



MEMORANDUM
Comfort Lake-Forest Lake Watershed District

Date: March 17, 2025
To: CLFLWD Board of Managers
From: Mike Kinney, District Administrator
Subject: Sunrise River Headwaters Project Targeting and Development Effort



Background/Discussion:

The CLFWD recently secured a BWSR Accelerated Implementation Grant (AIG) in the amount of \$118,000 to investigate and develop water quality improvement projects for the headwater areas of the Sunrise River within the CLFLWD boundary. This effort will include data and model gap analysis, data collection, surveying, sediment core collection, H&H modeling, project concept development, and reporting. The effort will focus on the areas of the Sunrise River headwaters contributing/draining to the stream channel between Forest and Comfort lakes, as well as the channel between School and Little Comfort lakes.

Emmons and Olivier Resources, Inc (EOR) will lead this effort. Their scope of work for the Sunrise River Headwaters Project Targeting and Development effort is attached to this memo for your review and discussion.

Proposed Motion:

Manager _____ moves to authorize the administrator, on advice of counsel, to enter into an agreement with EOR in accordance with the 3-14-2025 scope of work and in an amount not to exceed \$99,654. Seconded by Manager _____.

Attached

EOR Scope of Work dated 03-14-2025

Project Name | Accelerated Implementation Grant Work Plan

Date | 3-19-2025

To / Contact info | CLFLWD Board of Managers

Cc / Contact info | Mike Kinney, District Administrator

From / Contact info | Anne Wilkinson, PhD, Greg Graska, PE

Regarding | Sunrise River Headwaters Project Targeting and Development Accelerated Implementation Grant Project

The following is the proposed scope and budget for the EOR's support of the Comfort Lake Forest Lake Watershed District's (CLFLWD) Sunrise River Headwaters Project Targeting and Development Accelerated Implementation Grant Project. This scope includes pre-project identification, planning, modeling, and preliminary concept design resulting in a prioritized list of water quality improvement projects to reduce impairments in the Sunrise River headwaters region of the CLFLWD, benefiting Comfort Lake, Little Comfort Lake, and the upper reaches of the Sunrise River itself. The goal of this scope is to provide a minimum of five projects depending on the findings of the proposed monitoring, modeling, and landowner engagement efforts. The resulting deliverable is a report to serve as the required feasibility support for subsequent potential grant applications

This is a multi-year project. The first year includes data collection and analysis, preliminary concept development, and modeling. The second year includes targeted data collection to confirm concept development and cost benefit analysis.

Task 1. Data and Planning Summary

Total phosphorus (P) loading reductions to Little Comfort Lake by 366 lb/yr and to Comfort Lake by 193 lb/yr are required to meet their respective water quality goals. The purpose of Task 1 is to organize, summarize, and identify gaps in existing management plans, data, and models to inform Tasks 2 - 4. There are three proposed sub-tasks for Task 1.

Task 1.1 Data Summary

The first sub task is the development of a summary of the past project planning and data collection in the Sunrise River headwaters region. This summary will leverage past and planned data and planning efforts to inform subsequent tasks. EOR will summarize projects that have been planned and/or implemented to date. EOR will also summarize the data collected from this region including locations, parameters, years of collection, and monitoring frequency. The proposed plan and data summaries combined with the data collected in the 2025 monitoring plan will provide a more comprehensive picture of water quality within the Sunrise River headwaters. Information gathered will be summarized in a database for future reference.

Task 1.2 Subwatershed Delineation

EOR will delineate the drainage areas to each proposed monitoring site in the 2025 monitoring plan to determine the possible load contributions to each monitoring location, Figure 1. EOR will also create a sediment and phosphorus load summary based on the outcome of the 2025 diagnostic monitoring and provide a map of loading per sub watershed within the region.

Task 1.3 Modeling Gap Analysis

The third subtask includes identifying any gaps in the District's hydrology and hydraulics (H&H) model in the Sunrise River Headwaters area. If there are gaps that should be filled to improve resolution for identifying projects and concept development in Task 3, EOR will outline how the modeling gaps will be filled in Task 2.

Deliverables for this task include:

- Database of past projects and data collected in Sunrise River headwaters region
- Updated subwatershed shapefiles
- Sediment and phosphorus loading summary map
- Check in meetings with District staff to communicate findings and next steps

Expense	Units	Cost
Labor Total	65 hours	\$10,678.00

Task 2. Field Work and Data Assessment

This task includes sites visits, surveying, sediment collection and subsequent data analysis. There are four subtasks proposed in Task 2.

