based on the effects of the project.

The NEPA and NRCS Policy outline that watershed plan environmental document will be either a:

- Plan – Environmental Assessment
- Plan – Environmental Impact Statement

<u>Plan – Environmental Assessment (Plan - EA)</u>
If the project is not covered by a categorical exclusion, it is appropriate to consider a plan – environmental assessment as the document that evaluates and assesses all reasonable alternatives and their impacts. Most NRCS watershed project plan environmental documents are Plan-EA's.

<u>Plan – Environmental Impact Statement (Plan -EIS)</u>
Federal actions significantly affecting the quality of the human environment are documented with an environmental impact statement. If it is difficult to determine whether there is a significant impact on the human environment, it may be necessary to prepare an EA to decide if an EIS is required. Other circumstances that require an EIS are:

- Projects that include stream channel realignment or work to modify channel capacity by deepening or widening where significant aquatic or wildlife habitat exists.
- Projects requiring congressional action.
- Broad Federal assistance programs administered by NRCS when there may be significant cumulative impacts on the human environment.
- When the potential project is anticipated to involve controversy regarding its environmental effects.

At this point in the planning process, the interdisciplinary team has determined that the appropriate Plan – Environmental Document for the project may be a Plan – Environmental Assessment. Channel modifications, depending on their location and extents, may require a Plan-EIS if carried forward. For that reason, it is likely that channel modification measures may be screened out relatively early within the planning analysis. Therefore, the team anticipates that the project document will be a Plan-EA.

Sponsors

This section summarizes the roles the sponsor(s) will assume in the potential project, according to the letter requesting technical assistance sent to NRCS (included in Appendix B of this report).

The potential sponsor for this project has been identified as The City of Grygla, of 219 West Beltrami Street, Grygla, MN, in partnership with the Red Lake Watershed District, of 1000 Pennington Ave S, Thief River Falls, MN.

Per Title 390 of the National Watershed Planning Manual, section 500.11, the project sponsor(s) will:

- Assist in the locally led planning effort.
- Obtain needed land rights including the use of power of eminent domain, if necessary.
- Provide local cost-share funds and/or in-kind services to provide the required portion of total project costs.
- Provide funds for continuing operation and maintenance actions.
- Obtain required permits and approvals at sponsor cost.
- Provide leadership to help ensure adequate conservation land treatment measures are maintained on at least 50% of the watershed area above retention reservoirs, as applicable.
- Before being credited with the value of any in-kind contribution for any in-kind services and/or acquisition of land rights, sponsor will sign a Memorandum of Understanding (MOU) with NRCS.

Potential Cooperating Agencies

This section summarizes governmental entities that may participate in the project as a cooperating agency. “Cooperating agency” is a formal term which refers to an agency’s designation and status under NEPA that may include any federal, tribal, state, or local agency other than a lead agency that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal.

The following list includes those potential cooperating agencies invited by NRCS-Minnesota during the preliminary investigative process:

Table 13. Potential Cooperating Agencies

Agency	Contact Information	Type of Involvement
US Army Corps of Engineers – St. Paul District	St. Paul District U.S. Army Corps of Engineers 332 Minnesota St., Suite E1500 St. Paul, MN 55101	Regulatory [X]
		Informed [X]
		Prepare permits or letters of permission document [X]
		Provide input [X]
Minnesota Department of Transportation	Minnesota Department of Transportation (MnDOT) headquarters 395 John Ireland Blvd, St Paul, MN 55155	Regulatory [X]
		Informed [ ]
		Provide funding for works of improvement completed in their ROW [X]
		Provide input [X]
US Fish and Wildlife Service, Midwest Region Headquarters	U.S. Fish and Wildlife Service 5600 American Blvd West Suite 990 Bloomington, MN 55437-1458	Regulatory [X]
		Informed [X]
		Prepare permits or letters of permission document [ ]
		Provide input [X]
MN Department of Natural Resources	Minnesota Department of Natural Resources 500 Lafayette Road Saint Paul, MN 55155	Regulatory [X]
		Informed [ ]
		Prepare permits or letters of permission document [X]
		Provide input [X]
U.S. Environmental Protection Agency	U.S. EPA Region 5 77 W. Jackson Blvd Mail Code RE—19J Chicago, IL 60604-3590	Regulatory [X]
		Informed [ ]
		Prepare permits or letters of permission document [ ]
		Provide input [X]

Potential Stakeholders

The following table summarizes the potential stakeholders in the project and their possible role, resources, and contributions:

Table 14. Potential Stakeholders

Stakeholder	Role	Resources	Contribution
The City of Grygla	Sponsoring organization	Cost-share funds, Admin. for completion of Plan/EA, Design and Construction	Complete Plan/EA, Permitting, Scoping, Public Meetings, Mailings, overall administration of project
Red Lake Watershed District	Co-Sponsoring organization	Cost-share funds, Admin. for completion of Plan/EA, Design and Construction	Complete Plan/EA, Permitting, Scoping, Public Meetings, Mailings, overall administration of project
NRCS-MN	Lead Agency for Plan-EA, FA/TA, Reviews	Funding, Technical Reviews	Reviews for project, assist and contribute to Plan/EA, assist with stakeholder coordination
U.S. Army Corps of Engineers	Permits, Review, Cooperating agency for Plan-EA	Technical Reviews, Wetlands-Waters of the US Jurisdiction, Other plans and information about the watershed	Assist with determining permitting needs, technical review

Stakeholder	Role	Resources	Contribution
MN Dept of Natural Resources	Permits	Review of project APE	Assist with determining permitting needs, technical review, input on existing environmental resources and hydrologic models Permit for project APE
Minnesota State Historic Preservation Office	Historic preservation, archaeology and cultural review	Historic preservation/archaeological expertise; regulatory and review staff	NRHP compliance; review of cultural resources and archaeological impacts; guidance on preservation requirements
Office of the State Archaeologist	Historic preservation, archaeology and cultural review	Archeological expertise; regulatory/review staff; knowledge of burial/cemetery resources, and guidance on applicable requirements	General burial/cemetery compliance
Minnesota Indian Affairs Council	Historic preservation, archaeology and cultural review	Tribal cultural-resource expertise; staff with knowledge of Native American burial resources; guidance on applicable requirements	Native American burial/cemetery compliance
US Fish & Wildlife Services	Permits, Review, Cooperating agency for Plan-EA	Other plans and information about the watershed	Assist with determining permitting needs, technical review
U.S. EPA	Permits, Review, Cooperating agency for Plan-EA	Other plans and information about the watershed	Review of Plan/EA
Minnesota Pollution Control Agency	Permits, Review, Cooperating agency for Plan-EA	Other plans and information about the watershed	Review of Plan/EA
Marshall County	Stakeholder	Possible land use for solutions	Assist with planning, input on impacts to Marshall County
Beltrami County	Stakeholder	Possible land use for solutions	Assist with planning, input on impacts to Beltrami County
Thief River Planning Partnership	Stakeholder	Local watershed knowledge, technical and monitoring expertise, hydrologic and water quality data	Coordinate activities within watershed, assist with planning, provide technical guidance
Marshall SWCD	Stakeholder	Expertise in soil health, erosion control, and conservation planning	Provide conservation guidance, assist with planning, compliance, and permitting, and help secure funding
Beltrami SWCD	Stakeholder	Expertise in soil health, erosion control, and conservation planning	Provide conservation guidance, assist with planning, compliance, and permitting, and help secure funding
The City of Thief River Falls	Stakeholder	Expertise in soil health, erosion control, and conservation planning	Provide conservation guidance, assist with planning, compliance, and permitting, and help secure funding

Stakeholder	Role	Resources	Contribution
Key:			
Principal Sponsors – Primary Stakeholders who will make financial and in-kind commitments to the project.	Regulatory – Entities involved in regulatory aspects of the project's implementation.	Keep Informed – Stakeholders who should be kept informed of the project's progress.	

Notifications

If a PIFR is undertaken, the State Conservationist must notify in writing the Governors concerned, the U.S. Fish and Wildlife Service, the National Oceanic Atmospheric Administration National Marine Fisheries Service (If applicable to the project), the U.S. Army Corps of Engineers, the State Historic Preservation Office, and all other Federal agencies concerned with a decision to initiate any survey or field investigation involving water resources development work and furnish them with appropriate information regarding the scope, nature, status, and results of such survey or investigation (Executive Order 10584 Section 3). The following list summarizes the notifications for this proposed project:

Agency	Method and Date Notified
Office of Governor Tim Walz & Lt. Governor Peggy Flanagan	Letter – 07/17/2026
U.S. Fish and Wildlife Service	Letter – 07/17/2026
National Oceanic Atmospheric Administration National Marine Fisheries Service	N/A
U.S. Army Corps of Engineers – St. Paul District	Letter – 07/17/2026
Minnesota State Historic Preservation Office	Letter – 07/17/2026

NRCS and the Sponsor (The City of Grygla in partnership with Red Lake Watershed District) met to discuss the potential PL-566 watershed project. The watershed boundary and the sponsor's concerns and objectives were presented to the group. Each agency/office representative was given the opportunity to ask questions about the potential project as well as discuss any perceived controversies surrounding the project from their organization's perspective. The minutes from these meetings are included in Appendix C.

NRCS also sent letters to 17 federally recognized Tribes who may have an interest in the proposed project:

- Cheyenne and Arapaho Tribes
- Fort Belknap Indian Community
- Lac Vieux Desert Band of Lake Superior Chippewa Indians
- Leech Lake Band of Ojibwe
- Menominee Indian Tribe of Wisconsin
- Mille Lacs Band of Ojibwe
- Red Lake Nation Turtle Mountain Band of Chippewa
- Turtle Mountain Band of Chippewa Indians of North Dakota
- Upper Sioux Community
- White Earth Nation
- Lower Sioux Indian Community
- Prairie Island Indian Community

- Spirit Lake Nation
- Bois Forte Band of Chippewa
- Fond du Lac Band of Lake Superior Chippewa
- Grand Portage Band of Lake Superior Chippewa
- Shakopee Mdewakanton Sioux Community

All of these were notified, alerting them to the development of the PIFR, and offering them the opportunity to contact NRCS if they have questions or comments.

Estimated Project Implementation Timeline

Planning Start	10/1/2027
Planning End	4/1/2029
Design Start	9/1/2029
Design End	7/1/2031
Construction Start	2/1/2032
Construction End	10/1/2034

Recommendation

This preliminary investigation and findings report has been completed and submitted for approval to:

State Conservationist Troy Daniell.

By:

Name: Jim Lewis, PE Title: Associate Principal Date: 10/27/2026

Organization: W.F. Baird & Associates Ltd.

It has been determined that this potential PL-566 watershed operations project:

Does	Does Not	
■	☐	… meet the statutory acreage, volume/capacity of structure and recreational limit requirements;
■	☐	… meet the requirements of one or more Watershed Operations authorized purposes;
■	☐	… have the potential for a minimum of 20% agricultural, or rural, benefits;
■	☐	… have one or more viable alternatives;
■	☐	… have potential project sponsor(s) that meet and agree to all terms of responsibilities;
☐	■	… have apparent insurmountable obstacles.

Preparer Signature Signature: Jim W. Lewis Date: October 27, 2026

State Conservation Engineer/Watershed Program Manager

Signature: DAVID JONES Digitally signed by DAVID JONES Date: 2026.11.02 14:34:53 -06'00' Date: 11/2/26

☐	Not recommended for planning funding
■	Accepted and recommended for Planning Funding

State Conservationist Signature: Troy Daniell Digitally signed by TROY DANIELL Date: 2026.11.03 11:16:26 -06'00' Date:

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Appendix A

Minnesota's List of Endangered, Threatened, and Special Concern Species

DEPARTMENT OF NATURAL RESOURCES

MINNESOTA'S LIST OF ENDANGERED, THREATENED, AND SPECIAL CONCERN SPECIES

PURPOSE, SCOPE, AND RELATIONSHIP TO FEDERAL LAWS

Minnesota's Endangered Species Statute (Minnesota Statutes, Section 84.0895) requires the Minnesota Department of Natural Resources (DNR) to adopt rules designating species meeting the statutory definitions of endangered, threatened, or species of special concern. The resulting List of Endangered, Threatened, and Special Concern Species is codified as Minnesota Rules, Chapter 6134. The Endangered Species Statute also authorizes the DNR to adopt rules that regulate treatment of species designated as endangered and threatened. These regulations are codified as Minnesota Rules, Parts 6212.1800 to 6212.2300.

Minnesota's Endangered Species Statute and the associated Rules impose a variety of restrictions, a permit program, and several exemptions pertaining to species designated as endangered or threatened. A person may not take, import, transport, or sell any portion of an endangered or threatened species. However, these acts may be allowed by permit issued by the DNR; plants on certain agricultural lands and plants destroyed in consequence of certain agricultural practices are exempt; and the accidental, unknowing destruction of designated plants is exempt. Species of special concern are not protected by Minnesota's Endangered Species Statute or the associated Rules. Persons are advised to read the full text of the Statute and Rules in order to understand all regulations pertaining to species that are designated as endangered, threatened, or species of special concern.

Note that the federal Endangered Species Act of 1973, as amended (16 USC 1531 - 1544) requires the U.S. Department of the Interior to identify species as endangered or threatened according to a separate set of definitions, and imposes a separate set of restrictions pertaining to those species. In the following list, the federal status of seventeen federally-listed species that occur in Minnesota is noted to the right of those species' common names (E = endangered; T = threatened; P=proposed; C = candidate).

DEFINITIONS

A species is considered **endangered** if the species is threatened with extinction throughout all or a significant portion of its range within Minnesota.

A species is considered **threatened** if the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range within Minnesota.

A species is considered a **species of special concern** if, although the species is not endangered or threatened, it is extremely uncommon in Minnesota, or has unique or highly specific habitat requirements and deserves careful monitoring of its status. Species on the periphery of their range that are not listed as threatened may be included in this category along with those species that were once threatened or endangered but now have increasing or protected, stable populations.

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FOR MORE INFORMATION, CONTACT:

Minnesota Endangered Species Coordinator
Division of Ecological and Water Resources
Minnesota Department of Natural Resources
500 Lafayette Rd., Box 25
St. Paul, MN 55155
1-888-646-6367 (or 612-296-6157 in the metro area)
http://www.dnr.state.mn.us/ets/index.html

Effective August 19, 2013

MAMMALS

Threatened

Spilogale putorius ..... eastern spotted skunk
Thomomys talpoides ..... northern pocket gopher

Special Concern

Alces americanus ..... moose
Cervus canadensis ..... elk
Cryptotis parva ..... North American least shrew
Eptesicus fuscus ..... big brown bat
Lynx canadensis ..... Canada lynx (Fed. Status: T)
Microtus ochrogaster ..... prairie vole
Microtus pinetorum ..... woodland vole
Mustela nivalis ..... least weasel
Myotis lucifugus ..... little brown myotis
Myotis septentrionalis ..... northern myotis (Fed. Status: P)
Onychomys leucogaster ..... northern grasshopper mouse
Perimyotis subflavus ..... tri-colored bat
Perognathus flavescens ..... plains pocket mouse
Phenacomys ungava ..... eastern heather vole
Puma concolor ..... mountain lion
Reithrodontomys megalotis ..... western harvest mouse
Sorex fumeus ..... smoky shrew
Synaptomys borealis ..... northern bog lemming
Urocitellus richardsonii ..... Richardson's ground squirrel

BIRDS

Endangered

Ammodramus bairdii ..... Baird's sparrow
Ammodramus henslowii ..... Henslow's sparrow
Anthus spragueii ..... Sprague's pipit (Fed. Status: C)
Athene cunicularia ..... burrowing owl
Calcarius ornatus ..... chestnut-collared longspur
Charadrius melodus ..... piping plover (Fed. Status: E/T)
Lanius ludovicianus ..... loggerhead shrike
Podiceps auritus ..... horned grebe
Rallus elegans ..... king rail

Threatened

Phalaropus tricolor ..... Wilson's phalarope
Sterna hirundo ..... common tern

Special Concern

Accipiter gentilis ..... northern goshawk
Aegolius funereus ..... boreal owl
Ammodramus nelsoni ..... Nelson's sparrow
Asio flammeus ..... short-eared owl
Buteo lineatus ..... red-shouldered hawk
Chondestes grammacus ..... lark sparrow
Coturnicops noveboracensis ..... yellow rail
Cygnus buccinator ..... trumpeter swan
Empidonax virescens ..... acadian flycatcher
Falco peregrinus ..... peregrine falcon
Gallinula galeata ..... common gallinule
Leucophaeus pipixcan ..... Franklin's gull
Limosa fedoa ..... marbled godwit
Parkesia motacilla ..... Louisiana waterthrush
Pelecanus erythrorhynchos ..... American white pelican
Progne subis ..... purple martin
Setophaga cerulea ..... cerulean warbler
Setophaga citrina ..... hooded warbler
Sterna forsteri ..... Forster's tern
Tympanuchus cupido ..... greater prairie-chicken
Vireo bellii ..... Bell's vireo

AMPHIBIANS AND REPTILES

Endangered

Acris blanchardi ..... northern cricket frog
Sistrurus catenatus ..... massasauga (Fed. Status: C)

Threatened

Crotalus horridus ..... timber rattlesnake
Emydoidea blandingii ..... Blanding's turtle
Glyptemys insculpta ..... wood turtle
Pantherophis obsoletus ..... western ratsnake

Special Concern

Ambystoma maculatum ..... spotted salamander
Anaxyrus cognatus ..... Great Plains toad
Apalone mutica ..... smooth softshell
Coluber constrictor ..... North American racer
Hemidactylium scutatum ..... four-toed salamander
Heterodon nasicus ..... plains hog-nosed snake
Necturus maculosus ..... mudpuppy
Pituophis catenifer ..... gopher snake
Plestiodon fasciatus ..... common five-lined skink
Tropidoclonion lineatum ..... lined snake

FISH

Endangered

Alosa chrysochloris ..... skipjack herring
Crystallaria asprella ..... crystal darter
Hybopsis amnis ..... pallid shiner
Noturus exilis ..... slender madtom

Threatened

Erimystax x-punctatus ..... gravel chub
Fundulus sciadicus ..... plains topminnow
Ictiobus niger ..... black buffalo
Notropis anogenus ..... pugnose shiner
Polyodon spathula ..... paddlefish

Special Concern

Acipenser fulvescens ..... lake sturgeon
Anguilla rostrata ..... American eel
Aphredoderus sayanus ..... pirate perch
Clinostomus elongates ..... redside dace
Coregonus kiyi ..... kiyi
Coregonus nipigon ..... Nipigon cisco
Coregonus zenithicus ..... shortjaw cisco
Couesius plumbeus ..... lake chub
Cycleptus elongatus ..... blue sucker
Etheostoma chlorosoma ..... bluntnose darter
Etheostoma microperca ..... least darter
Hybognathus nuchalis ..... Mississippi silvery minnow
Ichthyomyzon fossor ..... northern brook lamprey
Ichthyomyzon gagei ..... southern brook lamprey
Lepomis gulosus ..... warmouth
Lepomis peltastes ..... northern longear sunfish
Lythrurus umbratilis ..... redfin shiner
Morone mississippiensis ..... yellow bass
Moxostoma duquesnei ..... black redhorse
Notropis nubilus ..... Ozark minnow
Notropis topeka ..... Topeka shiner (Fed. Status: E)
Percina evides ..... gilt darter
Phenacobius mirabilis ..... suckermouth minnow
Platygobio gracilis ..... flathead chub
Prosopium coulterii ..... pygmy whitefish

MOLLUSKS

Endangered

Arcidens confragosus.....rock pocketbook
Cumberlandia monodonta .....spectaclecase (Fed. Status: E)
Cyclonaias tuberculata .....purple wartyback
Elliptio crassidens .....elephant-ear
Epioblasma triquetra .....snuffbox (Fed. Status: E)
Fusconaia ebena .....ebonyshell
Lampsilis higginsii.....Higgins eye (Fed. Status: E)
Lampsilis teres.....yellow sandshell
Megalonaias nervosa .....washboard
Plethobasus cyphyus.....sheepnose (Fed. Status: E)
Quadrula fragosa .....winged mapleleaf (Fed. Status: E)
Simpsonaias ambigua .....salamander mussel
Tritogonia verrucosa .....pistolgrip

Threatened

Actinonaias ligamentina .....mucket
Alasmidonta marginata.....elktoe
Ellipsaria lineolata .....butterfly
Elliptio dilatata .....spike
Lasmigona costata.....fluted-shell
Ligumia subrostrata.....pondmussel
Quadrula metanevra .....monkeyface
Quadrula nodulata .....wartyback
Truncilla donaciformis .....fawnsfoot
Venustaconcha ellipsiformis .....ellipse
Vertigo meramecensis.....bluff vertigo

Special Concern

Anodonta suborbiculata.....flat floater
Elliptio complanata .....eastern elliptio
Gastrocopta rogersensis.....Rogers' snaggletooth snail
Lasmigona compressa .....creek heelsplitter
Ligumia recta .....black sandshell
Planogyra asteriscus.....eastern flat-whorl snail
Pleurobema sintoxia.....round pigtoe
Striatura ferrea.....black striate snail
Zonitoides limatulus.....dull gloss

JUMPING SPIDERS

Threatened

Tutelina formicaria.....a species of jumping spider

Special Concern

Habronattus calcaratus maddisoni.....a species of jumping spider
Habronattus texanus .....a species of jumping spider
Habronattus viridipes.....a species of jumping spider
Marpissa formosa.....a species of jumping spider
Paradamoetas fontana .....a species of jumping spider
Pelegrina arizonensis .....a species of jumping spider
Phidippus apacheanus .....a species of jumping spider
Phidippus pius .....a species of jumping spider
Sassacus papenhoei .....a species of jumping spider

LEAFHOPPERS

Special Concern

Aflexia rubranura .....red-tailed leafhopper
Attenuipyga vanduzeei.....hill prairie shovelhead leafhopper
Macrosteles clavatus.....caped leafhopper

DRAGONFLIES

Threatened

Ophiogomphus susbehcha .....St. Croix snaketail

Special Concern

Aeschna sitchensis.....zigzag darner
Aeschna subarctica.....subarctic darner
Boyeria grafiana.....ocellated darner
Ophiogomphus anomalus .....extra-striped snaketail
Ophiogomphus howei .....pygmy snaketail
Somatochlora brevicincta.....Quebec emerald
Somatochlora forcipata.....forcipate emerald

BUTTERFLIES AND MOTHS

Endangered

Erynnis persius persius ..... persius dusky wing
Hesperia assiniboia ..... assiniboia skipper
Hesperia dacotae ..... Dakota skipper (Fed. Status: P)
Hesperia ottoe ..... ottoe skipper
Hesperia uncas ..... uncas skipper
Lycaeides melissa samuelis ..... Karner blue (Fed. Status: E)
Oarisma poweshiek ..... poweshiek skipper (Fed. Status: P)
Oeneis uhleri varuna ..... Uhler's arctic

Threatened

Oarisma garita ..... garita skipper

Special Concern

Atrytone arogos iowa ..... arogos skipper
Catocala abbreviatella ..... abbreviated underwing
Catocala whitneyi ..... Whitney's underwing
Erebia mancinus ..... disa alpine
Hesperia leonardus ..... leonardus skipper
Lycaeides idas nabokovi ..... Nabokov's blue
Pyrgus centaureae freija ..... grizzled skipper
Schinia indiana ..... phlox moth
Schinia lucens ..... leadplant flower moth
Speyeria idalia ..... regal fritillary

CADDISFLIES

Endangered

Hydroptila waskesia ..... a species of purse casemaker caddisfly
Limnephilus janus ..... a species of northern caddisfly
Limnephilus secludens ..... a species of northern caddisfly
Ochrotrichia spinosa ..... a species of purse casemaker caddisfly
Polycentropus milaca ..... a species of tube casemaker caddisfly

Threatened

Chilostigma itascae ..... headwaters chilostigman caddisfly
Goera stylata ..... a species of caddisfly
Hydroptila rono ..... a species of purse casemaker caddisfly
Ironoquia punctatissima ..... a species of northern caddisfly
Lepidostoma libum ..... a species of caddisfly
Limnephilus rossi ..... a species of northern caddisfly
Oecetis ditissa ..... a species of long-horned caddisfly
Oxyethira ecornuta ..... a species of purse casemaker caddisfly
Parapsyche apicalis ..... a species of netspinning caddisfly
Polycentropus glacialis ..... a species of tube casemaker caddisfly
Ylodes frontalis ..... a species of long-horned caddisfly

Special Concern

Agapetus tomus ..... a species of caddisfly
Anabolia ozburni ..... a species of northern caddisfly
Hydroptila metoeca ..... a species of purse casemaker caddisfly
Hydroptila quinola ..... a species of purse casemaker caddisfly
Hydroptila tortosa ..... a species of purse casemaker caddisfly
Oxyethira itascae ..... a species of purse casemaker caddisfly
Protoptila erotica ..... a species of saddle casemaker caddisfly
Triaenodes flavescens ..... a species of long-horned caddisfly

TIGER BEETLES

Endangered

Cicindela fulgida fulgida ..... crimson salflat tiger beetle, fulgida ssp.
Cicindela hirticollis rhodensis ..... hairy-necked tiger beetle
Cicindela limbata nympha ..... sandy tiger beetle

Threatened

Cicindela fulgida westbournei ..... crimson salflat tiger beetle, westb. ssp.
Cicindela lepida ..... ghost tiger beetle

Special concern

Cicindela denikei ..... Laurentian tiger beetle
Cicindela macra macra ..... sandy stream tiger beetle
Cicindela patruela patruela ..... northern barrens tiger beetle
Cicindela splendida cyanocephalata ..... splendid tiger beetle

