RED LAKE WATERSHED DISTRICT

May 14, 2026

9:00 a.m.

Agenda

9:00 a.m.	Call to Order	Action
	Review and approve agenda	Action
	Requests to appear	Information
	April 23, 2026 Minutes	Action
	Financial Report as of May 13, 2026	Action
	RRWMB-UMC Drainage Research Funding Request	Info/Action
	Burnham Creek, RLWD Project No. 43B/ Polk County Ditch Improvement, RLWD Project No. 119	Information
	Mud River Phase 2, RLWD Project No. 180 – Funding Application	Information
	Chuck Flage Erosion Control, RLWD Project No. 174	Info/Action
	Thief River Streambank, RLWD Project No. 149A Muzzy/Thief River LLC Sites Final Payment Hearing June 11, 2026, 9:30 am	Info/Action
	Improvement to JD 1, RLWD Project No. 184 HDR Proposal	Info/Action
	Chiefs Coulee, RLWD Project No. 46S – Construction Update	Information
	Turtle Connection Cross Lakes, RLWD Project No. 114 – Update	Information
	Withdraw RLWD permit no. 26024 – Numedal 14, Penn. County	Info/Action
	Permits: 26015, 26019, 26022, 26029, & 26031	Action
	City of TRF/Agassiz National Wildlife Refuge Presentation	Information
	RLWD Logo	Info/Action
	Save the Date: Minnesota Watersheds 2026 Summer Tour August 25-26, 2026, Detroit Lakes, MN	Information
	Administrator's Update	Information

Legal Counsel Update	Information
Managers' Updates	Information
Adjourn	Action

UPCOMING MEETINGS:

May 14, 2026 RLWD Board Meeting, 9:00 am
May 19, 2026 RRWMB Meeting, Ada, 10:00 am
May 25, 2026 HOLIDAY – RLWD Office Closed
May 28, 2026 RLWD Board Meeting, 9:00 am

RED LAKE WATERSHED DISTRICT
Board of Manager's Minutes
April 23, 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.

Present: Managers: Gene Tiedemann, Tom Anderson, Brian Dwight, Grant Nelson, Terry Sorenson, LeRoy Ose, and Allan Page. Staff Present: Tammy Audette, Melissa Bushy, Elaine Rychlock, Tony Olson, Nate Koland, Erick Huseth and Legal Counsel, Delray Sparby.

The Board reviewed the agenda. A motion was made by Ose, seconded by Nelson, and passed by a unanimous vote that the Board approve the agenda. Motion carried.

The Board reviewed the April 9, 2026, Board meeting minutes. Motion by Nelson, seconded by Sorenson, to approve the April 9, 2026, Board meeting minutes. Motion carried.

The Board reviewed the Financial Report as of April 22, 2026. Motion by Anderson, seconded by Nelson, to approve the Financial Report as of April 22, 2026. Motion carried.

Staff member, Elaine Rychlock, reviewed the current Certificate of Deposit rates for the following area banks: Dakota Heritage Bank, Northern State Bank of Thief River Falls, Ultima Bank MN of Fosston, Edward Jones, and American Federal Bank-Fosston. There are two CD's maturing 5/07/2026 at Dakota Heritage Bank. After much discussion, a motion was made by Sorenson, seconded by Nelson, to re-invest the two maturing CD's ($500,000 and $500,000) with Dakota Heritage Bank. One CD for twelve months at 4.04% and the second CD for seven months at 3.89%. Motion carried.

Administrator Audette presented a map showing locations of the Thief River Streambank 2026 Sites. The OPC from HEI and the construction plans were reviewed. Discussion was held on the Bid Opening date for the Thief River Streambank Project, RLWD Project No. 149A. Motion by Ose, seconded by Nelson, to set the Bid Opening date for the Thief River Streambank Project, RLWD Project No. 149A, for May 28, 2026, at 9:30 am. Motion carried.

Jerry Pribula, Pribula Engineering, presented his updated Detailed Engineer's Report for the Improvement to Polk County Ditch 39, RLWD Project No. 179. Viewers, Roger Beiswenger, Robert Wagner, and Mike Baumgartner presented the updated Viewer's Report. Attorney John Kolb was present virtually. Kolb stated that we have a cost-benefit compliant project to move forward. A motion was made by Sorenson, seconded by Page, to accept for filing the updated reports from the Viewer's and the Engineer to move forward with setting the hearing date for June 25, 2026, at 9:30 a.m. at the Red Lake Watershed District office. Motion carried.

Administrator Audette presented pictures of recent damage at the RLWD Project No. 174, Chuck Flage Erosion Control Project. A motion was made by Sorenson, seconded by Page, to approve District staff surveying the project area, and directed Engineer Nate Dalager to determine a cost estimate for discussed repairs. Motion carried.

Administrator Audette discussed the Red Lake River 1W1P, RLWD Project No. 149, Mid-Point Plan Amendment comments.

Administrator Audette shared the Thief River 1W1P, RLWD Project No. 149Adraft Thief River Comprehensive Watershed Management Plan Amendment for a 30-day comment period according to the Board of Soil and Water Resources procedure. After completion of this comment period, a summary of comments received will be provided to all who commented. A public hearing is scheduled for June 8, 2026, at 9:00 am at the Red Lake Watershed District office in Thief River Falls, MN.

Staff member, Tony Olson, stated that he had received a call regarding drainage issues along the Moose River Impoundment, RLWD Project No. 13 inlet of the south pool. Motion by Ose, seconded by Dwight, to authorize Olson to survey the area, and hire a contractor for necessary repairs. Motion carried.

Staff member, Tony Olson, presented to the Board RLWD permit application no. 26017 from Greg Sparby. The proposed work is in Section 35, Spruce Grove Township, Beltrami County. A motion was made by Ose, seconded by Dwight to approve RLWD permit application no. 26017. Motion carried.

Administrator Audette discussed a request by Beltrami County SWCD for funding for a culvert inventory in the Thief River watershed, located within Beltrami County. The culvert inventory would update culvert-related information collected previously. Beltrami County SWCD is hiring two summer staff to complete the project at an approximate cost of $10,000 per staffer. With an estimate of 12% of their time spent in the Thief River Watershed, they are requesting approximately $2,400. Motion by Dwight, seconded by Nelson, to approve the Beltrami County SWCD cost share request for culvert inventory for the Thief River Watershed located within Beltrami County at an approximate cost of $2,400. Motion carried.

Administrator Audette discussed Mud River, RLWD Project No. 180C, stating that they will be submitting a second funding application to the Lessard Sam Outdoor Heritage Council. Audette noted that her and Dalager have been meeting with upstream landowners. The Board reviewed the draft Environmental Assessment drafted by the U.S. Fish and Wildlife Service.

Nate Dalager, HDR Engineering, presented a proposal to the Board for the Red Lake-Polk County Line Ditch Stabilization Feasibility Study services for the Red Lake River 1W1P, RLWD Project No. 149. The proposal included a cost estimate on a time and materials basis with a not to exceed fee of $31,462. Motion by Sorenson, seconded by Page, to approve the proposal from HDR Engineering for the Red Lake/Polk County-Line Outlet Stabilization Project, RLWD Project No. 149. Motion carried.

Engineer, Mike Flaagan, Pennington County Highway Department presented a funding request asking the RLWD to contribute $200,000 towards drainage costs for the CSAH 11 project. The project includes a storm water pool that will treat a portion of the runoff. The outlet to the pond

goes to the City's storm water system. After much discussion, a motion was made by Nelson, seconded by Ose, to approve the $200,000 to Pennington County Highway Department for the CSAH 11 project. Upon a roll-call vote, Managers Nelson and Ose voted aye, with Managers Sorenson, Page, Dwight, and Anderson voting in opposition. Motion failed.

Staff member, Tony Olson, discussed RLWD Permit No. 25029 located in Deer Park Township, Pennington County. The recommendation was to grant the permit extension request. A motion was made by Page, seconded by Nelson, to approve the permit extension request for RLWD permit no. 25029. Motion carried.

Staff member, Tony Olson, discussed RLWD Permit No. 26004, from the Pennington County Highway Department located in Section 2 of Rocksbury Township, Pennington County. After much discussion, a motion was made by Nelson, seconded by Sorenson, to approve RLWD permit no. 26004. Motion carried.

The Board reviewed the following permits for approval. Motion by Page, seconded by Ose, to approve the following permits with conditions stated on the permit: No. 26011, Pennington County Highway Dept., North Township, Pennington County; No. 26013, Gabriel Arveson, Grove-Park Tilden Township, Polk County; and No. 26014, Gabriel Arveson, Grove-Park Tilden Township, Polk County.

Administrator Audette updated the Board on the Turtle Connection Cross Lake Project and attendance at the RRWMB meeting with Senator Fischbach's office.

Discussion was held on the blocked culvert through the railroad tracks on the Thief River Falls FDR Project, RLWD Project No. 171A. District staff will survey the site and provide the information to Engineer Nate Dalager. Legal Counsel Sparby will draft a letter to CP Railway regarding the plugged culvert.

The Board reviewed a letter submitted to the State of Minnesota Capital Investment Committee regarding Flood Hazard Mitigation Program funding.

Motion by Dwight, seconded by Nelson, to adjourn the meeting. Upon a roll call vote, motion carried unanimously.

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LeRoy Ose, Secretary

RED LAKE WATERSHED DISTRICT
Financial Report as of May 13, 2026

Ck#	Check Issued to:	Description	Amount
online	EFTPS/MN Withholding	Withholding FICA,Fed, Medi, & MN Tax (pp 5/6/26)	$6,345.94
online	PERA	pp 5/6/26	$3,311.92
42221	East Polk SWCD	Trees for Project 149A Streambank Revegetation	$150.00
42222	Brault Construction	Cleaned snow out of project #60C & #81	$5,600.00
42223	Brent Hemley	Beaver Removal on Moose River #13	$2,900.00
42224	Champion Media LLC	Advertisement for Bids on #149 1W1P	$89.10
42225	Clearwater Co. SWCD	***see details below	$6,809.45
42226	Erik Haman	Beaver removal on #102 4-Legged Lake	$500.00
42227	Farmers Union Oil	Fuel for vehicles	$1,112.14
42228	Frontier Precision	Drone - EVO II (board approved at '26 budget meeting)	$5,380.05
42229	HDR	***see details below	$23,551.25
42230	Hugo's	Meeting Goodies and Office Supplies	$307.39
42231	Jeff Olson Construction	Snow Removal in Parking Lot	$200.00
42232	Karvakko	Engineering for Northome Stormwater Project #149C	$3,000.00
42233	Lonnie Peck	Beaver Removal on Project #50A & 60D	$300.00
42234	Marco	Canon Copier Contracted Monthly Services	$403.35
42235	Mark Beito	Beaver Removal on Moose River #13	$1,200.00
42236	Mike Illes	Gopher Removal in Winsor Twshp #113	$70.00
42237	Northdale Oil	Fuel for vehicle	$63.30
42238	Northern Motors	Tire Monitor System Light on Traverse	$108.62
42239	Pennington Co. Highway Dept	Snow removal on road & culvert on Cty Rd 55 #176	$840.00
42240	Pennington SWCD	***see details below	$21,048.96
42241	Quality Spray Foam	Work on State Ditch 83 & Blk Rvr Imp road & culvert	$2,617.50
42242	Red Lake County Gazette	Amendment Hearing Notice for Red Lake 149 1W1P	$62.60
42243	RMB Enviromental Services	Courier & Lab Fees for #46	$11,386.00
42244	The Exponent	Notice of Hearing for #179 Imp. To Polk Co. #39	$586.98
42245	TRF Hardware	Supplies for Bareroot trees	$49.56
42246	West Polk SWCD	T&E and Proj. Dev for #149 1W1P	$4,221.14
online	WEX	Monthly Fee	$11.00
online	AT & T	Monthly Fee	$395.24
online	Purewater	Office H2O	$38.00
online	Garden Valley	Monthly Fee	$68.95
online	MN Energy	Utility Services	$111.48
online	WEX	Medical Care Reimbursement	$105.00
online	WEX	Medical Care Reimbursement	$20.00
online	Medica	Health Insurance Premiums	$11,319.06
online	Card Members Services	Trees for Streambank Projects,Motels,Calib. Kit	$8,144.11
online	Vestis	Office Rug Rental	$96.46
online	MSRS	Staff Health Care Savings Plan (pp 5-6-26)	$365.73
online	Aflac	Staff Insurance	$277.16
online	NCPERS	Staff Life Insurance	$128.00

online	Delta Dental	Delta Insurance Premium	$631.22
online	Corporate Technologies	Managed IT Services & Microsoft Monthly Subscrip.	$2,080.00
online	City of TRF	Utilities	$389.29
online	WEX	Medical Care Reimbursement	$23.98
direct	Grant Nelson	Mileage	$69.60
direct	Brian Dwight	Mileage	$357.70
direct	Al Page	Mileage	$131.23
direct	Erick Huseth	Reimburse for Valve Assembly	$33.47
online	Board & Staff Payroll	pp(5/6/26)	$17,701.12
	Total Checks		**$144,713.05**

Clearwater SWCD	Admin /T&E fees for 2025	$4,079.79	
	Reimbs. for Direct Exp	$2,729.66	
		$6,809.45	
*****HDR**	Turtle Cross Connection Fees study	$530.00	
	Mud River Restoration Fee study	$3,957.50	
	T&E for #101,43B,119,174C & 92	$19,063.75	
		$23,551.25	
*****Penn SWCD**	Red Lake River Admin #149 1W1P	$5,286.46	
	Thief River Admin #149A 1W1P	$14,975.70	
	Clearwater Admin #149B 1W1P	$786.80	
		$21,048.96	

	Balance as of April 22, 2026		$644,026.42
	Total Checks Written		-$144,713.05
	Receipt #12506	RRWMB 2025 Web Hosting Reimbursement #001E	$1,500.00
NSB	Receipt #12507	State of MN - Swift Invoice #14 Project #168A	$3,687.31
	Receipt #12508	State of MN - 50% 2026 WBIF Grant Proj. #149	$856,311.50
	Receipt #12509	Monthly April Interest	$2,184.56
	Receipt #12511	Dakota Heritage Bank monthly CD Interest	$6,884.94
	Receipt #12512	Clearwater SWCD - Swag Hrs	$745.25
	Balance as of May 14, 2026	Current interest rate is 3.25%	**$1,370,626.93**

American Federal Fosston	Balance as of April 22, 2026		$3,895,773.13
	Receipt #12510	Monthly April Interest	$10,566.62
	Balance as of May 14, 2026	Current interest rate is 3.35%	**$3,906,339.75**

CD's	*Edward Jones*	12 month CD 4.25% Expiry 5-29-26	$ 237,000.00
	Edward Jones	12 month CD 4.30% Expiry 6-18-26	$ 239,000.00
	Dakota Heritage	12 month CD 4.04% Expiry 2-11-27	$ 250,000.00
	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
	Ultima Bank	12 month CD 3.75% Expiry 2-27-27	$ 500,000.00
	Dakota Heritage	12 month CD 4.04% Expiry 5-07-27	$ 500,000.00
	Dakota Heritage	7 month CD 3.89% Expiry 12-07-26	$ 500,000.00
		Total CD Investments	**$2,976,000.00**
		NSB, AFB +CD's	**$8,252,966.68**

Cash that has been received and earmarked for projects:
(taken from remaining balance on financials)

	2024 Grant Red Lake River 1W1P Project #149	$258,286.70
40% rcv'd after reconciliation 2/28/26	2024 Grant Thief River 1W1P Project #149A	-$107,279.53
	2023 Grant Clearwater 1W1P Project #149B	$155,385.76
	2025 Grant Clearwater 1W1P Project #149B	$1,485,882.00
	2024 CRP Payment Red Lake 1W1P	$2,132.00
	2025 CRP Payment Red Lake 1W1P	$100,000.00
	2026 Grant Thief River 1W1P Project #149A	$353,194.00
	2026 Grant Red Lake River 1W1P Project #149	$856,311.50
	2026 MIDPOINT Red Lake River Project #149	$10,000.00
	2025 MIDPOINT Thief River Project #149A	$38,198.00
		$3,152,110.43

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.)	**$ 4,588,356.25**

Outlook

U of M Drainage Research Cost-share

From Rob Sip <rob.sip@rrwmb.us>
Date Fri 4/24/2026 8:09 AM
To Tammy Audette <tammy.audette@redlakewatershed.org>

Tammy,

If the RRWMB and RLWD cam up with $20,000 for Lindsay, then here is the breakdown of cost-share:

- 66.66% RRWMB – $13,332.00
- 33.33% RLWD - $6,666.00

Will this work?

Robert L. Sip
Executive Director
Red River Watershed Management Board

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Investing in and Managing the Watershed of the Red River Basin

Associate Professor and Extension Specialist in Nutrient and Water Management
Department of Soils, Water, and Climate
University of Minnesota - Northwest Research and Outreach Center
Office: 218-281-8608; Cell: 419-290-6150

On Fri, Feb 27, 2026, 9:36 AM Rob Sip <rob.sip@rrwmb.us> wrote:

Tammy and Corey,

Lindsay Pease is a researcher at UMC and she is working on drainage in the Red River Basin of MN.

Attached a summary about the work she's doing, and the types of projects she is working on. She is seeking about $10,000 to $15,000 for the next growing season. Lindsay is also looking at potentially submitting an LCCMR this round – application due to LCCMR March 18, 2026. Also attached is a MN Conservation Drainage Hub proposal – one she is waiting on funding for. That project is heavily focused on controlled drainage and understanding grower concerns about the practice.

Lindsay and I talked and it was suggested that she partner with the RLWD and have the funding request be a partnered request with the RLWD and U of M. I know time is short, but Lindsay will be in St. Paul next week and we will be there too. Let's find time next Monday or Tuesday to discuss.

I told Linday the project needs to be within a RRWMB member WD and she will need to verify the location with you. Lindsay is committed to doing the work.

M.L. 2027 Request for Proposal:
https://www.lccmr.mn.gov/funding_process/process_2027.html
Status: The 2027 request for proposal is OPEN
The LCCMR's 2027 Request for Proposal (RFP) for funding from the Environment and Natural Resources Trust Fund was issued on January 7, 2026. Approximately $121 million is available from the lottery-generated fund through this RFP for projects beginning July 1, 2027. Proposals are due by 4:30 PM on March 18, 2026. Visit the 2027 Funding Process page to learn more.

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Investing in and Managing the Watershed of the Red River Basin

Water Quality Monitoring at Minnesota's Coolest Drainage Plots

Site Description:
We designed and installed these plots in a 60-acre field at NWROC in October 2019. This field has two alternating 'drained' and 'undrained' plots of about 15 acres each. It is farmed as one unit with full-scale equipment so that it is comparable to an on-farm monitoring site. The first monitoring season began in Spring 2020. We have been collecting water quality and quantity data from surface runoff and subsurface drainage discharge at this site.

Project Goals:

Subsurface Drainage Water Quality and Quantity in the Red River Valley
Minimal data on the water quality from tile outlets is currently available in the Red River Valley. Our work is filling this gap by conducting long-term monitoring at this site to quantify the impacts of tile drainage on water quality, water quantity, soil fertility, and soil health for this region. Our work has shown minimal risk of tile drainage systems to water quality in the Red River Basin. During our heaviest rainfall year to date (2020), nitrate loading equaled only about 1 lb N per acre for the growing season. The greatest nitrate losses are not always found in the same year that fertilizer is applied. Nitrate losses are strongly tied to precipitation patterns. Nitrate concentrations were minimal in 2021 and 2022 during the region's severe drought. Then, nitrate concentrations increased in 2023 and 2024 with increasing precipitation. Stunted yields during drought years reduced yields which led to greater nitrate loss once the drought ended. Phosphorus concentrations were also linked to precipitation patterns, but in a different way. Phosphorus losses are more closely linked to high-intensity rainfall events and storms than total rainfall. On these plots, we observed greater phosphorus concentrations in surface runoff than in subsurface drainage discharge. This suggests that subsurface drainage systems help to reduce phosphorus losses during the growing season in our watershed.