Task 2.1 Model Gaps Survey

The first includes any required survey to fill in the modeling information gaps identified in Task 1. Based on the outcome of Task 1, there may be additional data needed to fully resolve the model for these areas based on the newly delineated subwatersheds. Missing information may include culverts, ditches, or higher resolution topography.

Task 2.2 School Lake Channel Investigation

The second subtask involves site visits to the channel between School Lake and Little Comfort Lake, Past data collection has shown an unidentified source of high sediment and phosphorus loading within this channel and contributing drainage area. EOR proposes to survey depth and composition of the sediment along the channel from School Lake to Little Comfort Lake to determine if this sediment could be a source to downstream Little Comfort Lake and to understand possible management options.

Task 2.3 Bray P Sediment Collection

The third subtask is to collect sediment cores to analyze for phosphorus content (Bray P) within select wetlands determined by the results of the 2025 monitoring plan to better understand the hydrology and water quality of these areas, and potential for contributing to the total phosphorus load discharged from these catchments. Up to ten sediment samples will be collected from up to six selected wetland areas to verify if high concentrations of phosphorus have accumulated in the sediment. These sediment cores will elucidate possible candidates for wetland restoration projects to reduce phosphorus loading downstream.

Deliverables for this task include:

- Check in meetings with District staff to communicate findings and next steps

Expense	Unit Description	Units	Unit Cost	Cost
Labor Subtotal		98 hours		\$14,546.00
Mileage	Sample collection visits, 100 miles round-trip @ \$0.70/mile	4 visit	\$70.00	\$280.00
Equipment	Survey Equipment @ \$80/hour	15 hours	\$80	\$1,200.00
Laboratory Services	Bray P analysis at University of Minnesota Soil Testing Labs at 6 sites with 10 each	60 samples	\$20	\$1,200.00
Expenses Subtotal				\$2,680.00
Total				\$17,226.00

Task 3. Project Identification and Concept Development

The goal of the proposed effort is to identify possible projects to reduce impairments in the Sunrise River headwaters region of the CLFLWD, benefiting Comfort Lake, Little Comfort Lake, and the upper reaches of the Sunrise River itself. This task relies on adaptive management based on the results of Tasks 1 and 2.

Task 3.1 Project Concept Development

The first subtask of Task 3 is to identify and develop concepts for possible water quality improvement projects, based on the information gained from Tasks 1-2 and the results of the 2025 diagnostic monitoring. EOR will also assist District staff with preliminary landowner engagement for possible project sites by providing maps and technical information to help communicate project outcomes.

Task 3.2 Survey for Concept Design

EOR will conduct surveys to inform the concept design of projects identified in Task 3.1. These surveys could include cross sections of streams and ditches, ditch profiles for possible ditch blocks, and surveys for possible wetland restoration projects.

Task 3.3 H&H Modeling & Concept Designs

EOR will update the H&H modeling for this region with information from Task 2. EOR will then run the model to determine the effects of the proposed projects on the area hydrology, specifically, water level changes to upstream/downstream waterbodies and adjacent property. Based on the results of the modeling, EOR will bring forward project concepts for feasible water quality projects that have favorable land-owner engagement and no adverse effects on area hydrology.

Task 3.4 Cost Benefit Analysis

The fourth subtask is to develop project cost estimates and phosphorus load reductions. EOR will provide a cost benefit analysis to help prioritize the proposed projects. The outcome of this task will provide information to submit for potential future grant applications.

Deliverables for this task include:

- Check in meetings with District staff to communicate findings and next steps
- Prioritized list of potential projects based on cost benefit analysis

Expense		Units	Cost	
Labor Total		363 hours	\$55,332.00	
Mileage	Sample collection visits, 100 miles round-trip @ \$0.70/mile	1 visit	\$70.00	\$70.00
Equipment	Survey Equipment @ \$80/hour	10 hours	\$80	\$800.00
Expenses Subtotal				\$870.00
Total				\$56,202.00

Task 4. Sunrise River Headwaters Project Targeting and Development Report

EOR will develop a summary report outlining the data summary, modeling results, project concepts, and cost benefit analysis. The report will also serve as the required feasibility support for subsequent potential grant applications.