VASCULAR PLANTS

Endangered

Achnatherum hymenoides.....Indian rice grass
Agalinis auriculata.....eared false foxglove
Agalinis gattingeri.....round-stemmed false foxglove
Agrostis hyemalis.....winter bentgrass
Allium schoenoprasum.....wild chives
Aristida longespica var. *geniculata*.....slimspike three-awn
Asclepias stenophylla.....narrow-leaved milkweed
Astragalus alpinus var. *alpinus*.....alpine milk-vetch
Bartonia virginica.....yellow bartonia
Botrychium ascendens.....upswept moonwort
Botrychium gallicomontanum.....Frenchman's Bluff moonwort
Botrychium lineare.....slender moonwort
Botrychium spathulatum.....spathulate moonwort
Calamagrostis purpurascens.....purple reedgrass
Caltha natans.....floating marsh marigold
Carex careyana.....Carey's sedge
Carex formosa.....handsome sedge
Carex pallescens.....pale sedge
Carex plantaginea.....plantain-leaved sedge
Carex supina ssp. *spaniocarpa*.....weak arctic sedge
Castilleja septentrionalis.....northern paintbrush
Chrysosplenium iowense.....Iowa golden saxifrage
Commelina erecta.....slender dayflower
Diarrhena obovata.....obovate beakgrain
Dodecatheon meadia var. *meadia*.....prairie shooting star
Draba cana.....hoary whitlow grass
Draba norvegica.....Norwegian whitlow grass
Dryopteris marginalis.....marginal shield fern
Eleocharis wolfii.....Wolf's spikerush
Elodea bifoliata.....two leaf waterweed
Empetrum atropurpureum.....purple crowberry
Empetrum nigrum.....black crowberry
Erigeron acris var. *kamtschaticus*.....bitter fleabane
Erythronium propullans.....dwarf trout lily (Fed. Status: E)
Escobaria vivipara.....ball cactus
Fimbristylis puberula var. *interior*.....hairy fimbry
Hasteola suaveolens.....sweet-smelling Indian-plantain
Hybanthus concolor.....eastern green-violet
Hydrastis canadensis.....goldenseal
Iodanthus pinnatifidus.....purple rocket
Isoetes melanopoda.....prairie quillwort
Juglans cinerea.....butternut
Juncus articulatus.....jointed rush
Juncus marginatus.....marginated rush
Juncus subtilis.....slender rush
Lechea tenuifolia var. *tenuifolia*.....narrow-leaved pinweed
Listera auriculata.....auricled twayblade
Lysimachia maritima.....sea milkwort
Malaxis paludosa.....bog adder's mouth
Marsilea vestita.....hairy waterclover
Montia chamissoi.....montia
Osmorhiza berteroi.....Chilean sweet cicely
Oxytropis viscida.....sticky locoweed
Packera cana.....gray ragwort
Packera indecora.....elegant grounsel
Paronychia canadensis.....Canada forked chickweed
Paronychia fastigiata var. *fastigiata*.....forked chickweed
Parthenium integrifolium.....wild quinine
Phegopteris hexagonoptera.....broad beech fern
Physaria ludoviciana.....bladderpod
Platanthera praeclara.....western prairie fringed orchid (Fed. Status: T)
Polanisia jamesii.....James' polanisia
Polemonium occidentale ssp. *lacustre*.....western Jacob's ladder
Polygala cruciata.....cross-leaved milkwort
Polystichum acrostichoides.....Christmas fern
Potamogeton bicupulatus.....snailseed pondweed
Potamogeton confervoides.....algae-like pondweed
Potamogeton diversifolius.....diverse-leaved pondweed
Potamogeton oakesianus.....Oake's pondweed
Potamogeton pulcher.....spotted pondweed
Prosartes trachycarpa.....rough-fruited fairybells
Psoralidium tenuiflorum.....slender-leaved scurf pea
Rhodiola integrifolia ssp. *leedyi*.....Leedy's roseroot (Fed. Status: T)
Rubus missouricus.....Missouri dewberry
Rubus stipulatus.....bristle-berry
Sagina nodosa ssp. *borealis*.....knotty pearlwort
Sagittaria brevirostra.....short-beaked arrowhead
Saxifraga cernua.....nodding saxifrage
Scleria triglomerata.....tall nutrush
Selaginella selaginoides.....northern spikemoss
Stuckenia vaginata.....sheathed pondweed
Tofieldia pusilla.....small false asphodel
Tsuga canadensis var. *canadensis*.....eastern hemlock
Utricularia purpurea.....purple-flowered bladderwort
Vaccinium uliginosum.....alpine bilberry
Xyris torta.....twisted yellow-eyed grass

VASCULAR PLANTS

Threatened

Achillea alpina ..... Siberian yarrow
Ammophila breviligulata ssp. *breviligulata* ..... beachgrass
Aristida tuberculosa ..... seaside three-awn
Arnica lonchophylla ..... long-leaved arnica
Arnoglossum plantagineum ..... tuberous Indian plantain
Arnoglossum reniforme ..... great Indian plantain
Asclepias amplexicaulis ..... clasping milkweed
Asclepias hirtella ..... prairie milkweed
Asclepias sullivantii ..... Sullivant's milkweed
Asplenium trichomanes ssp. *trichomanes* ..... maidenhair spleenwort
Aureolaria pedicularia ..... fernleaf false foxglove
Bacopa rotundifolia ..... water hyssop
Berula erecta ..... stream parsnip
Besseya bullii ..... kitten-tails
Bistorta vivipara ..... alpine bistort
Boechera retrofracta ..... Holboell's rock cress
Botrychium lanceolatum ssp. *angustisegmentum* ..... narrow triangle moonwort
Botrychium lunaria ..... common moonwort
Botrychium mormo ..... goblin fern
Botrychium oneidense ..... blunt-lobed grapefern
Callitriche heterophylla ..... larger water starwort
Cardamine pratensis ..... cuckoo flower
Carex conjuncta ..... jointed sedge
Carex davisii ..... Davis' sedge
Carex festucacea ..... fescue sedge
Carex garberi ..... Garber's sedge
Carex jamesii ..... James' sedge
Carex laevivaginata ..... smooth-sheathed sedge
Carex laxiculmis ..... loose-culmed sedge
Carex novae-angliae ..... New England sedge
Carex rossii ..... Ross' sedge
Carex sterilis ..... sterile sedge
Crassula aquatica ..... pigmyweed
Cyperus acuminatus ..... short-pointed umbrella-sedge
Cypripedium arietinum ..... ram's head orchid
Deschampsia flexuosa ..... slender hair grass
Desmodium cuspidatum var. *longifolium* ..... big tick trefoil
Desmodium nudiflorum ..... stemless tick trefoil
Diplazium pycnocarpon ..... narrow-leaved spleenwort
Eleocharis flavescens var. *olivacea* ..... olivaceous spikerush
Eleocharis robbinsii ..... Robbins' spikerush
Eleocharis rostellata ..... beaked spikerush
Erigeron lonchophyllus ..... short ray fleabane
Eupatorium sessilifolium ..... upland boneset
Floerkea proserpinacoides ..... false mermaid
Gaylussacia baccata ..... black huckleberry
Hamamelis virginiana ..... witch-hazel
Heteranthera limosa ..... mud plantain
Hudsonia tomentosa ..... beach heather
Huperzia porophila ..... rock fir moss
Leersia lenticularis ..... catchfly grass
Lespedeza leptostachya ..... prairie bush clover (Fed. Status: T)
Luzula parviflora ..... small-flowered woodrush
Melica nitens ..... three-flowered melic
Minuartia dawsonensis ..... rock sandwort
Moehringia macrophylla ..... large-leaved sandwort
Napaea dioica ..... glade mallow
Nymphaea leibergii ..... small white waterlily
Orobanche fasciculata ..... clustered broomrape
Orobanche ludoviciana var. *ludoviciana* ..... Louisiana broomrape
Orobanche uniflora ..... one-flowered broomrape
Phacelia franklinii ..... Franklin's phacelia
Phemeranthus rugospermus ..... rough-seeded fameflower
Piptatherum canadense ..... Canadian ricegrass
Platanthera flava var *herbiola* ..... tubercled rein orchid
Poa paludigena ..... bog bluegrass
Polystichum braunii ..... Braun's holly fern
Rhynchospora capillacea ..... hair-like beak rush
Rotala ramosior ..... toothcup
Rubus chamaemorus ..... cloudberry
Rubus fulleri ..... bristle-berry
Rubus semisetosus ..... swamp blackberry
Rudbeckia triloba var. *triloba* ..... three-leaved coneflower
Sagittaria calycina var. *calycina* ..... hooded arrowhead
Salicornia rubra ..... red saltwort
Salix pellita ..... satiny willow
Scleria verticillata ..... whorled nutrush
Scutellaria ovata var. *versicolor* ..... ovate-leaved skullcap
Shinnersoseris rostrata ..... annual skeletonweed
Silene nivea ..... snowy campion
Spiranthes casei var. *casei* ..... Case's ladies' tresses
Subularia aquatic ssp. *americana* ..... awlwort
Sullivantia sullivantii ..... reniform sullivantia
Trichophorum clintonii ..... Clinton's bulrush
Utricularia geminiscapa ..... hidden-fruit bladderwort
Utricularia resupinata ..... lavender bladderwort
Valeriana edulis var. *ciliata* ..... edible valerian
Viola lanceolata var. *lanceolata* ..... lance-leaved violet
Viola nuttallii ..... yellow prairie violet
Vitis aestivalis var. *bicolor* ..... silverleaf grape
Woodsia alpina ..... alpine woodsia
Woodsia glabella ..... smooth woodsia
Woodsia scopulina ssp. *laurentiana* ..... Rocky Mountain woodsia

VASCULAR PLANTS

Special Concern

Adlumia fungosa ..... Allegheny vine
Alisma gramineum ..... narrow-leaved water plantain
Allium cernuum ..... nodding wild onion
Androsace septentrionalis ..... northern androsace
Antennaria parvifolia ..... small-leaved pussytoes
Arabis laevigata var. *laevigata* ..... smooth rock cress
Arisaema dracontium ..... green dragon
Aristida purpurea var. *longiseta* ..... red three-awn
Asplenium platyneuron ..... ebony spleenwort
Astragalus flexuosus var. *flexuosus* ..... slender milk-vetch
Astragalus missouriensis var. *missouriensis* ..... Missouri milk-vetch
Avenula hookeri ..... oat-grass
Baptisia bracteata var. *glabrescens* ..... plains wild indigo
Baptisia lactea var. *lactea* ..... white wild indigo
Bidens discoidea ..... discoid beggarticks
Botrychium acuminatum ..... tailed grapefern
Botrychium campestre ..... prairie moonwort
Botrychium minganense ..... Mingan moonwort
Botrychium pallidum ..... pale moonwort
Botrychium rugulosum ..... St. Lawrence grapefern
Botrychium simplex ..... least moonwort
Buchloe dactyloides ..... buffalo grass
Calamagrostis lacustris ..... marsh reedgrass
Calamagrostis montanensis ..... Plains reedgrass
Carex annectens ..... yellow-fruited sedge
Carex exilis ..... coastal sedge
Carex flava ..... yellow sedge
Carex grayi ..... Gray's sedge
Carex hallii ..... Hall's sedge
Carex hookerana ..... Hooker's sedge
Carex media ..... intermediate sedge
Carex michauxiana ..... Michaux's sedge
Carex muskingumensis ..... Muskingum sedge
Carex obtusata ..... blunt sedge
Carex ormostachya ..... necklace sedge
Carex praticola ..... prairie-dweller sedge
Carex scirpoidea ..... northern singlespike sedge
Carex typhina ..... cattail sedge
Carex xerantica ..... dry sedge
Chamaesyce missurica ..... Missouri spurge
Cirsium pumilum var. *hillii* ..... Hill's thistle
Cladium mariscoides ..... twig rush
Crataegus calpodendron ..... late hawthorn
Crataegus douglasii ..... black hawthorn
Crotalaria sagittalis ..... rattlebox
Cymopterus glomeratus ..... Plains spring parsley
Cypripedium candidum ..... small white lady's slipper
Dalea candida var. *oligophylla* ..... western white prairie clover
Decodon verticillatus ..... water willow
Deparia acrostichoides ..... silvery spleenwort
Desmanthus illinoensis ..... prairie mimosa
Dicentra canadensis ..... squirrel corn
Draba arabisans ..... Arabian whitlow grass
Drosera anglica ..... English sundew
Drosera linearis ..... linear-leaved sundew
Dryopteris goldiana ..... Goldie's fern
Elatine triandra ..... three-stamened waterwort
Eleocharis coloradoensis ..... dwarf spikerush
Eleocharis nitida ..... neat spikerush
Eleocharis quinqueflora ..... few-flowered spikerush
Eryngium yuccifolium ..... rattlesnake master
Euphrasia hudsoniana var. *ramosior* ..... Hudson Bay eyebright
Fimbristylis autumnalis ..... autumn fimbry
Gaillardia aristata ..... blanket flower
Gentiana affinis ..... northern gentian
Gentianella amarella ..... felwort
Gymnocarpium robertianum ..... northern oak fern
Gymnocladus dioica ..... Kentucky coffee tree
Helianthemum canadense ..... Canada frostweed
Helianthus nuttallii ssp. *rydbergii* ..... Nuttall's sunflower
Huperzia appalachiana ..... Appalachian fir moss
Hydrocotyle americana ..... American water-pennywort
Jeffersonia diphylla ..... twinleaf
Juncus stygius var. *americanus* ..... bog rush
Juniperus horizontalis ..... creeping juniper
Limosella aquatica ..... mudwort
Listera convallarioides ..... broad-leaved twayblade
Littorella americana ..... American shore plantain
Lysimachia quadrifolia ..... whorled loosestrife
Malaxis monophyllos var. *brachypoda* ..... white adder's mouth
Muhlenbergia uniflora ..... one-flowered muhly

VASCULAR PLANTS

Special Concern (continued)

Myriophyllum heterophyllum ..... broadleaf water milfoil
Najas gracillima ..... slender naiad
Najas guadalupensis ssp. *olivacea* ..... southern naiad
Najas marina ..... sea naiad
Nuttallanthus canadensis ..... old field toadflax
Oenothera rhombipetala ..... rhombic evening primrose
Opuntia macrorhiza ..... devil's tongue
Osmorhiza depauperata ..... blunt-fruited sweet cicely
Panax quinquefolius ..... American ginseng
Pellaea atropurpurea ..... purple cliff brake
Persicaria careyi ..... Carey's smartweed
Phlox maculata ..... wild sweet William
Pinguicula vulgaris ..... butterwort
Plagiobothrys scouleri ..... Scouler's popcornflower
Plantago elongata ..... slender plantain
Platanthera clavellata ..... small green wood orchid
Poa wolfii ..... Wolf's bluegrass
Polytaenia nuttallii ..... prairie parsley
Pyrola minor ..... small shinleaf
Quercus bicolor ..... swamp white oak
Ranunculus lapponicus ..... Lapland buttercup
Rorippa sessiliflora ..... sessile-flowered yellow cress
Rubus multifer ..... Kinnickinnick dewberry
Rubus quaesitus ..... Prince Edward Island blackberry
Rubus vermontanus ..... Vermont blackberry
Ruellia humilis ..... wild petunia
Ruppia cirrhosa ..... spiral ditchgrass
Salix maccalliana ..... McCalla's willow
Salix pseudomonticola ..... false mountain willow
Sanicula trifoliata ..... beaked snakeroot
Saxifraga paniculata ..... encrusted saxifrage
Schedonnardus paniculatus ..... tumble grass
Shepherdia canadensis ..... soapberry
Silene drummondii ssp. *drummondii* ..... Drummond's campion
Solidago mollis ..... soft goldenrod
Stellaria longipes ssp. *longipes* ..... long-stalked chickweed
Symphyotrichum shortii ..... Short's aster
Taenidia integerrima ..... yellow pimpernel
Tephrosia virginiana ..... goat's rue
Thaspium barbinode ..... hairy-jointed meadow-parsnip
Torreyochloa pallida ..... Torrey's mannagrass
Trillium nivale ..... snow trillium
Triplasis purpurea var. *purpurea* ..... purple sandgrass
Trisetum spicatum ..... spike trisetum
Verbena simplex ..... narrow-leaved vervain
Waldsteinia fragarioides var. *fragarioides* ..... barren strawberry
Woodsia oregano ssp. *cathcartiana* ..... Oregon woodsia
Xanthisma spinulosum var. *spinulosum* ..... cutleaf ironplant
Xyris montana ..... montane yellow-eyed grass

FUNGI

Endangered

Psathyrella cystidiosa ..... a species of fungus
Psathyrella rhodospora ..... a species of fungus
Suillus weaverae ..... a species of fungus

Special concern

Boletus subcaerulescens ..... a species of fungus
Laccaria trullisata ..... a species of fungus
Lactarius fuliginellus ..... a species of fungus
Lysurus cruciatus ..... a species of fungus
Sarcosoma globosum ..... a species of fungus

LICHENS

Endangered

Caloplaca parvula	a species of lichen
Dermatocarpon moulinsii	a species of lichen
Leptogium apalachense	a species of lichen
Lobaria scrobiculata	a species of lichen
Parmelia stictica	a species of lichen
Pseudocyphellaria crocata	a species of lichen
Umbilicaria torrefacta	a species of lichen

Threatened

Allocetraria oakesiana	a species of lichen
Arthrorhaphis citrinella	golden dot-lichen
Coccocarpia palmicola	a species of lichen
Lecanora epanora	a species of rim lichen
Parmelia stuppea	a species of lichen
Peltula bolanderi	Bolander's peltula lichen
Protopannaria pezizoides	brown-gray moss-shingle lichen
Ramalina roesleri	frayed ramalina lichen
Usnea mutabilis	bloody beard lichen

Special concern

Ahtiana aurescens	a species of lichen
Amygdalaria panaeola	powdery almond lichen
Anaptychia crinalis	a species of lichen
Arctoparmelia centrifuga	concentric ring lichen
Arctoparmelia subcentrifuga	a species of ring lichen
Bryoria fuscescens	pale-footed horsehair lichen
Buellia nigra	a species of lichen
Caloplaca stellata	a species of firedot lichen
Cladonia pseudorangiformis	a species of lichen
Heteroderma obscurata	orange-tinted fringe lichen
Melanelia subolivacea	brown-eyed camouflage lichen
Menegazzia terebrata	port-hole lichen
Ochrolechia androgyna	powdery saucer lichen
Peltigera venosa	a species of lichen
Platismatia glauca	ragbag lichen
Ramalina thrausta	angel's hair lichen
Stereocaulon pileatum	pixie foam lichen
Sticta fuliginosa	a species of lichen
Thelocarpon epibolum	a species of thelocarpon lichen
Usnea longissima	Methuselah's beard lichen
Usnea rubicunda	red beard lichen

MOSSES AND LIVERWORTS

Endangered

Bryoxiphium norvegicum	sword moss
Schistostega pennata	luminous moss
Splachnum rubrum	red parasol moss

Threatened

Cirriphyllum piliferum	hair-pointed feather moss
Cryptocolea imbricata	hidden perianth liverwort
Cynodontium schisti	mowed mosquito moss
Lescuraea saxicola	lustrous bow moss
Sphagnum compactum	cushion peat moss
Sphagnum lescurii	red twisted peat moss
Trichocolea tomentella	down liverwort

Special Concern

Aphanorrhegma serratum	lidded earth moss
Atrichum crispum	wave-leaved crane's-bill moss
Atrichum tenellum	little saw moss
Aulacomnium androgynum	bud-headed thread moss
Aulacomnium heterostichum	differential branched crease capsule moss
Bryum cyclophyllum	egg-leaf true moss
Buxbaumia aphylla	bug-on-a-stick moss
Cyrto-hypnum pygmaeum	pygmy plume moss
Encalypta procera	tall extinguisher moss
Frullania selwyniana	Selwyn's ear-leaf liverwort
Heterocladium dimorphum	spaced-out tangle moss
Hyophila involuta	rolled-leaf wet-ground moss
Jaffueliobryum wrightii	Wright's blunt leaved true moss
Meesia uliginosa	swan moss
Pogonatum urnigerum	urn-bearing hair moss
Thelia hirtella	nipple moss
Tortella inclinata	shortleaf chalk moss

Alphabetical Index by Scientific Name

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SCIENTIFIC NAME	COMMON NAME	STATUS	TAXONOMIC GROUP
Accipiter gentilis	northern goshawk	SC	bird
Achillea alpina	Siberian yarrow	T	vascular plant
Achnatherum hymenoides	Indian rice grass	E	vascular plant
Acipenser fulvescens	lake sturgeon	SC	fish
Acris blanchardi	northern cricket frog	E	amphibian/reptile
Actinonaias ligamentina	mucket	T	mollusk
Adlumia fungosa	Allegheny vine	SC	vascular plant
Aegolius funereus	boreal owl	SC	bird
Aeschna sitchensis	zigzag darner	SC	dragonfly
Aeschna subarctica	subarctic darner	SC	dragonfly
Aflexia rubranura	red-tailed leafhopper	SC	leafhopper
Agalinis auriculata	eared false foxglove	E	vascular plant
Agalinis gattingeri	round-stemmed false foxglove	E	vascular plant
Agapetus tomus	a species of caddisfly	SC	caddisfly
Agrostis hyemalis	winter bentgrass	E	vascular plant
Ahtiana aurescens	a species of lichen	SC	lichen
Alasmidonta marginata	elktoe	T	mollusk
Alces americanus	moose	SC	mammal
Alisma gramineum	narrow-leaved water plantain	SC	vascular plant
Allium cernuum	nodding wild onion	SC	vascular plant
Allium schoenoprasum	wild chives	E	vascular plant
Allocetraria oakesiana	a species of lichen	T	lichen
Alosa chrysochloris	skipjack herring	E	fish
Ambystoma maculatum	spotted salamander	SC	amphibian/reptile
Ammodramus bairdii	Baird's sparrow	E	bird
Ammodramus henslowii	Henslow's sparrow	E	bird
Ammodramus nelsoni	Nelson's sparrow	SC	bird
Ammophila breviligulata ssp. *breviligulata*	beachgrass	T	vascular plant
Amygdalaria panaeola	powdery almond lichen	SC	lichen
Anabolia ozburni	a species of northern caddisfly	SC	caddisfly
Anaptychia crinalis	a species of lichen	SC	lichen
Anaxyrus cognatus	Great Plains toad	SC	amphibian/reptile
Androsace septentrionalis	northern androsace	SC	vascular plant
Anguilla rostrata	American eel	SC	fish
Anodonta suborbiculata	flat floater	SC	mollusk
Antennaria parvifolia	small-leaved pussytoes	SC	vascular plant
Anthus spragueii	Sprague's pipit (Fed. Status: C)	E	bird
Apalone mutica	smooth softshell	SC	amphibian/reptile
Aphanorrhegma serratum	lidded earth moss	SC	moss/liverwort
Aphredoderus sayanus	pirate perch	SC	fish
Arabis laevigata var. *laevigata*	smooth rock cress	SC	vascular plant
Arcidens confragosus	rock pocketbook	E	mollusk
Arctoparmelia centrifuga	concentric ring lichen	SC	lichen
Arctoparmelia subcentrifuga	a species of ring lichen	SC	lichen
Arisaema dracontium	green dragon	SC	vascular plant
Aristida longespica var. *geniculata*	slimspike three-awn	E	vascular plant
Aristida purpurea var. *longiseta*	red three-awn	SC	vascular plant
Aristida tuberculosa	seaside three-awn	T	vascular plant
Arnica lonchophylla	long-leaved arnica	T	vascular plant
Arnoglossum plantagineum	tuberous Indian plantain	T	vascular plant
Arnoglossum reniforme	great Indian plantain	T	vascular plant
Arthrorhaphis citrinella	golden dot-lichen	T	lichen
Asclepias amplexicaulis	clasping milkweed	T	vascular plant
Asclepias hirtella	prairie milkweed	T	vascular plant
Asclepias stenophylla	narrow-leaved milkweed	E	vascular plant
Asclepias sullivantii	Sullivant's milkweed	T	vascular plant
Asio flammeus	short-eared owl	SC	bird
Asplenium platyneuron	ebony spleenwort	SC	vascular plant
Asplenium trichomanes ssp. *trichomanes*	maidenhair spleenwort	T	vascular plant
Astragalus alpinus var. *alpinus*	alpine milk-vetch	E	vascular plant
Astragalus flexuosus var. *flexuosus*	slender milk-vetch	SC	vascular plant
Astragalus missouriensis var. *missouriensis*	Missouri milk-vetch	SC	vascular plant
Athene cunicularia	burrowing owl	E	bird
Atrichum crispum	wave-leaved crane's-bill moss	SC	moss/liverwort
Atrichum tenellum	little saw moss	SC	moss/liverwort
Atrytone arogos iowa	arogos skipper	SC	butterfly/moth
Attenuipyga vanduzeei	hill prairie shovelhead leafhopper	SC	leafhopper
Aulacomnium androgynum	bud-headed thread moss	SC	moss/liverwort
Aulacomnium heterostichum	differential branched crease capsule moss	SC	moss/liverwort
Aureolaria pedicularia	fernleaf false foxglove	T	vascular plant
Avenula hookeri	oat-grass	SC	vascular plant
Bacopa rotundifolia	water hyssop	T	vascular plant
Baptisia bracteata var. *glabrescens*	plains wild indigo	SC	vascular plant
Baptisia lactea var. *lactea*	white wild indigo	SC	vascular plant
Bartonia virginica	yellow bartonia	E	vascular plant
Berula erecta	stream parsnip	T	vascular plant
Besseya bullii	kitten-tails	T	vascular plant
Bidens discoidea	discoid beggarticks	SC	vascular plant
Bistorta vivipara	alpine bistort	T	vascular plant