Demonstration site for the benefits of tile on yield to local stakeholders
Tile drainage installations are expanding throughout the Red River Valley. This site serves as a demonstration site for stakeholders to better understand the production benefits of subsurface drainage in typical rotations in Northwest Minnesota (wheat, soybeans, sugarbeets)

Outreach & Extension
The results of this project are widely presented each year reaching drainage contractors, farmers, state agency representatives, and academic researchers:

- 100+ visitors to the site annually
- 1000+ stakeholders reached via extension presentations annually across Minnesota, North Dakota, and nationally since 2020 (e.g., North American Conservation Drainage Expo, Conservation Drainage Network Annual Meeting)

Future projects planned at the site:

1. *Management of lift stations for controlled drainage in the Red River Valley*. Our drainage plots show that water table control for controlled drainage is possible from the lift stations. We are looking to develop guidance for farmers who would like to manage their water

more intentionally. This could translate into increased yields in drier years. It would also help assure farmers that they are not "over draining" their fields during drought. A secondary benefit would be nitrogen loss reduction relative to unmanaged drainage water.

2. *Role of drainage in the conversion to conservation management systems.* Starting in Fall 2026, we will be splitting this site into two fields for conservation and conventional management. We are looking into how we might pair this trial with the drain spacing plots (described below).

Additional drainage research projects in the Red River Valley

1. *Drain Spacing Plots: Crookston, MN.* Drain spacing plots were installed at the Northwest Research & Outreach Center in Fall 2000. Drain spacings are based on drainage coefficients (water removal rates) of ¼", ½", and ¾" per day. There are also adjacent undrained sections of the field. This installation was done by Field Drainage (Brooks, MN). These plots originally were used in yield trials from 2001-2004. They were not used for research until 2021-2024 for a trial to find out whether increased drain spacing reduced incidence of disease pressure in dry beans or wheat. Due to the drought conditions during the study years, we did not see reductions in disease pressure from drainage. The past two growing seasons, we have also been looking at nitrogen cycling differences in corn and sugarbeets in these plots.

2. *Woodchip Bioreactor: Mentor, MN.* In Fall 2023, we installed a woodchip bioreactor on a private farm in Mentor, MN. We are currently diverting water from the on-site lift station into the bioreactor with a basement sump pump and PVC pipes. We have some intermittent power issues at the site but aside from that it works well. Our preliminary results show a 50% reduction in nitrate loss at the site from the woodchip bioreactor for irrigated corn grown on sandy loam soil.

3. *Drainage Water Recycling: Fertile, MN.* The same farmer who has the woodchip bioreactor is interested in trying out Drainage Water Recycling on his farm. We are currently exploring the options to pursue this project, but the farmer is running into permitting issues trying to access water to use with the system. We are currently helping him out with an assessment to see if the site is favorable for drainage water recycling. If it is favorable, then we will begin the project planning process and look into permitting and other issues to help him with this project.

MINNESOTA CONSERVATION DRAINAGE HUB

Introduction

To achieve a 45% reduction in nitrate loss to the Mississippi River by 2040, Minnesota must address its 8.3 million acres of subsurface-drained agricultural land. Large-scale implementation of conservation drainage is crucial for meeting this goal. The term 'conservation drainage' refers to a suite of best management practices that share a common goal: mitigating a drainage system's environmental impact while maintaining its ability to protect crops from saturated soils. Controlled drainage, or drainage water management, is a promising conservation drainage practice from both environmental and agricultural perspectives. Controlled drainage functions much like a dam on a river. Adjustable depth settings at a subsurface drainage system outlet allow for water retention during times of low flow and water release when drainage is needed. This process slows the release of water and nitrate from the subsurface drainage system (e.g., Evans et al. 1995; Fausey 2005).

Controlled drainage has never been broadly adopted despite its potential. In a 2010 report documenting findings from small focus groups in Minnesota, Lewandoski and Dittrich suggested that drainage practitioners may find controlled drainage too complicated (in terms of siting, cost, and management) with too little benefit to water quality. Over the past decade, subsequent demonstration and synthesis studies have shown that simple management strategies achieved 30% to 50% reductions in subsurface discharge and nitrate loss while maintaining corn yields. These results held true across 13 sites, five climate zones, and variable weather conditions (Helmers et al., 2022; Youssef et al., 2023). Nevertheless, from 2010 to 2023, controlled drainage was installed on only 0.1% of Minnesota's subsurface-drained cropland (MPCA, 2024). This gap between science and adoption demonstrates *we still lack critical understanding of farmer attitudes and beliefs toward controlled drainage*. Answering this question for controlled drainage will provide much-needed insight into barriers to adoption of other conservation drainage practices both within Minnesota and in other intensively-drained watersheds. Without this understanding, implementation will not proceed at the pace needed to achieve our collective nutrient reduction goals.

The long-term goal of the Minnesota SWITCHES Hub is to advance the adoption of conservation drainage to reduce the environmental impact of agricultural drainage systems. In this project we will develop implementation strategies that dismantle barriers to adoption of controlled drainage. Our *central hypothesis* is that concerns about controlled drainage efficacy at the farm scale remain too high for the perceived social and environmental benefits of adopting this practice. To address these concerns, we must improve our mechanistic understanding of controlled drainage performance, and generate targeted management guidance that considers these drivers. Establishment of a Minnesota SWITCHES Hub provides a unique and exciting opportunity to test this hypothesis in a collaborative, co-learning environment alongside farmer and industry partners.

We will apply our team's combined expertise in social science, hydrology, agricultural engineering, and outreach to develop improved strategies that 'tip the scales' in favor of adoption.

The Minnesota SWITCHES Hub will use a holistic approach that integrates socio-economic learning, on-farm research, and scenario analysis in pursuit of the following *specific aims*:

1. **Assess drivers of and barriers to farmer adoption of controlled drainage.** This objective addresses a *critical need* to engage with farmers to understand their willingness to adopt controlled drainage. Our *working hypothesis* is that farmer attitudes and motivations for adoption are influenced by inherent knowledge of landscape-level processes influencing the agricultural water balance. To test this, we will conduct a social science-based assessment of farmers' experiences, insights, motivations for, and barriers to adoption of controlled drainage. Specific activities include a meta-analysis of existing surveys in Minnesota, interviews and focus groups with farmers near project sites, and outreach workshops with farmers, resource professionals, and other stakeholders.

2. **Rank the relative influence of landscape and climate factors on controlled drainage efficacy.** This objective evaluates how different landscape and climate factors influence controlled drainage efficacy in key areas including drought resiliency, nutrient loss, and agronomic output. Our *working hypothesis* is that more frequent wetting and drying cycles promote improved crop water use and water quality outcomes under controlled drainage management. We will test this by collecting data at paired controlled drainage and conventional drainage at five sites representing different landscape positions. We will use this data in statistical analyses to establish baseline practice performance in the state and to evaluate the relative influence of site-specific factors on practice performance.

3. **Reduce risk by developing targeted management strategies for different landscape positions and weather scenarios.** This objective simulates farmer management decisions in response to different soil and weather conditions to evaluate potential impacts on crop yield and peak flows. Our *working hypothesis* is that targeted management of controlled drainage based on landscape factors will decrease drought vulnerability compared to conventional drainage and flood vulnerability relative to standard management guidelines. We will test this hypothesis by conducting scenario assessments that simulate farmer decisions and evaluate potential impacts on crop yield, peak and base flow dynamics, and drought resilience.

This project will document adoption barriers and risks of loss or failure by collecting data locally and sharing information from similar farms or from similar regions. This information and demonstration will allow farmers to adopt and adapt practices with necessary tweaks for management to allow for greater success. Together these outcomes will inform future policy

directions, improve management guidance to farmers, and reduce the environmental impact of agricultural drainage.

Approach

Objective 1: Assess drivers of and barriers to farmer adoption of controlled drainage

Introduction. State and local agencies are investing resources in programs to promote the use of conservation practices. However, changing behavior is a difficult task. Conservation decision making processes are influenced by both individual-level psychological factors (e.g., beliefs and attitudes) and contextual socio-economic factors (e.g., markets) (Prokopy et al., 2019; Reimer et al., 2014). This objective addresses a *critical need* to understand the primary factors that are preventing Minnesota farmers from pursuing controlled drainage as a conservation practice. Our *working hypothesis* is that farmer attitudes and motivations for adoption are influenced by an inherent knowledge of landscape-level processes influencing the agricultural water balance. Farmers on flatter, down-watershed plains commonly experiencing intermittent spring flooding and summer drought may be motivated by crop production benefits and by mitigating flooding downstream, while upland farmers may be motivated by reducing water quality and quantity impacts on downstream residents. Thus, a lack of site-specific management recommendations has created an unacceptable risk to crop yield and is preventing broad adoption of controlled drainage. To test this hypothesis, we will conduct a broad social science-based assessment of farmers' experiences, insights, motivations for, and barriers to adoption of controlled drainage. Our approach includes a meta-analysis of existing surveys in Minnesota, interviews and focus groups with farmers near project sites, and outreach workshops with farmers, resource professionals, and other stakeholders. Improved understanding of farmer beliefs and attitudes around controlled drainage and conservation drainage practices as a whole will inform where best to invest our time and resources: educational efforts, incentive programs, or policy changes. The survey and farmer engagement data will also be used to direct (and redirect if necessary) the research and engagement efforts described in Objectives 2 and 3.

Experimental Design:

Literature review and meta-analysis on determinants of conservation drainage adoption. We will conduct an extensive literature review and meta-analysis of existing social datasets in Minnesota (Pradhananga et al., 2024; Pradhananga et al., 2023; Pradhananga et al., 2021; Fellows et al., 2019; Pradhananga et al., 2018; Pradhananga and Davenport, 2017; Pradhananga, Perry and Davenport, 2014). This literature review will be used to identify key drivers of and constraints to the adoption of conservation drainage practices among farmers. This will include compilation of all survey data collected by project co-PIs in Minnesota. Pradhananga and Davenport will lead this activity in Year 1.

Statewide survey on conservation drainage. We will use standard survey research methodology to develop a questionnaire that examines drivers of and constraints to the adoption of conservation drainage practices among farmers in Minnesota in Year 2. The questionnaire will assess farmers' beliefs, norms, and current and future conservation behaviors. Basic sociodemographic information and farm characteristics will also be gathered. The questionnaire will be developed based on the literature review and meta-analysis, as well as insights from local project partners. A stratified random sample (stratified by geography) of 4,000 farmers will be contacted. Survey design protocols outlined by Dillman et al. (2014) will be followed, which includes a series of questionnaire mailings with cover letters. The survey protocol, including the questionnaire, will be pre-tested with producers and reviewed by the University's Institutional Review Board. We will document farmer mental concepts of practice costs and benefits, current adoption rates, likelihood of future adoption and identify factors (e.g., beliefs, attitudes, information sources, trust in sources of information) that influence farmers' willingness to adopt controlled drainage. Data will be analyzed using basic descriptive statistics to summarize individual variables. Inferential statistics (e.g., regression, structural equation modeling) will be conducted to assess relationships between variables, including the influence of variables such as farm characteristics, self-efficacy beliefs and norms on adoption of conservation drainage practices. Pradhananga and Davenport will lead this activity.

Interviews and focus groups with farmers engaged in Discovery Farms Minnesota. We will conduct up to 15 in-depth interviews in Year 2 and two focus groups in Year 3 with farmers engaged in Discovery Farms Minnesota to examine their motivations for participation in the program, as well as to gather perspectives about conservation drainage from a group of highly engaged farmers. Focus groups will engage farmers in discussions about motivations for and constraints to farmer engagement in conservation, as well as strategies to improve farmer engagement in programs aimed at promoting conservation drainage practices. Interview and focus group data will be analyzed using standard qualitative analysis procedures (Charmaz, 2014; Corbin and Strauss, 2008). Qualitative data collected from interviews and focus groups will provide current and historic farm management information including what motivates adoption of conservation practices including conservation drainage, and perceptions of on- and off-farm impacts. Pradhananga and Davenport will lead these interviews. Radatz will act as the primary liaison between farmer participants and the social science team to coordinate focus groups.

Outreach workshop with farmers, resource professionals, and other stakeholders. We will present qualitative (i.e., interviews and focus group) and quantitative (i.e., survey) findings to producers, resource professionals, and other stakeholders (e.g., agronomists, agency representatives). These follow-up outreach workshops will allow us to share study findings including survey and modeling results, test model assumptions and discuss ideas for adjusting the practice management. Workshop participants will engage in discussions to co-analyze and

interpret study findings and reflect on opportunities and challenges to support practice adoption. Radatz will act as the primary liaison between participants and the project team in coordinating these workshops. One output of this activity will be to identify action steps for future program development and implementation. We will organize this workshop in Year 5.

Expected Results

We will use survey and farmer engagement data to identify key drivers of and constraints to the adoption of controlled drainage practices among farmers. We will also use this data to understand the influence of and relationship between variables such as farm characteristics, self-efficacy beliefs and norms on adoption of conservation drainage. The outcomes of this objective are exciting because they will provide much-needed insight into motivations for and constraints to farmer adoption of conservation practices in general, not only for controlled drainage. Discussions among participants and the project team will allow co-learning and co-analysis that will reflexively inform and strengthen the research pursued in Objectives 2 and 3. We will develop this shared knowledge into actionable strategies that improve farmer engagement in programs aimed at promoting conservation drainage practices.

Anticipated Problems and Alternative Strategies

In the unlikely event that we are not able to recruit enough participants into the survey or focus groups described above, we would divert effort into alternate aspects of the objectives, such as expanding the scope of the meta-analysis of previously administered surveys, or broadening recruitment of farmers to participate in focus groups. The project team's strong history working with farmers provides access to additional highly-engaged contacts that would be reliable for recruitment into focus groups and interviews if needed.

Objective 2: Rank the relative influence of landscape and climate factors on controlled drainage efficacy

Introduction. Subsurface drainage system response to precipitation is regulated by a range of site-specific factors including soil texture, landscape position, slope, and soil chemistry. This objective will evaluate how different landscape and climate factors influence the efficacy of controlled drainage management. Our *working hypothesis* is that more frequent wetting and drying cycles promote improved crop water use and water quality outcomes under controlled drainage management. Sites with sandier soil textures or up-watershed landscape positions will exhibit similar responses due to more frequent water table fluctuations. For sites with clayey soil textures or down-watershed landscape positions, more frequent management of controlled drainage systems will be needed to achieve equal yield and water quality outcomes. We will test this by evaluating the drivers of paired (controlled and conventional) drainage systems across landscape

positions. Field data collection will provide foundational data to conduct statistical assessments of water quality and quantity across gradients of landscape position and climate conditions. Data will be applied in Objective 3 to improve model accuracy. Improved mechanistic understanding will allow us to develop improved siting and system design guidance for contractors, and generate simplified management guidance for farmers that are targeted toward goal-oriented outcomes. The insights generated by this objective will be critical for linking the outcomes of this Hub to other SWITCHES Hubs.

Experimental Design

Establishing baseline variability in water and nutrient export from controlled drainage systems across Minnesota. Five paired research sites will be used to compare water and nutrient export from controlled and conventional drainage systems over five years. We have tentatively identified project locations within Minnesota for the Hub, based on landscape location, site suitability for controlled drainage, and landowner willingness to participate in the project (table 1; figure 1). We have high confidence in our ability to effectively monitor these sites. Three sites (Polk, Wilkin, and Waseca) are currently monitored by the project team. The sites represent the main geographies where controlled drainage is relevant. During the course of in-field monitoring, sites will be largely observational (i.e., farmers will manage as they choose, and we will observe and record how water table manipulation affects water and nutrient fluxes). We will discuss the current best practices for controlled drainage with farmer partners and will co-develop a management plan for their farm. Throughout the project, we will revisit this plan based on farmer needs and the outcomes of the other objectives. We will initiate data collection for this objective in Year 1 so that it can be used for model calibration to link in-field vadose zone manipulation with potential impacts on streamflow generation via hydrologic modeling in Objective 3. Radatz and Formo will coordinate the overall effort to establish monitoring sites. Rassmussen and Matteson will lead site set-up, instrumentation, and monitoring.

Table 1. Site descriptions for paired analysis of controlled and conventional controlled drainage

Site Name	**Landform**	**Landscape position**	**Common crops**	**Climate**
Polk	Lake plain	Plain, floods intermittently	Corn, Soybean, Sugarbeet, Wheat	Cold, dry
Wilkin	Lake plain	Plain, floods intermittently	Corn, Soybean	Cool, dry
Cottonwood	Lateral moraine	Terrace	Corn, Soybean	Warm, dry
Nicollet	Ground moraine	Terrace	Corn, Soybean	Warm, wet

Waseca	Ground moraine	Upland	Corn, Soybeans	Warm, wet

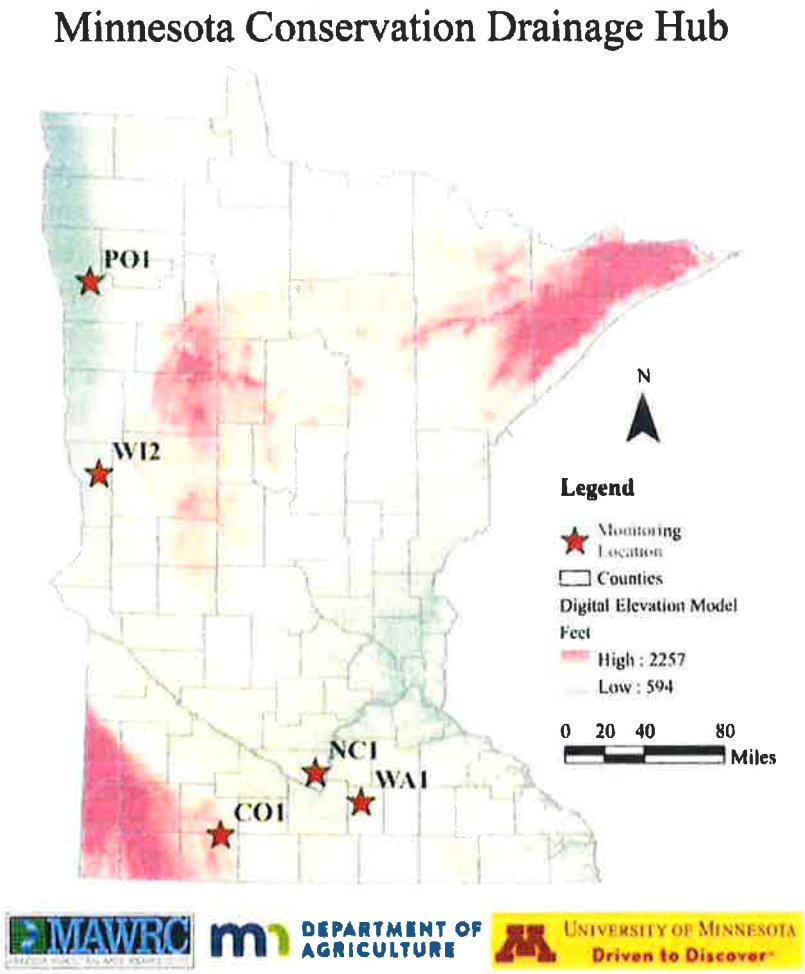

Figure 1. Geographic location of proposed controlled drainage monitoring sites

Data collection at each site will include subsurface drainage discharge, water quality, soil water dynamics and water storage, water table levels, vertical and lateral seepage estimates, and agronomic information. Subsurface drainage discharge and water quality monitoring will follow guidance established by the Minnesota Department of Agriculture and Discovery Farms Minnesota (Rassmussen & Matteson, 2011), and is consistent with the standard methodology used for subsurface discharge monitoring (Abendroth et al., 2022). Water table depth will be monitored using pressure transducers suspended in wells strategically placed in the field. Vertical and lateral seepage will be estimated from the drawdown of the water table based on the volume of water removed by subsurface drain (Skaggs, 1976). The experimental set-up of controlled drainage sites is ideal for estimation of saturated hydraulic conductivity via this method because it can be evaluated each time water levels are lowered in the spring for planting. In the absence of raised water table conditions after spring snowmelt, natural drawdown of the water table following several rainfall-drawdown events would also be acceptable for use with this method.