Deliverables for this task include:

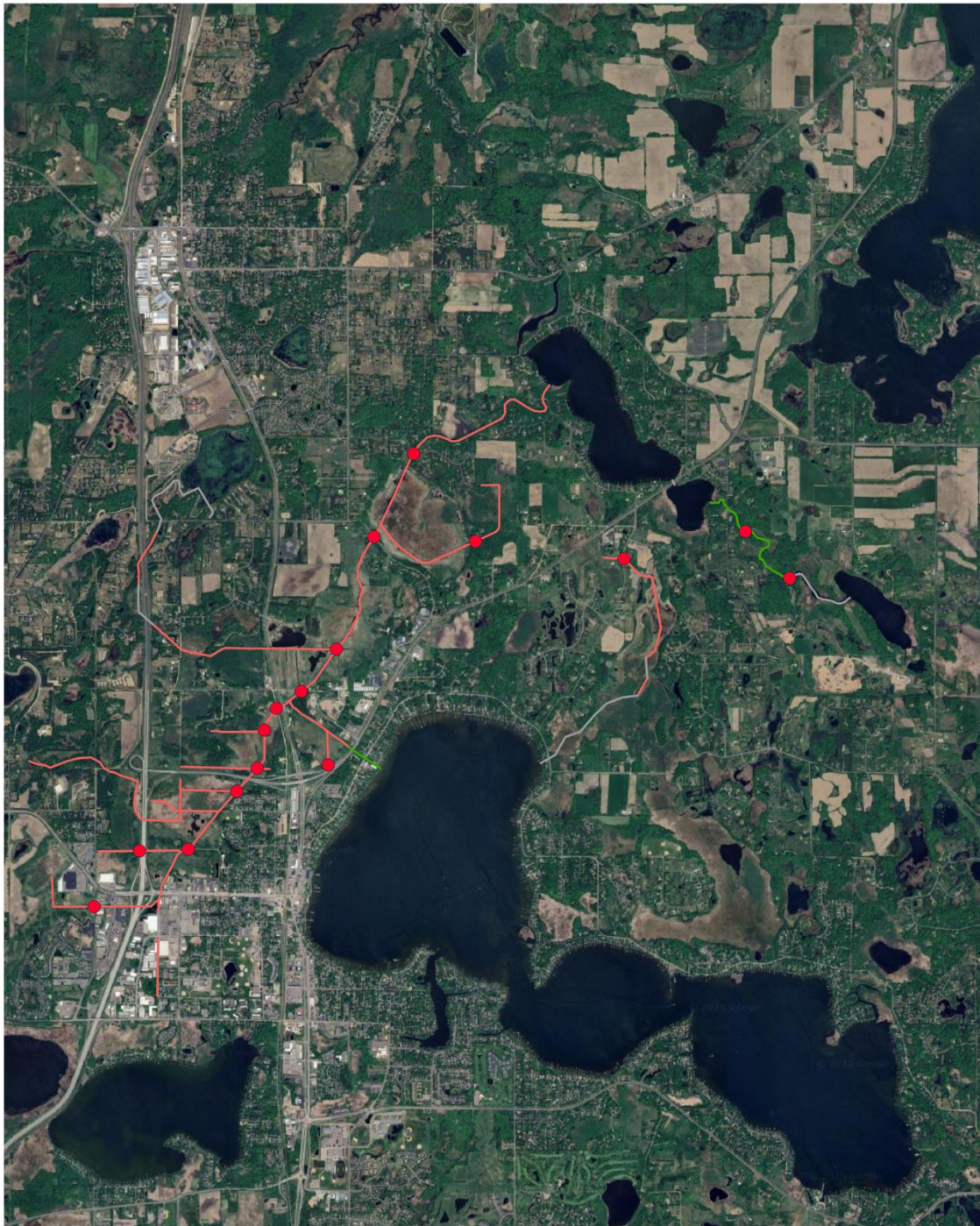
- Draft and final report
- Presentation to the board

Expense		Units	Cost	
Labor Total		88 hours	\$15,548.00	

Recommended Motion

We recommend the Board approve this scope of work for EOR to conduct data collection and analysis to support project identification and cost benefit analysis summarized in a final report for a total cost of \$99,654.

Date: 2025-03-13T13:29:43.868
Document Path: postgressql:\geodata\services.eorinc.io:5432?authcfg=eorinc08&simode=requires&dbname=_Sarah
Author: Sarah
Grandstrand
Layout: RM_Grab_Samples
Project: CLFLWD_monitoring_sites



- Grab Samples
- Altered Watercourses**
 - Altered
 - Natural
 - No definable channel



CLFLWD
Diagnostic Monitoring 2025

Figure 1: Proposed 2025 Diagnostic Monitoring Locations