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SCIENTIFIC NAME	COMMON NAME	STATUS	TAXONOMIC GROUP
Boechera holboellii	Holboell's rock cress	T	vascular plant
Boletus subcaerulescens	a species of fungus	SC	fungus
Botrychium acuminatum	tailed grapefern	SC	vascular plant
Botrychium ascendens	upswept moonwort	E	vascular plant
Botrychium campestre	prairie moonwort	SC	vascular plant
Botrychium gallicomontanum	Frenchman's Bluff moonwort	E	vascular plant
Botrychium lanceolatum ssp. *angustisegmentum*	narrow triangle moonwort	T	vascular plant
Botrychium lineare	slender moonwort	E	vascular plant
Botrychium lunaria	common moonwort	T	vascular plant
Botrychium minganense	Mingan moonwort	SC	vascular plant
Botrychium mormo	goblin fern	T	vascular plant
Botrychium oneidense	blunt-lobed grapefern	T	vascular plant
Botrychium pallidum	pale moonwort	SC	vascular plant
Botrychium rugulosum	St. Lawrence grapefern	SC	vascular plant
Botrychium simplex	least moonwort	SC	vascular plant
Botrychium spathulatum	spathulate moonwort	E	vascular plant
Boyeria grafiana	ocellated darner	SC	dragonfly
Bryoria fuscescens	pale-footed horsehair lichen	SC	lichen
Bryoxiphium norvegicum	sword moss	E	moss/liverwort
Bryum cyclophyllum	egg-leaf true moss	SC	moss/liverwort
Buchloe dactyloides	buffalo grass	SC	vascular plant
Buellia nigra	a species of lichen	SC	lichen
Buteo lineatus	red-shouldered hawk	SC	bird
Buxbaumia aphylla	bug-on-a-stick moss	SC	moss/liverwort
Calamagrostis lacustris	marsh reedgrass	SC	vascular plant
Calamagrostis montanensis	Plains reedgrass	SC	vascular plant
Calamagrostis purpurascens	purple reedgrass	E	vascular plant
Calcarius ornatus	chestnut-collared longspur	E	bird
Callitriche heterophylla	larger water starwort	T	vascular plant
Caloplaca parvula	a species of lichen	E	lichen
Caloplaca stellata	a species of firedot lichen	SC	lichen
Caltha natans	floating marsh marigold	E	vascular plant
Cardamine pratensis	cuckoo flower	T	vascular plant
Carex annectens	yellow-fruited sedge	SC	vascular plant
Carex careyana	Carey's sedge	E	vascular plant
Carex conjuncta	jointed sedge	T	vascular plant
Carex davisii	Davis' sedge	T	vascular plant
Carex exilis	coastal sedge	SC	vascular plant
Carex festucacea	fescue sedge	T	vascular plant
Carex flava	yellow sedge	SC	vascular plant
Carex formosa	handsome sedge	E	vascular plant
Carex garberi	Garber's sedge	T	vascular plant
Carex grayi	Gray's sedge	SC	vascular plant
Carex hallii	Hall's sedge	SC	vascular plant
Carex hookerana	Hooker's sedge	SC	vascular plant
Carex jamesii	James' sedge	T	vascular plant
Carex laevivaginata	smooth-sheathed sedge	T	vascular plant
Carex laxiculmis	loose-culmed sedge	T	vascular plant
Carex media	intermediate sedge	SC	vascular plant
Carex michauxiana	Michaux's sedge	SC	vascular plant
Carex muskingumensis	Muskingum sedge	SC	vascular plant
Carex novae-angliae	New England sedge	T	vascular plant
Carex obtusata	blunt sedge	SC	vascular plant
Carex ormostachya	necklace sedge	SC	vascular plant
Carex pallescens	pale sedge	E	vascular plant
Carex plantaginea	plantain-leaved sedge	E	vascular plant
Carex praticola	prairie-dweller sedge	SC	vascular plant
Carex rossii	Ross' sedge	T	vascular plant
Carex scirpoidea	northern singlespike sedge	SC	vascular plant
Carex sterilis	sterile sedge	T	vascular plant
Carex supina ssp. *spaniocarpa*	weak arctic sedge	E	vascular plant
Carex typhina	cattail sedge	SC	vascular plant
Carex xerantica	dry sedge	SC	vascular plant
Castilleja septentrionalis	northern paintbrush	E	vascular plant
Catocala abbreviatella	abbreviated underwing	SC	butterfly/moth
Catocala whitneyi	Whitney's underwing	SC	butterfly/moth
Cervus canadensis	elk	SC	mammal
Chamaesyce missurica	Missouri spurge	SC	vascular plant
Charadrius melodus	piping plover (Fed. Status: E/T)	E	bird
Chilostigma itascae	headwaters chilostigman caddisfly	T	caddisfly
Chondestes grammacus	lark sparrow	SC	bird
Chrysosplenium iowense	Iowa golden saxifrage	E	vascular plant
Cicindela denikei	Laurentian tiger beetle	SC	tiger beetle
Cicindela fulgida westbournei	crimson saltflat tiger beetle, tiger beetle, westb. ssp	T	tiger beetle
Cicindela fulgida fulgida	crimson saltflat tiger beetle, fulgida ssp	E	tiger beetle
Cicindela hirticollis rhodensis	hairy-necked tiger beetle	E	tiger beetle
Cicindela lepida	ghost tiger beetle	T	tiger beetle
Cicindela limbata nympha	sandy tiger beetle	E	tiger beetle
Cicindela macra macra	sandy stream tiger beetle	SC	tiger beetle

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SCIENTIFIC NAME	COMMON NAME	STATUS	TAXONOMIC GROUP
Cicindela patruela patruela	northern barrens tiger beetle	SC	tiger beetle
Cicindela splendida cyanocephalata	splendid tiger beetle	SC	tiger beetle
Cirriphyllum piliferum	hair-pointed feather moss	T	moss/liverwort
Cirsium pumilum var. *hillii*	Hill's thistle	SC	vascular plant
Cladium mariscoides	twig rush	SC	vascular plant
Cladonia pseudorangiformis	a species of lichen	SC	lichen
Clinostomus elongates	redside dace	SC	fish
Coccocarpia palmicola	a species of lichen	T	lichen
Coluber constrictor	North American racer	SC	amphibian/reptile
Commelina erecta	slender dayflower	E	vascular plant
Coregonus kiyi	kiyi	SC	fish
Coregonus nipigon	Nipigon cisco	SC	fish
Coregonus zenithicus	shortjaw cisco	SC	fish
Coturnicops noveboracensis	yellow rail	SC	bird
Couesius plumbeus	lake chub	SC	fish
Crassula aquatica	pigmyweed	T	vascular plant
Crataegus calpodendron	late hawthorn	SC	vascular plant
Crataegus douglasii	black hawthorn	SC	vascular plant
Crotalaria sagittalis	rattlebox	SC	vascular plant
Crotalus horridus	timber rattlesnake	T	amphibian/reptile
Cryptocolea imbricata	hidden-perianth liverwort	T	moss/liverwort
Cryptotis parva	North American least shrew	SC	mammal
Crystallaria asprella	crystal darter	E	fish
Cumberlandia monodonta	spectaclecase (Fed. Status: E)	E	mollusk
Cycleptus elongatus	blue sucker	SC	fish
Cyclonaias tuberculata	purple wartyback	E	mollusk
Cygnus buccinator	trumpeter swan	SC	bird
Cymopterus glomeratus	Plains spring parsley	SC	vascular plant
Cynodontium schisti	mowed mosquito moss	T	moss/liverwort
Cyperus acuminatus	short-pointed umbrella-sedge	T	vascular plant
Cypripedium arietinum	ram's head orchid	T	vascular plant
Cypripedium candidum	small white lady's slipper	SC	vascular plant
Cyrto-hypnum pygmaeum	pygmy plume moss	SC	moss/liverwort
Dalea candida var. *oligophylla*	western white prairie clover	SC	vascular plant
Decodon verticillatus	water willow	SC	vascular plant
Deparia acrostichoides	silvery spleenwort	SC	vascular plant
Dermatocarpon moulinsii	a species of lichen	E	lichen
Deschampsia flexuosa	slender hair grass	T	vascular plant
Desmanthus illinoensis	prairie mimosa	SC	vascular plant
Desmodium cuspidatum var. *longifolium*	big tick trefoil	T	vascular plant
Desmodium nudiflorum	stemless tick trefoil	T	vascular plant
Diarrhena obovata	obovate beakgrain	E	vascular plant
Dicentra canadensis	squirrel corn	SC	vascular plant
Diplazium pycnocarpon	narrow-leaved spleenwort	T	vascular plant
Dodecatheon meadia var. *meadia*	prairie shooting star	E	vascular plant
Draba arabisans	Arabian whitlow grass	SC	vascular plant
Draba cana	hoary whitlow grass	E	vascular plant
Draba norvegica	Norwegian whitlow grass	E	vascular plant
Drosera anglica	English sundew	SC	vascular plant
Drosera linearis	linear-leaved sundew	SC	vascular plant
Dryopteris goldiana	Goldie's fern	SC	vascular plant
Dryopteris marginalis	marginal shield fern	E	vascular plant
Elatine triandra	three-stamened waterwort	SC	vascular plant
Eleocharis coloradoensis	dwarf spikerush	SC	vascular plant
Eleocharis flavescens var. *olivacea*	olivaceous spikerush	T	vascular plant
Eleocharis nitida	neat spikerush	SC	vascular plant
Eleocharis quinqueflora	few-flowered spikerush	SC	vascular plant
Eleocharis robbinsii	Robbins' spikerush	T	vascular plant
Eleocharis rostellata	beaked spikerush	T	vascular plant
Eleocharis wolfii	Wolf's spikerush	E	vascular plant
Ellipsaria lineolata	butterfly	T	mollusk
Elliptio complanata	eastern elliptio	SC	mollusk
Elliptio crassidens	elephant-ear	E	mollusk
Elliptio dilatata	spike	T	mollusk
Elodea bifoliata	two leaf waterweed	E	vascular plant
Empetrum atropurpureum	purple crowberry	E	vascular plant
Empetrum nigrum	black crowberry	E	vascular plant
Empidonax virescens	acadian flycatcher	SC	bird
Emydoidea blandingii	Blanding's turtle	T	amphibian/reptile
Encalypta procera	tall extinguisher moss	SC	moss/liverwort
Epioblasma triquetra	snuffbox (Fed. Status: E)	E	mollusk
Eptesicus fuscus	big brown bat	SC	mammal
Erebia mancinus	disa alpine	SC	butterfly/moth
Erigeron acris var. *kamtschaticus*	bitter fleabane	E	vascular plant
Erigeron lonchophyllus	short ray fleabane	T	vascular plant
Erimystax x-punctatus	gravel chub	T	fish
Eryngium yuccifolium	rattlesnake master	SC	vascular plant
Erynnis persius persius	persius dusky wing	E	butterfly/moth
Erythronium propullans	dwarf trout lily (Fed. Status: E)	E	vascular plant

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SCIENTIFIC NAME	COMMON NAME	STATUS	TAXONOMIC GROUP
Escobaria vivipara	ball cactus	E	vascular plant
Etheostoma chlorosoma	bluntnose darter	SC	fish
Etheostoma microperca	least darter	SC	fish
Eupatorium sessilifolium	upland boneset	T	vascular plant
Euphrasia hudsoniana var. *ramosior*	Hudson Bay eyebright	SC	vascular plant
Falco peregrinus	peregrine falcon	SC	bird
Fimbristylis autumnalis	autumn fimbry	SC	vascular plant
Fimbristylis puberula var. *interior*	hairy fimbry	E	vascular plant
Floerkea proserpinacoides	false mermaid	T	vascular plant
Frullania selwyniana	Selwyn's ear-leaf liverwort	SC	moss/liverwort
Fundulus sciadicus	plains topminnow	T	fish
Fusconaia ebena	ebonyshell	E	mollusk
Gaillardia aristata	blanket flower	SC	vascular plant
Gallinula galeata	common gallinule	SC	bird
Gastrocopta rogersensis	Rogers' snaggletooth snail	SC	mollusk
Gaylussacia baccata	black huckleberry	T	vascular plant
Gentiana affinis	northern gentian	SC	vascular plant
Gentianella amarella ssp. *acuta*	felwort	SC	vascular plant
Glyptemys insculpta	wood turtle	T	amphibian/reptile
Goera stylata	a species of caddisfly	T	caddisfly
Gymnocarpium robertianum	northern oak fern	SC	vascular plant
Gymnocladus dioica	Kentucky coffee tree	SC	vascular plant
Habronattus calcaratus maddisoni	a species of jumping spider	SC	jumping spider
Habronattus texanus	a species of jumping spider	SC	jumping spider
Habronattus viridipes	a species of jumping spider	SC	jumping spider
Hamamelis virginiana	witch-hazel	T	vascular plant
Hasteola suaveolens	sweet-smelling Indian-plantain	E	vascular plant
Helianthemum canadense	Canada frostweed	SC	vascular plant
Helianthus nuttallii ssp. *rydbergii*	Nuttall's sunflower	SC	vascular plant
Hemidactylium scutatum	four-toed salamander	SC	amphibian/reptile
Hesperia assiniboia	assiniboia skipper	E	butterfly/moth
Hesperia dacotae	Dakota skipper (Fed. Status: P)	E	butterfly/moth
Hesperia leonardus	leonardus skipper	SC	butterfly/moth
Hesperia ottoe	ottoe skipper	E	butterfly/moth
Hesperia uncas	uncas skipper	E	butterfly/moth
Heteranthera limosa	mud plantain	T	vascular plant
Heterocladium dimorphum	spaced-out tangle moss	SC	moss/liverwort
Heteroderma obscurata	orange-tinted fringe lichen	SC	lichen
Heterodon nasicus	plains hog-nosed snake	SC	amphibian/reptile
Hudsonia tomentosa	beach heather	T	vascular plant
Huperzia appalachiana	Appalachian fir moss	SC	vascular plant
Huperzia porophila	rock fir moss	T	vascular plant
Hybanthus concolor	eastern green-violet	E	vascular plant
Hybognathus nuchalis	Mississippi silvery minnow	SC	fish
Hydrastis canadensis	goldenseal	E	vascular plant
Hydrocotyle americana	American water-pennywort	SC	vascular plant
Hydroptila metoeca	a species of purse casemaker caddisfly	SC	caddisfly
Hydroptila quinola	a species of purse casemaker caddisfly	SC	caddisfly
Hydroptila rono	a species of purse casemaker caddisfly	T	caddisfly
Hydroptila tortosa	a species of purse casemaker caddisfly	SC	caddisfly
Hydroptila waskesia	a species of purse casemaker caddisfly	E	caddisfly
Hyophila involuta	rolled-leaf wet-ground moss	SC	moss/liverwort
Ichthyomyzon fossor	northern brook lamprey	SC	fish
Ichthyomyzon gagei	southern brook lamprey	SC	fish
Ictiobus niger	black buffalo	T	fish
Iodanthus pinnatifidus	purple rocket	E	vascular plant
Ironoquia punctatissima	a species of northern caddisfly	T	caddisfly
Isoetes melanopoda	prairie quillwort	E	vascular plant
Jaffueliobryum wrightii	Wright's blunt leaved true moss	SC	moss/liverwort
Jeffersonia diphylla	twinleaf	SC	vascular plant
Juglans cinerea	butternut	E	vascular plant
Juncus articulatus	jointed rush	E	vascular plant
Juncus marginatus	marginated rush	E	vascular plant
Juncus stygius var. *americanus*	bog rush	SC	vascular plant
Juncus subtilis	slender rush	E	vascular plant
Juniperus horizontalis	creeping juniper	SC	vascular plant
Laccaria trullisata	a species of fungus	SC	fungus
Lactarius fuliginellus	a species of fungus	SC	fungus
Lampsilis higginsii	Higgins eye (Fed. Status: E)	E	mollusk
Lampsilis teres	yellow sandshell	E	mollusk
Lanius ludovicianus	loggerhead shrike	E	bird
Lasmigona compressa	creek heelsplitter	SC	mollusk
Lasmigona costata	fluted-shell	T	mollusk
Lecanora epanora	a species of rim lichen	T	lichen
Lechea tenuifolia var. *tenuifolia*	narrow-leaved pinweed	E	vascular plant
Leersia lenticularis	catchfly grass	T	vascular plant
Lepidostoma libum	a species of caddisfly	T	caddisfly
Lepomis gulosus	warmouth	SC	fish
Lepomis peltastes	northern longear sunfish	SC	fish

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SCIENTIFIC NAME	COMMON NAME	STATUS	TAXONOMIC GROUP
Leptogium apalachense	a species of lichen	E	lichen
Lescuraea saxicola	lustrous bow moss	T	moss/liverwort
Lespedeza leptostachya	prairie bush clover (Fed. Status: T)	T	vascular plant
Leucophaeus pipixcan	Franklin's gull	SC	bird
Ligumia recta	black sandshell	SC	mollusk
Ligumia subrostrata	pondmussel	T	mollusk
Limnephilus janus	a species of northern caddisfly	E	caddisfly
Limnephilus rossi	a species of northern caddisfly	T	caddisfly
Limnephilus secludens	a species of northern caddisfly	E	caddisfly
Limosa fedoa	marbled godwit	SC	bird
Limosella aquatica	mudwort	SC	vascular plant
Listera auriculata	auricled twayblade	E	vascular plant
Listera convallarioides	broad-leaved twayblade	SC	vascular plant
Littorella americana	American shore plantain	SC	vascular plant
Lobaria scrobiculata	a species of lichen	E	lichen
Luzula parviflora	small-flowered woodrush	T	vascular plant
Lycaeides idas nabokovi	Nabokov's blue	SC	butterfly/moth
Lycaeides melissa samuelis	Karner blue (Fed. Status: E)	E	butterfly/moth
Lynx canadensis	Canada lynx (Fed. Status: T)	SC	mammal
Lysimachia maritima	sea milkwort	E	vascular plant
Lysimachia quadrifolia	whorled loosestrife	SC	vascular plant
Lysurus cruciatus	a species of fungus	SC	fungus
Lythrurus umbratilis	redfin shiner	SC	fish
Macrosteles clavatus	caped leafhopper	SC	leafhopper
Malaxis monophyllos var. *brachypoda*	white adder's mouth	SC	vascular plant
Malaxis paludosa	bog adder's mouth	E	vascular plant
Marpissa formosa	a species of jumping spider	SC	jumping spider
Marsilea vestita	hairy waterclover	E	vascular plant
Meesia uliginosa	swan moss	SC	moss/liverwort
Megalonaias nervosa	washboard	E	mollusk
Melanelia subolivacea	brown-eyed camouflage lichen	SC	lichen
Melica nitens	three-flowered melic	T	vascular plant
Menegazzia terebrata	port-hole lichen	SC	lichen
Microtus ochrogaster	prairie vole	SC	mammal
Microtus pinetorum	woodland vole	SC	mammal
Minuartia dawsonensis	rock sandwort	T	vascular plant
Moehringia macrophylla	large-leaved sandwort	T	vascular plant
Montia chamissoi	montia	E	vascular plant
Morone mississippiensis	yellow bass	SC	fish
Moxostoma duquesnei	black redhorse	SC	fish
Muhlenbergia uniflora	one-flowered muhly	SC	vascular plant
Mustela nivalis	least weasel	SC	mammal
Myotis lucifugus	little brown myotis	SC	mammal
Myotis septentrionalis	northern myotis (Fed. Status: P)	SC	mammal
Myriophyllum heterophyllum	broadleaf water milfoil	SC	vascular plant
Najas guadalupensis ssp. *olivacea*	southern naiad	SC	vascular plant
Najas gracillima	slender naiad	SC	vascular plant
Najas marina	sea naiad	SC	vascular plant
Napaea dioica	glade mallow	T	vascular plant
Necturus maculosus	mudpuppy	SC	amphibian/reptile
Hybopsis amnis	pallid shiner	E	fish
Notropis anogenus	pugnose shiner	T	fish
Notropis nubilus	Ozark minnow	SC	fish
Notropis topeka	Topeka shiner (Fed. Status: E)	SC	fish
Noturus exilis	slender madtom	E	fish
Nuttallanthus canadensis	old field toadflax	SC	vascular plant
Nymphaea leibergii	small white waterlily	T	vascular plant
Oarisma garita	garita skipper	T	butterfly/moth
Oarisma poweshiek	poweshiek skipper (Fed. Status: P)	E	butterfly/moth
Ochrolechia androgyna	powdery saucer lichen	SC	lichen
Ochrotrichia spinosa	a species of purse casemaker caddisfly	E	caddisfly
Oecetis ditissa	a species of long horned caddisfly	T	caddisfly
Oeneis uhleri varuna	Uhler's arctic	E	butterfly/moth
Oenothera rhombipetala	rhombic evening primrose	SC	vascular plant
Onychomys leucogaster	northern grasshopper mouse	SC	mammal
Ophiogomphus anomalus	extra-striped snaketail	SC	dragonfly
Ophiogomphus howei	pygmy snaketail	SC	dragonfly
Ophiogomphus susbehcha	St. Croix snaketail	SC	dragonfly
Opuntia macrorhiza	devil's tongue	SC	vascular plant
Orobanche fasciculata	clustered broomrape	T	vascular plant
Orobanche ludoviciana var. *ludoviciana*	Louisiana broomrape	T	vascular plant
Orobanche uniflora	one-flowered broomrape	T	vascular plant
Osmorhiza berteroi	Chilean sweet cicely	E	vascular plant
Osmorhiza depauperata	blunt-fruited sweet cicely	SC	vascular plant
Oxyethira ecornuta	a species of purse casemaker caddisfly	T	caddisfly
Oxyethira itascae	a species of purse casemaker caddisfly	SC	caddisfly
Oxytropis viscida	sticky locoweed	E	vascular plant
Packera cana	gray ragwort	E	vascular plant
Packera indecora	elegant groundsel	E	vascular plant

Alphabetical Index by Scientific Name

STATUS CODES: E = Endangered; T = Threatened; SC = Special Concern

SCIENTIFIC NAME	COMMON NAME	STATUS	TAXONOMIC GROUP
Panax quinquefolius	American ginseng	SC	vascular plant
Pantherophis obsoletus	western ratsnake	T	amphibian/reptile
Paradamoetas fontana	a species of jumping spider	SC	jumping spider
Parapsyche apicalis	a species of netspinning caddisfly	T	caddisfly
Parkesia motacilla	Louisiana waterthrush	SC	bird
Parmelia stictica	a species of lichen	E	lichen
Parmelia stuppea	a species of lichen	T	lichen
Paronychia canadensis	Canada forked chickweed	E	vascular plant
Paronychia fastigiata var. *fastigiata*	forked chickweed	E	vascular plant
Parthenium integrifolium	wild quinine	E	vascular plant
Pelecanus erythrorhynchos	American white pelican	SC	bird
Pelegrina arizonensis	a species of jumping spider	SC	jumping spider
Pellaea atropurpurea	purple cliff brake	SC	vascular plant
Peltigera venosa	a species of lichen	SC	lichen
Peltula bolanderi	Bolander's peltula lichen	T	lichen
Percina evides	gilt darter	SC	fish
Perimyotis subflavus	tri-colored bat	SC	mammal
Perognathus flavescens	plains pocket mouse	SC	mammal
Persicaria careyi	Carey's smartweed	SC	vascular plant
Phacelia franklinii	Franklin's phacelia	T	vascular plant
Phalaropus tricolor	Wilson's phalarope	T	bird
Phegopteris hexagonoptera	broad beech fern	E	vascular plant
Phemeranthus rugospermus	rough-seeded fameflower	T	vascular plant
Phenacobius mirabilis	suckermouth minnow	SC	fish
Phenacomys ungava	eastern heather vole	SC	mammal
Phidippus apacheanus	a species of jumping spider	SC	jumping spider
Phidippus pius	a species of jumping spider	SC	jumping spider
Phlox maculata	wild sweet William	SC	vascular plant
Physaria ludoviciana	bladderpod	E	vascular plant
Pinguicula vulgaris	butterwort	SC	vascular plant
Piptatherum canadense	Canadian ricegrass	T	vascular plant
Pituophis catenifer	gopher snake	SC	amphibian/reptile
Plagiobothrys scouleri	Scouler's popcornflower	SC	vascular plant
Planogyra asteriscus	eastern flat-whorl snail	SC	mollusk
Plantago elongata	slender plantain	SC	vascular plant
Platanthera clavellata	small green wood orchid	SC	vascular plant
Platanthera flava var. *herbiola*	tubercled rein orchid	T	vascular plant
Platanthera praeclara	western prairie fringed orchid (Fed. Status: T)	E	vascular plant
Platismatia glauca	ragbag lichen	SC	lichen
Platygobio gracilis	flathead chub	SC	fish
Plestiodon fasciatus	common five-lined skink	SC	amphibian/reptile
Plethobasus cyphyus	sheepnose (Fed. Status: E)	E	mollusk
Pleurobema sintoxia	round pigtoe	SC	mollusk
Poa paludigena	bog bluegrass	T	vascular plant
Poa wolfii	Wolf's bluegrass	SC	vascular plant
Podiceps auritus	horned grebe	E	bird
Pogonatum urnigerum	urn-bearing hair moss	SC	moss/liverwort
Polanisia jamesii	James' polanisia	E	vascular plant
Polemonium occidentale ssp. *lacustre*	western Jacob's ladder	E	vascular plant
Polycentropus glacialis	a species of tube casemaker caddisfly	T	caddisfly
Polycentropus milaca	a species of tube casemaker caddisfly	E	caddisfly
Polygala cruciata	cross-leaved milkwort	E	vascular plant
Polyodon spathula	paddlefish	T	fish
Polystichum acrostichoides	Christmas fern	E	vascular plant
Polystichum braunii	Braun's holly fern	T	vascular plant
Polytaenia nuttallii	prairie parsley	SC	vascular plant
Potamogeton bicupulatus	snailseed pondweed	E	vascular plant
Potamogeton confervoides	algae-like pondweed	E	vascular plant
Potamogeton diversifolius	diverse-leaved pondweed	E	vascular plant
Potamogeton oakesianus	Oake's pondweed	E	vascular plant
Potamogeton pulcher	spotted pondweed	E	vascular plant
Progne subis	purple martin	SC	bird
Prosartes trachycarpa	rough-fruited fairybells	E	vascular plant
Prosopium coulterii	pygmy whitefish	SC	fish
Protopannaria pezizoides	brown-gray moss-shingle lichen	T	lichen
Protoptila erotica	a species of saddle casemaker caddisfly	SC	caddisfly
Psathyrella cystidiosa	a species of fungus	E	fungus
Psathyrella rhodospora	a species of fungus	E	fungus
Pseudocyphellaria crocata	a species of lichen	E	lichen
Psoralidium tenuiflorum	slender-leaved scurf pea	E	vascular plant
Puma concolor	mountain lion	SC	mammal
Pyrgus centaureae freija	grizzled skipper	SC	butterfly/moth
Pyrola minor	small shinleaf	SC	vascular plant
Quadrula fragosa	winged mapleleaf (Fed. Status: E)	E	mollusk
Quadrula metanevra	monkeyface	T	mollusk
Quadrula nodulata	wartyback	T	mollusk
Quercus bicolor	swamp white oak	SC	vascular plant
Rallus elegans	king rail	E	bird
Ramalina roesleri	frayed ramalina lichen	T	lichen