Direct comparison of water quality and quantity between controlled and conventional drainage systems will be conducted at each site using the paired watershed statistical method (Clausen & Spooner, 1993). This approach allows analysis of management effects in paired site experimental design. A relationship between two sites is established during a 'calibration period' when no treatment is applied to either pair. After treatments are applied to one site, the previously established calibration relationship is used to predict the behavior of the managed system if the treatment had not been applied. Comparing the observed and predicted data for the managed site provides an assessment of treatment effects. Three sites (Polk, Wilkin, and Waseca) have previously been monitored under calibration conditions. The Nicollet and Cottonwood Sites will be monitored under calibration conditions for two years prior to applying controlled drainage treatments. Pease and Kjaersgaard will lead analysis of water quantity and quality data. This data will establish a baseline for expected variability for controlled drainage performance across the state of Minnesota, something which has not previously been done. This work will begin in Year 4 after at least three years of data collection.

Understanding hydrologic response to landscape and climate gradients for controlled drainage systems. We will use a multiple linear regression approach to conduct comparisons across sites that rank the relative and combined impacts of site-specific factors on controlled drainage performance. Landscape and climate factors exist across continuous gradients that are not easily represented in plot-level agricultural statistics. The multiple linear regression approach allows for these factors to be weighted and compared alongside management factors to determine key response drivers. This approach was successfully applied to controlled drainage sites in Ohio's Western Lake Erie Basin to evaluate nutrient loss in subsurface drainage systems (Pease et al., 2018). This analysis will allow us to rank the relative influence of different factors on controlled drainage efficacy and explore why on-farm results change across landscape and climate gradients. It will also allow us to extrapolate our results to sites that are outside of our immediate study area.

This analysis is critical for linking our study's observations to those of other SWITCHES Hubs. Pease will initiate this work in Year 4 after at least three years of data collection.

Expected Results

This objective will generate critical foundational data for controlled drainage performance in Minnesota. We will apply this information in several contexts to meet our overall project goals. First, we will establish a baseline for controlled drainage performance across Minnesota. Second, we will identify and rank the key landscape and climate factors that drive differences in controlled drainage efficacy. Third, we will apply the data to calibrate and validate the computer simulations planned in Objective 3. Collectively, these results will highlight the mechanisms that vary controlled drainage performance across sites. Knowing the key mechanisms influencing controlled drainage performance will set realistic expectations for practice performance in different contexts. This will improve siting and design guidance for contractors and guide site-specific controlled drainage management plans to reduce risk and improve overall practice outcomes. These results will also provide an exciting pathway toward linking our project findings to those of other SWITCHES Hubs.

Anticipated Problems and Alternative Strategies

Our proposed monitoring strategy establishes five different sites from the onset of the project. This minimizes risk that we will fail to collect sufficient data to proceed with data analysis or modeling activities. In the unlikely event that one of our farmer partners withdraws consent to monitor at their farm, then we will look into establishing monitoring at a different site. If sufficient data has been collected at the site (three or more years), then we will also consider whether we can proceed without replacing the site. Another problem that may emerge is if our farmer partners identify site-specific performance concerns with controlled drainage that are not addressed by our proposed monitoring scheme. In this case, we would explore the feasibility of adding additional monitoring equipment to address the concern. If direct measurement is not feasible, then we would explore how to incorporate the concern to the modeling scenarios described in Objective 3. If we are not able to establish monitoring according to our planned timeline, then we can pursue multifactor analysis on previously collected and quality-controlled hydrology data from the Polk, Wilkin, and Waseca sites. If needed, we would supplement this data with data collected in previous controlled drainage studies conducted by co-PIs Pease and Kjaersgaard (datasets described in Abendroth et al., 2022).

Objective 3: Reduce risk by developing targeted management strategies for different landscape positions and weather scenarios

Introduction. Controlled drainage management must reduce the risk of negative outcomes for farmers. At the same time, evaluating different management scenarios can be risky and costly in an on-farm setting. To avoid unnecessary risk to our farmer partners' operations, we will use computer simulations to evaluate the outcomes of different management scenarios. Scenario assessments will simulate farmer decisions to raise or lower drainage outlet levels in response to different soil and weather conditions and evaluate potential impacts on crop yield and peak flows. Our *working hypothesis* is that targeted management of controlled drainage based on landscape factors will decrease the vulnerability to drought conditions compared to conventional drainage, and vulnerability to flooding relative to standard management guidelines. The site-specific data collected in Objective 2 will be used to calibrate and verify the accuracy of hydrologic models for conducting scenario assessments to extrapolate the results to determine impacts on in-field hydrology and discharge peak flow and base flow dynamics and drought resilience. Initially, we will propose a standard set of scenarios for discussion with farmer partners. Discussions with farmer partners and preliminary results from Objective 1 will be used to define, refine, and adjust scenarios prior to conducting model runs. Computer modeling for scenario analysis will provide flexibility in our research outcomes as we shape and adjust research goals based on farmer insights and ideas throughout the five-year project period. Simulation outcomes will be shared and discussed with our farmer partners to improve our management guidance so that it reduces risk and improves overall outcomes of controlled drainage.

Experimental Design

Improving the farm-level agronomic and environmental outcomes of controlled drainage. We will use DRAINMOD, a model designed specifically for high water table soils, to conduct the simulations described in this study (Skaggs, 1978). Pease will lead this objective with assistance from a postdoctoral research associate. Model inputs will be derived from measured soil characteristics, drainage system design, and crop information from the five on-farm sites described in Objective 2. These sites will also provide data to calibrate and verify model simulations based on a minimum of two years of hydrology and water table data. We will follow established procedures for evaluating DRAINMOD model performance (Skaggs et al., 2012). To ensure project success within our time frame, we will begin calibrating DRAINMOD in Year 1 for the sites with previously collected controlled and conventional drainage data (Wilkin and Waseca).

We initially propose four management scenarios to be tested during each run. These are intended to be a starting point for farmer discussions during annual data review meetings in Year 1. We will revise these scenarios to ensure they are realistic and align with farmer interests, questions, and concerns. After this initial refinement, we will share and discuss the scenarios with broader groups of participants through our planned activities in Years 2 and 3. The initial proposed management scenarios include:

1. *No management*: No controlled drainage management installed, this will serve as the control with which any relative crop yield gains or losses will be compared.

2. *Baseline management*: This scenario represents current recommendations for controlled drainage management. In this scenario, the controlled drainage outlet will be raised to a height of two feet below the ground surface two weeks after planting, lowered four weeks before crop maturity, and raised to one foot below the ground surface during the winter.

3. *Wet-year management*: This scenario represents a risk-averse, management-intensive scenario. Controlled drainage system settings are set to minimize risk of reduced crop yield due to saturated soil conditions becoming too wet. This scenario will follow baseline management early in the growing season, but will simulate response to high-intensity rainfall events by lowering the height of the drainage outlet.

4. *Watershed management*: This scenario represents a management strategy that prioritizes a gradual release of water from the drainage outlet prior to planting or harvest, but increases risk of saturated soil conditions during critical windows of in-field access.

We will begin model runs after our second refinement of management scenarios in Year 3 and will continue runs into Year 4. Each run of the model will consist of one randomly generated ten-year weather pattern and four management scenarios. Relative yield increase or decrease for each year of the model run will be summed together to determine the overall yield benefit for that run. We will use newer versions of the DRAINMOD model that estimate nitrogen and phosphorus loads to evaluate water quality impacts. Estimated reduction in nutrient loss will be summed over the ten-year period and compared to the control. The model will be run at least twenty times to determine how many times the controlled drainage system was "paid off" within a given ten-year period for each management scenario. Analysis of model results will include a comparison of how well each scenario performed across the different landscapes and climate conditions represented in the study. We will share our findings with our farmer partners in Year 4 so that we have the potential to respond to their feedback on our findings. We anticipate adding one or two new management scenarios in Year 5 to include in our final analysis.

Expected Results

This objective will generate realistic, adaptable recommendations for controlled drainage management in Minnesota. These recommendations will accommodate differences in farmer goals and risk tolerance as well as the landscape position of a given field. Including farmer partners in the development of simulation scenarios ensures that they address barriers to adoption, build farmer confidence in scenario outcomes, and improve the likelihood that the management recommendations will be followed. Together this will address farmer concerns about controlled

drainage while improving outcomes of controlled drainage such as: 1) improving resilience to drought compared to conventional drainage, and 2) decreasing vulnerability to flooding relative to standard controlled drainage management.

Anticipated Problems and Alternative Strategies

The activities in Objective 3 are designed to be adaptable and informed by the outcomes of Objectives 1 and 2. In the unlikely event that these objectives do not yield the intended outcomes or cannot proceed along our proposed timeline, we will pursue alternative strategies to ensure the success of Objective 3. A contingency for delays in Objective 1 is that we could pursue individual conversations with farmers (either by phone or in-person) to ensure that the proposed management strategies for our model simulations are realistic and answer their personal concerns about controlled drainage. For Objective 2, we would use previously collected and quality-controlled hydrology data to conduct our modeling analyses if our proposed monitoring scheme fails or encounters unforeseen damage.

Project Outputs and Stakeholder Engagement

Outreach, engagement, and co-learning are central to each of our objectives. In addition to the above activities we will host one public field day during the growing season and one larger data review meeting annually, for a total of ten in-person events. We will engage in co-learning by integrating farmer feedback from these events into our research outcomes. Radatz will lead the coordination of these events. The Minnesota Agricultural Water Resources Center (MAWRC) social media accounts will be used to promote the field days and meetings and share findings from the Hub to the broader audiences. After the conclusion of each event, they will remain available to a virtual audience through recordings on the MAWRC YouTube channel. These meetings will provide a broader opportunity to engage and generate feedback on Objectives 1-3 so that adjustments can be made if needed.

Key findings and recommendations from this project will be shared via the nationwide Conservation Drainage Network. The Conservation Drainage Network provides a forum for regular interaction among water management professionals across government, industry, and academic sectors. Co-PIs Kjaersgaard and Pease are highly engaged with the Conservation Drainage Network, and will share hub activities broadly via key outlets including the Conservation Drainage Network Annual Meeting (100 stakeholders annually) and the 'Conservation Drainage Weekly' email newsletter.

In addition to participating in the above activities, Pease will present findings from this project as part of her regular University of Minnesota (UMN) Extension Programming. Through various in-person events, Pease reaches more than 800 farmers annually spanning Minnesota,

North Dakota, South Dakota, Iowa, and Canada. These results will be further amplified through online outlets such as the UMN Crop News Blog and UMN Nutrient Management Podcast.

Summary and Future Directions

By the end of this project, we will have developed this collective knowledge into actionable strategies for controlled drainage implementation that dismantle barriers to adoption, improve agronomic and environmental outcomes, and increase adoption of controlled drainage. Successful completion of this project provides future pathways that lead in several potential directions. We anticipate that this project will provide insight into addressing barriers to adoption of additional conservation drainage practices. It will also create linkages toward conducting broader regional analyses of the mechanisms influencing conservation drainage performance under current and future climate conditions. The co-learning, reflexive approach used by our Hub may also identify new and innovative conservation drainage strategies to the forefront for addressing nutrient and water management concerns.

Lessard-Sams Outdoor Heritage Council

Mud River Enhancement Phase II

ML 2027 Request for Funding

General Information

Date: 05/13/2026

Proposal Title: Mud River Enhancement Phase II

Funds Requested: $3,200,000

Confirmed Leverage Funds: $655,000

Is this proposal Scalable?: No

Manager Information

Manager's Name: Tammy Audette
Title: Administrator
Organization: Red Lake Watershed District
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Email: tammy.audette@redlakewatershed.org
Office Number: 2186815800
Mobile Number: 2186815800
Fax Number: 2186815839
Website: redlakewatershed.org

Location Information

County Location(s): Marshall.

Eco regions in which work will take place:

Forest / Prairie Transition

Activity types:

Enhance

Restore

Priority resources addressed by activity:

Habitat

Wetlands

Narrative

Abstract

The Mud River drains thousands of acres of agricultural lands before flowing into the Agassiz National Wildlife Refuge (NWR). ML 2026 successfully began Phase I of this project. ML 2027-Phase II is intended to acquire full funding and complete 100% of the goals of the project, and provide 372 additional acres of riparian habitat. Both Phases I and II will bring riparian benefits back to a 6-mile segment of the original channel by restoring natural function.

Design and Scope of Work

Altered hydrology, flashiness, and incoming sediment from the Mud River watershed has multiple, harmful effects on the NWR. These include wetland bounce, attributed to runoff events during the nesting season which have negative effects on many waterfowl species, loss of meandered riparian habitat for species associated with this habitat type, deterioration of habitat quality as sediment accumulates in wetlands that then become infested with invasive cattail, increased flood impacts as sediment displaces storage volume within the NWR pools, rapid increases in and periodic spikes in turbidity levels in the Thief River when releases of water transfer sediment out of the NWR.

The project was developed using the Flood Damage Reduction Project Work Team approach. This team included Federal, State and Local units of government and both upstream and downstream stakeholders. Alternatives were developed, discussed and consensus reached on the preferred alternative. Project engineering focused on enhancing a six (6) mile segment of an abandoned natural stream. This project will direct at least 80% of the Mud River flow to the enhanced channel, returning it to a functioning state with natural meanders, base flow, low flow channel connected with the floodplain, and a design based on fluvial geomorphic principals. Habitat improvements will include restoring a diverse plant community along the floodplain gradient from emergent wetland vegetation up to forested margins.

The proposed Project consists of a diversion structure at the upstream end, a sinuous excavated two stage channel with low flow channel that conveys a 1 to 2 year design flow and a floodplain bench where needed to convey the 10-year flow. Also included is placement of spoil piles to add topographic variability and provide for increased vegetative diversity. The existing ditches will remain in place with the new channel providing increased flow capacity as compared to existing conditions. The recommended option allows the 10-year event to spread out across the floodplain as compared to being confined to the straightened ditch system. By allowing the flow to spread out there is a decrease in downstream peak flow from 675 cubic feet per second (cfs) to 575 cfs (15% reduction).

For ML 2027 the Project Work Team has considered additional design elements after further analysis, the need to include a large box culvert at the downstream end of the project, which is reflected in the overall cost of the project. In this Phase II request we are also accounting for inflation, resulting in a higher anticipated cost.

Explain how the proposal addresses habitat protection, restoration, and/or enhancement for fish, game & wildlife, including threatened or endangered species conservation

Ditching in the early 1900's straightened the historic flow patterns of this watershed and separated a historic channel from its water source. The result was wetland destruction, increased flow into the water conveyance systems and increased erosion and transportation of sediment downstream.

This project will provide a water feature within the wildlife refuge that meets the purpose for which the refuge was established and, continues to maintain the function of the water conveyance for the watershed and improving wildlife habitat on both a local, state, and national level. By returning natural stream geomorphology to a segment of the Mud River, fish and wildlife species will benefit from the restoration of base flow and by returning a natural sinuous wetland and stream type to the wildlife refuge. The alteration of riparian wetland systems that occurred over 100-years ago, were constructed to facilitate efficient removal of water from the landscape. Straight, linear conveyance systems were, and still remain, an efficient method of draining wetland habitat, effecting many fish and wildlife species. This project is supported by the Thief River One Watershed One Plan and complements other best management practices being implemented in the watershed to improve fish and wildlife habitat, improve water quality and reduce effects of flooding. By restoring meandering wetland characteristics to the landscape, resident populations of reptiles, amphibians and mammals will utilize the newly provided habitat. A wide representation of migratory birds, from wading and shore birds to passerine species up to waterfowl will make use of the diversity of habitat types this project will provide. With North American bird populations having experienced a 30% decrease since 1970, habitat enhancement projects, such as the Mud River Enhancement Project will help address this loss.

What are the elements of this proposal that are critical from a timing perspective?

Private land acquisition has been one of the most challenging tasks in the development of conservation projects. With appropriate funding, this project is ready for final design and implementation as it is located within the Elm Lake WMA and Agassiz NWR, eliminating the need for land acquisition. This project can be a showcase example of the positive impact that wetland and stream restoration can have on building climate resiliency into habitat management. The current RLWD Board of Managers and the MN DNR WMA, and NWR Managers are supportive of the project, and they will bring important community support required to accomplish and maintain the project goals.

Describe how the proposal expands habitat corridors or complexes and/or addresses habitat fragmentation:

By nature, streams and rivers are the original corridors providing travel pathways that connect various habitat types and provide population and species migration on a spatial scale. These interchange/exchanges of wildlife and habitat are what historically sustained strong, healthy populations of plants and animals in Minnesota. The linear habitat that replaced our natural stream and river corridors in the early 1900's due to ditching forever disrupted and fragmented this historic natural system. This project will restore a six-mile segment of the historic Mud River corridor, providing meandered habitat that eliminates the long sight lines of traditional man-made ditches that adds to disturbance and predation.

Meandering waterways provide the intimate and secretive setting that is critical to wildlife during the breeding and nesting seasons. This project will restore a natural corridor and the function of how wildlife historically utilized it.

Which top 2 Conservation Plans referenced in MS97A.056, subd. 3a are most applicable to this project?

North American Waterfowl Management Plan

U.S. Fish and Wildlife Service Strategic Habitat Conservation Model

Which LSOHC section priorities are addressed in this proposal?

Forest / Prairie Transition

Protect, restore, and enhance habitat for waterfowl, upland birds, and species of greatest conservation need

Describe how this project/program will produce and demonstrate a significant and permanent conservation legacy and/or outcomes for fish, game, and wildlife:

The primary purpose of the Agassiz NWR is to provide a refuge and breeding ground for migratory birds and other wildlife. This project is designed to provide a wetland feature type that is lacking in NW Minnesota for the benefit of the wildlife that use the landscape. The project incorporates climate modeling to reduce the stressors that are attributed to the extensive ditching in the watershed. The Project will be designed to reduce these harmful effects within and around the Agassiz NWR, while maintaining or improving the Mud River's outlet capacity from upstream agricultural areas through the NWR and into the Thief River.

This project will implement a passive wetland system where a more natural nutrient exchange exists between the floodplain and the meandered channel, and increases hydrological connectivity between the channel and floodplain, thus, restoring the wetland function to be self-adapting to dry and wet periods.

If this project/program does not have permanent outcomes, describe why it is important to undertake at this time:

Outcomes

Programs in forest-prairie transition region:

Increased waterfowl and upland bird migratory and breeding success ~ *Meandering waterways provide the intimate and secretive setting that is critical to wildlife during the breeding and nesting seasons. This project will restore a natural corridor and the function of how wildlife historically utilized it. By restoring 6 miles of riparian habitat several species of birds and mammals will once again be able to use this historic corridor. Water quality and quantity monitoring will be conducted to determine project benefits. Wildlife and vegetation response will be monitored by both the USWFS and the MnDNR.*

Per MS 97A.056, Subd. 24, Please explain whether the request is supplanting or is a substitution for any previous funding that was not from a legacy fund and was used for the same purpose.

Not applicable.

How will you sustain and/or maintain this work after the Outdoor Heritage Funds are expended?

This project is located entirely on State WMA and Federal Refuge lands. The MnDNR and USFWS will maintain these habitats to provide for the purposes for which these lands were acquired.