Alphabetical Index by Scientific Name

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SCIENTIFIC NAME	COMMON NAME	STATUS	TAXONOMIC GROUP
Ramalina thrausta	angel's hair lichen	SC	lichen
Ranunculus lapponicus	Lapland buttercup	SC	vascular plant
Reithrodontomys megalotis	western harvest mouse	SC	mammal
Rhodiola integrifolia ssp. *leedyi*	Leedy's roseroot (Fed. Status: T)	E	vascular plant
Rhynchospora capillacea	hair-like beak rush	T	vascular plant
Rorippa sessiliflora	sessile-flowered yellow cress	SC	vascular plant
Rotala ramosior	toothcup	T	vascular plant
Rubus chamaemorus	cloudberry	T	vascular plant
Rubus fulleri	bristle-berry	T	vascular plant
Rubus missouricus	Missouri dewberry	E	vascular plant
Rubus multifer	Kinnickinnick dewberry	SC	vascular plant
Rubus quaesitus	Prince Edward Island blackberry	SC	vascular plant
Rubus semisetosus	swamp blackberry	T	vascular plant
Rubus stipulatus	bristle-berry	E	vascular plant
Rubus vermontanus	Vermont blackberry	SC	vascular plant
Rudbeckia triloba var. *triloba*	three-leaved coneflower	T	vascular plant
Ruellia humilis	wild petunia	SC	vascular plant
Ruppia cirrhosa	spiral ditchgrass	SC	vascular plant
Sagina nodosa ssp. *borealis*	knotty pearlwort	E	vascular plant
Sagittaria brevirostra	short-beaked arrowhead	E	vascular plant
Sagittaria calycina var. *calycina*	hooded arrowhead	T	vascular plant
Salicornia rubra	red saltwort	T	vascular plant
Salix maccalliana	McCalla's willow	SC	vascular plant
Salix pellita	satiny willow	T	vascular plant
Salix pseudomonticola	false mountain willow	SC	vascular plant
Sanicula trifoliata	beaked snakeroot	SC	vascular plant
Sarcosoma globosum	a species of fungus	SC	fungus
Sassacus papenhoei	a species of jumping spider	SC	jumping spider
Saxifraga cernua	nodding saxifrage	E	vascular plant
Saxifraga paniculata	encrusted saxifrage	SC	vascular plant
Schedonnardus paniculatus	tumble grass	SC	vascular plant
Schinia indiana	phlox moth	SC	butterfly/moth
Schinia lucens	leadplant flower moth	SC	butterfly/moth
Schistostega pennata	luminous moss	E	moss/liverwort
Scleria triglomerata	tall nutrush	E	vascular plant
Scleria verticillata	whorled nutrush	T	vascular plant
Scutellaria ovata var. *versicolor*	ovate-leaved skullcap	T	vascular plant
Selaginella selaginoides	northern spikemoss	E	vascular plant
Setophaga cerulea	cerulean warbler	SC	bird
Setophaga citrina	hooded warbler	SC	bird
Shepherdia canadensis	soapberry	SC	vascular plant
Shinnersoseris rostrata	annual skeletonweed	T	vascular plant
Silene drummondii ssp. *drummondii*	Drummond's campion	SC	vascular plant
Silene nivea	snowy campion	T	vascular plant
Simpsonaias ambigua	salamander mussel	E	mollusk
Sistrurus catenatus	massasauga (Fed. Status: C)	E	amphibian/reptile
Solidago mollis	soft goldenrod	SC	vascular plant
Somatochlora brevicincta	Quebec emerald	SC	dragonfly
Somatochlora forcipata	forcipate emerald	SC	dragonfly
Sorex fumeus	smoky shrew	SC	mammal
Speyeria idalia	regal fritillary	SC	butterfly/moth
Sphagnum compactum	cushion peat moss	T	moss/liverwort
Sphagnum lescurii	red twisted peat moss	T	moss/liverwort
Spilogale putorius	eastern spotted skunk	T	mammal
Spiranthes casei var. *casei*	Case's ladies' tresses	T	vascular plant
Splachnum rubrum	red parasol moss	E	moss/liverwort
Stellaria longipes ssp. *longipes*	long-stalked chickweed	SC	vascular plant
Stereocaulon pileatum	pixie foam lichen	SC	lichen
Sterna forsteri	Forster's tern	SC	bird
Sterna hirundo	common tern	T	bird
Sticta fuliginosa	a species of lichen	SC	lichen
Striatura ferrea	black striate snail	SC	mollusk
Stuckenia vaginata	sheathed pondweed	E	vascular plant
Subularia aquatica ssp. *americana*	awlwort	T	vascular plant
Suillus weaverae	a species of fungus	E	fungus
Sullivantia sullivantii	reniform sullivantia	T	vascular plant
Symphyotrichum shortii	Short's aster	SC	vascular plant
Synaptomys borealis	northern bog lemming	SC	mammal
Taenidia integerrima	yellow pimpernel	SC	vascular plant
Tephrosia virginiana	goat's rue	SC	vascular plant
Thaspium barbinode	hairy-jointed meadow-parsnip	SC	vascular plant
Thelia hirtella	nipple moss	SC	moss/liverwort
Thelocarpon epibolum	a species of thelocarpon lichen	SC	lichen
Thomomys talpoides	northern pocket gopher	T	mammal
Tofieldia pusilla	small false asphodel	E	vascular plant
Torreyochloa pallida	Torrey's mannagrass	SC	vascular plant
Tortella inclinata	shortleaf chalk moss	SC	moss/liverwort
Triaenodes flavescens	a species of long horned caddisfly	SC	caddisfly
Trichocolea tomentella	down moss	T	moss/liverwort

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SCIENTIFIC NAME	COMMON NAME	STATUS	TAXONOMIC GROUP
Trichophorum clintonii	Clinton's bulrush	T	vascular plant
Trillium nivale	snow trillium	SC	vascular plant
Triplasis purpurea var. *purpurea*	purple sandgrass	SC	vascular plant
Trisetum spicatum	spike trisetum	SC	vascular plant
Tritogonia verrucosa	pistolgrip	E	mollusk
Tropidoclonion lineatum	lined snake	SC	amphibian/reptile
Truncilla donaciformis	fawnsfoot	T	mollusk
Tsuga canadensis var. *canadensis*	eastern hemlock	E	vascular plant
Tutelina formicaria	a species of jumping spider	T	jumping spider
Tympanuchus cupido	greater prairie-chicken	SC	bird
Umbilicaria torrefacta	a species of lichen	E	lichen
Urocitellus richardsonii	Richardson's ground squirrel	SC	mammal
Usnea longissima	Methuselah's beard lichen	SC	lichen
Usnea mutabilis	bloody beard lichen	T	lichen
Usnea rubicunda	red beard lichen	SC	lichen
Utricularia geminiscapa	hidden-fruit bladderwort	T	vascular plant
Utricularia purpurea	purple-flowered bladderwort	E	vascular plant
Utricularia resupinata	lavender bladderwort	T	vascular plant
Vaccinium uliginosum	alpine bilberry	E	vascular plant
Valeriana edulis var. *ciliata*	edible valerian	T	vascular plant
Venustaconcha ellipsiformis	ellipse	T	mollusk
Verbena simplex	narrow-leaved vervain	SC	vascular plant
Vertigo meramecensis	bluff vertigo	T	mollusk
Viola lanceolata var. *lanceolata*	lance-leaved violet	T	vascular plant
Viola nuttallii	yellow prairie violet	T	vascular plant
Vireo bellii	Bell's vireo	SC	bird
Vitis aestivalis var. *bicolor*	silverleaf grape	T	vascular plant
Waldsteinia fragarioides var. *fragarioides*	barren strawberry	SC	vascular plant
Woodsia alpina	alpine woodsia	T	vascular plant
Woodsia glabella	smooth woodsia	T	vascular plant
Woodsia oregano ssp. *cathcartiana*	Oregon woodsia	SC	vascular plant
Woodsia scopulina ssp. *laurentiana*	Rocky Mountain woodsia	T	vascular plant
Xanthisma spinulosum var. *spinulosum*	cutleaf ironplant	SC	vascular plant
Xyris montana	montane yellow-eyed grass	SC	vascular plant
Xyris torta	twisted yellow-eyed grass	E	vascular plant
Ylodes frontalis	a species of long horned caddisfly	T	caddisfly
Zonitoides limatulus	dull gloss	SC	mollusk

Appendix B

Request for Support – Letter from The City of Grygla

Monday, December 8, 2025

Troy Daniell
State Conservationist
Natural Resources Conservation Service
375 Jackson St
STE 600
St Paul, MN 55101-1854

Dear Mr. Daniell:

We, in partnership with Red Lake Watershed, request NRCS Watershed Program planning assistance for a potential Public Law (PL) 566 project in Marshall County, HUC 10: 0902030403, Mud River. Historically, the city has experienced overland flooding and stormwater surcharges nearly annually during spring snowmelt and intense rain events. In 2024, flooding inundated the sanitary lift station and resulted in sewage backups into residences. The project would assist in identifying the underlying issues behind the past flooding experienced by the city, and ultimately result in flood damage reduction. The project area is mainly rural, with a heavy agricultural presence. Moderate to low household incomes, paired with immediate needs for sanitary and drinking water infrastructure rehabilitation, leaves the city financially constrained. Ideally, this project would provide flood hazard mitigation and water quality benefits for the city and all downstream watersheds.

We are a unit of local government with a legal interest in or responsibility for the watershed project proposed. We understand, as sponsors of a PL 566 planning effort, that our responsibilities will include:

- Assisting in the locally led planning effort,
- Contributing a share of the project costs, as determined by NRCS, by providing funds or eligible services necessary to undertake the activity,
- Before being credited with the value of any in-kind contributions for in-kind services and/or acquisition of land rights, Sponsor will sign a Memorandum of Understanding (MOU) with NRCS,
- Obtaining any necessary real property rights, by eminent domain, if necessary,
- Obtaining any needed water rights, and regulatory permits at the Sponsor's cost,
- Agreeing to provide for any required operation and maintenance of the completed measures.

We look forward to working with NRCS staff to complete a Preliminary Investigation Findings Report (PIFR) to provide reasonable assurance that a potential watershed project can be developed that addresses a PL 566 purpose and that there are no apparent insurmountable obstacles to the completion of that project.

The names, addresses, and telephone numbers of the administrative and technical contact persons in our organization are as follows:

Rose Aune, City Clerk/Treasurer - 218-294-6292
219 West Beltrami Street
PO Box 76
Grygla, MN 56727

Rocky Hagan, Public Works Supervisor - 218-294-6728
219 West Beltrami Street
PO Box 76
Grygla, MN 56727

Zach Thoma, City Engineer - 218-368-9955
323 Beltrami Ave, NW
Bemidji, MN 56601

Please contact them for any additional information that you might need in assessing our request.

Sincerely,

Karla Byklum

Karla Byklum
Mayor of Grygla

December 17, 2025

Minnesota
State Office

375 Jackson Street
Suite 600
St. Paul, MN 55101

Ph: 651-602-7900
Fax: 855-823-7656
www.mn.nrcs.usda.gov

Karla Byklum, Mayor
Grygla, MN

Ms. Byklum:

I have received your request for planning assistance, dated December 8, 2025, under the Watershed Protection and Flood Protection Act (PL-566) and have directed my staff to begin the process of requesting funds for the first step in the process: conducting a preliminary feasibility analysis (PIFR). I have also asked my staff to provide you with monthly status reports to keep you and your support staff advised of progress made and the next steps.

If you have any questions or concerns during this initial stage, please reach out to my state conservation engineer, Dave Jones. I look forward to NRCS working with the City of Grygla to help address their watershed needs.

Please reach out to me if you have any questions or concerns.

Sincerely,

Troy Daniell

Digitally signed by TROY DANIELL
Date: 2025.12.18 08:17:27 -06'00'

TROY DANIELL
State Conservationist

cc:
Lance Smith, Assistant State Conservationist - Field Operations, NRCS, Detroit Lakes, MN
Kathy Fillmore, Service Team Lead, NRCS, Roseau, MN
Dave Jones, State Conservation Engineer, NRCS, St. Paul, MN
Rose Aune, City Clerk/Treasurer
Rocky Hagen, Public Works Supervisor
Zach Tohma, City Engineer

Appendix C

Sponsor & Stakeholder Discussion Meeting Minutes from June 24th, 2026

W.F. Baird & Associates Ltd.
Office | 2810 Crossroads Drive, Suite 1200, Madison, WI 53718, USA
Phone | +1 608 273 0592 Email | madison@baird.com

GRYGLA PIFR KICKOFF / SCOPING MEETING
MINUTES OF MEETING

Date:	**24 JUN 2026**	**Time:**	**1100 – 1200 CT**
Location:	**Virtual / teleconference**		
Chair:	**Jim Lewis**	**Prepared by:**	**EH**

Attendee Name	Affiliation	Initials
Danielle Heil	NRCS, St. Paul, MN (PIFR manager / COR)	DH
Dave Jones	NRCS (advisory / oversight)	DJ
Scott Crist	NRCS (contract administration)	SC
Jim Lewis	Baird-Stantec (technical lead)	JL
Edmund Howe	Baird-Stantec	EH
Cami Inman	Baird-Stantec (presented PIFR outline)	CI
Zach Thoma	Moore Engineering (city's engineer)	ZT
Tammy Audette	Red Lake Watershed District (manager)	TA
Karla Byklum	City of Grygla (mayor)	KB
Dave Dunrud	City of Grygla (city council)	DD
Rose Aune	City of Grygla (city clerk)	RA
Dustin Nelson	City of Grygla (city council)	DN
Rocky Hagen	City of Grygla (employee)	RH
Gavin Nordby	City of Grygla (council)	GN
Regrets:	Ryan Lorimor - NRCS (contracting; handles contractual questions)	

MINUTES / ACTIONS

No.	Item	Action by	Date Required
1	**Introductions**		
1.1	Participants introduced themselves and their roles; affiliations are listed in the attendee table above.	N/A	N/A
2	**PIFR Overview**		
2.1	NRCS described the PIFR as a high-level review to determine whether to advance the effort with additional partners involved: goals and objectives, documented damages, and potential solutions that could be permitted, along with any insurmountable barriers. The emphasis is on potential; the PIFR does not conclude that a cost-effective project will result. It produces a general outline of damages, goals, and objectives so NRCS can decide whether to proceed.	N/A	N/A
2.2	**Baird (Jim Lewis):** Added that this is a feasibility-level effort addressing resources and constraints, the purpose of the improvements, and whether the project would have authority through agricultural and rural benefits. It tests whether the project should advance to the next phase, a larger planning study of alternatives and their environmental and economic costs and benefits. After planning, a project can move toward design and then construction.	N/A	N/A
3	**Base Information and Map Slides**		
3.1	Baird has begun assembling base information on hydrology, soils, and land cover to understand how the system behaves.	N/A	N/A
3.2	Slides showed Grygla and the general path of water through the area.	N/A	N/A
3.3	Baird requested any existing water quality reports, measurements, or analyses the group can share.	Group	TBD
4	**PIFR Content Outline (presented by Baird)**		
4.1	Baird (Cami) reviewed the standard PIFR report sections: watershed description and eligibility; potential benefits and purposes; project overview; effects of alternatives on SWAPA + E + H resources; purpose, need, and resource concerns; opportunities; potential stakeholders; three alternatives (structural, non-structural, and an unconstrained option); facilitating factors; obstructing factors; the environmental document; potential cooperating agencies (federal agencies and tribes); and the recommendation.	N/A	N/A
5	**Questions and Discussion**		
5.1	**NRCS (Danielle Heil, COR):** Documentation of damages will be important for the city to share with Baird.	DH	TBD

No.	Item	Action by	Date Required
5.2	**City (Gavin Nordby):** The city holds many photographs of flooding. Over the past 10 years the community has experienced repeated flooding, including several events in close succession that exceeded their expected frequency. Basements have flooded and pumping capacity has been overwhelmed. Grygla takes on substantial water during prolonged snow cover followed by late rains, faster than it can be pumped out. Some landowners prefer not to receive additional water. A nearby highway is being reconstructed. The city is hopeful a workable solution can be found, and identified Rose and Rocky as the best sources for photos and information.	RA/RH	TBD
5.3	**City (Gavin):** Water flow was described at a high level. East of Grygla a dike is in place, and water moves through the Mud River. About 6 miles north of town the land divides, so water reaching that point runs either north to the Moose River or south toward Grygla. The divide is roughly half a mile north of the second curve on County Road 54. The town has difficulty managing water where the Mud River enters.	N/A	N/A
5.4	**City (Gavin), historical note:** Records from the 1930s and 1940s indicate that culverts once conveyed water west through the highway corridor. Those culverts are no longer in place, and water now routes south, which the town's system struggles to handle.	N/A	N/A
5.5	**NRCS (Scott Crist):** Asked about community support for construction. The city reported broad support for pursuing a solution, while noting that some landowners have concerns that will need to be addressed through the public process.	N/A	N/A
5.6	**NRCS:** There is no fixed threshold or vote required to advance the project. The sponsor has authority to acquire land and implement a project, but at this stage the effort is only a PIFR, and complete agreement is never expected. If the sponsor chooses to continue and the plan is reasonable and serves the general public benefit, it can move forward through the process.	N/A	N/A
5.7	**Red Lake Watershed District (Tammy Audette):** County and commissioner engagement will be important, given the ditch systems involved. Temporary measures such as portable pumps have provided only short-term relief.	N/A	N/A
5.8	**NRCS:** The project will not satisfy everyone, but all parties will have a voice. Through the Federal Register process, the public can respond and have concerns and comments addressed. No one is excluded.	N/A	N/A
5.9	**Red Lake Watershed District (Tammy Audette), Moose River impoundment:** Gates are fully closed during large precipitation events.	N/A	N/A

No.	Item	Action by	Date Required
5.10	**City (Gavin):** Along County Road 54 to the northeast, numerous road and driveway crossings over ditch systems were washed out and had to be replaced by the county.	N/A	N/A
5.11	**City (Gavin):** The town has no system to remove the water quickly. During events, crews work for hours to keep sewer systems from backing up, and at least one recent event had significant basement flooding.	N/A	N/A
5.12	**Moore Engineering (Zach Thoma):** A stormwater analysis is underway. The in-town stormwater system discharges to the Mud River, with outlets at or below the ordinary high water elevation, so the river can back up into town regardless of the levee. This is compounded by overland flooding. Some stormwater pipes may have flap gates. There are culverts across County Road 54; some downstream landowners have raised concerns, while landowners within the existing drainage area have not expressed opposition. Overland flooding enters from the west side of town. Flap gates may help, and a stormwater lift station may be needed. Based on FEMA mapping, the levee is not too low but could potentially be extended.	ZT	TBD
5.13	**Data and measurements:** Baird requested a conceptual levee layout (Moore Engineering to provide), a list of documented flood events with dates (city to provide), and any monitoring data. The watershed district reported about 40 years of water quality monitoring, possible flow and gage records, a water control and operating plan, and plans for the 1999 flood control levee. A completed 10-year mapping and modeling effort on the Thief River is available if useful. Materials will be routed through Danielle Heil (COR) to Baird.	ZT/TA/DH	TBD
5.14	**Project purpose:** Flooding is the primary purpose. There is no opposition to ancillary benefits such as water quality improvements, which can also support additional funding avenues. The role of the impoundments in flooding, and whether the structure overtopped during a recent event, will be confirmed by the watershed district.	TA	TBD
5.15	**Stakeholders and coordination:** The planning phase will be fully public; the PIFR does not require that, but the team intends to gather complete information. The watershed district recommended engaging county engineers regarding the judicial ditch systems and the joint ditch board, and Moore Engineering concurred. Flooding problems extend downstream, west of the Moose River. NRCS asked the team to focus on purpose and need, noting that both flood prevention and watershed protection are options, that watershed protection can be implemented through landowner practices without acquisition (at a higher cost share), and that county commissioner engagement is important given the city's limited jurisdiction. Zach Thoma (Moore Engineering) will coordinate as the sponsor-side point person, with Rose handling the city side.	ZT	N/A

No.	Item	Action by	Date Required
5.16	**Agricultural drainage:** Increased tile drainage with pumping into the ditch system benefits agriculture but does not relieve the town's flooding.	N/A	N/A
MEETING ADJOURNED			
'Parking Lot' Items:	None at this time.		
Next Meeting:	TBD		
Minutes Drafted:	24 JUN 2026		
Minutes Finalized:	6/26/26		
File Location:	P:\13903.114 Grygla-Red Lake Watershed PIFR\02_ProjectMgmt\04_Agenda&Minutes\02_External\02_Sponsor_2026_06_24\ 13903.114.M2.RevA_SponsorMtgMinutes_20260624-v1.docx		

Thief River Falls, MN 56701
218.681.5800

From: Delray Sparby <dsparby@mncable.net>
Sent: Thursday, October 29, 2026 3:24 PM
To: Tammy Audette <tammy.audette@redlakewatershed.org>
Subject: RE: Turtle / Cross

The power exists under Chapter 103D for lake level projects, but the watershed district cannot use it to take state land over the DNR's objection because the state sits at the top of the eminent domain hierarchy. Matter of Commissioners Ord. Denying Permit Application 93-1024, 527 N.W.2d 173 (Minn. Ct. App. 1995).

For private riparian landowners, however, the analysis is different. A watershed district exercising its Chapter 103D eminent domain authority
may condemn flowage easements from private landowners who refuse to consent, provided the project serves a lawful conservation purpose and just
compensation is paid.

The Minnesota Supreme Court recognized in State by Lord v. Anderson that the state may condemn flowage easements upon
riparian land for the purpose of creating and maintaining a reservoir for water supply and flood control State by Lord v. Anderson, 251 Minn. 401, 87
N.W.2d 839 (1958). Similarly, in In re Condemnation of Certain Lands in Lac Qui Parle & Chippewa Counties, the Minnesota Supreme Court addressed the
procedural aspects of condemning flowage easements for a water reservoir project, confirming that such takings are reviewable on appeal from the
judgment for damages In re Condemnation of Certain Lands in Lac Qui Parle & Chippewa Ctys., 244 Minn. 581, 69 N.W.2d 688 (1955).

Under the general provisions of Chapter 103D, watershed district projects comprise three stages: board hearings, appraisers' report, and condemnation of
property, if necessary Matter of Commissioners Ord. Denying Permit Application 93-1024, 527 N.W.2d 173 (Minn. Ct. App. 1995).

One additional consideration: the watershed district must also ensure it has a valid DNR permit application that satisfies the public interest and minimal
adverse environmental impact requirements of § 103G.407(a)(2) Minn. Stat. Ann. § 103G.407 (West).

Even with 100% flowage easements in hand, the DNR retains discretion to deny the permit if the project does not meet these
standards. Counties, municipalities, watershed districts, and lake improvement districts served with the permit application may file written
recommendations or objections within 30 days Minn. Stat. Ann. § 103G.407

From: Tammy Audette [mailto:tammy.audette@redlakewatershed.org]
Sent: Thursday, October 29, 2026 2:45 PM
To: Delray Sparby
Subject: Re: Turtle / Cross

I did not read it all, but this appears to be good news?

Tammy

Research question

in order to change lake ordinary high water mark, the DNR requires 100% of the riparian landowners to sign off or consent. If 98% of riparian landowners consent to a watershed project that will raise ordinary high water mark, can the watershed use eminent domain to meet requirements or can the two outstanding riparian landowners stop the proposed project?

Expanded report • Minnesota

Summary

Under Minnesota law, a watershed district **can** use eminent domain to acquire permanent flowage easements from the two non-consenting riparian landowners, thereby satisfying the statutory requirement that all property abutting the ordinary high-water mark (OHW) be in public ownership or subject to permanent flowage easements before the DNR will issue a permit to raise the lake's control elevation. The non-consenting landowners **cannot** ultimately stop the project if the watershed district properly exercises its eminent domain authority under Minnesota Statutes Chapter 103D, but they are constitutionally entitled to just compensation for the taking of their riparian property rights. Their primary legal protection is the right to fair compensation—not the right to veto the project.

The Statutory Framework: The 100% Requirement Under Minn. Stat. § 103G.407

The DNR's requirement that all riparian landowners sign off before a lake's OHW can be raised is grounded in Minnesota Statutes. Under Minn. Stat. § 103G.407(a), the DNR commissioner may issue a public-waters-work permit to establish a control elevation for a public water with an outlet that is different from any previously existing or established control level only when two conditions are met: (1) all of the property abutting the ordinary high-water mark of the public water is in public ownership or the public entity has obtained permanent flowage easements; and (2) the commissioner finds that the proposed change in the control level is in the public interest and causes minimal adverse environmental impact Minn. Stat. Ann. § 103G.407 (West). If the proposed control elevation differs from any historical control level, the permit applicant must also serve a copy of the application on each county and municipality within which any portion of the lake is located and on the lake improvement district, if one exists Minn. Stat. Ann. § 103G.407 (West).

The statute does not provide any exception for near-unanimous consent. The 100% threshold is absolute: every parcel abutting the OHW must either be

publicly owned or subject to a permanent flowage easement before the DNR can issue the permit. With 98% of riparian landowners having consented, the watershed district still lacks the legal predicate to obtain the DNR permit unless it acquires flowage easements from the two remaining holdouts—whether by negotiation or by eminent domain.

The ordinary high-water level is defined by statute as the boundary of water basins, watercourses, public waters, and public waters wetlands. The general measure is the elevation delineating the highest water level maintained long enough to leave evidence on the landscape, commonly where natural vegetation changes from predominantly aquatic to predominantly terrestrial; for watercourses it is the elevation of the top of the bank of the channel; and for reservoirs and flowages it is the operating elevation of the normal summer pool Minn. Stat. Ann. § 103G.005 (West).

Watershed District Eminent Domain Authority

Minnesota watershed districts possess express statutory authority to exercise eminent domain. Minn. Stat. § 103D.335, subd. 1(3) grants a watershed district the power to exercise eminent domain to the extent necessary for lawful conservation purposes, and subd. 11 further specifies that the managers may acquire by gift, purchase, taking under the procedures of the chapter, or by the power of eminent domain, necessary real and personal property Minn. Stat. Ann. § 103D.335 (West). This authority is broad enough to encompass the acquisition of permanent flowage easements from non-consenting riparian landowners for a project that raises a lake's OHW.

Minnesota Statutes § 117.012, subd. 3 confirms that the taking of property for a project undertaken by a watershed district under Chapter 103D may be carried out under the procedure provided by that chapter Minn. Stat. Ann. § 117.012 (West). Watershed districts lack general police powers and must therefore achieve their purposes through an enumerated power, as the Minnesota Court of Appeals held in Minch v. Buffalo-Red River Watershed Dist., 723 N.W.2d 483 (Minn. Ct. App. 2006). However, the express eminent domain power in § 103D.335 is precisely such an enumerated power, and it is well-suited to the acquisition of flowage easements.

The Minnesota Court of Appeals addressed watershed district eminent domain authority in the context of a lake level augmentation project in Matter of Commissioners Ord. Denying Permit Application 93-1024, 527 N.W.2d 173 (Minn. Ct. App. 1995). There, the Red Lake Watershed District sought to build a dike on state-owned land to augment water levels in Maple

Lake. The court held that for a non-drainage lake level project, the watershed district must look to Chapter 103D—not the enhanced powers of Chapter 103E (which applies to drainage projects)—for its eminent domain authority. Critically, the court also held that an affected landowner has the right to appeal a watershed district project at any stage, including the condemnation stage Matter of Commissioners Ord. Denying Permit Application 93-1024, 527 N.W.2d 173 (Minn. Ct. App. 1995). This case illustrates both the scope and the limits of watershed district eminent domain: the power exists under Chapter 103D for lake level projects, but the watershed district cannot use it to take state land over the DNR's objection because the state sits at the top of the eminent domain hierarchy Matter of Commissioners Ord. Denying Permit Application 93-1024, 527 N.W.2d 173 (Minn. Ct. App. 1995).

For private riparian landowners, however, the analysis is different. A watershed district exercising its Chapter 103D eminent domain authority may condemn flowage easements from private landowners who refuse to consent, provided the project serves a lawful conservation purpose and just compensation is paid. The Minnesota Supreme Court recognized in *State by Lord v. Anderson* that the state may condemn flowage easements upon riparian land for the purpose of creating and maintaining a reservoir for water supply and flood control State by Lord v. Anderson, 251 Minn. 401, 87 N.W.2d 839 (1958). Similarly, in *In re Condemnation of Certain Lands in Lac Qui Parle & Chippewa Counties*, the Minnesota Supreme Court addressed the procedural aspects of condemning flowage easements for a water reservoir project, confirming that such takings are reviewable on appeal from the judgment for damages In re Condemnation of Certain Lands in Lac Qui Parle & Chippewa Ctys., 244 Minn. 581, 69 N.W.2d 688 (1955).

Riparian Rights as Property Rights: The Constitutional Dimension

Minnesota law has long recognized that riparian rights are valuable property rights that cannot be taken without just compensation. The Minnesota Supreme Court stated this principle clearly in *Petraborg v. Zontelli*: riparian rights are property rights and cannot be taken away without just compensation made therefor; the state cannot do it nor authorize anyone else to do it Petraborg v. Zontelli, 217 Minn. 536, 15 N.W.2d 174 (1944). This protection flows directly from Minn. Const. Art. 1, § 13, which provides that private property shall not be taken, destroyed, or damaged for public use without just compensation therefor, first paid or secured Minn. Const. art. I, § 13.

The nature of riparian rights in relation to the OHW is critical to understanding what compensation is owed. Under longstanding Minnesota

law, a riparian owner's title on navigable or public waters extends to the ordinary low-water mark, but the title is not absolute except to the ordinary high-water mark Carpenter v. Bd. of Comm'rs of Hennepin Cnty., 56 Minn. 513, 58 N.W. 295 (1894). As to the intervening space between low-water mark and high-water mark, the title of the riparian owner is qualified or limited by the public right Carpenter v. Bd. of Comm'rs of Hennepin Cnty., 56 Minn. 513, 58 N.W. 295 (1894). This means the state may raise water to the ordinary high-water mark without compensation—such damages are *damnum absque injuria* (injury without legal remedy) Minn. Op. Att'y Gen. 273A-23 (1937) 1924 WL 2142442 (Minn. A.G. May 27, 1924).

However, when a project raises water **above** the ordinary high-water mark, the riparian owner is entitled to compensation. The Minnesota Supreme Court held in *Greenwood v. Evergreen Mines Co.* that riparian owners are entitled to have the lake level remain at its natural high-water mark, and anyone obstructing or interfering with the natural flow of waters so as to raise the water level above high-water mark is liable for the resulting damages Greenwood v. Evergreen Mines Co., 220 Minn. 296, 19 N.W.2d 726 (1945). The Minnesota Supreme Court further confirmed in *Nelson v. Wilson* that lands above a dam were taken up to elevation 104 where the standing water caused flooding to elevation 102 and percolation continuously soaked the soil to elevation 104 for a duration that destroyed its farming value, entitling the landowner to just compensation Nelson v. Wilson, 239 Minn. 164, 58 N.W.2d 330 (1953).

Because the watershed project in question is specifically designed to **raise** the OHW—not merely restore it to its natural level—the project will necessarily affect the property rights of all abutting riparian landowners above the existing OHW. The two non-consenting owners' riparian rights above the current OHW constitute compensable property interests. Under Petraborg v. Zontelli, 217 Minn. 536, 15 N.W.2d 174 (1944) and Minn. Const. Art. 1, § 13 Minn. Const. art. I, § 13, those interests must be acquired through eminent domain before the project may proceed. The statutory mechanism for satisfying this constitutional requirement is the acquisition of permanent flowage easements, which is also the prerequisite for the DNR permit under § 103G.407(a)(1) Minn. Stat. Ann. § 103G.407 (West).

Can the Two Non-Consenting Landowners Stop the Project?

The two non-consenting riparian landowners cannot permanently stop the project if the watershed district properly exercises its eminent domain authority, but they have meaningful procedural rights to challenge the taking

and ensure just compensation.

The Statutory Appeal Process. Minn. Stat. § 103D.535 provides that any party, alone or jointly, may appeal to the district court or to the Board of Water and Soil Resources an order of the managers made in a proceeding relating to a project and entered in the watershed district's record that determines the amount of benefits, the amount of damages, the allowance of fees or expenses, a matter affecting a substantial right, or an order authorizing or refusing to establish a project in whole or in part Minn. Stat. Ann. § 103D.535 (West). The Minnesota Supreme Court held in *Adelman v. Onischuk* that landowners who could have challenged a watershed district project through the Watershed Act's appeal provisions are not entitled to seek injunctive relief to bar the project Adelman v. Onischuk, 271 Minn. 216, 135 N.W.2d 670 (1965). The court emphasized that a person who believes constitutional rights are being violated must raise the objection at the earliest available opportunity and exhaust available remedies before attacking the project in equity Adelman v. Onischuk, 271 Minn. 216, 135 N.W.2d 670 (1965).

Injunctive Relief as a Limited Remedy. The non-consenting landowners' ability to obtain an injunction to stop the project is limited. Under *Adelman*, if the watershed district follows proper procedures—including initiating condemnation proceedings and offering just compensation—the landowners cannot use equity to halt the project. However, *Petraborg v. Zontelli* establishes that where proposed operations threaten a taking of riparian rights without condemnation proceedings, injunctive relief is appropriate Petraborg v. Zontelli, 217 Minn. 536, 15 N.W.2d 174 (1944). The Minnesota Supreme Court in *Petraborg* affirmed a permanent injunction against a private party whose proposed drainage, for which no condemnation proceedings had been commenced, threatened a continuing trespass on plaintiffs' riparian rights and entitled them to injunctive relief Petraborg v. Zontelli, 217 Minn. 536, 15 N.W.2d 174 (1944). The secondary source *20A3 Minn. Prac., Business Law Deskbook § 25:2* confirms that blocking an outlet of a lake so as to raise the water level above the high-water mark and flood abutting properties constitutes a trespass 20A3 Minn. Prac., Business Law Deskbook § 25:2.

The practical implication is this: if the watershed district attempts to proceed with the project without first completing condemnation proceedings against the two non-consenting owners, those owners could obtain an injunction. But if the watershed district properly initiates condemnation under Chapter 103D, the non-consenting owners' remedy is just compensation, not a veto over the project.

The DNR Permit as a Gatekeeper. There is an additional practical constraint. The commissioner may issue the permit only when all property

abutting the ordinary high-water mark is in public ownership or the public entity has obtained permanent flowage easements, and the commissioner makes the findings required by § 103G.407(a)(2) Minn. Stat. Ann. § 103G.407 (West). This means the project cannot legally proceed until the condemnation of the two holdout parcels is complete and the flowage easements are secured. The two non-consenting landowners thus have a de facto ability to delay the project until the condemnation process runs its course—but they cannot prevent the project from ultimately proceeding if the watershed district has the legal authority and resources to complete the condemnation.

Practical Implications

The watershed district's path forward is clear but requires completing the eminent domain process under Chapter 103D before the DNR permit can be obtained. The district must initiate condemnation proceedings against the two non-consenting landowners, have appraisers determine the fair market value of the flowage easements to be acquired, and pay or secure just compensation before proceeding. The non-consenting landowners are entitled to challenge the amount of compensation through the statutory appeal process and may contest the scope of the easement being taken. They may also challenge whether the project serves a lawful conservation purpose, though watershed district projects are generally presumed to serve the public interest when properly authorized under Chapter 103D.

The watershed district should be aware that it cannot use the enhanced eminent domain procedures of Chapter 103E (the Drainage Code) for a lake level augmentation project that is not a drainage project, as the Minnesota Court of Appeals made clear in Matter of Commissioners Ord. Denying Permit Application 93-1024, 527 N.W.2d 173 (Minn. Ct. App. 1995). Under the general provisions of Chapter 103D, watershed district projects comprise three stages: board hearings, appraisers' report, and condemnation of property, if necessary Matter of Commissioners Ord. Denying Permit Application 93-1024, 527 N.W.2d 173 (Minn. Ct. App. 1995).

One additional consideration: the watershed district must also ensure it has a valid DNR permit application that satisfies the public interest and minimal adverse environmental impact requirements of § 103G.407(a)(2) Minn. Stat. Ann. § 103G.407 (West). Even with 100% flowage easements in hand, the DNR retains discretion to deny the permit if the project does not meet these standards. Counties, municipalities, watershed districts, and lake improvement districts served with the permit application may file written recommendations or objections within 30 days Minn. Stat. Ann. § 103G.407

(West).

Recent Developments

The Minnesota Supreme Court's 2025 decision in Keystone Twp. v. Red Lake Watershed Dist., 20 N.W.3d 612 (Minn. 2025) reflects the continuing vitality and broad scope of watershed district authority under Chapter 103D. The court held that a watershed district may conduct improvement proceedings over a drainage ditch under a county's drainage authority without first taking over control of that ditch, and that the watershed district was not required to strictly comply with the drainage code when conducting improvements. While this case addressed drainage rather than lake level projects, it signals the Minnesota Supreme Court's continued deference to watershed district authority to manage water resources within their statutory mandate.

Related Issues

- Whether the watershed district's project qualifies as a lawful conservation purpose under Minn. Stat. § 103D.335, subd. 1, which is a prerequisite to exercising eminent domain authority
- The scope and valuation of permanent flowage easements to be acquired through condemnation, including how to measure damages when the OHW is being raised above its natural level
- Whether the two non-consenting landowners could challenge the project on environmental grounds under the Minnesota Environmental Rights Act (MERA), Minn. Stat. Ch. 116B, which allows citizens to sue to protect natural resources from impairment
- The potential applicability of Minn. Stat. § 103G.551 (dams used only for water level regulation), which provides that where a dam has existed for 15 years and affected water levels, abutting property owners may be presumed to have dedicated a perpetual flowage easement to the state—a provision that could affect the scope of compensation owed in future disputes

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BEFORE THE PENNINGTON-RED LAKE COUNTY JOINT BOARD OF COMMISSIONERS ACTING AS DRAINAG AUTHORITY FOR JUDICIAL DITCH #1

Notice of Public Hearing

Regarding Judicial Ditch #1

NOTICE IS HEREBY GIVEN that the Pennington-Red Lake County Joint Board of Commissioners, acting as Drainage Authority for Judicial Ditch No. 1, will hold a public hearing on Thursday, November 12th, 2026, at 1:00 p.m. in the Penington County Justice Center – County Board Room, 141 Main Ave S., Thief River Falls, MN 56701. The purpose of the meeting is to review a petition for improvement to a portion of the ditch system.

The names of the owners of the lands that are affected by said drainage system are as follows, to wit:

RED LAKE COUNTY

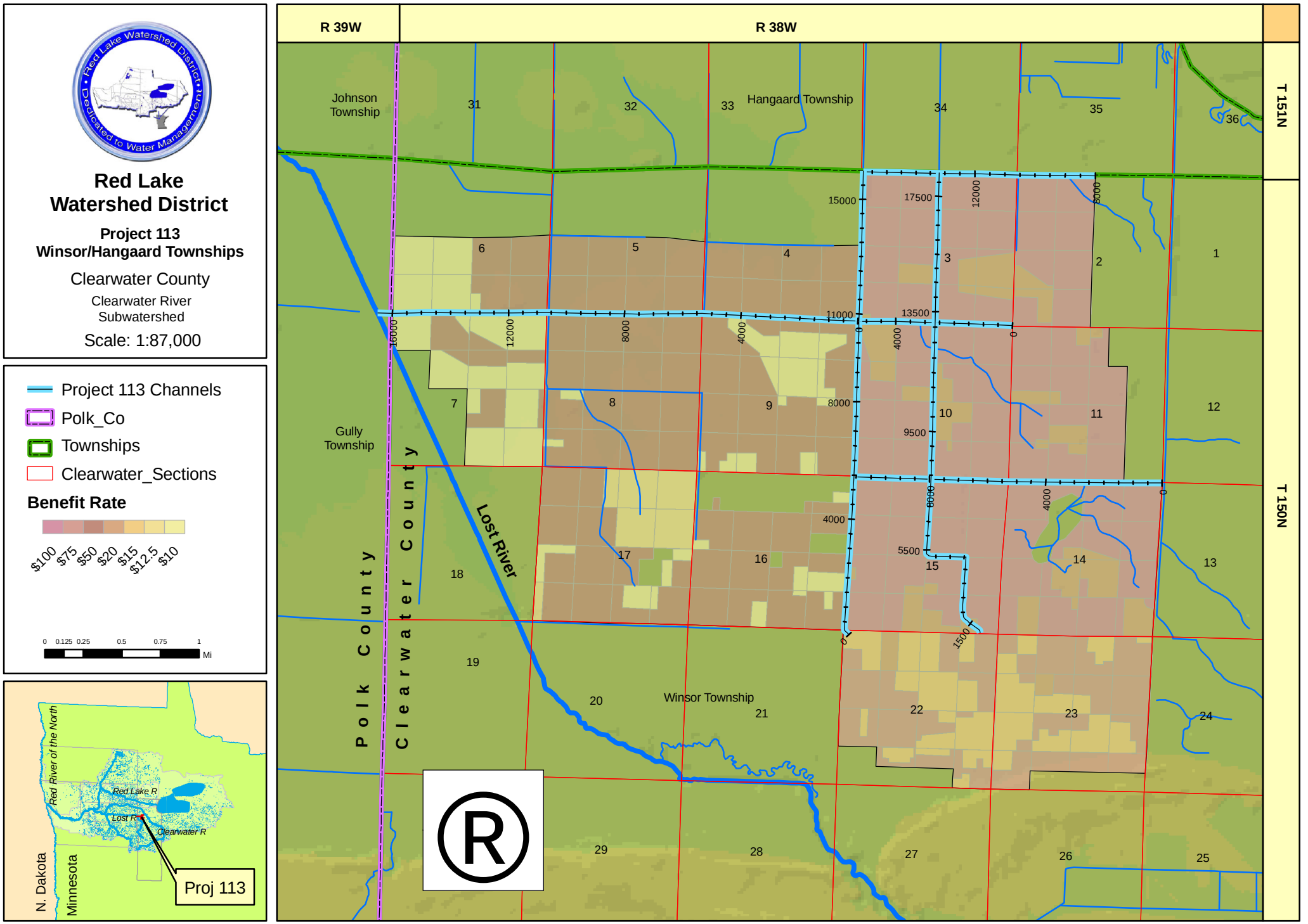
JENNIFER AINSWOTH, SANDEE AWALT, THOMAS BARTH, DARWIN BOUTAIN, CASEY BREKKE & KAYLA (GILBERTSON) BREKKE, ALAN BRUGGEMAN, RICHARD & HEATHER CHARPENTIER, GLENN & MARGARET DELUDE, DELANE & SUSAN DUDYCHA, EQUALITY TOWNSHIP, JOSHUA FOSSAND ETAL, GARNES TOWNSHIP, BRIAN GREEN, GUNVALSON BROTHERS LLLP, SCOTT & NICOLE HILGEMAN, RENE HOFSTAD, CHARLIE & LORA JOHNSON REVOCABLE LIVING TRUST, CHARLIE JOHNSON JR., JARROD & AMANDA JOHNSON, KAM FARMLAND HOLDING GP, BENJAMIN LINDER, STEVEN & DONNA LINDER IRREV TRUST, CAMERON & RYLEE LUNDEEN, CHAD & MARY LUNDEEN, TYLER & KRISTA LUNDEEN, RANDALL T POTTHOFF TRUSTEE, RICHARD & JUDITH REGER, SIDNEY & HEDWIG REINDAHL, CLARA RUSTAN & ROBERT ROGALLA, ERROL RUSTAN, ERROL & GERALDINE RUSTAN, RICHARD & DEBRA SALENTINY, CLARENCE SLETTEN, STENBERG BROS. INC, D. JEFFREY STENBERG ETAL, LORETTA SYRTVEIT LIFE ESTATE, DILLAN WEBER

All interested property owners and persons affected by the proposed action are encouraged to attend and be heard. If there are any questions concerning the petition please call the Pennington County Engineer, Mike Flaagan at 218-683-7017.

Kelsey Gervais

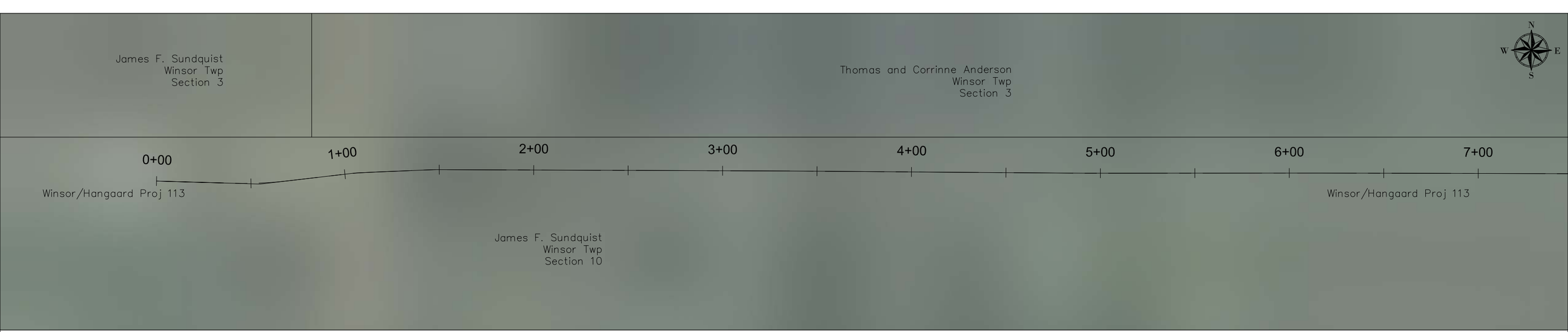
Kelsey Gervais
Red Lake County Auditor

COPY


Red Lake Watershed District
Dedicated to Water Management
Red Lake Watershed District
Project 113
Winsor/Hangaard Townships
Clearwater County
Clearwater River Subwatershed
Scale: 1:87,000
Project 113 Channels
Polk_Co
Townships
Clearwater_Sections
Benefit Rate
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Red Lake R
Lost R
Clearwater R
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Minnesota
Proj 113
R 39W
R 38W
T 151N
T 150N
Johnson Township
Hangaard Township
Gully Township
Winsor Township
Polk County
Clearwater County
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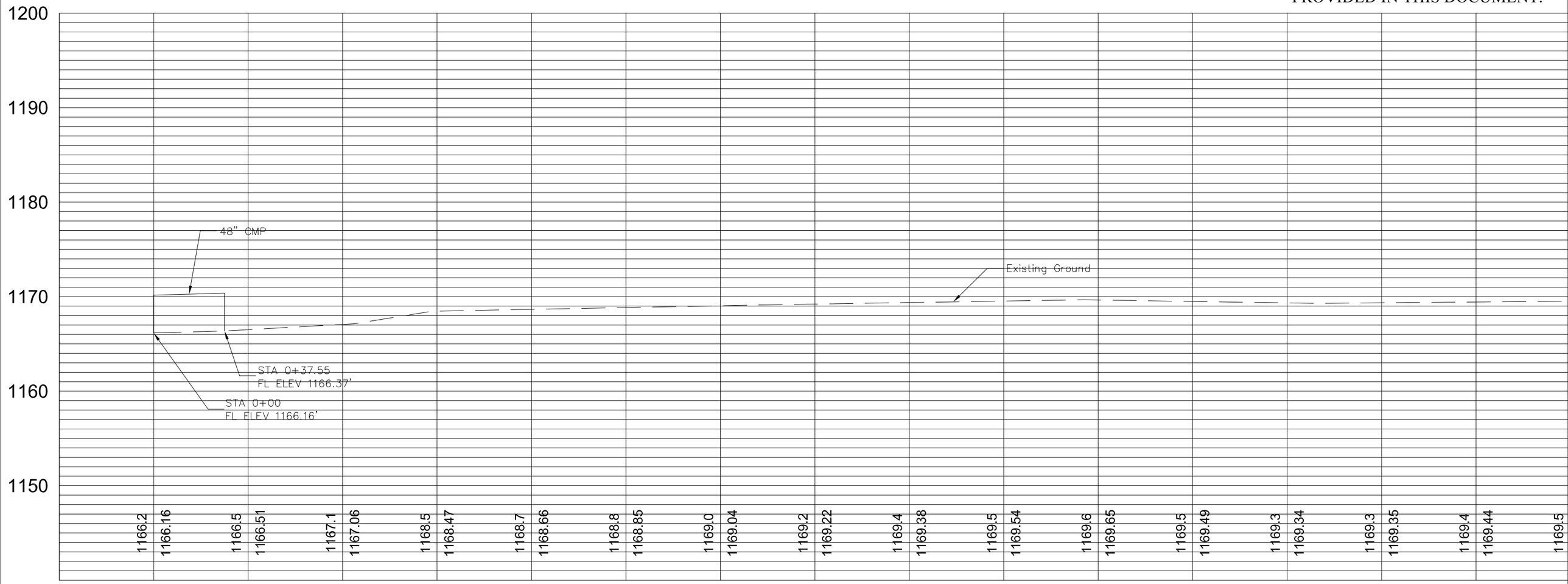
James F. Sundquist
Winsor Twp
Section 3

Thomas and Corrinne Anderson
Winsor Twp
Section 3



James F. Sundquist
Winsor Twp
Section 10

DISCLAIMER: THE RED LAKE WATERSHED SHALL NOT BE HELD LIABLE FOR THE INFORMATION PROVIDED IN THIS DOCUMENT.



Thomas and Corrinne Anderson
Winsor Twp
Section 3

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8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00

Winsor/Hangaard Proj 113

Winsor/Hangaard Proj 113

James F. Sundquist
Winsor Twp
Section 10

DISCLAIMER: THE RED LAKE WATERSHED SHALL NOT BE HELD LIABLE FOR THE INFORMATION PROVIDED IN THIS DOCUMENT.