Provide an assessment of how your program may celebrate cultural diversity or reach diverse communities in Minnesota, including reaching low- and moderate-income households:

The Project will provide: Free public access hunting near a population center (cities of Thief River Falls, Grygla, Gatzke, Middle River) No-cost access to wildlife viewing. Outreach to tribal authorities on natural resource benefits is on-going.
Project Partners plan additional education outreach on the cultural significance and history of the area.

Activity Details

Requirements

Will restoration and enhancement work follow best management practices including MS 84.973 Pollinator Habitat Program?
Yes

Is the restoration and enhancement activity on permanently protected land per 97A.056, Subd 13(f), tribal lands, and/or public waters per MS 103G.005, Subd. 15 or on lands to be acquired in this program?
Yes

Where does the activity take place?

Refuge Lands

WMA

Land Use

Will there be planting of any crop on OHF land purchased or restored in this program, either by the proposer or the end owner of the property, outside of the initial restoration of the land?
No

Will insecticides or fungicides (including neonicotinoid and fungicide treated seed) be used within any activities of this proposal either in the process of restoration or use as food plots?
No

Previous OHF Appropriations

Have you received OHF dollars through LSOHC for this program or project in the past?
Yes

Are there any of these past appropriations still OPEN?
Yes

If needed, please include any explanation of unspent funds.
The prior allocation (ML 2026) has not been spent because funds have not been released at the time of this application.

Open OHF Appropriations - Data from Most Recent Status Update

Project	Funding Amount Received	Amount Spent to Date	Funding Remaining	% Spent to Date
ML 2026 - Mud River Enhancement Project	$2,917,000	-	$2,917,000	0.0%
Totals	**$2,917,000**	**-**	**$2,917,000**	**0.0%**

Timeline

Activity Name	Estimated Completion Date
Planning, design and permitting	July 1, 2027
Construction	July 1, 2029

Budget

Totals

Item	Funding Request	Total Leverage	Leverage Source	Total
Personnel	-	$155,000	RLWD, USFWS, MnDNR	$155,000
Contracts	$3,000,000	$500,000	RLWD	$3,500,000
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	-	-	-	-
Easement Stewardship	-	-	-	-
Travel	-	-	-	-
Professional Services	$200,000	-	-	$200,000
Direct Support Services	-	-	-	-
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	-	-	-	-
Other Equipment/Tools	-	-	-	-
Supplies/Materials	-	-	-	-
DNR IDP	-	-	-	-
Grand Total	**$3,200,000**	**$655,000**	**-**	**$3,855,000**

Personnel

Position	Annual FTE	Years Working	Funding Request	Total Leverage	Leverage Source	Total
Wildlife Manager	0.1	3.0	-	$35,000	MnDNR	$35,000
Refuge Manager	0.1	3.0	-	$40,000	USFWS	$40,000
Technician	0.2	3.0	-	$50,000	RLWD	$50,000
Administrator	0.1	3.0	-	$30,000	RLWD	$30,000

Amount of Request: $3,200,000
Amount of Leverage: $655,000
Leverage as a percent of the Request: 20.47%
DSS + Personnel: -
As a % of the total request: 0.0%
Easement Stewardship: -
As a % of the Easement Acquisition: -

Leverage Funding Table

	Leverage Amount Committed	Leverage Amount Confirmed (of Committed Funds)	Leverage Amount Anticipated	Total Leverage
Amount:	-	$655,000	-	$655,000
% of Total Leverage:	0.0%	100.0%	0.0%	

N/A

Detail leverage sources and confirmation of funds:
RLWD, USFWS, and MnDNR are partners in the project and are committed to completion of construction.

Does this proposal have the ability to be scalable?
No

Please explain why this project can NOT be scaled:
The Phase 1 request was funded in ML 2026 at 57%. Full funding would allow completion of the project under this Phase II application.

What other dedicated funds may collaborate with or contribute to this proposal?

Contracts

What is included in the contracts line?
Contracts would be for construction of the project.

Professional Services

What is included in the Professional Services line?

Design/Engineering

Federal Funds

Do you anticipate federal funds as a match for this program?
No

Output Tables

Acres by Resource Type (Table 1)

Type	Wetland	Prairie	Forest	Habitat	Total Acres
Restore	22	0	0	-	22
Protect in Fee with State PILT Liability	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0
Protect in Easement	0	0	0	0	0
Enhance	350	0	0	-	350
Total	**372**	**0**	**0**	**0**	**372**

Restoration/Enhancement Acres Breakdown of Existing Protected Lands (Table 1a.2)

	RESTORE: Lands acquired with OHF	RESTORE: Lands NOT acquired with OHF	ENHANCE: Lands acquired with OHF	ENHANCE: Lands NOT acquired with OHF
DNR Lands (WMA, State Forests, etc.)	-	6	-	-
Non-DNR Lands (city, state, federal, etc.)	-	16	-	350
Easements	-	-	-	-
Total	**-**	**22**	**-**	**350**

Total Requested Funding by Resource Type (Table 2)

Type	Wetland	Prairie	Forest	Habitat	Total Funding
Restore	$2,500,000	-	-	-	$2,500,000
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	$700,000	-	-	-	$700,000
Total	**$3,200,000**	**-**	**-**	**-**	**$3,200,000**

Acres within each Ecological Section (Table 3)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Acres
Restore	0	22	0	0	0	22
Protect in Fee with State PILT Liability	0	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0
Enhance	0	350	0	0	0	350
Total	**0**	**372**	**0**	**0**	**0**	**372**

Total Requested Funding within each Ecological Section (Table 4)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Funding
Restore	-	$2,500,000	-	-	-	$2,500,000
Protect in Fee with State PILT Liability	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-
Enhance	-	$700,000	-	-	-	$700,000
Total	**-**	**$3,200,000**	**-**	**-**	**-**	**$3,200,000**

Average Cost per Acre by Resource Type (Table 5)

Type	Wetland	Prairie	Forest	Habitat
Restore	$113,636	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-

Protect in Fee w/o State PILT Liability	-	-	-	-
Protect in Easement	-	-	-	-
Enhance	$2,000	-	-	-

Average Cost per Acre by Ecological Section (Table 6)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest
Restore	-	$113,636	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	$2,000	-	-	-

Target Lake/Stream/River Feet or Miles

6 miles

Parcels

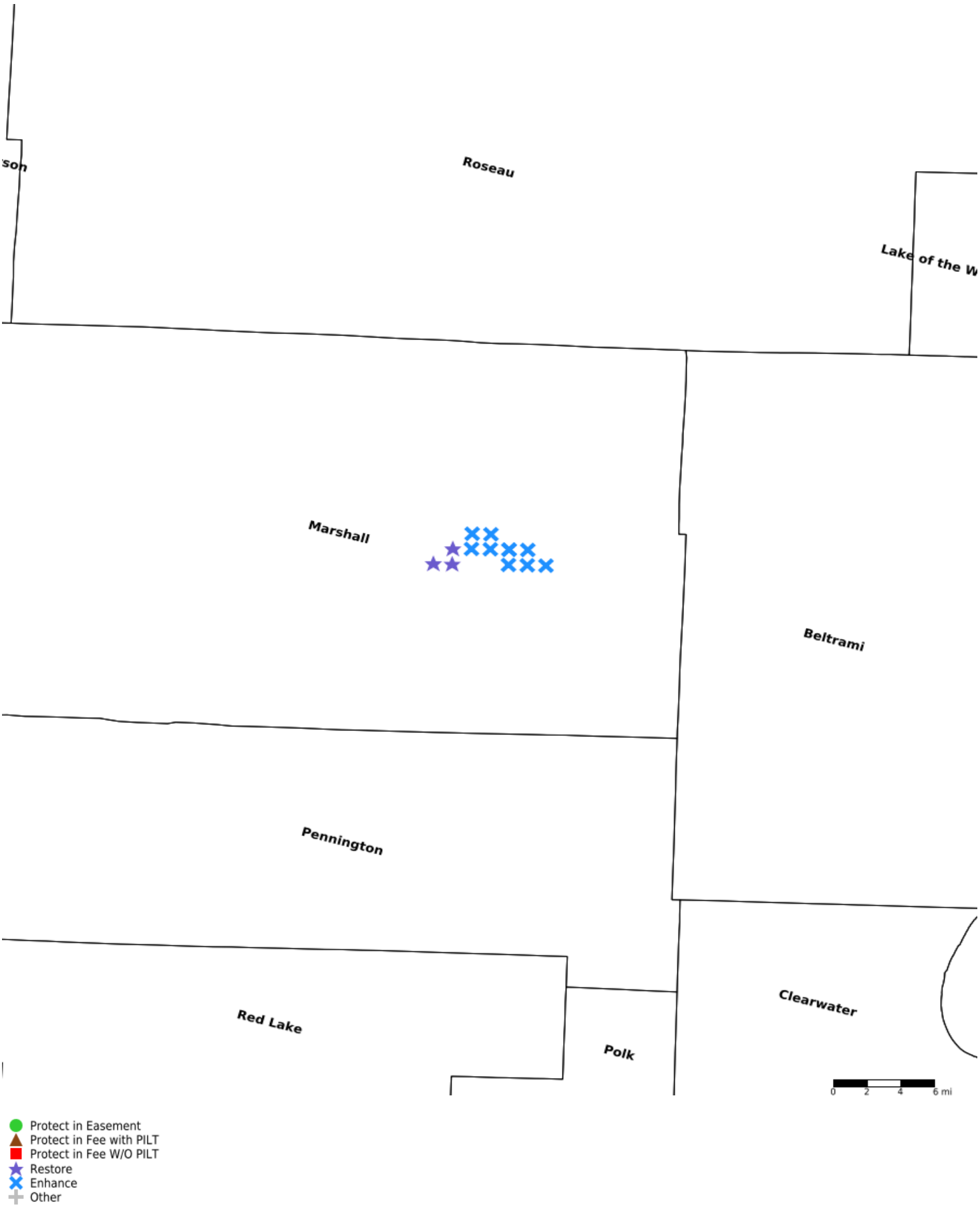
Sign-up Criteria?
No

Explain the process used to identify, prioritize, and select the parcels on your list:
Project site is currently owned by federal and state agencies.

Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection	Description
14-4017-001	Marshall	1564005	480	-	Yes	AGASSIZ NATL WILDLIFE REFUGE
14-4018-001	Marshall	1564006	599	-	Yes	AGASSIZ NATL WILDLIFE REFUGE
14-4018-002	Marshall	1564007	636	-	Yes	AGASSIZ NATL WILDLIFE REFUGE
14-4018-003	Marshall	1564008	640	-	Yes	AGASSIZ NATL WILDLIFE REFUGE
14-4018-007	Marshall	1564009	320	-	Yes	UNITED STATES OF AMERICA
14-6018-004	Marshall	1564009	320	-	Yes	DNR REAL ESTATE MANAGEMENT
14-6018-005	Marshall	1564010	240	-	Yes	DNR REAL ESTATE MANAGEMENT
14-6039-001	Marshall	1564014	160	-	Yes	DNR REAL ESTATE MANAGEMENT
14-6042-002	Marshall	1564015	560	-	Yes	DNR REAL ESTATE MANAGEMENT
14-6042-003	Marshall	1564016	640	-	Yes	DNR REAL ESTATE MANAGEMENT
60-0001-00	Marshall	1564112	640	-	Yes	MUD LAKE NATL WILDLIFE REFUGE
60-0001-00	Marshall	1564114	640	-	Yes	MUD LAKE NATL WILDLIFE REFUGE
60-0001-00	Marshall	1564113	640	-	Yes	MUD LAKE NATL WILDLIFE REFUGE

Parcel Map

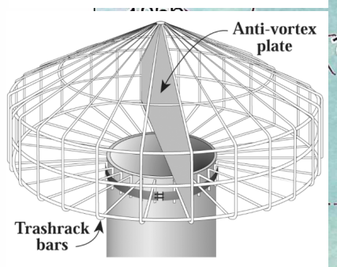

son
Roseau
Lake of the W
Marshall
Beltrami
Pennington
Red Lake
Polk
Clearwater
0
2
4
6 mi
Protect in Easement
Protect in Fee with PILT
Protect in Fee W/O PILT
Restore
Enhance
Other

Flage Erosion Repair Project

Alternate 1 - Remove Existing Structure and Replace with New Structure

MNDOT/ SPEC ITEM NUMBER	ITEM DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITIES	UNIT COST	COST
2021.501	MOBILIZATION	LS	1	$ 8,000.00	$ 8,000.00
2104.607	SALVAGE RANDOM RIPRAP	CY	40	$ 60.00	$ 2,400.00
2106.501	COMMON EMBANKMENT (P)	CY	178	$ 12.00	$ 2,130.60
2106.501	COMMON EMBANKMENT HAULING (P)	CY	176	$ 36.00	$ 6,337.80
	STRUCTURE GRATE (2 PIECE)	EACH	2	$ 1,800.00	$ 3,600.00
2511.507	RANDOM RIPRAP, CLASS IV SPECIAL (GRANITE)	CY	54	$ 140.00	$ 7,560.00
2574.508	ROLLED EROSION PREVENTION CAT 25	SY	350	$ 3.00	$ 1,050.00
2575.501	TURF ESTABLISHMENT	LS	1	$ 1,000.00	$ 1,000.00
					$ 32,078.40

Replace flat grate with tall dome shaped grate



24 YARDS OF ROCK AND SHAPING WITH A BACKHOE, COSTS INCLUDED ON BOTH ALT 1 AND ALT2.

Flage Erosion Repair Project

Alternate 2 - Remove Existing Structure and Replace with Rock Ramp at 4:1 slope

MNDOT/ SPEC ITEM NUMBER	ITEM DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITIES	UNIT COST	COST
2021.501	MOBILIZATION	LS	1	$ 10,000.00	$ 10,000.00
2101.501	CLEARING & GRUBBING	LS	1	$ 2,000.00	$ 2,000.00
2104.501	REMOVE OUTLET STRUCTURE	LS	1	$ 3,500.00	$ 3,500.00
2104.607	SALVAGE RANDOM RIPRAP	CY	40	$ 60.00	$ 2,400.00
2106.501	COMMON EXCAVATION (P)	CY	557	$ 10.60	$ 5,900.17
2108.504	GEOTEXTILE TYPE 7	SY	375	$ 4.00	$ 1,500.00
	SITE GRADING	EACH	1	$ 2,000.00	$ 2,000.00
	STRUCTURE GRATE (2 PIECE)	EACH	1	$ 1,800.00	$ 1,800.00
2451.507	GRANULAR BEDDING	CY	60	$ 67.79	$ 4,067.40
2511.507	RANDOM RIPRAP, CLASS IV SPECIAL (GRANITE)	CY	465	$ 140.00	$ 65,100.00
2574.508	ROLLED EROSION PREVENTION CAT 25	SY	40	$ 3.00	$ 120.00
2575.501	TURF ESTABLISHMENT	LS	1	$ 2,000.00	$ 2,000.00
					$ 100,387.57

DO NOT EXCAVATE 10 FEET OF DITCH UNTIL ALTERNATE 1 (PHASE 2 –2013)

STA 28+39
ALTERNATE 1 (PHASE 2–2013)
PROVIDE DIVERSION BERM FROM DITCH PLUG MATERIAL AND RIPRAP SEE DETAIL 1 D-2

STA 18+17
PROVIDE CROSSING
29" X 42" X 40' CS ARCH PIPE
WITH 2 APRONS
INLET ELEV 1064.23
OUTLET ELEV 1064.13
SEE DETAIL 1 D-1

STA 15+99
PROVIDE
DROP INLET
STRUCTURE #1
SEE DETAIL 3 D-1

ALTERNATE 1 (PHASE 2 – 2013)
PROVIDE
DROP INLET STRUCTURE #2
REMOVE EXISTING DROP INLET
STRUCTURE
SEE DETAIL 6 D-1

EXISTING ROAD TO BE WIDENED TO THE WEST

STA 13+37
ARMORFLEX VELOCITY
CONTROL BERM
SEE DETAILS 9 D-2, 10 D-2

STA 11+42
ARMORFLEX VELOCITY
CONTROL BERM
SEE DETAILS 7 D-2, 8 D-2

STA 9+07
PROVIDE CROSSING
29" X 42" X 46' CS ARCH PIPE
WITH 2 APRONS
INLET ELEV 1027.11
OUTLET ELEV 1026.88
SEE DETAIL 2 D-1

BERM TO TIE INTO EXISTING BERM WEST OF THE GULLY SO FLOW IS DIRECTED INTO OUTLET

FLOW PATH

CONSTRUCT A DITCH AND BERM AS DIRECTED BY THE ENGINEER IN THE FIELD WORK TO MINIMIZE THE REMOVAL OF TREES. FALLEN TREES MUST BE MOVED PRIOR TO DITCH EXCAVATION.

CONSTRUCT A RIPRAP OUTLET AS DIRECTED BY THE ENGINEER IN THE FIELD

RED LAK

PROJECT MANAGER	NATHAN P. DALAGER	
DESIGNED	R. KNOTT	
DESIGNED	G. HUFNAGLE	
CHECKED		
CHECKED		
DRAWN		
DRAWN		
PROJECT NUMBER		

HDR Engineering, Inc
324 2nd St. E.
Thief River Falls, MN
(218) 681 - 6100

Red Lake Watershed District
1000 PENNINGTON AVE.
THIEF RIVER FALLS, MN
56701 (218) 681-5800

FLAGE EROSION REDUCTION PROJECT

SITE PLAN

0 1/2" 1"

FILENAME SITE PLAN.DWG

SHEET C-1

FINAL PAYMENT

Client Project No.

HEI Project No. *3655-0099-005*

PAYMENT NUMBER: 4

Project: Thief River Streambank Stabilization Project (Muzzy & Thief River LLC Sites)

Location: SEC 24 & 25, EXCEL TWP, MARSHALL COUNTY

PERIOD OF ESTIMATE:

FROM **11/20/2025** TO **5/12/2026**

CONTRACT CHANGE ORDER SUMMARY

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

ESTIMATE

1. Original Contract	$	249,425.00
2. Change Orders	$	-
3. Revised Contract (1+2)	$	249,425.00
4. Work Completed*	$	243,527.00
5. Stored Materials*	$	-
6. Adjustments*	$	-
7. Subtotal (4+5+6)	$	243,527.00
8. Retainage 0.00%	$	-
9. Previous Payments	$	237,438.83
10. Amount Due (7-8-9)	$	**6,088.17**

*Detailed Breakdown Attached if Non-Zero Value

CONTRACT TIME

Completion Date Contract

Original (days)	N/A
Revised	N/A
Remaining	N/A

On Schedule? Yes

Starting Date: 10/1/2025

Final Completion: 7/31/2026

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: _____

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 Digitally signed by Tony A. Nordby DN: C=US, E=tnordby@houstoneng.com, O="Houston Engineering, Inc.", CN=Tony A. Nordby Date: 2026.05.12 07:52:48-05'00'

Tony A. Nordby

Date: _____

OWNER'S APPROVAL:

Owner: **Red Lake Watershed District**

By: _____

Date: _____

REMIT PAYMENT TO:

Northern Harbor, LLC
PO Box 1059
Walker, MN 56484

HOUSTON engineering, inc.