Clean to daylight at Station 14+03.22
at Elevation 1170.63'

Existing Ground

Designed Ground

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1169.52	1169.61	1169.73	1169.95	1170.16	1170.38	1170.44	1170.49	1170.32	1170.12	1169.98	1170.19	1170.41	1170.62	1170.81	1171.00	1171.25

Thomas and Corrinne Anderson
Winsor Twp
Section 3

16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00

Winsor/Hangaard Proj 113

Winsor/Hangaard Proj 113

James F. Sundquist
Winsor Twp
Section 10

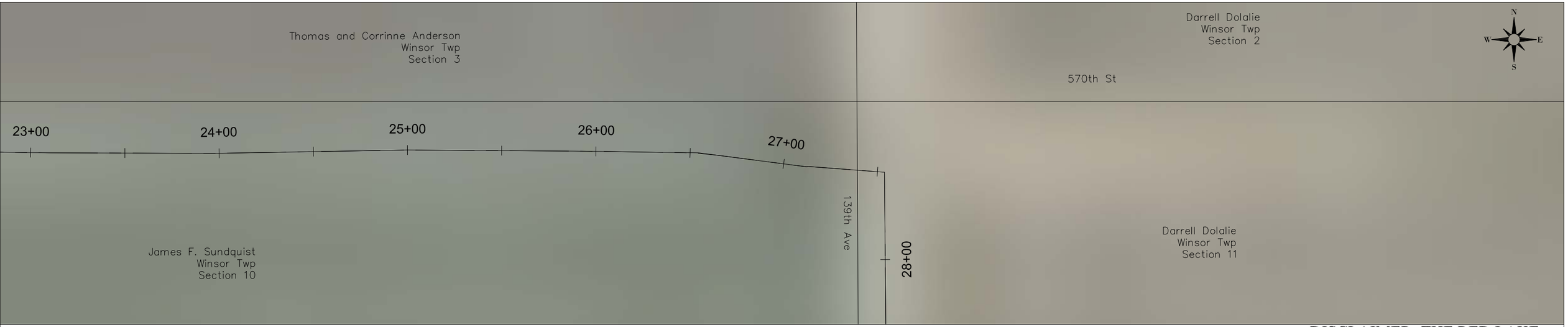
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Existing Ground

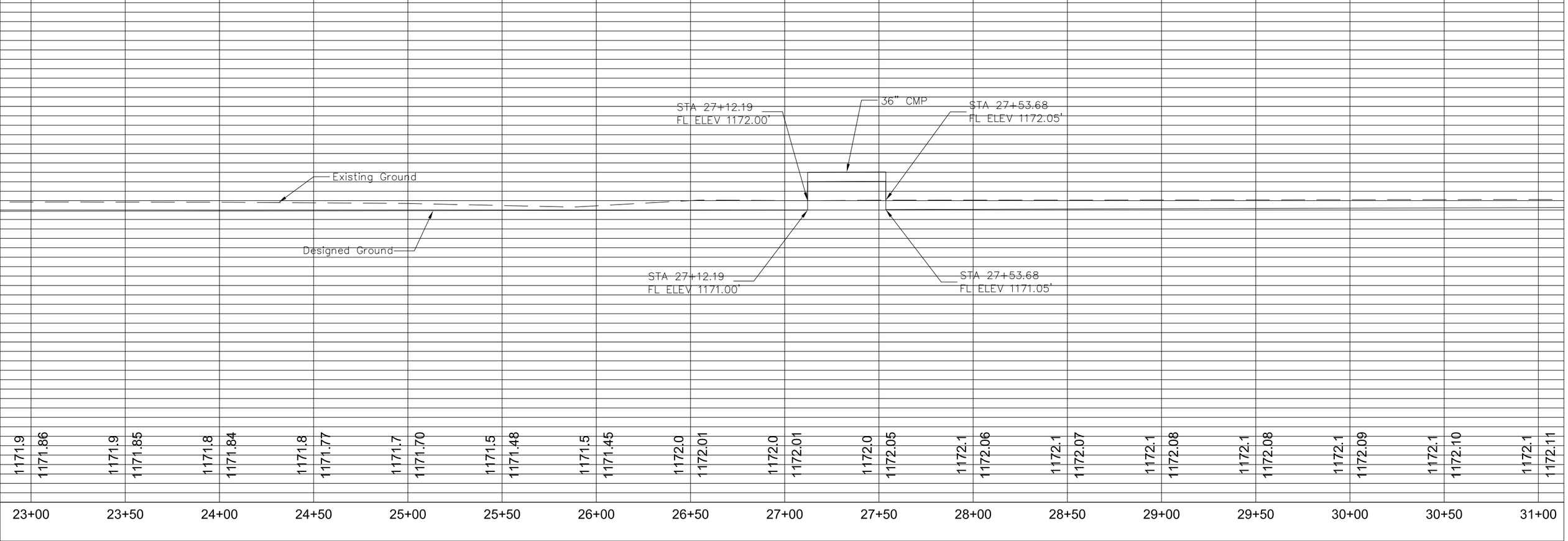
Designed Ground

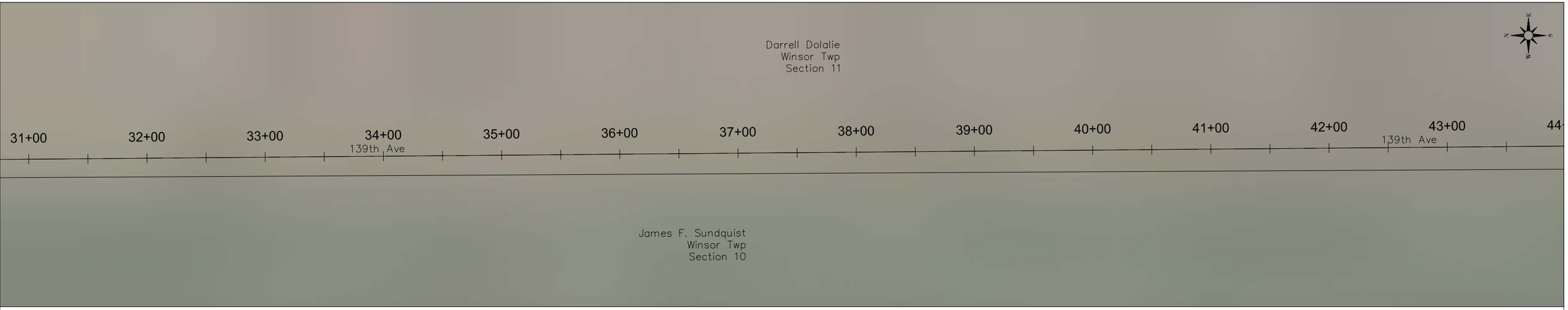
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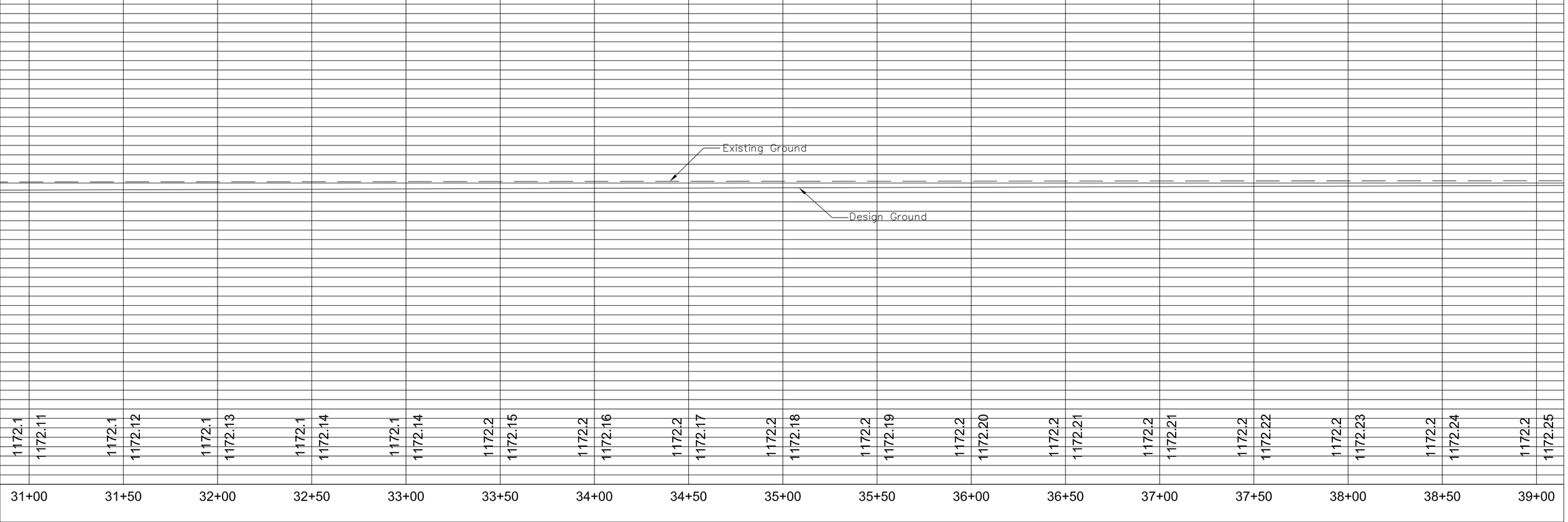


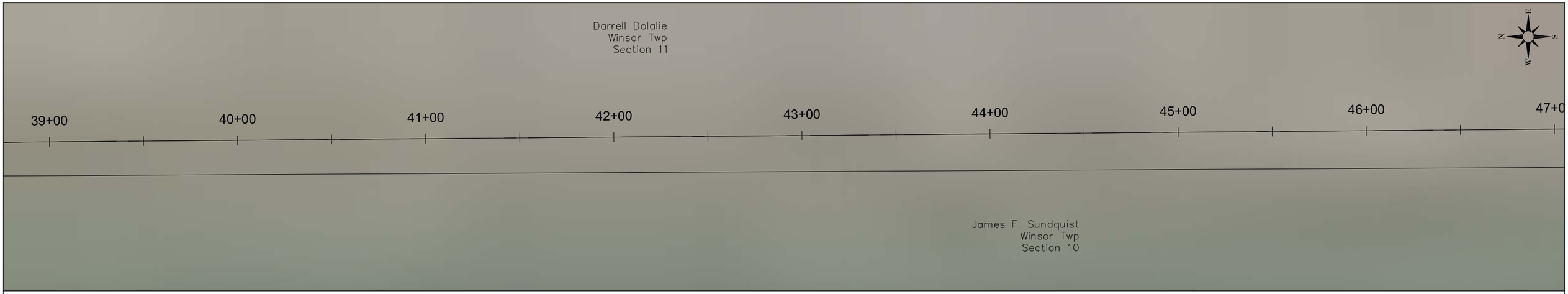
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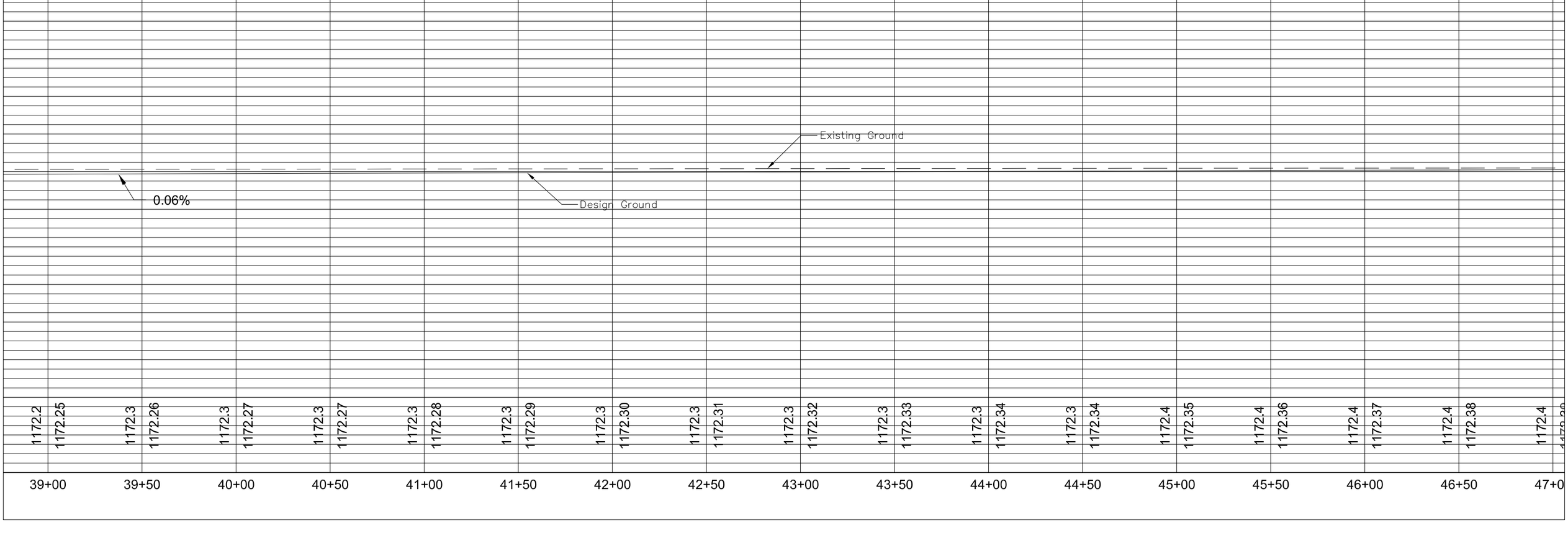


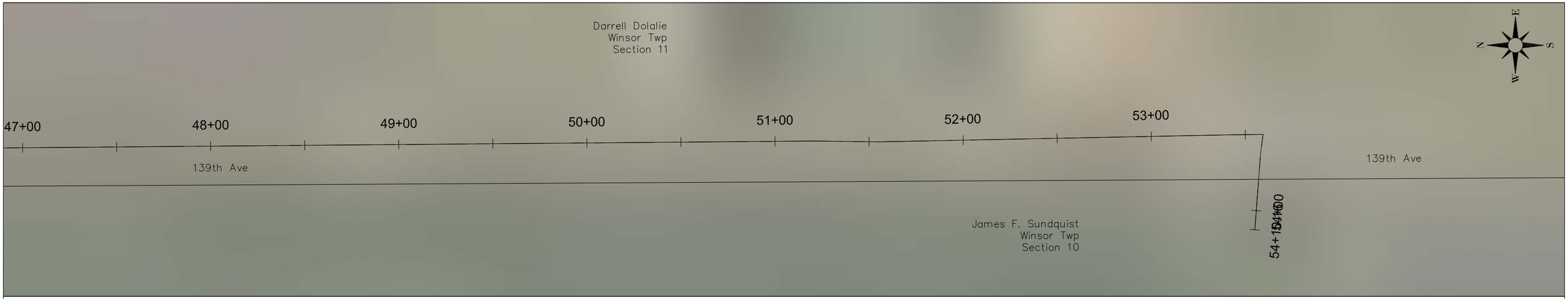
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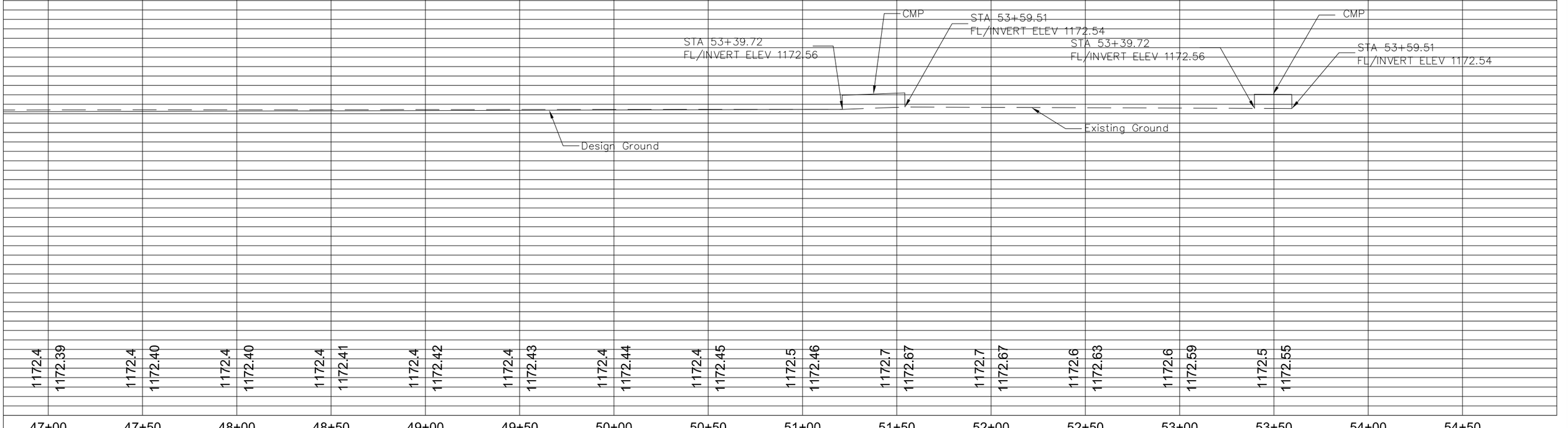


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DISCLAIMER: THE RED LAKE WATERSHED SHALL NOT BE HELD LIABLE FOR THE INFORMATION PROVIDED IN THIS DOCUMENT.



Red Lake Watershed District

Permit # 26-106

Status Report: Withdrawn

Expiration:

Applicant Information

Name	Organization	Address	Email	Phone Number(s)
Alex Hinrichs		13314 150TH St SE Red Lake Falls,MN 56750	ajandjessica@hotmail.com	tel: 218-686-0030

General Information

(1) The proposed project is a: **Channel Stabilization or Restoration\, Erosion Control\, and Other Water Related Facilities,**

(2) Legal Description

(3) County: **Pennington** Township: **River Falls** Range: **43** Section: **19**

(4) Describe in detail the work to be performed: plugged ditch, need to clean silt out for better drainage

(5) Why is this work necessary? Explain water related issue/problem being solved. **better drainage**

Status

Status	Notes	Date
Withdrawn	The Red Lake Watershed District (RLWD) Withdraws this permit due to not being able to clean a ditch according to the benefited areas and the water that would get re-routed would interfere with the established benefitted areas that are in this location. Applicant has been notified.	11/10/2026
Received		08/27/2026

Conditions

NOTE: This permit does not relieve the applicant of any requirements for other permits which may be necessary from Township, County, State, or Federal Government Agencies.

- Work in road right-of-way is subject to approval of road authority (Township, County, or State).
- For work within Legal drainage system right-of-way or RLWD Project Easement Areas, applicant agrees to move their utilities at their own expense if it is determined that the utility needs to be moved in the future by the RLWD.
- Unless otherwise noted, all approved permit applications expire one year from the date of board approval. A permit renewal can be applied for prior to the expiration date by contacting the district office.
- This Permit does not relieve you of any requirements for other permits, which may be necessary from Township, County, State, or Federal Government Agencies.
- Please be aware of the requirements of the Rules of the District, found on our web-site at http://www.redlakewatershed.org/PDF_Files/RED%20LAKE%20WATERSHED%20DISTRICT%20RULES_Adopted%208-27-15.pdf

#26106


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Red Lake Watershed District

Project 161

Ditch 10

Red Lake County

Red Lake River Subwatershed

Scale: 1:45,000

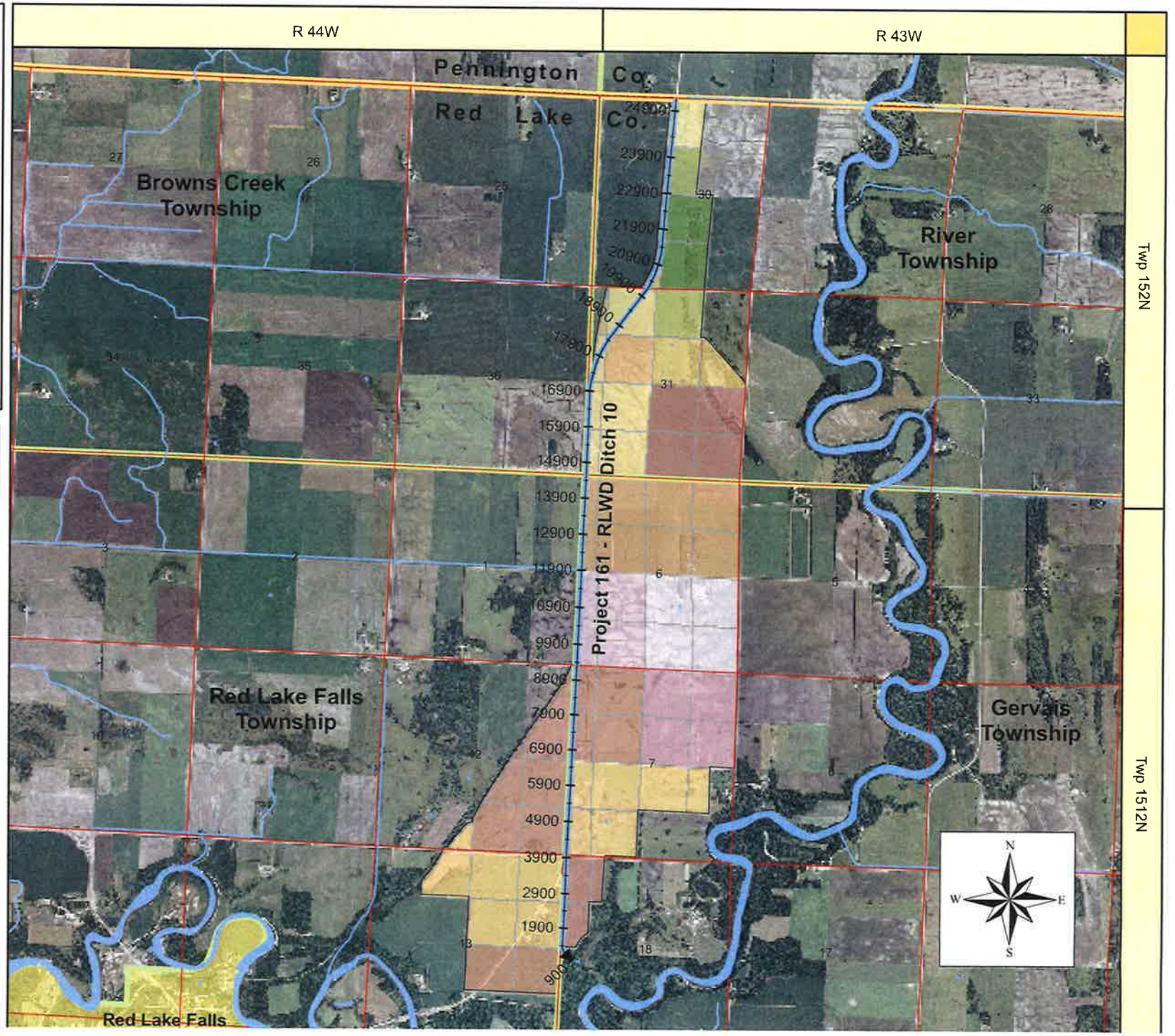
- Ditch 10
- Streams
- RedLakeCo_sections
- Townships

Benefit Rate

$57.60 $72.00 $75.60 $82.80 $90.00 $93.60 $99.00 $100.80 $104.40 $106.20 $108.00 $111.60 $113.40 $115.20

0 0.15 0.3 0.6 0.9 1.2 Mi





Red Lake Watershed District

Permit # 26-110

Status Report: Approved

Expiration:11/09/2027

Applicant Information

Name	Organization	Address	Email	Phone Number(s)
Jared Peterick	Owner	16881 170th Ave NE Thief River Falls,MN 56701	jared@nwamaintenance.com	tel: 701-361-9263

General Information

(1) The proposed project is a: **Tiling,Culvert Installation / Removal / Modification,Surface Drainage (New Ditch or Improvement),**

(2) Legal Description

(3) County: **Pennington** Township: **North** Range: **43** Section: **36**

(4) Describe in detail the work to be performed: Private drainage.

(5) Why is this work necessary? Explain water related issue/problem being solved. **Flooding our shop**

Status

Status	Notes	Date
Approved	The Red Lake Watershed District (RLWD) approves maintaining ditches and seeking assistance from a drain tile company to assist in drainage, and applicant will fill out a new tile drainage permit if they decide to install drain tile. RLWD staff has conducted a survey. If any work is within a public road and/or public ditch Right-of-Way, applicant shall contact the appropriate road/ditch authority for their approval and must meet their specs/conditions. Note: Please be aware of and review the 'bullet points' on the bottom half of the application. This application does not exempt the permit applicant from local, state, or federal authority that might require their approval. If any of the work is done near adjacent wetlands or public watercourse, applicant shall contact the appropriate jurisdictional authority prior to the installation of the tile lines and meet their spec's/conditions. Applicant is responsible for utility locates by calling Gopher 1. (1-800-252-1166)	11/09/2026
Received		08/31/2026

Conditions

NOTE: This permit does not relieve the applicant of any requirements for other permits which may be necessary from Township, County, State, or Federal Government Agencies.

- Work in road right-of-way is subject to approval of road authority (Township, County, or State).
- For work within Legal drainage system right-of-way or RLWD Project Easement Areas, applicant agrees to move their utilities at their own expense if it is determined that the utility needs to be moved in the future by the RLWD.
- Unless otherwise noted, all approved permit applications expire one year from the date of board approval. A permit renewal can be applied for prior to the expiration date by contacting the district office.
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Red Lake Watershed District

Permit # 26-139

Status Report: Approved

Expiration:11/09/2027

Applicant Information

Name	Organization	Address	Email	Phone Number(s)
John Burthwick	Red Lake County highway department	204 7 th st southeast Red lake falls,MN 56701	jburthwick@co.red-lake.mn.us	tel: 218-686-2953

General Information

(1) The proposed project is a: **Other,**

(2) Legal Description

(3) County: **Red Lake** Township: **Browns Creek** Range: **44** Section: **31**

(4) Describe in detail the work to be performed: replacing with like size culvert 18" culvert length 50'

(5) Why is this work necessary? Explain water related issue/problem being solved. **culvert has failed**

Status

Status	Notes	Date
Approved	The Red Lake Watershed District (RLWD) approves to replace a failed 18" culvert with a new 18" culvert. Install culvert at the current inverts. If any work is within a public road and/or public ditch Right-of-Way, applicant shall contact the appropriate road/ditch authority for their approval and must meet their specs/conditions. Directly downstream of the culvert applicant shall ensure that adequate grade and drainage is provided. Applicant shall install appropriate erosion control measures for energy dissipation at the tile/culvert outlet(s) to prevent erosion when applicable. Applicant shall install black dirt and re-seed any disturbed land with approved MNDOT seed mixtures. Note: Please be aware of and review the 'bullet points' on the bottom half of the application. This application does not exempt the permit applicant from local, state, or federal authority that might require their approval. Applicant is responsible for utility locates by calling Gopher 1. (1-800-252-1166)	11/09/2026
Received		10/14/2026

Conditions

NOTE: This permit does not relieve the applicant of any requirements for other permits which may be necessary from Township, County, State, or Federal Government Agencies.

- Work in road right-of-way is subject to approval of road authority (Township, County, or State).
- For work within Legal drainage system right-of-way or RLWD Project Easement Areas, applicant agrees to move their utilities at their own expense if it is determined that the utility needs to be moved in the future by the RLWD.
- Unless otherwise noted, all approved permit applications expire one year from the date of board approval. A permit renewal can be applied for prior to the expiration date by contacting the district office.
- This Permit does not relieve you of any requirements for other permits, which may be necessary from Township, County, State, or Federal Government Agencies.
- Please be aware of the requirements of the Rules of the District, found on our web-site at http://www.redlakewatershed.org/PDF_Files/RED%20LAKE%20WATERSHED%20DISTRICT%20RULES_Adopted%208-27-15.pdf

Red Lake Watershed District

Permit # 26-140

Status Report: Approved

Expiration:11/09/2027

Applicant Information

Name	Organization	Address	Email	Phone Number(s)
Brad Berg	Field Drainage	38039 240th Ave NE Middle River,MN 56737	bkberg83@gmail.com	tel: 218-689-3369

General Information

(1) The proposed project is a: **Tiling,**

(2) Legal Description

(3) County: **Marshall** Township: **Thief Lake** Range: **41** Section: **32**

(4) Describe in detail the work to be performed: Pattern tile the Northwest quarter and the West half of the Southwest quarter of Section 32 in Middle River Township.

(5) Why is this work necessary? Explain water related issue/problem being solved. **To decrease erosion and increase yields.**

Status

Status	Notes	Date
Approved	The Red Lake Watershed District (RLWD) approves to install drain tile with a pumped outlet. If any work is within a public road and/or public ditch Right-of-Way, applicant shall contact the appropriate road/ditch authority for their approval and must meet their specs/conditions. Directly downstream of the culvert and or Tile outlet, applicant shall ensure that adequate grade and drainage is provided. Applicant shall install appropriate erosion control measures for energy dissipation at the tile outlet(s) to prevent erosion. Applicant shall install black dirt and re-seed any disturbed land with approved MNDOT seed mixtures. Note: Please be aware of and review the 'bullet points' on the bottom half of the application. This application does not exempt the permit applicant from local, state, or federal authority that might require their approval. Applicant is responsible for utility locates by calling Gopher 1. (1-800-252-1166)	11/09/2026
Received		10/14/2026

Conditions

NOTE: This permit does not relieve the applicant of any requirements for other permits which may be necessary from Township, County, State, or Federal Government Agencies.

- Work in road right-of-way is subject to approval of road authority (Township, County, or State).
- For work within Legal drainage system right-of-way or RLWD Project Easement Areas, applicant agrees to move their utilities at their own expense if it is determined that the utility needs to be moved in the future by the RLWD.
- Unless otherwise noted, all approved permit applications expire one year from the date of board approval. A permit renewal can be applied for prior to the expiration date by contacting the district office.
- This Permit does not relieve you of any requirements for other permits, which may be necessary from Township, County, State, or Federal Government Agencies.
- Please be aware of the requirements of the Rules of the District, found on our web-site at http://www.redlakewatershed.org/PDF_Files/RED%20LAKE%20WATERSHED%20DISTRICT%20RULES_Adopted%208-27-15.pdf

Red Lake Watershed District

Permit # 26-143

Status Report: Approved

Expiration:11/09/2027

Applicant Information

Name	Organization	Address	Email	Phone Number(s)
Ted Bowen		23636 State Hwy 92 SE Brooks,MN 56715	teddbow77@gmail.com	tel: 218-688-3202

General Information

(1) The proposed project is a: **Surface Drainage (New Ditch or Improvement),Culvert Installation / Removal / Modification,**

(2) Legal Description

(3) County: **Red Lake** Township: **Emardville** Range: **42** Section: **35**

(4) Describe in detail the work to be performed: Install a culvert for a new crossing

(5) Why is this work necessary? Explain water related issue/problem being solved. **access to property and water drainage**

Status

Status	Notes	Date
Approved	The Red Lake Watershed District (RLWD) approves to install an 18" culvert to assist in drainage and create a turnaround for the snow plows in the winter. RLWD staff has conducted a survey. Contact them for drawing notes. Install culvert at the current inverts. If any work is within a public road and/or public ditch Right-of-Way, applicant shall contact the appropriate road/ditch authority for their approval and must meet their specs/conditions. Directly downstream of the culvert applicant shall ensure that adequate grade and drainage is provided. Applicant shall install appropriate erosion control measures for energy dissipation at the tile/culvert outlet(s) to prevent erosion when applicable. Applicant shall install black dirt and re-seed any disturbed land with approved MNDOT seed mixtures. Note: Please be aware of and review the 'bullet points' on the bottom half of the application. This application does not exempt the permit applicant from local, state, or federal authority that might require their approval. Applicant is responsible for utility locates by calling Gopher 1. (1-800-252-1166)	11/09/2026
Received		10/27/2026

Red Lake Watershed District

Permit # 26-149

Status Report: Approved

Expiration:11/10/2027

Applicant Information

Name	Organization	Address	Email	Phone Number(s)
Camron Herriman	Clearwater County Highway Department	113 7th Street NE Bagley,MN 56621	Camron.Herrriman@clearwatercountymn.gov	tel: 218-694-6132

General Information

(1) The proposed project is a: **Bridge Installation / Removal / Modification,Culvert Installation / Removal / Modification,Surface Drainage (New Ditch or Improvement),Channel Stabilization or Restoration\, Erosion Control\, and Other Water Related Facilities,**

(2) Legal Description

(3) County: **Clearwater** Township: **Eddy** Range: **38** Section: **1**

(4) Describe in detail the work to be performed: The work to be performed is to remove an existing bridge that is narrow for the amount of traffic that crosses it, as well as deteriorating with age. The bridge is rated below the acceptable threshold for a Minnesota bridge. Work to be performed will include the removal of trees, grading of slopes, definition of ditches and installation of a box culvert. Culvert size is going to be 14'x9'x92' Barrel length with two 18' aprons. The size of the culvert is necessary to meet both the state aid standard and the MNDOT design standard to address head water and overtopping of the roadway. MN DNR has also been involved in the design process of this culvert e, ensuring proper flow and silting of the bottom.

(5) Why is this work necessary? Explain water related issue/problem being solved. **The work is necessary to make the roadway safer for motorist by widening the road above the culvert/ bridge area. The elevation of the roadway will be brought up to increase the line of sight through the low area over the culvert. The deteriorating bridge is in need of replacement as the current state of the bridge is slowly getting worse.**

Status

Status	Notes	Date
Approved	The Red Lake Watershed District (RLWD) approves the Bridge replacement project located south and west of Clearbrook. Plan sets attached to the permit have been provided. If any work is within a public road and/or public ditch Right-of-Way, applicant shall contact the appropriate road/ditch authority for their approval and must meet their specs/conditions. Applicant shall re-seed any disturbed land with approved seed mixtures. *Note: Please be aware of and review the 'bullet points' on the bottom half of the application. This application does not exempt the permit applicant from local, state, or federal authority that might require their approval. If any of the work is done near adjacent wetlands or public watercourse, applicant shall contact the appropriate jurisdictional authority prior to the installation of the tile lines and meet their spec's/conditions. Applicant is responsible for utility locates by calling Gopher 1. (1-800-252-1166)	11/10/2026
Received		11/05/2026

River Watch Jackets

Name	School	Small	Medium	Large	Extra Large	2X Large	3XL
Peyton Dingman	Clearbrook-Gonvick		1	1	1		
Paul Nelson	Red Lake County Central	5	3	1			
Jason Kenfield	Red Lake Falls		2	1	1		
Brad Hubred	Win-E-Mac	1	1		1		
Erin Wayne	Thief River Falls	1	2	3	2	1	1

Small to Extra Large = $52.00 2XL and up =$54.00

School	# of Jackets	Dollar Amount
Clearbrook-Gonvick	3	$156.00
Red Lake County Central	10	$520.00
Red Lake Falls	4	$208.00
Win-E-Mac	3	$156.00
Thief River Falls (Lincoln)	10	$524.00
Total	31	$1564.00

Summary:

I contacted Pages Country Creations to get a quote for the jackets. She let me know that small to extra-large sizes were $52 per coat, while sizes 2XL and larger were $54. We will need 31 coats in total, roughly $1564.00.

MINNESOTA PAID (FAMILY & MEDICAL) LEAVE POLICY 11/09/26

Minnesota Paid Leave (MPL) provides eligible employees with partial wage replacement and job protection for time off to care for yourself or your family. MPL is an unpaid leave from the RLWD. MPL benefits are provided to employees through the Minnesota state paid leave plan. This means that paid leave benefits will be paid by the state to employees, directly. This also means that the state will determine whether or not an employee qualifies for MPL.

MPL is funded through premiums, which are set by the State each year. The RLWD approved paying 100% of the premium beginning January 1, 2026, with the option to evaluate future funded premiums annually.

While on a MPL qualified leave, employees will receive a percentage of their normal weekly wages, up to the maximum weekly benefit set by the state. To apply for benefits, employees must apply through the state's website at: www.paidleave.mn.gov or contact the state at 1-651-556-7777 or 1-844-556-0444 (toll free). The RLWD Paid Leave Administrator is the Accounting Officer.

Eligibility:
To be eligible for MPL, an employee must meet a minimum earnings threshold set by the state and perform at least 50% of their work in Minnesota or live in Minnesota.

Types and Amount of Leave:
MPL provides two types of leave:
• Medical Leave (up to 12 weeks per benefit year): For an employee's own serious health condition, including care related to pregnancy, childbirth, and recovery.
• Family Leave (up to 12 weeks per benefit year): For bonding with a new child (birth, adoption, foster), caring for a family member with a serious health condition, addressing certain safety needs (domestic violence, sexual assault, stalking), or qualifying military exigency.

A family member includes an employee's spouse or partner, child (biological, adopted, step, or foster child or a child an employee raises even if not legally related), parent or person who raised the employee, sibling, grandchild or grandparent, in-laws (son, daughter, father or mother) and anyone close to the employee who depends on the employee like family.

In order to qualify for a leave, a health care provider or other designated professional must certify the need for most medical, family and bonding leaves and the employee will be required to provide information on the relationship to any person they are caring for during the leave.

DRAFT

If an employee is eligible for both Medical Leave and Family Leave during a benefit year, the employee may take up to 20 total weeks of combined leave. The benefit year is a 52-week period that starts on the first day an employee is absent from work for a qualified reason.

Notice of Leave:
An employee who plans to apply for MPL must provide the RLWD with a written notice of their intent to apply for leave by fully completing the written MPL Notice prior to applying for leave. Where possible, notice must be provided at least 30 days in advance of the intended start date of leave. Where 30 days' notice is not possible, an employee must notify the RLWD as soon as possible.

An employee may be qualified by the state for either a single block of time (continuous leave) *or* smaller blocks of time (intermittent leave). If an employee qualifies for intermittent leave, the maximum number of hours of intermittent leave allowed in a benefit year will be 480 hours, subject to RLWD discretion to allow additional intermittent leave hours. Intermittent leave must be used in 1-hour increments.

An employee on intermittent leave must provide a schedule of required workdays off as soon as possible and make reasonable efforts to schedule their leave in the manner least disruptive to employer operations. The RLWD reserves the right to request that an employee change their schedule to accommodate business needs.

Supplemental Payments:
Paid Leave only replaces part of an employee's wages. The RLWD will allow the employee to use other available paid time off (vacation or sick leave) to "top-off" while on a MPL qualified leave to make up the difference of their regular wage while on leave, **provided it does not exceed your normal wage.**

Impact on Other Benefits:
Medical Leave - Benefits Accruals (Vacation, Sick Leave and Holiday): the RLWD will allow employees full accrual of vacation and sick leave while on MPL Medical Leave. Holiday pay will be granted for MPL Medical Leave.

Family Leave - Benefits Accruals (Vacation, Sick Leave and Holiday): An employee on an approved MLP Family Leave will not accrue vacation or sick leave while on leave. Employees must exhaust all accrued vacation time, prior to the use of sick leave. Employee will not earn holiday pay but may use accrued vacation or sick time to cover missed holiday pay.

DRAFT

Additionally, no contributions will be made by the RLWD to any retirement plan during an unpaid leave for any payroll period where no payroll is processed for the employee. Taking an unpaid leave may affect pension benefits as well as employer and employee contributions to pension benefits.

Health Insurance Continuation: While an employee is on a MPL qualified leave, the RLWD will maintain group insurance on the same terms as if the employee were actively working. Employees remain responsible for their portion of the insurance premiums. Premiums may be collected through payroll deduction if an employee is using supplemental or non-supplemental benefits or by making direct payments to the RLWD via check or money order on a timely basis.

Return to Work: It is important that the employees keep the RLWD informed of their anticipated return to work date.

The employee may be required to present a fitness-for-duty certificate or return-to-work (RTW) slip from their medical provider when the leave is for their own serious health condition, prior to being allowed to return to work. The certificate or RTW slip must address the employee's ability to perform the essential functions of the job and address any accommodation needed.

DRAFT

Conference SCHEDULE

DEC 2-4, December 2026
GRAND VIEW LODGE
Nisswa, Minnesota

Wednesday, Dec. 2 *Note: Shuttle Runs 6 am - 11 pm*

7 - 10 am	Breakfast Buffet	*Main Lodge — Heritage Room*
7:30 am	Registration and Welcome	*Gull Lake Center*
8 am	**Workshop Wednesday**	
8 am - 3 pm	Minnesota Watersheds Drainage Workshop	*Norway Center*
8 am - 2:30 pm	Watershed Management Workshop	*Gull Lake Center — Lake Margaret*
8 am - 2:30 pm	Staff Technical Training Workshop	*Gull Lake Center — Ballroom A*
8 am - 2:30 pm	Staff Administrative Training workshop	*Gull Lake Center — Ballroom B*
11:30 am	Lunch Buffet	*Main Lodge — Heritage Room*
3:30 - 5 pm	Regional Caucuses	
	Region I Caucus	*Norway Center Boardroom*
	Region II Caucus	*Gull Lake Center — Lake Hubert*
	Region III Caucus	*Gull Lake Center — Lake Margaret*
6 - 9 pm	Trade Show Opening Night	*Gull Lake Center — Ballroom*
6 - 9 pm	Night at the Movies	*Gull Lake Center — Lake Itasca*

Thursday, Dec. 3 *Note: Shuttle Runs 6 am - 11 pm*

7 - 10 am	Breakfast Buffet	*Main Lodge — Heritage Room*
8 am - 1 pm	Visit the Trade Show	*Gull Lake Center — Ballroom*
8:30 am - 4 pm	**Concurrent Sessions**	*Gull Lake Center — Lake Margaret and Lake Itasca*
11:45 am	Lunch	*Norway Center and Main Lodge — Heritage Room*
12:45 - 1 pm	Prize Winner Announcements	*Gull Lake Center — Ballroom*
6 - 9 pm	Social Hour, Banquet and Awards	*Gull Lake Center — Ballroom*

Friday, Dec. 4

7 - 10 am	Breakfast Buffet	*Main Lodge — Heritage Room*
8 - 11 am	Business Meeting	*Norway Center*
11 am - noon	Minnesota Watersheds Board Meeting	*Norway Center Boardroom*

2026 *Wednesday* WORKSHOPS

The Minnesota Watersheds Drainage Workshop will focus on managing risk in drainage systems. Sessions include risk in repair petitions, risk in repairs and drainage projects, risk in contracting, and risk in real-world drainage projects. A case law update will be given. Attendees will also test their knowledge in session entitled Are You Smarter Than a Drainage Professional?

The Watershed Management Workshop will cover the purposes, powers, and governance structures of WDs and WMOs; planning, implementation, and evaluation in watershed management; transparency and statutory requirements; working relationships of boards and staff; and real-world examples of on-the-ground projects and board involvement in the process. We encourage board and staff to attend this workshop.

The Staff Administrative Training Workshop is geared toward watershed administrators and will cover stream restoration and public water permitting, self-insurance pools, document accessibility, and a session on navigating the legislative session.

The Staff Technical Training Workshop is meant for watershed staff and will focus on BWSR grants management, funding opportunities for watershed projects, AI for watershed communications, cybersecurity for watershed staff, and includes a watershed project sharing session.

Please note that the agendas for these sessions are being developed and are subject to change.

CHOOSE THE WORKSHOP that fits your focus

Wednesday

OPTION ONE

THE MINNESOTA WATERSHED DRAINAGE WORKSHOP

8 am - 3 pm **NORWAY CENTER**

7:30 am	REGISTRATION AND CONTINENTAL BREAKFAST
8 am	WELCOME AND OPENING REMARKS, *Tom Gile, Board of Water and Soil Resources*
8:05 AM	**Risk in Repair Petitions** *Chris Otterness, Houston Engineering, Inc. & Chad Martini, Stearns County* Submitting a petition to repair or redetermine benefits on a drainage system is relatively straightforward. Understanding the financial implications of a petition, however, can be much more challenging. This is especially true when system records are incomplete and assessed benefits are limited. This presentation will explore potential financial liabilities that may be triggered by a petition and discuss strategies for helping petitioners understand cost obligations before and during drainage proceedings.
8:30 am	**Risk in Regulatory Requirements: Repairs** *Adam Nies, Houston Engineering, Inc. & Tom Schmidt, Rice Creek Watershed District* — Drainage system repairs can trigger a surprisingly wide range of local, state, and federal regulations. Anoka County Ditch 53-62 provides an interesting case study of a seemingly simple repair effort that required navigation of a complex web of regulatory requirements.
9:15 am	**Risk in Regulatory Requirements: Drainage Projects** *Chuck Brandel, ISG* This session will examine the differences between repair and improvement project permitting requirements, the technical information needed to support permit applications, and considerations for changing direction when project conditions differ from original assumptions.
10 am	**Risk of Legal Precedent: Case Law Update** *John Kolb, Rinke Noonan* Recent court decisions can significantly influence how drainage authorities approach their responsibilities. This session reviews key legal developments and their implications for drainage admin and project implementation.
10:30 am	**Risk of Humiliation** *Chris Otterness, Houston Engineering, Inc. & Tom Gile, Board of Water and Soil Resources* Think you know Minnesota public drainage? Test your knowledge of Minnesota Statutes Chapter 103E in this episode of Are You Smarter Than a Drainage Professional? To give you a little help, our classroom of drainage experts will even let you peek at their answers. Just hope they are right!
11:30 pm	LUNCH — *Provided with Registration*
12:30 pm	**Risk in Contracting: Three-Party Agreements and Roles** *Chad Engels, Moore Engineering, Inc. & Lukas Croaker* Construction contracts define the responsibilities and protections of drainage authorities, engineers, and contractors. This session will discuss contract structures, participant roles, and key considerations for protecting each parties interests throughout the construction phase of the project.
1 pm	**Risk in Contracting: Construction Administration** *Chuck Brandel, ISG* Effective construction administration requires a clear understanding of the responsibilities of engineers, owners, contractors, and subcontractors. This session will discuss project observations, documentation, communication, and areas where risk may arise during construction.
1:30 pm	**Risk in Contracting: Change Order Process** *James Guler, Moore Engineering, Inc.* What is the change order process? This session will explain when change orders are appropriate, how they are evaluated, and the potential impacts they can have on project costs, schedules, and risk management.
1:45 pm	**Risk in Contracting: BWSR Contracts** *Tom Gile, Board of Water and Soil Resource* You may work in the world of Chapter 103E, but funding partners outside the drainage system often do not. Clear communication regarding contract authority, funding agreements, and cost-share expectations is critical. This session will highlight common questions, potential pitfalls, and best practices for ensuring all parties understand their roles and responsibilities.
2 pm	**Risk in Real-World Drainage Activities** *Moderator: Jacob Rischmiller, Moore Engineering, Inc.; Panelists: Chad Engels (Moore Engineering, Inc.), Chris Otterness (Houston Engineering, Inc.), Chuck Brandel (ISG)* — Experience is often the best teacher. In this interactive consultant panel, participants will examine real-world drainage challenges and discuss solution options, associated risks, and practical considerations under Minnesota Statutes Chapter 103E.
3 pm	**Adjourn**

Wednesday

OPTION TWO

WATERSHED MANAGEMENT WORKSHOP

8 am - 3 pm GULL LAKE CENTER | LAKE MARGARET

SUBJECT: **Understanding the Purpose, Responsibilities, and Impact of Watershed Governance**

INSTRUCTORS: *Julie Westerlund, Board of Water and Soil Resources, Louis Smith, Smith Partners, PLLP, Dan Money, Two Rivers Watershed District, Michelle Overholser, Yellow Medicine River Watershed District, Mike Isensee, Carnelian-Marine-St. Croix Watershed District*

7:30 am REGISTRATION

8 am **Welcome and Introductions**

To help guide the day's discussion, presenters will begin by learning more about attendees and their interests. Participants should be prepared to share the organization they represent, their role within that organization, and questions they have about watershed management. This interactive discussion will help instructors tailor the workshop to attendees' needs and interests.

8:30 am **Why Watersheds? Purposes, Powers, and Governance Structures**

Why were watershed organizations created and what legal authorities do they have? This session will explain the similarities and differences in watershed management governance structures. An overview will be given of how watershed districts throughout Minnesota operate under Minnesota Statutes Chapter 103D and how metro watershed districts and watershed management organizations operate under Minnesota Statutes Chapter 103B.

9:45 am BREAK

10 am **Why Watershed Management? Planning, Implementation, and Evaluation**

Planning, implementation, and evaluation are the foundation of effective watershed management. This session will explore why watershed plans are important, how they guide organizational priorities, and the respective roles board members and staff play in developing, implementing, and assessing watershed projects and programs.

11:30 pm LUNCH — *Provided with Registration*

12:30 pm **Why Transparency? Statutory Requirements**

Transparency is essential to effective watershed governance and public trust. Watershed boards are subject to laws and policies that govern how meetings are conducted, how decisions are made, and how information is shared with the public. This session will provide an overview of the Open Meeting Law, the Minnesota Government Data Practices Act, and other governance requirements that help ensure accountability and public access.

1:30 pm **Why Working Relationships? Watershed Boards and Staff**

Successful watershed organizations are built on strong working relationships. Effective leadership, communication, and teamwork between board members and staff are critical to achieving organizational goals. This session will examine the distinct roles and responsibilities of boards and staff and discuss strategies for productive and professional relationships.

2 pm **What's Working? Real-World Examples**

Learning from experience is one of the best ways to understand watershed governance. In this session, administrators from the Two Rivers, Yellow Medicine River, and Carnelian Marine St. Croix Watershed Districts will highlight successful projects and describe their boards' involvement throughout the process, from initial concept and planning to implementation and evaluation. Attendees will gain practical insights into how effective governance contributes to successful outcomes.

3 pm **Adjourn**

Wednesday

OPTION THREE

STAFF ADMINISTRATIVE TRAINING WORKSHOP

8 am - 3 pm **GULL LAKE CENTER | BALLROOM A**

7:30 am	REGISTRATION AND NETWORKING Check in, connect with colleagues, and enjoy coffee before the program begins.
8 am	**Welcome and Opening Remarks** *Andy Henschel, Shell Rock River Watershed District*
8:05 am	**Stream Restoration and Public Water Permitting: Finding a Clearer Path** *Andy Henschel, Shell Rock River Watershed District; Jon Janke, Coon Creek Watershed District; Mori Maher, Middle Snake Tamarac Rivers Watershed District* — Stream restoration projects can improve water quality, reduce erosion, and restore habitat, but navigating public waters permits can add uncertainty to project design, budgets, and schedules. This session will explore the Minnesota DNR stream restoration permitting work group's efforts and Minnesota Watersheds' legislative initiative to improve permit efficiency. Participants will learn about current efforts and opportunities to help shape future improvements.
9:15	**Self-Insurance Pool: A Health Insurance Approach to Consider?** *Joni Giese, Prior Lake-Spring Lake Watershed District* — Due to the great work of Minnesota Watershed's lobbyist during the 2026 legislative session, watershed districts and watershed management organizations can now join with other cities, counties, and school districts to jointly insure for employee health benefits! But what are self-insurance pools and how do they work? Staff from Prior Lake-Spring Lake Watershed District have been investigating the feasibility of joining a self-insurance pool for health benefits and will share their current understanding of how self-insurance pools are structured, along with potential benefits and drawbacks when considering whether to join a self-insurance pool.
10:15 pm	NETWORKING BREAK
10:30 pm	**Document Accessibility** *TBD* Creating accessible documents is essential for ensuring information is available to all audiences and for meeting legal accessibility requirements. This session will provide practical guidance on creating accessible Word documents, PDFs, presentations, and digital materials. Attendees will learn common accessibility standards, how to identify and correct accessibility issues, and simple techniques to improve readability and usability for individuals using assistive technologies. Participants will leave with tools and best practices they can immediately apply to their organization's communications and public-facing documents.
11:30 pm	LUNCH — *Provided with Registration*
12:30 pm	**Navigating the Legislative Session** *Kevin Matzek, Lockridge Grindal Nauen* With Minnesota Watersheds expanded lobbying efforts, legislative platform, and updated resolutions process, questions have emerged regarding the role of watershed administrators in legislative advocacy. This interactive question-and-answer session will provide clarity on expectations, opportunities for engagement, and effective participation during the legislative session.
2:30 - 3 pm	**Wrap Up & Next Steps** *Andy Henschel, Shell Rock River Watershed District* Attendees will review key takeaways from each session, identify areas requiring additional information or clarification, and discuss possible follow-up actions.
3 pm	**Adjourn**

Wednesday

OPTION FOUR

STAFF TECHNICAL TRAINING WORKSHOP

8 am - 2:30 pm **GULL LAKE CENTER | BALLROOM B**

7:30 am — REGISTRATION AND NETWORKING
Check in, connect with colleagues, and enjoy coffee before the program begins.

8 am — **WELCOME AND INTRODUCTIONS** *Ashlee Ricci, Ramsey-Washington-Metro Watershed District*

8:05 am — **BWSR Grants Management** *Luke Olson, Board of Water and Soil Resource*
Administering a BWSR grant can be complex. This session will explore a grantee's responsibilities from award through final closeout, including project implementation requirements, financial management, record retention, reporting expectations, and post-grant assurances. Attendees will gain practical guidance on maintaining compliance and successfully managing grant-funded projects.