PAY ESTIMATE

Client Project No.
HEI Project No. *3655-0099-005*
Project: *Thief River Streambank Stabilization Project (Muzzy & Thief River LLC Sites)*
Location: *SEC 24 & 25, EXCEL TWP, MARSHALL COUNTY*
Contractor: *Northern Harbor, LLC*

PAY ESTIMATE #:	4
SUBMITTED:	6/4/2026
BEGIN DATE:	11/20/2025
END DATE:	5/12/2026

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.	$ 5,000.00	$ 5,000.00		$ -	1.	$ 5,000.00	1.	$ 5,000.00
2106.507	EXCAVATION - COMMON (P)	CU. YD.	12,418.	$ 4.00	$ 49,672.00		$ -	12,418.	$ 49,672.00	12,418.	$ 49,672.00
2501.503	18" CS PIPE CULVERT	LIN. FT.	182.	$ 60.00	$ 10,920.00		$ -	182.	$ 10,920.00	182	$ 10,920.00
2511.507	RANDOM RIPRAP CLASS II	CU. YD.	10.	$ 100.00	$ 1,000.00		$ -	10.	$ 1,000.00	10.	$ 1,000.00
2573.502	CULVERT END CONTROL	EACH	2.	$ 1,000.00	$ 2,000.00		$ -	2.	$ 2,000.00	2	$ 2,000.00
2573.503	FLOATATION SILT CURTAIN TYPE MOVING WATER	LIN. FT.	320.	$ 25.00	$ 8,000.00		$ -	320.	$ 8,000.00	320	$ 8,000.00
2573.503	SEDIMENT CONTROL LOG TYPE STRAW	LIN. FT.	4,956	$ 5.00	$ 24,780.00		$ -	4,668.	$ 23,340.00	4,668.	$ 23,340.00
2575.501	TURF ESTABLISHMENT	LUMP SUM	1.	$ 15,000.00	$ 15,000.00		$ -	1.	$ 15,000.00	1.	$ 15,000.00
2575.504	ROLLED EROSION PREVENTION CATEGORY 25	SQ. YD.	15,611.	$ 3.00	$ 46,833.00		$ -	14,125.	$ 42,375.00	14,125.	$ 42,375.00
2575.504	ROLLED EROSION PREVENTION CATEGORY 72	SQ. YD.	609.	$ 60.00	$ 36,540.00		$ -	609.	$ 36,540.00	609.	$ 36,540.00
2577.601	TOE-WOOD DEBRIS	CU. YD.	2,070.	$ 10.00	$ 20,700.00		$ -	2,070.	$ 20,700.00	2,070.	$ 20,700.00
2577.601	SOD MAT	SQ. YD.	796.	$ 5.00	$ 3,980.00		$ -	796.	$ 3,980.00	796.	$ 3,980.00
Totals											
				Original Contract Amount	$ 249,425.00						
				Extra / Change Order Amount	$ -						
						Work Completed	$ -		$ 243,527.00		$ 243,527.00

STATE OF MINNESOTA
Before the
RED LAKE WATERSHED DISTRICT
SITTING AS THE DRAINAGE AUTHORITY FOR
JUDICIAL DITCH No. 1

In the Matter of: **the Petition for Improvement to that portion of Judicial Ditch No. 1 discharging into Outlet #3.**	**PETITION FOR IMPROVEMENT TO** **A PORTION OF JUDICIAL DITCH No. 1**

Pursuant to Minn. Stat. § 103E.215, Petitioners seek an improvement to that portion of **JUDICIAL DITCH No. 1** that discharges into Outlet No. 3, which portion is described below. For their Petition, the undersigned Petitioners state and allege the following:

1. Petitioners seek the improvement to portions of **JUDICIAL DITCH No. 1** discharging into Outlet #3 as located in Deer Park Township (T-152-N, R-40-W), Pennington County, and Equality Township (T152-N, R-40-W), Red Lake County. The Ditch is currently under the authority of the Pennington/Red Lake County Joint Ditch Authority. Your Petition submits this Petition to the Red Lake Watershed District pursuant to Minn. Stat. § 103D.335, subd. 8.

2. **JUDICIAL DITCH No. 1** provides beneficial drainage to agricultural properties, public roadways, and other land said townships, together with other lands. A map of the current benefited area is attached hereto. As last improved and maintained, **JUDICIAL DITCH No. 1** is subject to side slope failures due to steep bank grades.

3. Even in a repaired state, the portions of **JUDICIAL DITCH No. 1** discharging into Outlet #3 as located in Deer Park Township (T-152-N, R-40-W), Pennington County, and Equality Township (T-152-N, R40-W), Red Lake County are inadequate to support beneficial drainage for current farming and drainage practices. These portions of **JUDICIAL DITCH No. 1** have insufficient capacity and need enlarging to furnish sufficient capacity.

4. The proposed improvements include the re-sloping of the ditch banks, enlargement of the ditch bottom, and improved grading to said portions of the ditch to the point where said portions would meet construction standards for a modern ditch with adequate hydraulic capacity to withstand a 10-year 24-hour rain event without overflowing.

5. The following is a description of a starting point, general course, and terminus of the proposed improvements of the following portions of **JUDICIAL DITCH No. 1**:

North/South
County 92 (310th Ave SE)
Commencing at the NW corner of Section 5 Deer Park Twp along the East road bank of County 92 (310th Ave SE); thence, south along said East road bank 5.66 miles, more or less, to its intersection with the Clearwater River (Outlet #3);

County 93 (320th Ave SE)
Commencing at the NW corner of Section 21 Deer Park Twp along the East road bank of County 93 (320th Ave SE); thence, south along said East road bank 1.00 miles, more or less, the its intersection with the portion of **JUDICIAL DITCH No. 1** running along the Red Lake County and Pennington County line;

East/West
120th Street SE
Commencing at the SW corner of Section 7 Deer Park Twp along North road bank of 120th Street SE; thence, east along the northern road bank of 120th Street SE approximately 3.75 miles to a point approximately 1280 feet west of the SE corner of Section 10 Deer Park Twp;

130th Street SE
Commencing at the SW corner of Section 16 Deer Park Twp along North road bank of 130th Street SE; thence east along the North road bank of 130th Street SE approximately
2.75 miles to a point along the south edge of Section 14, Deer Park Twp;

140th Street SE
Commencing at the SW corner of Section 20 Deer Park Twp along North road bank of 140th Street SE; thence, east along the North road bank of said 140th Street SE approximately 2.25 miles to a point approximately 1280 feet east of the SW corner of Section 22 Deer Park Twp;

SEE ATTACHED MAP FOR VISUAL DEPICTION.

6. The 40-acre tracts or government lots and property where the proposed improvements pass over, including the names and addresses of the property owners from the records in the county assessor's office, are as set forth below, and signature lines for each owner are likewise set forth below.

7. The proposed improvements will be of public utility and promote the public health.

8. Petitioners will pay all costs of the proceedings if the proceedings are dismissed or the contract for construction of the proposed drainage system is not awarded.

9. A bond in the amount of at least $10,000 is attached hereto, payable to the **RED LAKE WATERSHED DISTRICT** conditioned to pay the costs incurred if these proceedings are dismissed or a contract is not awarded to construct the improvement proposed in the petition. Petitioners acknowledge and agree that additional bonds may be required as additional costs are incurred in the proceedings.

10. Petitioners are the owners of _____ of the _____ 40-acre tracts or government lots and property, (1) at least twenty-six percent of the owners of the property affected by the proposed improvement; (2) at least twenty-six percent of the owners of property that the proposed improvement passes over; (3) the owners of at least twenty-six percent of the property area affected by the proposed improvement; or (4) the owners of at least twentysix percent of the property area that the proposed improvement passes over.

11. Because the above-described portions of **JUDICIAL DITCH No. 1** which discharge into Outlet #3 need repair, Petitioners request, to the extent practicable, that the drainage authority consider, under Minn. Stat. § 103E.215, subd. 6, the separable maintenance portion of the work when determining benefits and assessing costs of the improvements.

12. This Petition may be signed in counterparts.

Respectfully submitted this 3 day of April, 2026 by:

(NOTE: All properties are in Pennington County unless otherwise indicated. Descriptions are in 40 acre tracts or government lots followed by Section, Township, and Range, respectfully.)

North/South	Description	Owners	Address
310th Ave SE			
1.	Govt Lot 4 5-152-40	DENNIS MCGEARY & ELAINE MCGEARY	30925 CENTER ST E OKLEE MN 56742
2.	SW/NW 5-152-40	DENNIS MCGEARY & ELAINE MCGEARY	30925 CENTER ST E OKLEE MN 56742
3.	NW/SW 5-152-40	DENNIS MCGEARY & ELAINE MCGEARY	CENTER ST E OKLEE MN 56742
4.	SW/SW 5-152-40	DENNIS MCGEARY & ELAINE MCGEARY	CENTER ST E OKLEE MN 56742

Signatures:

DENNIS MCGEARY

ELAINE MCGEARY

5.	NW/NW 8-152-40	MONTE B HAUGEN & SUSAN C HAUGEN	11150 310TH AVENUE SE OKLEE MN 56742
6.	SW/NW 8-152-40	MONTE B HAUGEN & SUSAN C HAUGEN	11150 310TH AVENUE SE OKLEE MN 56742

Signatures:

MONTE B HAUGEN

SUSAN C HAUGEN

7.	NW/SW 8-152-40	K C CHERVESTAD TRUSTEES & C M SORENSON CHERVESTAD	12224 330TH AVENUE SE OKLEE MN 56742
8.	SW/SW 8-152-40	K C CHERVESTAD TRUSTEES & C M SORENSON CHERVESTAD	12224 330TH AVENUE SE OKLEE MN 56742

Signatures:

Trustee

Trustee

C M SORENSON CHERVESTAD

9.	NW/NW 17-152-40	CHAD LUNDEEN	13497 340th AVE SE TRAIL MN 56684
10.	SW/NW 17-152-40	CHAD LUNDEEN	13497 340th AVE SE TRAIL MN 56684

Signatures:

CHAD LUNDEEN

Spouse (if applicable)

11.	NW/SW 17-152-40	RYAN R NELSON	9839 CENTER STREET EAST OKLEE MN 56742
12.	SW/SW 17-152-40 (PORTION OF)	RYAN R NELSON	9839 CENTER STREET EAST OKLEE MN 56742
	Signatures:	Ryan R. Nelson RYAN R NELSON	
		_____ Spouse (if applicable)	
13.	SW/SW 17-152-40 (PORTION OF)	CHRISTOPHER B NELSON & STEPHANIE R NELSON	31262 130TH STREET SE OKLEE MN 56742
	Signatures:	CHRISTOPHER B NELSON Stephanie Nelson STEPHANIE R NELSON	
14.	NW/NW 20-152-40	AARON C CHERVESTAD & JILL P CHERVESTAD	11705 320TH AVENUE SE OKLEE MN 56742
15.	SW/NW 20-152-40	AARON C CHERVESTAD & JILL P CHERVESTAD	11705 320TH AVENUE SE OKLEE MN 56742
16.	NW/SW 20-152-40	AARON C CHERVESTAD & JILL P CHERVESTAD	11705 320TH AVENUE SE OKLEE MN 56742
17.	SW/SW 20-152-40	AARON C CHERVESTAD & JILL P CHERVESTAD	11705 320TH AVENUE SE OKLEE MN 56742
	Signatures:	Aaron Chervestad AARON C CHERVESTAD Jill Chervestad JILL P CHERVESTAD	

(17-24 Red Lake Co.)

18.	NW/NW 29-152-40	DELUDE/GLENN B & & MARGARET E	14255 320TH AVENUE SE OKLEE MN 56742
19.	SW/NW 29-152-40	DELUDE/GLENN B & & MARGARET E	14255 320TH AVENUE SE OKLEE MN 56742
	Signatures:	Glenn B Delude GLENN B DELUDE	
		Margaret Delude MARGARET E DELUDE	
20.	NW/SW 29-152-40	SYRTVEIT/LORETTA & (LIFE ESTATE) TRYAN/LISA & LANA SORENSEN	218 PAVESTONE TRAIL BILLINGS MT 59106
21.	SW/SW 29-152-40 (PORTION OF)	SYRTVEIT/LORETTA & (LIFE ESTATE) TRYAN/LISA & LANA SORENSEN	218 PAVESTONE TRAIL BILLINGS MT 59106
	Signatures:	_____ LORETTA SYRTVEIT	
		_____ Spouse (if applicable)	
		_____ LISA TRYAN	
		_____ Spouse (if applicable)	
		_____ LANA SORENSEN	
		_____ Spouse (if applicable)	
22.	SW/SW 29-152-40 (PORTION OF) Signatures:	CASEY BREKKE & KAYLA GILBERTSON BREKKE	31266 150TH ST SE OKLEE MN 56742
		_____ CASEY BREKKE	
		_____ Spouse (if applicable)	

		KAYLA GILBERTSON BREKKE	
		Spouse (if applicable)	
23.	NW/NW 32-152-40	SYRTVEIT/LORETTA & (LIFE ESTATE) TRYAN/LISA & LANA SORENSEN	218 PAVESTONE TRAIL BILLINGS MT 59106
24.	SW/NW 32-152-40	SYRTVEIT/LORETTA& (LIFE ESTATE) TRYAN/LISA & LANA SORENSEN	218 PAVESTONE TRAIL BILLINGS MT 59106
25.	NW/SW 32-152-40	SYRTVEIT/LORETTA & (LIFE ESTATE) TRYAN/LISA & LANA SORENSEN	218 PAVESTONE TRAIL BILLINGS MT 59106
	Signatures:		
		LORETTA SYRTVEIT	
		Spouse (if applicable)	
		LISA TRYAN	
		Spouse (if applicable)	
		LANA SORENSEN	
		Spouse (if applicable)	

320th Ave SE

North/South	Description	Owners	Address
26.	NW/NW 21-152-40	DENNIS MCCULLOUGH TRUSTEES SHARON MCCULLOUGH MRLT	20612 CENTER ST EAST THIEF RIVER FALLS MN 56701
27.	SW/NW 21-152-40	DENNIS MCCULLOUGH TRUSTEES SHARON MCCULLOUGH MRLT	20612 CENTER ST EAST THIEF RIVER FALLS MN 56701
	Signatures:	_____ DENNIS MCCULLOUGH, Trustee	
		_____ Additional Trusee (if applicable)	
		_____ Additional Trusee (if applicable)	
28.	NW/SW 21-152-40	GREG HILGEMAN	32470 140TH STREET SE OKLEE MN 56742
29.	SW/SW 21-152-40	GREG HILGEMAN	32470 140TH STREET SE OKLEE MN 56742
	Signatures:	_____ GREG HILGEMAN	
		_____ Spouse (if applicable)	

East/West	Description	Owners	Address
120th Street SE			
30.	Govt. Lot 4 7-152-40	VANCE HAUGEN & BONNIE S HAUGEN	12620 DEER ROAD CANTON MN 55922
	Signatures:	_____ VANCE HAUGEN	
		_____ BONNIE S HAUGEN	

31.	SE/SW 7-152-40	GREG HILGEMAN	32470 140TH STREET SE OKLEE MN 56742
	Signatures:	GREG HILGEMAN Spouse (if applicable)	
32.	SW/SE 7-152-40	DENNIS MCGEARY & ELAINE MCGEARY	30925 CENTER ST EAST OKLEE MN 56742
33.	SE/SE 7-152-40	DENNIS MCGEARY & ELAINE MCGEARY	30925 CENTER ST EAST OKLEE MN 56742
	Signatures:	DENNIS MCGEARY ELAINE MCGEARY	
34.	SW/SW 8 -152-40	K C CHERVESTAD TRUSTEES C M SORENSON CHERVESTAD	12224 330TH AVENUE SE OKLEE MN 56742
35.	SE/SW 8-152-40	K C CHERVESTAD TRUSTEES C M SORENSON CHERVESTAD	12224 330TH AVENUE SE OKLEE MN 56742
	Signatures:	Trustee Trustee C M SORENSON CHERVESTAD	
36.	SW/SE 8-152-40	AARON C CHERVESTAD & JILL P CHERVESTAD	11705 320TH AVENUE SE OKLEE MN 56742
37.	SE/SE 8-152-40	AARON C CHERVESTAD & JILL P CHERVESTAD	11705 320TH AVENUE SE OKLEE MN 56742
	Signatures:	AARON C CHERVESTAD JILL P CHERVESTAD	
38.	SW/SW 9 -152-40	GARY LUNDEEN	32446 120TH STREET SE OKLEE MN 56742

39.	SE/SW 9-152-40	GARY LUNDEEN	32446 120TH STREET SE OKLEE MN 56742
	Signatures:	Gary Lundeen GARY LUNDEEN	
		Joann Lundeen Spouse (if applicable)	
40.	SW/SE 9-152-40	ALAN J VETTLESON & CHRISTINE B VETTLESON	11553 330TH AVENUE SE OKLEE MN 56742
41.	SE/SE 9-152-40	ALAN J VETTLESON & CHRISTINE B VETTLESON	11553 330TH AVENUE SE OKLEE MN 56742
	Signatures:	_____ ALAN J VETTLESON	
		_____ CHRISTINE B VETTLESON	
42.	SW/SW 10 -152-40	TODD ALLEN CHERVESTAD	33345 110TH STREET SE OKLEE MN 56742
43.	SE/SW 10-152-40	TODD ALLEN CHERVESTAD	33345 110TH STREET SE OKLEE MN 56742
	Signatures:	Todd Chervestad TODD ALLEN CHERVESTAD	
		_____ Spouse (if applicable)	
44.	SW/SE 10-152-40	GARY LUNDEEN & JOANN LUNDEEN 1/2 INT	32446 120TH STREET SE OKLEE MN 56742
	Signatures:	Gary Lundeen GARY LUNDEEN	
		Joann Lundeen JOANN LUNDEEN	

East/West	Description	Owners	Address
130th Street SE			
45.	SW/SW 16 -152-40	SCOTT PHILIP HILGEMAN & NICOLE MAE HILGEMAN	12734 330TH AVENUE SE OKLEE MN 56742
46.	SE/SW 16-152-40	SCOTT PHILIP HILGEMAN & NICOLE MAE HILGEMAN	12734 330TH AVENUE SE OKLEE MN 56742
	Signatures:	SCOTT PHILIP HILGEMAN NICOLE MAE HILGEMAN	
47.	SW/SE 16-152-40 (PORTION OF)	GLENN B DELUDE	14255 320TH AVE SE OKLEE MN 56742
	Signatures:	GLENN B DELUDE MARGARET E DELUDE	
48.	SW/SE 16-152-40 (PORTION OF)	CHAD LUNDEEN	13497 340th AVE SE TRAIL MN 56684
49.	SE/SE 16-152-40	CHAD LUNDEEN	13497 340th AVE SE TRAIL MN 56684
50.	SW/SW 15 -152-40 (PORTION OF)	CHAD LUNDEEN	13497 340th AVE SE TRAIL MN 56684
	Signatures:	CHAD LUNDEEN Spouse (if applicable)	
51.	SW/SW 15-152-40 (PORTION OF)	SCOTT PHILIP HILGEMAN & NICOLE MAE HILGEMAN	12734 330TH AVENUE SE OKLEE MN 56742
	Signatures:	SCOTT PHILIP HILGEMAN NICOLE MAE HILGEMAN	

52.	SE/SW 15-152-40 (PORTION OF)	CHAD LUNDEEN	13497 340th AVE SE TRAIL MN 56684

Signatures:

CHAD LUNDEEN

Spouse (if applicable)

53.	SE/SW 15-152-40 (PORTION OF)	SCOTT PHILIP HILGEMAN & NICOLE MAE HILGEMAN	12734 330TH AVENUE SE OKLEE MN 56742

Signatures:

SCOTT PHILIP HILGEMAN

NICOLE MAE HILGEMAN

54.	SW/SE 15-152-40	GREG HILGEMAN	32470 140TH STREET SE OKLEE MN 56742
55.	SE/SE 15-152-40	GREG HILGEMAN	32470 140TH STREET SE OKLEE MN 56742
56.	SW/SW14-152-40	GREG HILGEMAN	32470 140TH STREET SE OKLEE MN 56742
57.	SE/SW 14-152-40	GREG HILGEMAN	32470 140TH STREET SE OKLEE MN 56742
58.	SW/SE 14-152-40	GREG HILGEMAN	32470 140TH STREET SE OKLEE MN 56742

Signatures:

GREG HILGEMAN

Spouse (if applicable)

Nicole Hilgeman 3-30-24

Nicole Hilgeman

Scott Hilgeman 3-30-24

East/West	Description	Owners	Address
140th Street SE			
59.	SW/SW 20 -152-40	AARON C CHERVESTAD & JILL P CHERVESTAD	11705 320TH AVENUE SE OKLEE MN 56742
60.	SE/SW 20-152-40 (PORTION OF)	AARON C CHERVESTAD & JILL P CHERVESTAD	11705 320TH AVENUE SE OKLEE MN 56742
	Signatures:	AARON C CHERVESTAD JILL P CHERVESTAD	
61.	SE/SW 20-152-40 (PORTION OF)	GALE C DELUDE & JULIE M DELUDE	31340 140TH STREET SE OKLEE MN 56742
	Signatures:	GALE C DELUDE JULIE M DELUDE	
62.	SW/SE 20-152-40	IRENE SUSAN BILISKE & DENNIS LYNN BILISKE	PO BOX 272 HENSEL ND 58241
	Signatures:	IRENE SUSAN BILISKE DENNIS LYNN BILISKE	
63.	SE/SE 20-152-40	DELMER NESLAND REV TR	13901 320TH AVENUE NE OKLEE MN 56742
	Signatures:	Trustee Trustee	

64.	SW/SW 21 -152-40	GREG HILGEMAN	32470 140TH STREET SE OKLEE MN 56742
65.	SE/SW 21-152-40	GREG HILGEMAN	32470 140TH STREET SE OKLEE MN 56742
66.	SW/SE 21-152-40	GREG HILGEMAN	32470 140TH STREET SE OKLEE MN 56742
67.	SE/SE 21-152-40	GREG HILGEMAN	32470 140TH STREET SE OKLEE MN 56742

Signatures:

GREG HILGEMAN

Spouse (if applicable)

68.	SW/SW 22 -152-40	GREG HILGEMAN & GAYLE HILGEMAN	32470 140TH STREET SE OKLEE MN 56742

Signatures:

GREG HILGEMAN

Spouse (if applicable)

Signatures:

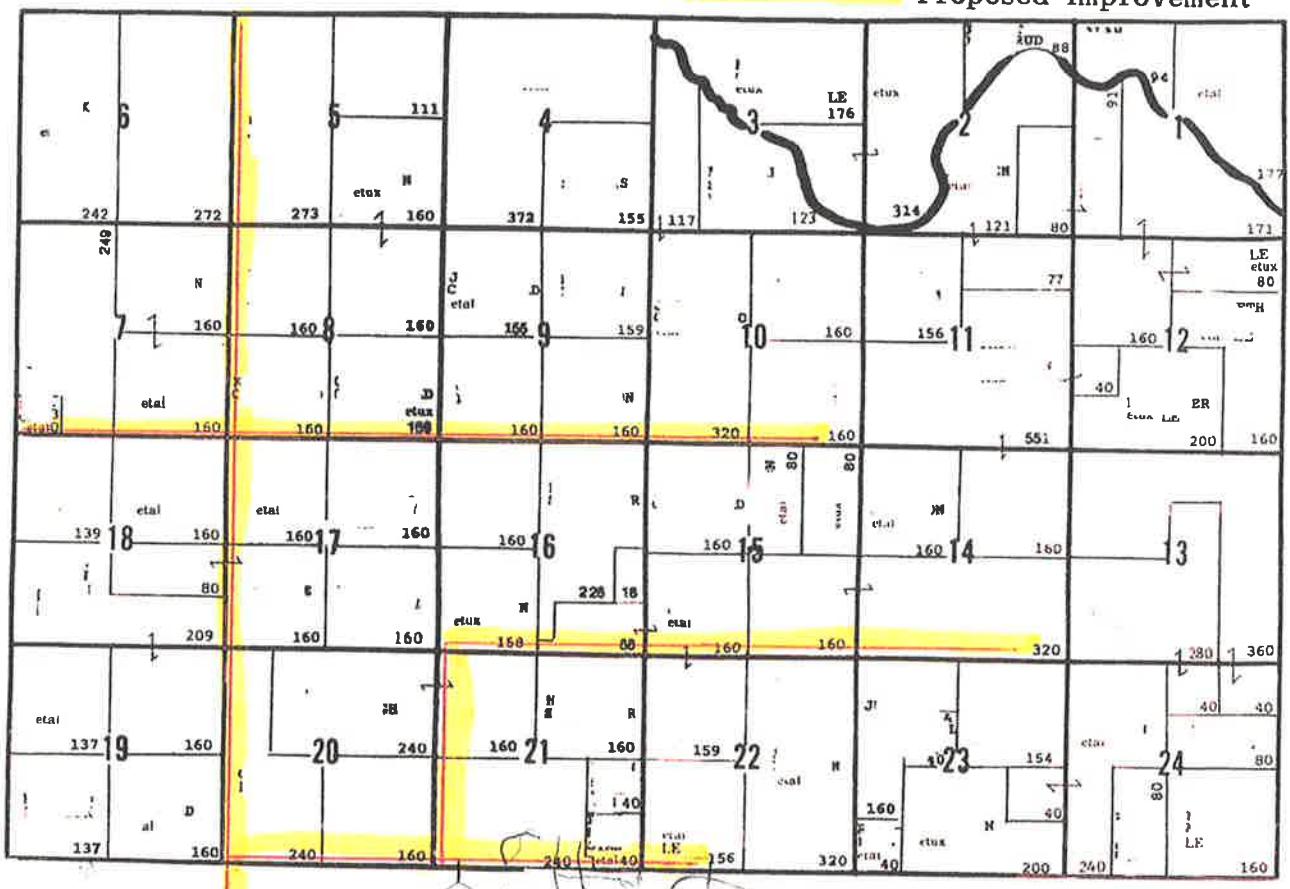
GAYLE HILGEMAN

Spouse (if applicable)

T-152-N **DEER PARK PLAT** **R-40-W**

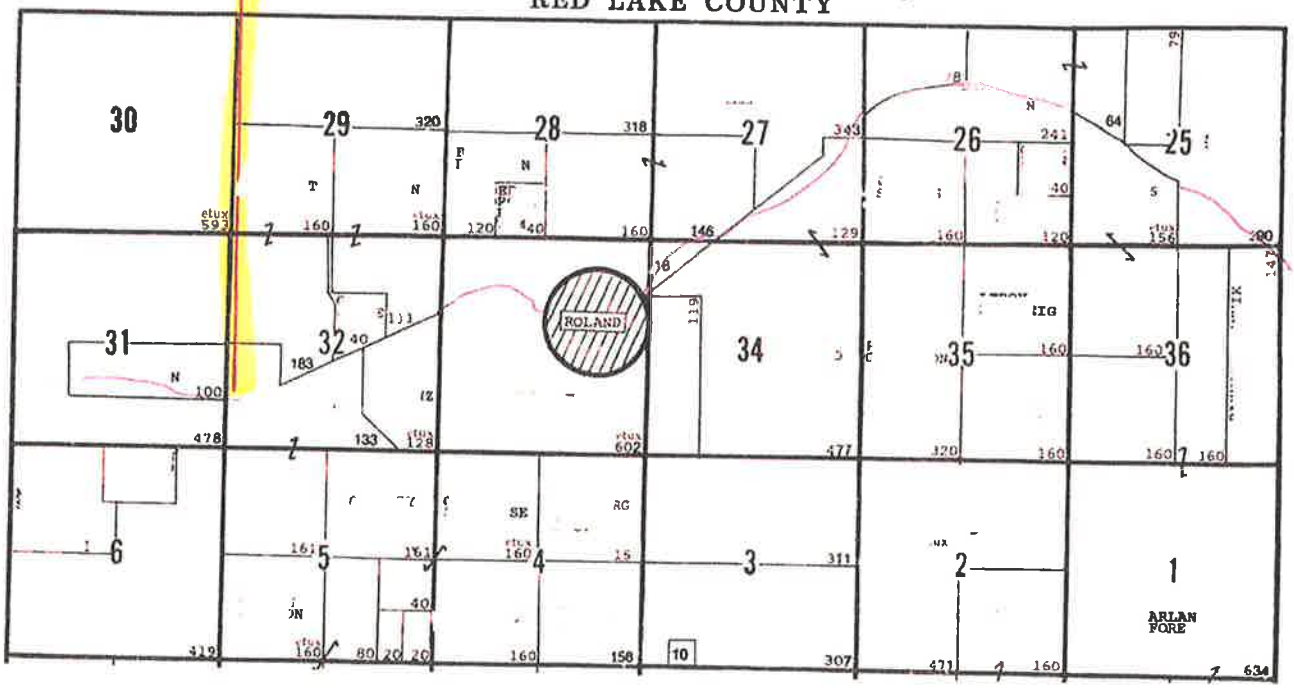
PENNINGTON COUNTY

Proposed Improvement



T-151-152-N **EQUALITY PLAT** **R-40-W**

RED LAKE COUNTY



IHLE SPARBY & HAASE PA

Attorneys At Law
312 Main Avenue North
PO BOX 574
Thief River Falls, MN 56701

PAUL IHLE, Retired
DELRAY SPARBY
NATHAN HAASE

TELEPHONE: 218-681-7373
FACSIMILE: 218-681-7375
ihlespar@mncable.net

April 29, 2026

RE: The Petition for Improvement to
That Portion of Judicial Ditch No. 1
Discharging into Outlet #3.

TO: The Red Lake Watershed District Board of Managers.

Pursuant to Minnesota State Statute section 103E.238, I have reviewed the Petition for Improvement submitted by the Petitioners and after noting certain deficiencies, the petition was referred for correction of certain signatures.

I have reviewed the revised Petition with corrective signatures and it is my opinion that the Petition submitted as referenced above meets the requirements of the proceedings for which it is intended, as an Improvement Petition and that appropriate bond has been provided by said Petitioners in support of said intended Improvement Petition.

The Improvement Petition is referred to the watershed district for further proceedings as provided by statute.

Very truly yours,

Delray Sparby

DS/dls

May 11, 2026

Ms. Tammy Audette, Administrator
Red Lake Watershed District
1000 Pennington Ave S
Thief River Falls, MN 56701

<*delivered via email*>

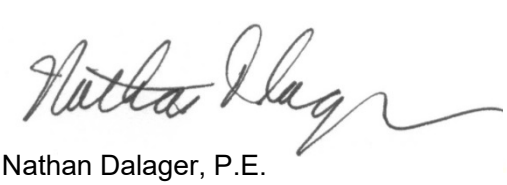
RE: Proposal – Judicial Ditch No. 1 Improvement – Task Order #1 – Preliminary Survey Report

Dear Tammy,

In response to your request for engineering services for the Judicial Ditch 1 (JD 1) Ditch Improvement Project, HDR Engineering, Inc. (HDR) is pleased to provide the following proposal for Task Order #1 – Preliminary Survey Report. A petition for improvement to a portion of JD 1 was filed by Greg Hilgeman, and the Red Lake Watershed District (RLWD) Board of Managers appointed HDR as the engineer. Following the Minnesota Statute in Chapter 103E.245 guidelines for a preliminary survey, HDR is prepared to start working on this project as described in this scope of work. Future project tasks and activities required to successfully complete the project will be identified separately as they arise, under additional task orders.

We look forward to the opportunity to work with you on this project. If you have any questions regarding the attached scope of services, please contact me at (218) 681-6100.

Sincerely,
HDR Engineering, Inc.



Nathan Dalager, P.E.
Project Manager

Keith Quernemoen, P.E.
Area Professional Services Manager

Encl: Proposal
HDR Engineering, Inc. Terms and Conditions for Professional Services
Budget Worksheet

JD 1 Ditch Improvement
Preliminary Survey Report

HDR understands that the RLWD is interested in developing a ditch improvement project, as the RLWD works towards resolving flood damage risks in the watershed. This scope of work includes tasks and deliverables deemed necessary to complete the initial stage of the project that will meet the requirements for an engineer's survey of the ditch system and potential improvements that can be made to satisfy the petitioner's request. These tasks include the following:

Task #1: Project Management and Coordination

This task consists of the overall management of the project, project communication, and coordination conferences/meetings.

1.1 Project Management. Monitor and control the project budget, scope of work and schedule; manage the project goals and objectives; manage and coordinate resources including staff scheduling and invoicing.

1.2 Conferences and Meetings. Schedule, review, prepare, participate, and help conduct meetings as well as a public hearing. This task includes one meeting with landowners and the appointed viewers, prior to the ditch viewing. This task also includes reviewing the statutory requirements and tracking the submittals as they occur prior to each meeting. The preliminary survey report will be presented at a public hearing.

Assumptions:

- Duration of the task is ~5 months.
- Public hearing will be attended by up to 2 HDR staff and information pertinent to the meetings will be provided to RLWD.
- All meetings will be held in Thief River Falls or Deer Park Township and attended by up to 2 HDR staff.

Deliverables:

- Monthly invoices and coordination with RLWD Administrator.
- Attendance at 3 RLWD Board meetings, presentation, and updates to the Board.
- Facilitate and attend up to one public hearing.
- Facilitate and attend up to two meetings with landowners and ditch viewers.
- RLWD will print, post, and mail all required notifications.

Task #2: Data Collection and Analyses

This task includes design analyses of up to two alternatives. Final design will be a future task that will build upon the work completed in previous task orders relating to concept development, hydraulic modeling, and preliminary design. The following sub-tasks will be included:

2.1 Alternatives Evaluation and Right-of-Way. Evaluate the alternatives for their feasibility and practicability to meet the Project purpose and need. Evaluate the need for additional right-of-way acquisition.

2.2 Survey. Field survey for preliminary design will be necessary to establish elevations of the area likely to be affected by the proposed project. RLWD staff will collect survey data under

the direction of HDR. This task includes importing the survey data into Civil3D and creating existing grade profiles and cross sections of the ditches.

2.3 Hydraulic/Hydrologic Design. Perform modeling of the alternatives for the 24-hour, 5-, 10-, 25-, and 50-year precipitation events. Events greater than the 50-year will not be evaluated.

2.4 Hydraulic Structure Concept Design. Perform structure conceptual design, including sizing/selection of hydraulic structures required for the alternatives and determined by the hydrologic and hydraulic models. The anticipated structures include up to 40 field/road crossings, not including any side inlet culverts. Side inlet culverts are generally going to be added where berms are constructed and at every major field ditch. These locations will be identified in the preliminary design of the Project. Earthen relief spillways adjacent to the ditch will be included in the channel and spoil design profile.

2.5 Soil Borings. HDR will determine if soil borings are required for the proposed alternatives. HDR will coordinate the solicitation of bids, scheduling, and facilitating the completion of the borings by a third party. HDR will review the geotechnical report that will be delivered by a third party and incorporate the findings in the conceptual designs as needed.

2.6 Outlet Conceptual Design. Prepare conceptual outlet design for the alternatives. The design may include incorporating a rocked outfall.

2.7 Utilities Investigations. Determine Project footprint and existing utilities that are impacted by the Project. A Gopher State One-Call will be conducted for up to 15.5 miles of Project footprint. No utility locating or meetings on-site are anticipated in this phase.

Assumptions:

- No more than two days of on-site field visits will be required for up to two HDR staff.
- Soil borings and lab testing may be performed by a third party hired by RLWD. HDR will provide assistance and coordination.
- Two-stage ditch design or a meandering channel are not required to be evaluated for the improvement of this system.
- Right-of-way needed will be calculated based on top of existing ditch slope and maximum proposed construction limits.
- Legal survey will be performed by others.

Deliverables:

- Conceptual design of the alternatives will be documented in the Preliminary Survey Report.
- Hydraulic models.
- Field survey.

Task #3: Permitting & Environmental Review

This task involves support activities which are necessary for coordination with permitting agencies.

3.1 Wetland Determination. HDR will perform the wetland investigations as needed for the preferred alternative using public data.

3.2 Preparation of Technical Data and Early Permitting Coordination. This task includes the early coordination of permit applications pertaining to environmental review and permitting. Anticipated permit applications are a MnDNR Public Waters Permit, USACE 404 Wetlands Permit, Pennington County SWCD WCA Permit, Red Lake County SWCD WCA Permit, and MPCA Stormwater Permit.

Assumptions:

- HDR will conduct desktop wetland delineations.
- No field work is included in this task.

Deliverables:

- Permit Applications will be included in a future phase of the Project.

Task #4: Preliminary Survey Report

This task involves documentation of the conceptual design of the proposed drainage project plan. The report must comply with Minnesota Statutes Chapter 103E, Drainage. The anticipated steps are as follows, after HDR completes a preliminary survey report, the ditch viewers determine the benefits of the proposed project. The viewers provide a report, and in a future task, HDR will provide an updated engineer's report to communicate the proposed project with potential damages and benefits to the affected landowners.

4.1 Preliminary Plans. This task includes preliminary drafting of the conceptual design elements from Task 2 in AutoCAD Civil 3D. These figures and details are needed in Task 4.2. HDR will create up to 2 preliminary site plans for up to 15.5 miles of Project alignment, up to 4 typical sections, up to 7 preliminary structure details, and up to 4 preliminary profiles and cross-sections. Up to 2 Civil 3D surfaces of the conceptual design will be created for estimating quantities of excavation and fill and documented in Task 4.3.

4.2 Preliminary Survey Report. A preliminary survey report will be prepared for RLWD and outline two alternatives. The report will be compliant with MN Statutes 103E.245.

4.3 Engineer's Opinion of Probable Construction Costs. Provide an engineer's opinion of probable construction costs for the alternatives. This task includes an estimated assessment costs for the benefitted area. Assessed costs are used to communicate the feasibility of the Project when compared to the anticipated benefits.

Assumptions:

- No plan sheets for construction will be produced in Task 4.1.
- The report will be submitted to MnDNR and BWSR per statute, prior to the preliminary hearing.
- Any comments received will be advisory in nature and addressed in future task orders as needed.
- Existing ditch records are available, and no records search will be required.

Deliverables:

- Preliminary Survey Report.

Project Staffing

HDR will provide engineering, evaluation, and relevant engineering project management-related services. Key members of the HDR team include the following:

Role	Staff
Client and Project Manager	Nate Dalager, PE (MN)
Water Resources Engineer	Dillon Nelson, PE (MN)
Water Resources Engineer	Jacob Huwe, PE (MN)
Water Resources Engineer	Lauren Pierce, PE (MN, ND)
Environmental Scientist	Torin McCormack
Geotechnical Engineer	Kerrie Berg, PE (MN, ND)
Design Technician	Randy Knott
Design Technician	Eric Anderson
Water Resources Coordinator	Aly Foty

Cost Estimate

The estimated cost for the work described above is $59,765, which will be performed on a time and materials not-to-exceed basis. HDR will invoice monthly based on work progress. Our estimated costs are based upon our understanding of the scope of work and assumptions listed. Should the scope of work be modified, it may be necessary to review scope changes and our cost estimate.

Future Task Orders – Final Design

The following tasks are anticipated for future phases of this project. These tasks are not included in the price proposal provided herein and would be provided separately at such time as RLWD elects to initiate them.

- Final Design
- Detailed Survey Report
- Final Hearing
- Final Plans and Specifications
- Permitting
- Construction Administration
- As-Built Plans

Notice to Proceed

Please indicate your acceptance of this proposal by signing the Notice to Proceed (below) and returning one copy of the signed proposal to HDR.

If you have any questions, please contact me (Nate) at 218.681.6100.

NOTICE TO PROCEED

Client	Consultant
Red Lake Watershed District	**HDR Engineering, Inc.**
By: _____	By:
Name: _____	Name: Keith Quernemoen, P.E.
Tile: _____	Title: Area Professional Services Manager

HDR Engineering, Inc. Terms and Conditions for Professional Services

1. **STANDARD OF PERFORMANCE**
The standard of care for all professional engineering, consulting and related services performed or furnished by ENGINEER and its employees under this Agreement will be the care and skill ordinarily used by members of ENGINEER's profession practicing under the same or similar circumstances at the same time and in the same locality. ENGINEER makes no warranties, express or implied, under this Agreement or otherwise, in connection with ENGINEER's services.