9 am — **Funding Opportunities for Watershed Projects** *Courtney Phillips, Shell Rock River Watershed District*
This session will provide an overview of funding sources available to watershed organizations, including the Lessard-Sams Outdoor Heritage Council (LSOHC), Conservation Partners Legacy (CPL) grants, Legislative-Citizen Commission on Minnesota Resources (LCCMR), state bonding opportunities, and dedicated sales tax funding. Attendees will learn strategies for identifying, pursuing, and leveraging funding opportunities to support watershed priorities.

15-MINUTE BREAK

10:15 am — **AI for Watershed Communications: Create Better Content, Faster, While Maintaining Trust**
Valerie Franklin Lockhart, Executive Director, Minnesota Technology Network
Artificial intelligence can help watershed organizations create clearer, more consistent public communications while reducing the time staff spend drafting social media posts, flyers, brochures, newsletters, project updates, and educational materials.

In this practical session, participants will learn how to use AI as a communications assistant rather than simply a content generator. We'll explore real-world watershed examples, including how to turn technical information into accessible public-facing content and efficiently adapt one message for multiple audiences and formats.

Participants will also learn the CCC prompting framework — Context, Constraints, and Calibration — a simple method for getting more accurate, useful, and organization-appropriate results from AI tools.

The session will also take a practical look at AI policy and governance, including protecting sensitive information, verifying AI-generated content, maintaining human oversight, addressing copyright and imagery concerns, and establishing clear expectations for staff use. Participants will leave with practical techniques they can use immediately and a framework for using AI more responsibly and consistently within their organization.

11:30 pm — LUNCH — *Provided with Registration*

12:30 pm — **Cybersecurity for Watershed Staff** *Christian Torkelson, League of Minnesota Cities*
Cybersecurity threats continue to evolve and pose risks to organizations of all sizes. This session will cover common cyber threats, employee best practices, risk mitigation strategies, and practical steps watershed organizations can take to safeguard sensitive data, financial information, and operational systems.

1:30 pm — **Watershed Project Sharing Session** *Kyle Axtel, South Washington Watershed District; Jon Roeschlein and Steve Zeece III, Sauk River Watershed District; Tracy Halstensgard, Roseau River Watershed Distric*
This interactive session highlights successful watershed projects and lessons learned from across the state. Presenters will share project goals, implementation strategies, challenges, outcomes, and key takeaways. Attendees will have opportunities to ask questions, exchange ideas, and discuss real-world applications that can be adapted to their own organizations.

2:30 pm — Adjourn

Thursday

CHOOSE YOUR CONCURRENT SESSIONS

PICK ONE FOR EACH TIME slot and fill up your day

GULL LAKE CENTER

8:30 - 8:50 am

OPTION 1

☐ "We Should" to "Here's How"Practical Diversity and Equity Actions for Watershed Management

LOCATION: Lake Margaret

PRESENTERS: *Mary Fitzgerald, Ramsey-Washington Metro WD; Elizabeth Boor, Nine Mile Creek WD; Emily Heinz, Comfort Lake-Forest Lake WD; Lindsay Schwantes, Capitol Region WD*

What began as a call to action at the 2021 Minnesota Watersheds Conference has evolved into the Watershed Equity Alliance (WEA). While the group did not yet have a name or formal structure for the first few years, its mission was clear: to create space for watershed professionals to share experiences, expand our knowledge, and advocate for incorporating equity into watershed management. This presentation will reflect on the evolution from a small group of professionals working to create change into an established alliance supporting diversity, equity, inclusion, and accessibility (DEIA) across Minnesota's watershed management community. Presenters will explore how members have learned from one another and translate those lessons into both small and large organizational changes. The presentation will highlight scalable DEIA actions developed through the WEA and examples of how member organizations have adapted and implemented these practices. Five years of shared learning demonstrate how collaboration can transform individual experiences into practical resources and meaningful, sustainable change.

OPTION 2

☐ We Can Have All Three: Flow, Habitat, and Beavers

LOCATION: Lake Itasca

PRESENTERS: *Mike Isensee, Carnelian-Marine-St. Croix WD and Andy Riesgraf, Beaver Innovations*

The Carnelian-Marine-St. Croix Watershed District and Andy Riesgraf, M.S. Certified Beaver Management Professional, will present nature-based approaches to managing the outlet of Big Marine Lake and the restoration of Mill Stream through Burris Park in Marine on St. Croix. At the lake outlet, the district is implementing nonlethal beaver flow devices to maintain flows through large wetland complexes while allowing beavers to remain part of the landscape. In another location, the district is integrating beaver dam analogs and post-assisted log structures as part of a designated trout stream restoration design for a short, ecologically degraded reach affected by low-head dams and altered channel conditions. The presentation will examine how these approaches can reduce annual maintenance costs, improve habitat and stream function, reduce heavy equipment disturbance, and respond to community priorities.

9 - 9:20 am

☐ A Tornado Hit a District Lake — Now What?

LOCATION: Lake Margaret

PRESENTERS: *Shanna Bach, Josh Beranek, Pelican River WD*

On the evening of July 6, 2026, a tornado carved a seven-mile long, half-mile wide path through Becker County, Minnesota. That path included the popular Big Floyd Lake in the Pelican River Watershed District (PRWD). Three people were injured, 100 homes damaged, numerous boats, pontoons, docks and lifts were tossed, and established oak trees and other vegetation was destroyed. Staff from the PRWD will tell the story of the immediate aftermath, coordination of local groups, and all the soggy details of the cleanup efforts in the lake.

☐ From Salt to Strategy: A Watershed Approach to Chloride Reduction

LOCATION: Lake Itasca

PRESENTERS: *Ashlee Ricci, Ramsey-Washington Metro WD and Tyler Olsen, Barr Engineering Co.*

Chloride management remains a persistent challenge in urban watersheds because of diffuse sources, legacy loading, and limited treatment effectiveness. Watershed districts are well positioned to advance watershed-scale reduction through monitoring, planning, outreach, and implementation. The Ramsey-Washington Metro Watershed District (RWMWD) is developing a Chloride Reduction Strategy (CRS) that uses modeling and monitoring to prioritize coordinated, long-term management actions.

Developed alongside RWMWD's 2027-2036 Watershed Management Plan, the CRS integrates chloride reduction into communications and engagement, monitoring, stewardship grants, regulatory programs, and projects/research. As a living strategy, it combines prevention, mitigation, and behavior change across public and private sectors and will evolve as new data and implementation options become available. This presentation will show how chloride loading analysis and priority mapping are combined with strategic implementation actions that help translate chloride assessment into action.

9:30-9:50 am

☐ What to do When FEMA Changes My Floodplain?

LOCATION:
Lake Margaret

PRESENTERS:
Tara Jensen, Wild Rice WD and Jerry Bents, Houston Engineering, Inc.

An explanation about the process of how and why FEMA changes floodplains along with how the Wild Rice Watershed District and the communities of Halstad, Hendrum, and Perley dealt with changes to the floodplain to address resultant mandatory floodplain insurance requirements.

☐ The Road to Chloride Reduction: Building a Strategy for Lasting Change

LOCATION:
Lake Itasca

PRESENTERS:
Elizabeth Boor, Nine Mile Creek WD; Sarah Wein, Capitol Region WD; and Jessica Wilson, Clean Water Council

Chloride reduction is a complex, multifaceted challenge that requires more than individual actions - it requires a strategy for prioritizing resources, coordinating efforts, measuring progress, and creating opportunities for innovation. The Nine Mile Creek Watershed District has been actively working to reduce chloride through projects, partnerships, education, and policy efforts. While this work has made meaningful progress, our experience has shown that strategic planning can make good work even better by helping us prioritize actions, establish accountability, and focus resources where they can have the greatest impact.

Capitol Region Watershed District and the Clean Water Council will demonstrate what strategic planning can look like in action. CRWD will share updates from its chloride action plan, including how it is prioritizing district actions, informing legislative efforts, and supporting innovative approaches such as a chloride grant program. The CWC will highlight statewide policy and guidance efforts that can create greater consistency across jurisdictional boundaries. Together, these examples show how strategic planning and policy can build existing efforts and turn individual actions into coordinated, measurable, and lasting progress.

10 -10:20 am

☐ Improving Habitat Restoration in Drainage Water Management

LOCATION:
Lake Margaret

PRESENTERS:
Tracy Halstensgard, Roseau River WD and Torin McCormack, HDR, Inc.

Most of the drainage systems within the state were constructed in the early 1900s to promote settlement and agriculture. While many of these systems were successful, there are challenges presented by the existing land use and limitations of the original ditch design. These challenges often include degraded habitat on natural landscapes, undersized capacity of entire systems, or localized drainage issues. In the Roseau River Watershed, there are multiple projects underway within the Lost River State Forest and the Roseau River WMA which serve to improve these conditions, providing benefits to private land while enhancing natural habitats affected by drainage. These projects focus on improving drainage system efficiency by restoring hydrology to natural landscapes, improving water quality, and reducing burden on drainage systems and the affected private lands. The application of these principles can be implemented statewide to improve efficiency of legal drainage systems for greater use and resiliency.

☐ Wake Boat Impacts on Alum Effectiveness in a Residential Minnesota Lake

LOCATION:
Lake Itasca

PRESENTERS:
Terry Jeffery, Riley-Purgatory-Bluff Creek WD and Kate Lucas, \Barr Engineering

Alum treatments are used to reduce internal phosphorus (P) loading in lakes by binding sediment P and limiting release under anoxic conditions. However, the stability of alum-treated sediments in lakes with high sediment disturbance is still uncertain. Recent research has shown that wake boats may redistribute or mix sediments. Lotus Lake, a deep lake in Chanhassen, MN, has undergone two alum applications (2018 and 2024) and experiences substantial wake boat activity during peak season. These conditions provided an opportunity to evaluate impact on alum treatment effectiveness.

Sediment cores were collected across treatment zones in spring and fall 2025. Vertical sediment cores were analyzed for total aluminum distribution within the top 25 cm, sediment phosphorus fractionation, and anoxic sediment phosphorus release rates. Distinct differences were observed in the aluminum distribution between spring and fall cores. Higher aluminum concentrations were observed within surficial sediments in spring compared to fall cores though despite these differences, hypolimnetic P concentrations and anoxic release rates remained significantly reduced relative to pre-treatment conditions. While this study adds to the growing understanding of wake boat impacts using real-world evidence, more analysis is needed to quantify long-term effects on sediment inactivation treatments.

10:30 - 10:50 am

☐ Stabilizing the Clearwater River

LOCATION:
Lake Margaret

PRESENTERS:

Tammy Audette, Red Lake WD; Tony Nordby, HEI; and Michael Kelly, DNR

A collaborative effort between the Red Lake Watershed District, Houston Engineering, Inc., and Minnesota DNR identified a project to reduce severe degradation within a 2.3 river mile stretch of the Clearwater River that stems back to a channel straightening project performed in the 1950s. Although the straightening project reduced overland flooding in the area, the steeper grade line and reduction in channel length resulted in erosion eight to ten feet in depth within the channel. The collaborative team analyzed geomorphology, hydraulics, and countless alternatives to determine the final design. The final design includes the installation of five new rock riffles, one rock arch rapids, and modifying two existing riffles to enhance the severely degraded channel, reducing velocity and facilitating fish passage. The project also includes stabilizing nine locations of streambank with bioengineering practices. Construction is nearly complete and we look forward to sharing this success story.

☐ What the Plants Are Telling us: Ecological Health as a Watershed Management Lens

LOCATION:
Lake Itasca

PRESENTERS:

Karen Kill, Brown's Creek WD and Jimmy Marty, Emmons and Olivier Resources, Inc.

What can rare aquatic plants reveal about the systems we manage? At Brown's Creek Watershed District (BCWD), the answer is reshaping watershed management.

BCWD's recently completed fifth-generation watershed management plan elevates ecological health from a supporting consideration to a central organizing principle. Developed with an engaged advisory community, the plan integrates restoration of water resources and natural systems, protection of the uplands that sustain them, and stormwater infrastructure designed to deliver co-benefits for water quality, habitat, carbon sequestration, and community resilience. The process produced an unexpected discovery: soft-water plant communities among the rarest in the Twin Cities metropolitan area and Minnesota. Their presence, sustained by distinctive surface-water chemistry and hydrology, revealed connections between water, landscape, and the biological communities that depend on them - and provided new insight into which resources are most important to protect.

Join BCWD and EOR to explore ecological health not simply as a management objective, but as a lens for understanding watershed function and shaping measurable, actionable priorities for long-term stewardship.

11 - 11:20 am

☐ Friends Don't Let Friends Over-Model

LOCATION:
Lake Margaret

PRESENTERS:
Amber Doschadis, Upper Minnesota River WD and Lisa Odens, Houston Engineering, Inc.

Projects often face pressure for increasingly complex technical analyses, particularly when reviewing regulatory impacts. On the Whetstone River, the challenge was not whether a larger, more sophisticated model could be built, but whether the significant investment in complicated analysis would improve the decision-making process. Restoration objectives need to be balanced with downstream flood risk, dam operations, infrastructure constraints, regulatory requirements, and stakeholder concerns extending beyond the project footprint.

The Upper Minnesota River Watershed District with its consultant, Houston Engineering, Inc., worked with multiple state and federal agencies to identify the decisions that needed to be made, then selected the minimum level of analysis necessary to answer those questions. The result was a submittal that addressed regulatory concerns while avoiding unnecessary complexity, cost, and uncertainty.

Attendees will learn practical lessons for defining project objectives, working with regulators, communicating uncertainty, and matching technical analyses to project risks and decision-making needs.

☐ The Land of 10,000 Lakes and 34,000 Miles of Shoreline: Making Shoreline Protection Work for Landowners and Local Governments

LOCATION:
Lake Itasca

PRESENTERS:
Tom Langer and Mike Isensee, Carnelian-Marine-St. Croix WD

Minnesota continues to lose natural shoreline despite the existence of shoreline protections, technical guidance, and permitting programs. The challenge is not simply a lack of regulation. Through the Minnesota Natural Shoreline Partnership's Shoreline Protection Subcommittee, state and local partners identified recurring barriers, including inconsistent guidance and administration, limited local technical capacity, fragmented jurisdiction, and landowners receiving assistance only after damaging alterations occurred.

This session will share those findings and the practical solutions advanced through four 2026 resolutions adopted by Minnesota Watersheds: dedicated local technical assistance, common training and evaluation standards, updated public guidance, and improved regulatory and permitting-process coordination.
Using real-world examples of local watershed permitting and shoreline management, the presentation will explore how these changes could help preserve natural shorelines and increase the use while expanding

landowner access to native shoreline restoration and bioengineered applications practices. Participants will leave with practical examples of how shoreline protection can become easier to understand, more consistently administered, and more workable for landowners, contractors, and local governments.

11:45 am - 12:45 pm Lunch and Networking

LOCATION:
Main Lodge
Dining Room

1 - 1:20 pm

☐ From Education to Celebration: Untangling Public Perception in a Dam Modification Project

LOCATION:
Lake Margaret

PRESENTERS:
Shanna Bach, Pelican River WD and Garrett Monson and Lauren Weller, Moore Engineering, Inc.

Buck's Mill Dam on the Pelican River presented intertwined safety, ecological, fish-passage, and community challenges. The modification project sought to improve fish passage and dam safety while preserving seasonal lake water levels, requiring the team to address technical knowledge gaps, public concerns, and residents' attachment to the site. Construction was supported by a deliberate communication and engagement strategy. A multi-stakeholder advisory committee identified concerns early and shaped outreach while regular updates kept the public informed before, during, and after construction. The team monitored local email threads, social media groups, and newspapers, and held one-on-one and small-group conversations to explain tradeoffs in accessible language. Educational materials clarified fish-passage function and expected water-level behavior. A partnership with the Becker County Museum connected engineering, ecology, and local history through interactive exhibits. The approach aims to strengthen understanding and trust while offering a replicable model for using cultural institutions in water resource education and celebrating community ownership of project outcomes.

☐ Engaging Owners in BMP Maintenance

LOCATION:
Lake Itasca

PRESENTERS:
Victoria D'Amico, Comfort Lake-Forest Lake WD

It's not uncommon that someone buys a new property with a permanent BMP and has no idea it's there - much less how to maintain it. Staff inspections can be helpful in identifying issues and making the owner aware of the BMP, but don't bridge the gap in understanding how it functions and what maintenance needs to be done. We'll look at some successes CLFLWD has had in engaging owners in managing their BMPs and what can be done, with a special focus on small businesses and residential homeowners.

1:30-1:50 pm

☐ Persistence Pays Off: Fountain Lake Dredging Moves to Completion

LOCATION:
Lake Margaret

PRESENTERS:
Andy Henschel, Shell Rock River WD and Julie Blackburn, ISG

The Shell Rock River Watershed District's Fountain Lake Restoration Project reflects a long-term, multi-phase effort to improve one of southern Minnesota's most visible and economically important water resources. Fountain Lake, located in Albert Lea, has been impaired by nutrient enrichment, poor water clarity, sediment resuspension, and degraded aquatic habitat, with a 2012 TMDL identifying internal phosphorus loading from accumulated sediments as a major driver. Since dredging began in 2018, SRRWD has advanced the project through persistence, partnerships, state funding, and local option sales tax support. The first two phases included construction of a confined disposal facility and removal of approximately 1.2 million cubic yards of sediment. With an additional $9 million from the Minnesota Legislature, the final phase will remove about 600,000 cubic yards from Main Bay and portions of Bancroft Bay. Attendees will learn how dredging, permitting, vegetation management, and habitat enhancement support improved water quality, fisheries, and long-term lake health.

☐ LIDAR Analysis Targets, Near Channel Erosion Sources, and Results in Prescriptive BMP Implementation

LOCATION:
Lake Itasca

PRESENTERS:
Melissa Bokman Ermer, Scott WMO and Greg Wilson, Barr Engineering Co.

Modeling and terrain analysis enhancements were made possible by the recent release of a second generation of Light Detection and Ranging (LiDAR) topographic mapping. Sand Creek has been impaired for high total suspended solids (TSS) and turbidity since 2002, and watershed monitoring data confirmed that monitored stream segments exceed the TSS standard by two to eight times. Work completed for the Sand Creek watershed used both sets of LiDAR mapping and stream monitoring data to target specific sources of near-channel erosion and prioritize exact locations for implementing improvement options. This presentation will demonstrate how GIS terrain analysis and watershed monitoring and modeling results were combined to quantify near channel erosion volumes, develop statistical relationships with TSS and prioritize specific sites that have delivered the highest levels of excess runoff and sediment load. The results were checked for agreement with past geomorphic surveys and are getting used for management plan updates.

2 - 2:20 pm

☐ Partnership Through Permitting: A Model for Minnesota Watersheds

LOCATION:
Lake Margaret

PRESENTERS:
James Wisker, Veronica Sannes, and Abigail Couture, Minnehaha Creek WD and Louis Smith, Smith Partners

An inherent challenge sits at the interface of land use and water, where development decisions shape hydrology and water quality. How the land-use community experiences watershed permitting can shape outcomes beyond the regulatory process, but when watersheds engage after land-use decisions are fixed, friction arises and opportunities for collaboration narrow.

Recurring policy proposals, including recent efforts to consolidate watershed authority, highlight the importance of an innovative regulatory approach that demonstrates how permitting can protect water resources while supporting broader community goals.

MCWD's Land & Water Partnership framework advances this approach. With permitting as a primary implementation arm, MCWD engages early, provides technical assistance, and builds relationships to achieve outcomes beyond compliance.

Drawing on interviews with developers, cities, and metro watersheds, this session will examine the inherent tensions of regulatory programs, explore partnership case studies, and offer Minnesota watersheds a practical model for building relationships, protecting water, and demonstrating public value.

☐ Finding Your Bearings: Creating a New Baseline of Project Inspection Data to Support Project Performance

LOCATION:
Lake Itasca

PRESENTERS:
Adam Flett and Emmy Baskerville-Doeckel, Mississippi WMO

Watersheds need projects to function as designed to be successful in protecting water, and functioning projects and partnerships rely on solid information and an understanding of current conditions. With over 180 stormwater projects across 24 years of partner grants in the community, in 2026 the Mississippi Watershed Management Organization (MWMO) began a journey to understand how built projects are functioning. Through reviewing past project BMPs and populating a geospatial database to track visual inspections, MWMO has garnered insights into the status and function of our partners' projects. This required simplification of subjective data collection, connectivity between various programs, and legwork by staff to get the job done. As MWMO continues to work to support long-term performance and understanding of project impacts, staff anticipate going deeper and further into monitoring approaches to point towards how past projects can be sustained for performance for our partners, communities, and the Mississippi River.

2:30 - 2:50 pm

☐ Fundamental Principles, Complaint Procedures, and Indemnification in Watershed Governance

LOCATION:
Lake Margaret

PRESENTER:
Louis Smith, Smith Partners

Public administrators who serve Minnesota watershed organizations operate in a complex governance environment. They are employees or officers of a public entity, but they also work closely with an appointed Board of Managers that sets policy, approves budgets, adopts rules, and supervises the overall direction of the district. This relationship can create difficult questions when an administrator has a human resources complaint, becomes the subject of litigation for work performed on behalf of the district, or needs clarity about how internal governance policies should be applied. A well-designed governance framework should answer these questions before conflict arises. It should provide a clear complaint pathway, a fair process for response and appeal, and an accurate explanation of defense and indemnification obligations. This session will inform board members and administrators how to design and navigate this framework.

☐ From Park Improvements to Climate-Resilient Community Infrastructure

LOCATION:
Lake Itasca

PRESENTER:
Elizabeth Boor, Nine Mile Creek WD

The Central Park redevelopment in Hopkins demonstrates how strong local partnerships can transform a traditional park improvement project into a multifunctional investment in community resilience. Led by the City of Hopkins, the project began as an effort to upgrade park amenities. Through relationship-building and collaboration with the Nine Mile Creek Watershed District, the project expanded to integrate recreation, stormwater management, and climate resilience. The district contributed design expertise, funding, and support in securing a $5 million grant, helping the city advance a project with benefits far beyond recreation. Emerging from the District's DEIA work, the partnership intentionally focused investment in an area of the watershed more vulnerable to climate-related impacts. The resulting multi-use space provides improved recreational opportunities while reducing flood risk, improving water quality, and mitigating the urban heat island effect. Central Park illustrates how watershed districts can build trusted partnerships that leverage public investments to address environmental vulnerabilities while meeting community priorities.

3 - 3:20 pm

☐ The Future of One Watershed, One Plan

LOCATION:
Lake Margaret

PRESENTER:

Julie Westerlund, Moriya Rufer, and Maggie Karschnia, BWSR

Very soon, Minnesota will have completed a 10-year transition to statewide watershed-based planning through the One Watershed, One Plan program. The Minnesota Board of Water and Soil Resources is exploring ideas for continuous improvement of the program as plans enter their second planning and implementation cycle. In this session, BWSR staff will share what they've learned, and ideas for program improvement to strengthen partnerships, accelerate clean water results, and share success stories. This will be an interactive session that will build on a series of summer listening sessions and a survey, continuing the discussion about potential program modifications aimed at streamlining planning, cultivating consistency while maintaining flexibility, and improving how results are communicated.

☐ Revealing Opportunity: Turning Watershed Goals into Action in the Six Mile Creek-Halsted Bay Sub Watershed

LOCATION:
Lake Itasca

PRESENTER:

Michael Hayman and Kailey Cermak, Minnehaha Creek WD

MCWD has learned that effecting meaningful change for water resources, and the communities anchored by them, often require looking beyond its own area of expertise - seeking unique project opportunities on the landscape in partnership with those who transform it.

For over a decade, MCWD has cultivated relationships with its Six Mile Creek - Halsted Bay Sub watershed communities, integrating water resources and land use. By recognizing where watershed goals intersect with community aspirations for sustainable growth, MCWD and its partners unlocked a diverse project portfolio, including habitat restorations, stormwater retrofits, and corridor improvements, while continuing to plan together for the future.

Rather than focus on what watersheds can accomplish alone, this session will explore how identifying shared goals with land-use actors reveals opportunities to advance watershed priorities while achieving broader community objectives. Attendees will gain practical ideas for discovering common ground and turning opportunities into projects that generate meaningful local and downstream change.

3:30-3:50 pm

☐ Defining a Watershed's Role on Local Water Management Issues

LOCATION:
Lake Margaret

PRESENTER:

Nick Tomczik, Rice Creek WD and Chris Otterness, Houston Engineering, Inc.

A watershed organization's role and scope in managing surface water quantity is often misunderstood. Because you have "water" in your organizational name, stakeholders often understand that role extends to ALL surface water issues, when an organization's budget and authorities demand a "regional" prioritization to their mission. In short, it can be hard to say "no" to local landowners who seek relief from their localized, but deeply personal, water management issue. In this presentation, the Rice Creek Watershed District will demonstrate strategies they have used to communicate the sidebars on the district's role in water quantity management and provide secondary but useful assistance on these issues.

☐ Balancing Recreational Boating and Lake Health: Empirical Insights for Sustainable Boat Operation

LOCATION:
Lake Itasca

PRESENTER:

Andy Riesgraf, UM St. Anthony Falls Laboratory

Escalating boat sizes, engine horsepower, and modern wake-enhancing technologies are driving growing concerns over freshwater ecosystem health. In particular, wake boats and the sport of wake surfing have introduced a distinct mode of vessel operation designed to produce large, surfable waves - a practice that has sparked intense environmental and regulatory debate. This presentation synthesizes five years of field-based research evaluating different types of recreational powerboats, their typical modes of operation, and the hydrodynamics they generate. By analyzing and comparing surface wave height, energy, and power, alongside subsurface waves and turbulence, this work provides the empirical foundation needed to establish science-based operational guidance - including setback distance and water depth - to minimize impacts to the shoreline and lakebed.