2. **INSURANCE/INDEMNITY**
ENGINEER agrees to procure and maintain, at its expense, Workers' Compensation insurance as required by statute; Employer's Liability of $250,000; Automobile Liability insurance of $1,000,000 combined single limit for bodily injury and property damage covering all vehicles, including hired vehicles, owned and non-owned vehicles; Commercial General Liability insurance of $1,000,000 combined single limit for personal injury and property damage; and Professional Liability insurance of $1,000,000 per claim for protection against claims arising out of the performance of services under this Agreement caused by negligent acts, errors, or omissions for which ENGINEER is legally liable. If flying an Unmanned Aerial System (UAS or drone), ENGINEER will procure and maintain aircraft unmanned aerial systems insurance of $1,000,000 per occurrence. OWNER shall be made an additional insured on Commercial General and Automobile Liability insurance policies and certificates of insurance will be furnished to the OWNER. ENGINEER agrees to indemnify OWNER for third party personal injury and property damage claims to the extent caused by ENGINEER's negligent acts, errors or omissions. However, neither Party to this Agreement shall be liable to the other Party for any special, incidental, indirect, or consequential damages (including but not limited to loss of use or opportunity; loss of good will; cost of substitute facilities, goods, or services; cost of capital; and/or fines or penalties), loss of profits or revenue arising out of, resulting from, or in any way related to the Project or the Agreement from any cause or causes, including but not limited to any such damages caused by the negligence, errors or omissions, strict liability or breach of contract. The employees of both parties are intended third party beneficiaries of this waiver of consequential damages.

3. **OPINIONS OF PROBABLE COST**
Any opinions of probable project cost or probable construction cost provided by ENGINEER are made on the basis of information available to ENGINEER and on the basis of ENGINEER's experience and qualifications, and represents its judgment as an experienced and qualified professional engineer. However, since ENGINEER has no control over the cost of labor, materials, equipment or services furnished by others, or over the contractor(s') methods of determining prices, or over competitive bidding or market conditions, ENGINEER does not guarantee that proposals, bids or actual project or construction cost will not vary from opinions of probable cost ENGINEER prepares.

4. **CONSTRUCTION PROCEDURES**
ENGINEER's observation or monitoring portions of the work performed under construction contracts shall not relieve the contractor from its responsibility for performing work in accordance with applicable contract documents. ENGINEER shall not control or have charge of, and shall not be responsible for, construction means, methods, techniques, sequences, procedures of construction, health or safety programs or precautions connected with the work and shall not manage, supervise, control or have charge of construction. ENGINEER shall not be responsible for the acts or omissions of the contractor or other parties on the project. ENGINEER shall be entitled to review all construction contract documents and to require that no provisions extend the duties or liabilities of ENGINEER beyond those set forth in this Agreement. OWNER agrees to include ENGINEER as an indemnified party in OWNER's construction contracts for the work, which shall protect ENGINEER to the same degree as OWNER. Further, OWNER agrees that ENGINEER shall be listed as an additional insured under the construction contractor's liability insurance policies.

5. **CONTROLLING LAW**
This Agreement is to be governed by the law of the state where ENGINEER's services are performed.

6. **SERVICES AND INFORMATION**
OWNER will provide all criteria and information pertaining to OWNER's requirements for the project, including design objectives and constraints, space, capacity and performance requirements, flexibility and expandability, and any budgetary limitations. OWNER will also provide copies of any OWNER-furnished Standard Details, Standard Specifications, or Standard Bidding Documents which are to be incorporated into the project.

OWNER will furnish the services of soils/geotechnical engineers or other consultants that include reports and appropriate professional recommendations when such services are deemed necessary by ENGINEER. The OWNER agrees to bear full responsibility for the technical accuracy and content of OWNER-furnished documents and services.

In performing professional engineering and related services hereunder, it is understood by OWNER that ENGINEER is not engaged in rendering any type of legal, insurance or accounting services, opinions or advice. Further, it is the OWNER's sole responsibility to obtain the advice of an attorney, insurance counselor or accountant to protect the OWNER's legal and financial interests. To that end, the OWNER agrees that OWNER or the OWNER's representative will examine all studies, reports, sketches, drawings, specifications, proposals and other documents, opinions or advice prepared or provided by ENGINEER, and will obtain the advice of an attorney, insurance counselor or other consultant as the OWNER deems necessary to protect the OWNER's interests before OWNER takes action or forebears to take action based upon or relying upon the services provided by ENGINEER.

7. **SUCCESSORS, ASSIGNS AND BENEFICIARIES**
OWNER and ENGINEER, respectively, bind themselves, their partners, successors, assigns, and legal representatives to the covenants of this Agreement. Neither OWNER nor ENGINEER will assign, sublet, or transfer any interest in this Agreement or claims arising therefrom without the written consent of the other. No third party beneficiaries are intended under this Agreement.

8. **RE-USE OF DOCUMENTS**
All documents, including all reports, drawings, specifications, computer software or other items prepared or furnished by ENGINEER pursuant to this Agreement, are instruments of service with respect to the project. ENGINEER retains ownership of all such documents. OWNER may retain copies of the documents for its information and reference in connection with the project; however, none of the documents are intended or represented to be suitable for reuse by OWNER or others on extensions of the project or on any other project. Any reuse without written verification or adaptation by ENGINEER for the specific purpose intended will be at OWNER's sole risk and without liability or legal exposure to ENGINEER, and OWNER will defend, indemnify and hold harmless ENGINEER from all claims, damages, losses and expenses, including attorney's fees,

arising or resulting therefrom. Any such verification or adaptation will entitle ENGINEER to further compensation at rates to be agreed upon by OWNER and ENGINEER.

9. TERMINATION OF AGREEMENT

OWNER or ENGINEER may terminate the Agreement, in whole or in part, by giving seven (7) days written notice to the other party. Where the method of payment is "lump sum," or cost reimbursement, the final invoice will include all services and expenses associated with the project up to the effective date of termination. An equitable adjustment shall also be made to provide for termination settlement costs ENGINEER incurs as a result of commitments that had become firm before termination, and for a reasonable profit for services performed.

10. SEVERABILITY

If any provision of this agreement is held invalid or unenforceable, the remaining provisions shall be valid and binding upon the parties. One or more waivers by either party of any provision, term or condition shall not be construed by the other party as a waiver of any subsequent breach of the same provision, term or condition.

11. INVOICES

ENGINEER will submit monthly invoices for services rendered and OWNER will make payments to ENGINEER within thirty (30) days of OWNER's receipt of ENGINEER's invoice.

ENGINEER will retain receipts for reimbursable expenses in general accordance with Internal Revenue Service rules pertaining to the support of expenditures for income tax purposes. Receipts will be available for inspection by OWNER's auditors upon request.

If OWNER disputes any items in ENGINEER's invoice for any reason, including the lack of supporting documentation, OWNER may temporarily delete the disputed item and pay the remaining amount of the invoice. OWNER will promptly notify ENGINEER of the dispute and request clarification and/or correction. After any dispute has been settled, ENGINEER will include the disputed item on a subsequent, regularly scheduled invoice, or on a special invoice for the disputed item only.

OWNER recognizes that late payment of invoices results in extra expenses for ENGINEER. ENGINEER retains the right to assess OWNER interest at the rate of one percent (1%) per month, but not to exceed the maximum rate allowed by law, on invoices which are not paid within thirty (30) days from the date OWNER receives ENGINEER's invoice. In the event undisputed portions of ENGINEER's invoices are not paid when due, ENGINEER also reserves the right, after seven (7) days prior written notice, to suspend the performance of its services under this Agreement until all past due amounts have been paid in full.

12. CHANGES

The parties agree that no change or modification to this Agreement, or any attachments hereto, shall have any force or effect unless the change is reduced to writing, dated, and made part of this Agreement. The execution of the change shall be authorized and signed in the same manner as this Agreement. Adjustments in the period of services and in compensation shall be in accordance with applicable paragraphs and sections of this Agreement. Any proposed fees by ENGINEER are estimates to perform the services required to complete the project as ENGINEER understands it to be defined. For those projects involving conceptual or process development services, activities often are not fully definable in the initial planning. In any event, as the project progresses, the facts developed may dictate a change in the services to be performed, which may alter the scope. ENGINEER will inform OWNER of such situations so that changes in scope and adjustments to the time of performance and compensation can be made as required. If such change, additional services, or suspension of services results in an increase or decrease in the cost of or time required for performance of the services, an equitable adjustment shall be made, and the Agreement modified accordingly.

13. CONTROLLING AGREEMENT

These Terms and Conditions shall take precedence over any inconsistent or contradictory provisions contained in any proposal, contract, purchase order, requisition, notice-to-proceed, or like document.

14. EQUAL EMPLOYMENT AND NONDISCRIMINATION

In connection with the services under this Agreement, ENGINEER agrees to comply with the applicable provisions of federal and state Equal Employment Opportunity for individuals based on color, religion, sex, or national origin, or disabled veteran, recently separated veteran, other protected veteran and armed forces service medal veteran status, disabilities under provisions of executive order 11246, and other employment, statutes and regulations, as stated in Title 41 Part 60 of the Code of Federal Regulations § 60-1.4 (a-f), § 60-300.5 (a-e), § 60-741 (a-e).

15. HAZARDOUS MATERIALS

OWNER represents to ENGINEER that, to the best of its knowledge, no hazardous materials are present at the project site. However, in the event hazardous materials are known to be present, OWNER represents that to the best of its knowledge it has disclosed to ENGINEER the existence of all such hazardous materials, including but not limited to asbestos, PCB's, petroleum, hazardous waste, or radioactive material located at or near the project site, including type, quantity and location of such hazardous materials. It is acknowledged by both parties that ENGINEER's scope of services do not include services related in any way to hazardous materials. In the event ENGINEER or any other party encounters undisclosed hazardous materials, ENGINEER shall have the obligation to notify OWNER and, to the extent required by law or regulation, the appropriate governmental officials, and ENGINEER may, at its option and without liability for delay, consequential or any other damages to OWNER, suspend performance of services on that portion of the project affected by hazardous materials until OWNER: (i) retains appropriate specialist consultant(s) or contractor(s) to identify and, as appropriate, abate, remediate, or remove the hazardous materials; and (ii) warrants that the project site is in full compliance with all applicable laws and regulations. OWNER acknowledges that ENGINEER is performing professional services for OWNER and that ENGINEER is not and shall not be required to become an "arranger," "operator," "generator," or "transporter" of hazardous materials, as defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1990 (CERCLA), which are or may be encountered at or near the project site in connection with ENGINEER's services under this Agreement. If ENGINEER's services hereunder cannot be performed because of the existence of hazardous materials, ENGINEER shall be entitled to terminate this Agreement for cause on 30 days written notice. To the fullest extent permitted by law, OWNER shall indemnify and hold harmless ENGINEER, its officers, directors, partners, employees, and subconsultants from and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) caused by, arising out of or resulting from hazardous materials, provided that (i) any such cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or injury to or destruction of tangible property (other than completed Work), including the loss of use resulting therefrom, and (ii) nothing in this paragraph shall obligate OWNER to indemnify any individual or entity from and against the consequences of that individual's or entity's sole negligence or willful misconduct.

16. EXECUTION

This Agreement, including the exhibits and schedules made part hereof, constitute the entire Agreement between ENGINEER and

OWNER, supersedes and controls over all prior written or oral understandings. This Agreement may be amended, supplemented or modified only by a written instrument duly executed by the parties.

17. ALLOCATION OF RISK

OWNER AND ENGINEER HAVE EVALUATED THE RISKS AND REWARDS ASSOCIATED WITH THIS PROJECT, INCLUDING ENGINEER'S FEE RELATIVE TO THE RISKS ASSUMED, AND AGREE TO ALLOCATE CERTAIN OF THE RISKS, SO, TO THE FULLEST EXTENT PERMITTED BY LAW, THE TOTAL AGGREGATE LIABILITY OF ENGINEER (AND ITS RELATED CORPORATIONS, SUBCONSULTANTS AND EMPLOYEES) TO OWNER AND THIRD PARTIES GRANTED RELIANCE IS LIMITED TO THE LESSER OF $1,000,000 OR ITS FEE, FOR ANY AND ALL INJURIES, DAMAGES, CLAIMS, LOSSES, OR EXPENSES (INCLUDING ATTORNEY AND EXPERT FEES) ARISING OUT OF ENGINEER'S SERVICES OR THIS AGREEMENT REGARDLESS OF CAUSE(S) OR THE THEORY OF LIABILITY, INCLUDING NEGLIGENCE, INDEMNITY, OR OTHER RECOVERY. ENGINEER'S AND SUBCONSULTANTS' EMPLOYEES ARE INTENDED THIRD PARTY BENEFICIARIES OF THIS ALLOCATION OF RISK.

18. LITIGATION SUPPORT

In the event ENGINEER is required to respond to a subpoena, government inquiry or other legal process related to the services in connection with a legal or dispute resolution proceeding to which ENGINEER is not a party, OWNER shall reimburse ENGINEER for reasonable costs in responding and compensate ENGINEER at its then standard rates for reasonable time incurred in gathering information and documents and attending depositions, hearings, and trial.

19. NO THIRD PARTY BENEFICIARIES

Except as otherwise provided in this Agreement, no third party beneficiaries are intended under this Agreement. In the event a reliance letter or certification is required under the scope of services, the parties agree to use a form that is mutually acceptable to both parties.

20. UTILITY LOCATION

If underground sampling/testing is to be performed, a local utility locating service shall be contacted to make arrangements for all utilities to determine the location of underground utilities. In addition, OWNER shall notify ENGINEER of the presence and location of any underground utilities located on the OWNER's property which are not the responsibility of private/public utilities. ENGINEER shall take reasonable precautions to avoid damaging underground utilities that are properly marked. The OWNER agrees to waive any claim against ENGINEER and will indemnify and hold ENGINEER harmless from any claim of liability, injury or loss caused by or allegedly caused by ENGINEER's damaging of underground utilities that are not properly marked or are not called to ENGINEER's attention prior to beginning the underground sampling/testing.

21. UNMANNED AERIAL SYSTEMS

If operating UAS, ENGINEER will obtain all permits or exemptions required by law to operate any UAS included in the services. ENGINEER's operators have completed the training, certifications and licensure as required by the applicable jurisdiction in which the UAS will be operated. OWNER will obtain any necessary permissions for ENGINEER to operate over private property, and assist, as necessary, with all other necessary permissions for operations.

22. OPERATIONAL TECHNOLOGY SYSTEMS

OWNER agrees that the effectiveness of operational technology systems and features designed, recommended or assessed by ENGINEER (collectively "OT Systems") are dependent upon OWNER's continued operation and maintenance of the OT Systems in accordance with all standards, best practices, laws, and regulations that govern the operation and maintenance of the OT Systems. OWNER shall be solely responsible for operating and maintaining the OT Systems in accordance with applicable laws, regulations, and industry standards (e.g. ISA, NIST, etc.) and best practices, which generally include but are not limited to, cyber security policies and procedures, documentation and training requirements, continuous monitoring of assets for tampering and intrusion, periodic evaluation for asset vulnerabilities, implementation and update of appropriate technical, physical, and operational standards, and offline testing of all software/firmware patches/updates prior to placing updates into production. Additionally, OWNER recognizes and agrees that OT Systems are subject to internal and external breach, compromise, and similar incidents. Security features designed, recommended or assessed by ENGINEER are intended to reduce the likelihood that OT Systems will be compromised by such incidents. However, ENGINEER does not guarantee that OWNER's OT Systems are impenetrable and OWNER agrees to waive any claims against ENGINEER resulting from any such incidents that relate to or affect OWNER's OT Systems.

23. FORCE MAJEURE

ENGINEER shall not be responsible for delays caused by factors beyond ENGINEER's reasonable control, including but not limited to delays because of strikes, lockouts, work slowdowns or stoppages, government ordered industry shutdowns, power or server outages, acts of nature, widespread infectious disease outbreaks (including, but not limited to epidemics and pandemics), failure of any governmental or other regulatory authority to act in a timely manner, failure of the OWNER to furnish timely information or approve or disapprove of ENGINEER's services or work product, or delays caused by faulty performance by the OWNER's or by contractors of any level or any other events or circumstances not within the reasonable control of the party affected, whether similar or dissimilar to any of the foregoing. When such delays beyond ENGINEER's reasonable control occur, the OWNER agrees that ENGINEER shall not be responsible for damages, nor shall ENGINEER be deemed in default of this Agreement, and the parties will negotiate an equitable adjustment to ENGINEER's schedule and/or compensation if impacted by the force majeure event or condition.

24. EMPLOYEE IMMUNITY

The parties to this Agreement acknowledge that an individual employee or agent may not be held individually liable for negligence with regard to services provided under this Agreement. To the maximum extent permitted by law, the parties intend i) that this limitation on the liability of employees and agents shall include directors, officers, employees, agents and representatives of each party and of any entity for whom a party is legally responsible, and ii) that any such employee or agent identified by name in this Agreement shall not be deemed a party. Specifically, in the event that all or a portion of the services is performed in the State of Florida, the following provision shall be applicable:

THE PARTIES ACKNOWLEDGE THAT PURSUANT TO APPLICABLE FLORIDA STATUTES AN INDIVIDUAL EMPLOYEE OR AGENT MAY NOT BE HELD INDIVIDUALLY LIABLE FOR NEGLIGENCE WITH REGARD TO SERVICES PROVIDED UNDER THIS AGREEMENT. To the maximum extent permitted by law, the Parties intend i) that this limitation on the liability of employees and agents shall include directors, officers, employees, agents and representatives of each Party and of any entity for whom a Party is legally responsible, and ii) that any such employee or agent identified by name in this Agreement shall not be deemed a Party. The Parties further acknowledge that the Florida statutes referred to above include but are not limited to: §558.0035(1)(a)-(e);§471.023(3)(an engineer is personally liable for negligence except as provided in § 558.0035); §472.021(3) (surveyor and mapper); §481.219(11)(architect and interior designer);§481.319(6) (landscape architect); and §492.111(4) (geologist).

Figure 1. Budget Estimate

Task No.	Task/Title	Senior Project Manager	Senior Civil Engineer	Water Resources PM	Water Resources Engineer	Technician	Senior Structural Engineer	Geotechnical Engineer	Water Resources Coordinator	Environmental Scientist	Project Coordinator	Project Accountant	Hours	Labor Fee
	Hourly Rates	**$ 265**	**$ 260**	**$ 200**	**$ 160**	**$ 180**	**$ 250**	**$ 180**	**$ 120**	**$ 190**	**$ -**	**$ -**		
1	Project Management	4	0	10	0	0	0	0	0	0	4	4	22	$ 3,060.00
2	Data Collection and Analyses	20	0	68	0	15	0	2	39	0	0	0	144	$ 26,640.00
3	Permitting & Environmental Review	2	0	0	0	0	0	0	0	16	0	0	18	$ 3,570.00
4	Preliminary Survey Report	4	4	52	0	34	0	4	54	0	0	0	152	$ 25,820.00
	Totals	**30**	**4**	**130**	**0**	**49**	**0**	**6**	**93**	**16**	**4**	**4**	**336**	**$ 59,090.00**
													HDR Labor Subtotal	**$ 59,090**
													Mileage ($0.75/mile)	$ 225
													GPS Equipment Rental ($350/day)	$ 350
													Printing / Plotting	$ 100
													HDR Direct Expenses Subtotal	**$ 675**
													Total Fee	**$ 59,765**

Red Lake Watershed District

Permit # 26-024

Status Report: Withdrawn

Expiration:

Applicant Information

Name	Organization	Address	Email	Phone Number(s)
Amber Vareberg		19423 160th Ave NW Thief River Falls,MN 56701	ambervareberg@gmail.com	tel: 218-689-0333

General Information

(1) The proposed project is a: **Culvert Installation / Removal / Modification,**

(2) Legal Description

(3) County: **Pennington** Township: **Numedal** Range: **45** Section: **14**

(4) Describe in detail the work to be performed: Installing a culvert under driveway.

(5) Why is this work necessary? Explain water related issue/problem being solved. **The water in the spring and when we get heavy rain fall it is flooding out our front yard, ditches, our woods and causing our water table to be to high which is causing issues with our mound for our septic because there is no were for the water to go from our mound.**

Status

Status	Notes	Date
Withdrawn	The Red Lake Watershed District (RLWD) will withdraw this permit as it is not in our jurisdictional area.	05/13/2026
Received		04/28/2026

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 # 26-015

Status Report: Approved

Expiration:05/13/2027

Applicant Information

Name	Organization	Address	Email	Phone Number(s)
Garnes Township		27536 180th ST SE Oklee,MN 56742	dkolstoe@gvtel.com	tel: 218-686-8293

General Information

(1) The proposed project is a: **Culvert Installation / Removal / Modification,**

(2) Legal Description

(3) County: **Red Lake** Township: **Garnes** Range: **41** Section: **8**

(4) Describe in detail the work to be performed: Replacing existing failed culvert

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

Status

Status	Notes	Date
Approved	The Red Lake Watershed District (RLWD) approves to replace a failing 24"culvert with a new 24" culvert. Directly downstream of the tile and/or pump station(s) outlets, applicant shall ensure that adequate grade and drainage is provided. 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. Directly downstream of the outlet, applicant shall ensure that adequate grade and drainage is provided. Applicant is responsible for utility locates by calling Gopher 1. (1-800-252-1166)	05/13/2026
Received		04/13/2026

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 # 26-019

Status Report: Approved

Expiration:05/13/2027

Applicant Information

Name	Organization	Address	Email	Phone Number(s)
Ron Weiss		10934 240th St SW Red Lake Falls,MN 56750	Sweiss@gvtel.com	tel: 218-289-3437

General Information

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

(2) Legal Description

(3) County: **Red Lake** Township: **Lake Pleasant** Range: **44** Section: **34**

(4) Describe in detail the work to be performed: Clean Ditch and Add 2 Crossings

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

Status

Status	Notes	Date
Approved	The Red Lake Watershed District (RLWD) approves to install (2) 18" culverts in crossings for access to property. Directly downstream of the tile and/or pump station(s) outlets, applicant shall ensure that adequate grade and drainage is provided. 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. Directly downstream of the outlet, applicant shall ensure that adequate grade and drainage is provided. Applicant is responsible for utility locates by calling Gopher 1. (1-800-252-1166)	05/13/2026
Received		04/22/2026

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 # 26-022

Status Report: Approved

Expiration:05/13/2027

Applicant Information

Name	Organization	Address	Email	Phone Number(s)
Lori Wolff	Barwin Farms	29612 230th st SW Crookston,MN 56716	lrwolff@gra.midco.net	tel: 218-779-8325

General Information

(1) The proposed project is a: **Culvert Installation / Removal / Modification,**

(2) Legal Description

(3) County: **Polk** Township: **Lowell** Range: **47** Section: **4**

(4) Describe in detail the work to be performed: Higher Ground will dig out the old culvert and replace with the same size steel one and replace the dirt and gravel on and around the culvert. Making the driveway much safter and the flow of water is moving properly.

(5) Why is this work necessary? Explain water related issue/problem being solved. **The culvert needs to be replaced or the water if high will blow out the driveway access and flood our farm yard. The old culvert is broken and well served its lifetime. It will continue to break apart it has 3 sections to it. It needs to be replaced to continue the flow of water. The culvert is an old cement one that was put together with 3 sections that snapped together. It is over 60 years old. My father replaced this one. He is deceased so I can't get the current age of the old one. I know as a little kid I played in the culvert. I will be 59 in June. The last section on the west side of the culvert is pulling away from the other 2 sections. Thank goodness we didn't have a lot of spring run off this spring or it would have blown apart. The driveway is sinking on the west end of it. The dirt is falling into the culvert and into the ditch in the yard, causing the water flow to back up to the east.**

Status

Status	Notes	Date
Approved	The Red Lake Watershed District (RLWD) approves to replace a failing 36" with a new 36" culvert. Contingent on approval from Polk County as this culvert is in Polk County Ditch 34. Install new 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. Applicant shall install appropriate erosion control measures for energy dissipation at the outlet to prevent erosion. Applicant shall install black dirt and 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. Applicant is responsible for utility locates by calling Gopher 1. (1-800-252-1166)	05/13/2026
Received		04/27/2026

Red Lake Watershed District

Permit # 26-029

Status Report: Approved

Expiration:05/13/2027

Applicant Information

Name	Organization	Address	Email	Phone Number(s)
Jessica Hanson		20997 140th st se PLummer,MN 56748	jessica.hanson@northlandcollege.edu	tel: 218-684-0976

General Information

(1) The proposed project is a: **Culvert Installation / Removal / Modification,**

(2) Legal Description

(3) County: **Red Lake** Township: **Red Lake Falls** Range: **44** Section: **10**

(4) Describe in detail the work to be performed: Install a new approach (18" x 40') approximately and driveway 600' x 40' approximately.

(5) Why is this work necessary? Explain water related issue/problem being solved. **Plan to move in a house and build a garage. Driveway needed for the house, yard, garage.**

Status

Status	Notes	Date
Approved	The Red Lake Watershed District (RLWD) approves to install an 18" culvert for a new crossing and access to property. Install new 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. Applicant shall install appropriate erosion control measures for energy dissipation at the outlet to prevent erosion. Applicant shall install black dirt and 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. Applicant is responsible for utility locates by calling Gopher 1. (1-800-252-1166)	05/13/2026
Received		05/05/2026

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 # 26-031

Status Report: Approved

Expiration:05/13/2027

Applicant Information

Name	Organization	Address	Email	Phone Number(s)
Russell Emerson	Individual	38520 300th St SE Gully,MN 56646	russell4020@msn.com	tel: 170-126-1255

General Information

(1) The proposed project is a: **Culvert Installation / Removal / Modification,**

(2) Legal Description

(3) County: **Polk** Township: **Gully** Range: **39** Section: **12**

(4) Describe in detail the work to be performed: Replace unsafe crossing culvert on JD 100

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

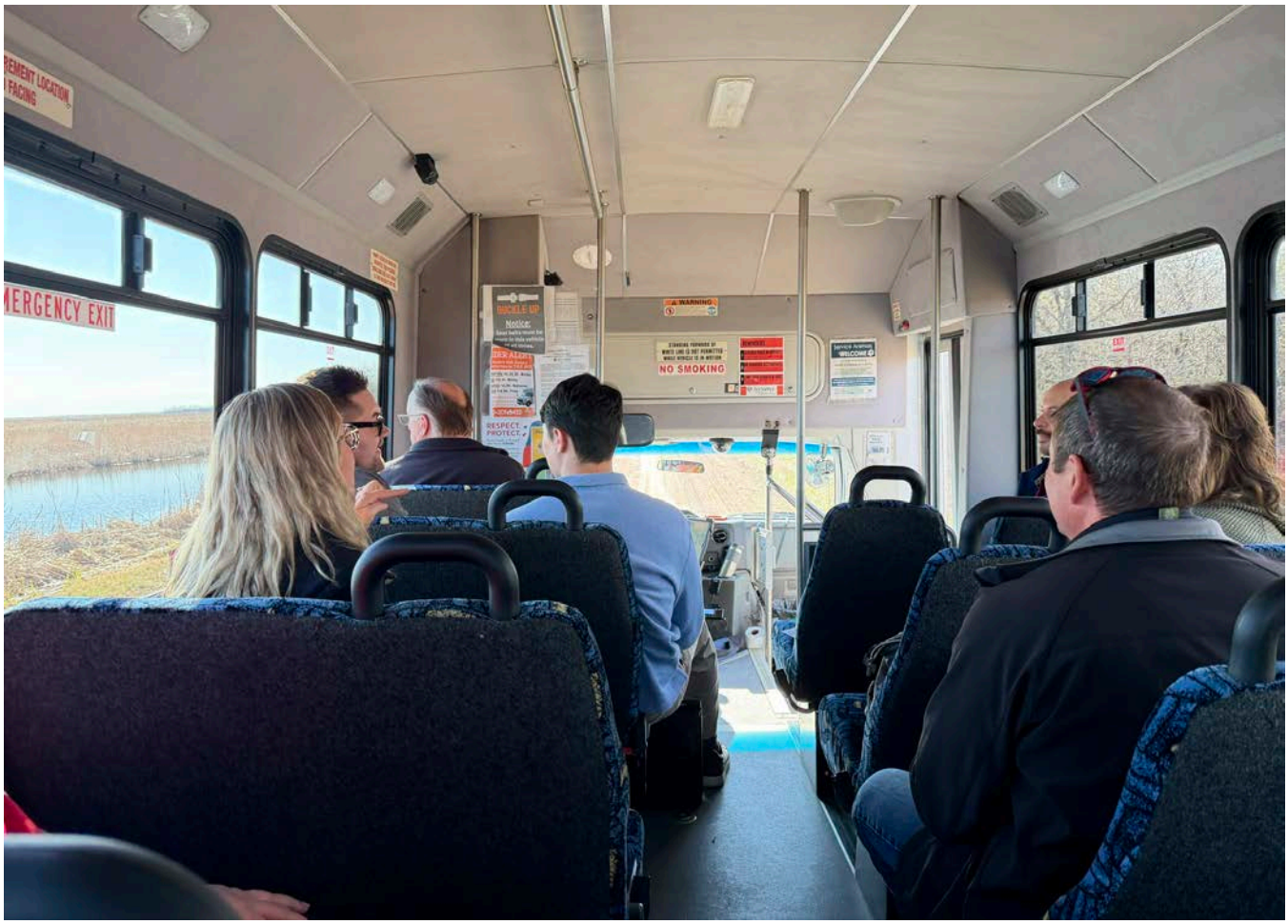
Status

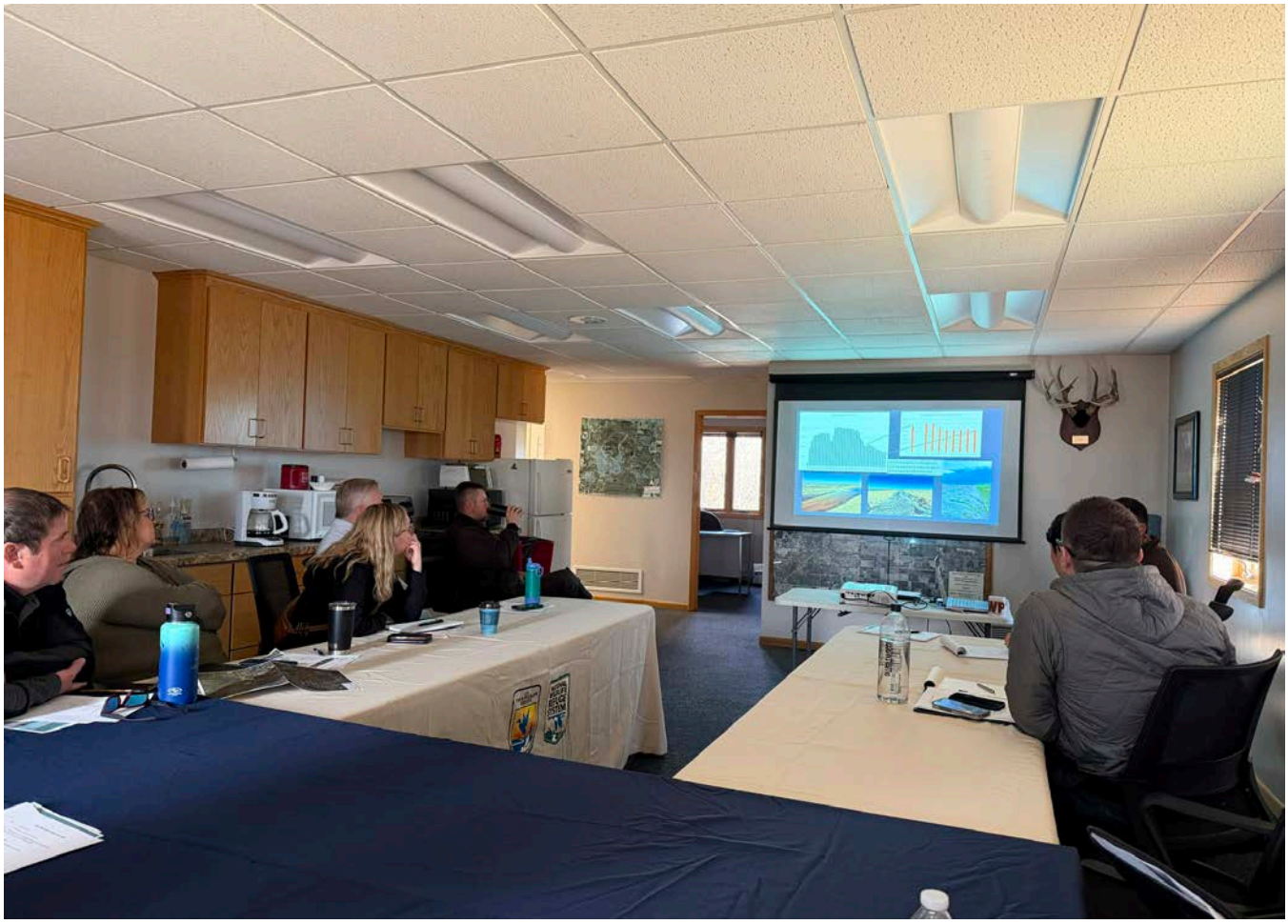
Status	Notes	Date
Approved	The Red Lake Watershed District (RLWD) approves to replace a failed 60" culvert for access into property, contingent upon approval from Polk County as this culvert will be installed within the Right of Way of Polk County Ditch 88. Install new culvert at the current inverts. 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. Applicant shall install appropriate erosion control measures for energy dissipation at the outlet to prevent erosion. Applicant shall install black dirt if needed and 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. Applicant is responsible for utility locates by calling Gopher 1. (1-800-252-1166)	05/13/2026
Received		05/06/2026

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


ERGENCY EXIT
NO SMOKING




WHEELCHAIR SECUREMENT LOCATION
FORWARD FACING
EMERGENCY EXIT
BUCKLE UP
NO SMOKING
EXIT


Red Lake
WATERSHED DISTRICT

SAVE the DATE

2026 Summer Tour

August 25 - 26

Mark your calendar and stay tuned for more details. We are excited to have you join us in Detroit Lakes this year!

Holiday Inn, 1155 Hwy 10 East, Detroit Lakes, MN

mnwatersheds.com/summer-tour

MINNESOTA WATERSHEDS
Connecting People. Protecting Water.

RED RIVER RETENTION AUTHORITY

PELICAN RIVER watershed district

BWSR

Red River Watershed Management Board

Wild Rice Watershed District

Administrator's Report

May 14, 2026

Impoundment Update:

- 4/21/26 Little Pine WMA elevation 1325.3; staff noted cattail chunks close to the structure and downstream beaver dams.
- The data level logger was deployed at Pine Lake. District staff were back on-site last week removing debris from around the logger.
- Jarshaw Excavating started clearing and snagging at the inlet to the Brandt Impoundment.
- Anderson Excavating repaired the culvert at the entrance to the hog farm on the diversion ditch of the Black River Impoundment.

RRWMB: Included in the packet was the latest legislative update from Rob Sip: Audette plans to attend the RRWMB meeting in Ada on May 19th.

Houston Avenue: Audette and Nordby participated in a meeting with the City of Crookston on the Houston Avenue Project.

Tree planting: District staff have been extremely busy planting trees on bank stabilization sites. It is our hope that next year we can apply for a Conservation Corps along with the local SWCD's to complete this work.

Wild Rice Allocation: Clearwater River at Plummer is currently below 72 cfs, which triggers allocation.

BWSR District Assessment: We have received the District Assessment from Moriya at Houston Engineering. Moriya will be at the June 11th meeting to review the information. Audette will send out the assessment to the Board for review.

Marshall County, Whiteford Section 8: There will be a meeting on Friday, May 15th at 9:00 a.m. with landowners from Section 8, Whiteford Township to discuss the potential of alternative practices/installation of SWI's along State Ditch 83.

Improvement to Polk County Ditch 39: District staff are working on preparing property owners reports to the landowners for the Improvement to Polk County Ditch 39. Audette will submit a Multipurpose Drainage Management (MDM) grant application to BWSR for the installation of SWI's on the project.

Red Lake River 1W1P: District staff met staff from HDR Engineering at the Polk/Red Lake County line bank stabilization site where they worked on the survey, reviewed potential wetland impacts and well borings.

Outlook

Weekly Updates - May 4, 2026 to May 8, 2026

From Rob Sip <rob.sip@rrwmb.us>

Date Fri 5/8/2026 10:50 AM

To 'bdswd@runestone.net' <bdswd@runestone.net>; 'Tracy Halstensgard' <Tracy@roseauriverwd.com>; 'Dan Money' <dan.money@tworiverswd.com>; 'Morteza Maher' <morteza.maher@mstrwd.org>; Tammy Audette <tammy.audette@redlakewatershed.org>; Tara Jensen <tara@wildricewatershed.org>

Cc Nikki Swenson <nikki.swenson@rrwmb.us>; Maria Tommerdahl <maria.tommerdahl@rrwmb.us>; 'ian@resolve-strategies.com' <ian@resolve-strategies.com>; 'Molly Jansen' <molly@parkstreetpublic.com>; 'smith@smithpartners.com' <smith@smithpartners.com>; 'holtman' <Holtman@smithpartners.com>

1 attachment (390 KB)

IRRWB_DRAFT_AGENDA_MAY_2026_VIRTUAL 07MAY2026.docx;

RRWMB Managers (Bcc) and WD Administrators,

A few updates from this week:

1. **RRWMB Mini Day on the Hill:** So far, we have Jamie, Linda, Mori, Tracy, Dan, and I that will join Ian and Molly next Thursday in St. Paul. If anyone else is interested let me know.

2. **IRRWB Meeting:** Next week I'll connect into the IRRWB meeting to discuss being able to obtain letters of support from the IRRWB during future legislative sessions. Attached is the agenda for the IRRWB meeting next week and here is a link to some information that is being shared with the full board. https://acrobat.adobe.com/id/urn:aaid:sc:VA6C2:7ef0d7ad-ebb3-4874-8c8c-e8100ca3118c

3. **RRWMB Map of Projects**: Here is a link to a new RRWMB map of flood mitigation projects and ring dikes. https://acrobat.adobe.com/id/urn:aaid:sc:VA6C2:b0ca7746-da81-4d7a-a842-3e17539ea1d7

4. **Water Report:** Here is a link to the final report from the facilitated discussion that occurred during the March 2026 conference. Steve Olson of Steve Olson Consulting will attend the May 19, 2026 RRWMB meeting to review and discuss it with the board. https://acrobat.adobe.com/id/urn:aaid:sc:VA6C2:473de091-db80-4ceb-90f2-4eec4b94a84a

5. **BWSR RIM RATES:** Recently BWSR released information about RIM rates and there was a meeting to discuss the rates (HERE IS A LINK TO VIEW THE RECORDING).

6. **Weather:**
   - HydroClim Minnesota for Early May 2026 | Minnesota DNR
   - Minnesota Weekly Stream Flow Report 5-3-2026

That's all for now. Have a good weekend and Happy Mothers day to all the Mothers out there!

Below is the group I fished with last week and 10 out 12 from the group caught a fish. There were three 90-pound fish caught. One of my nephews is way on the far left and it was his first fish at 90 pounds. My son is on the far right.

Robert L. Sip
Executive Director
Red River Watershed Management Board

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Investing in and Managing the Watershed of the Red River Basin