



# MEMORANDUM

## Comfort Lake-Forest Lake Watershed District

**Date:** May 10, 2024  
**To:** CLFLWD Board of Managers  
**From:** Mike Kinney, District Administrator  
**Subject:** Heath Ave Iron Enhanced Sand Filter Feasibility Study



### Background/Discussion

The purpose of this agenda item is to consider a scope of work for Emmons & Olivier Resources to complete the feasibility study and 60% project design for the Heath Avenue Iron Enhanced Sand Filter Project. This topic was last discussed at the February 8<sup>th</sup> regular board meeting when the Board authorized staff to submit a grant application for the feasibility study. Since that time, we have secured the grant and gotten positive feedback from the landowners regarding land acquisition terms.

Staff recommends a phased approach to grant funding for the Heath Avenue Iron Enhanced Sand Filter Project:

1. The District applied for and was awarded a LSC WBIF grant of \$49,000 for the *feasibility study*. We have just recently executed the grant agreement with the grant fiscal agent, Chisago SWCD.
2. The feasibility study, including 60% project design, is necessary to order the project.
3. Since the District plans to purchase the underlying land for the project, we must complete the feasibility study and order the project before closing on the property.
4. Then we propose to apply for a FY25 Clean Water Fund competitive grant in August 2024 to *construct* the project. If a Clean Water Fund competitive grant is awarded, final design/construction could begin as soon as spring 2025.

The proposed project is estimated to achieve approximately 79 lbs./yr. phosphorus reduction for Little Comfort Lake. As such, this is a high priority project for water quality improvement to L. Comfort Lake as well as downstream water bodies such as Comfort Lake, the Sunrise Rive and the St. Croix River. Furthermore, this project will be critical to remove Little Comfort Lake from the impaired waters list.

### Recommended Motion

Manager \_\_\_\_\_ moves to authorize the Administrator, on advice of counsel, to enter into an agreement with Emmons & Olivier Resources in accordance with the May 14<sup>th</sup> scope of work and in an amount not to exceed \$58,784. Seconded by Manager \_\_\_\_\_.

### Attached

Heath Avenue Iron Enhanced Sand Filter Feasibility Study Scope of Work

<b>Project Name</b>	Heath Avenue Iron-Enhanced Sand Filter	<b>Date</b>	May 14, 2024
<b>To / Contact info</b>	CLFLWD Board of Managers		
<b>Cc / Contact info</b>	Mike Kinney, District Administrator		
<b>From / Contact info</b>	Greg Graske, PE, District Engineer Anne Wilkinson, EOR		
<b>Regarding</b>	2024 Proposed Feasibility Design Scope of Work		

**Background**

Comfort Lake-Forest Lake Watershed District (CLFLWD or the District) requested EOR investigation stormwater treatment projects in the area of Little Comfort Lake. The Vollrath property was identified as a strong potential location for a pump and treat iron-enhanced sand filter project.

The work team proposed to implement the project includes District staff; Emmons & Olivier Resources (EOR) staff, the CLFLWD Engineer; District Legal Counsel.

**Targeting and Pollutant Removal Goals**

The proposed projects are expected to achieve total phosphorus load reductions of 79 lb/yr to Little Comfort Lake.

The project will achieve approximately half of the remaining load reductions needed for Little Comfort Lake to achieve the state water quality standard of 40 µg/L based on the updated BATHTUB modeling results completed for the 2021 Comfort and Little Comfort Lake Diagnostic Study update. Improvements in Little Comfort Lake will also result in phosphorus reduction to Comfort Lake which will help Comfort Lake achieve its long-term District goal of 30 µg/L and be removed from the impaired waters list.

**Detailed Feasibility Work Plan**

The following work plan details all activities proposed to design and implement the Heath Avenue Iron-Enhanced Sand Filter project.

**Task 1: Project Administration and Coordination (\$2,719)**

This task will include general project coordination, grant reporting assistance, meetings with District Staff and the landowner, and development of project agreements. CLFLWD staff, legal counsel, and EOR will work on a purchase agreement with the landowner(s) for construction and maintenance access for the iron-enhanced sand filter treatment system. Currently the project is anticipated to be completed entirely on one landowner’s property, however this may change depending on final design and discussions with adjacent landowners.

Estimated Hours and Cost:

16 hours = \$2,632; Mileage, equipment expenses = \$87

Total estimated cost: \$2,719

Schedule:

May 2024 – December 2025

Deliverables:

EOR support for grant reporting, landowner agreement

**Task 2: Data Collection (\$13,741)**

EOR staff will collect field data necessary to determine the feasibility and specific design of the iron-enhanced sand filter treatment system. Data collected includes, but is not limited to, soil borings and geotechnical report, and topographic surveying with utility locate. EOR will also coordinate with the District to host meetings with landowners to explain the project and respond to any questions and/or concerns. Existing utility information within the project area will be requested from the City of Forest Lake and known private utilities. EOR will contract with a geotechnical subconsultant to complete the soil borings and geotechnical recommendations; the expenses below include the anticipated subconsultant fee. A wetland delineation for all wetlands within the project area has been completed by the District and a delineation report will be finalized based on site observations and monitoring data. The delineation will be completed through the approval process with local WCA LGU (City of Forest Lake) and USACOE. It is assumed the District will lead this application process with minimal support from EOR.

Estimated Hours and Cost:

46 hours = \$4,970; Mileage, equipment expenses = \$771

Allocation for geotechnical subcontractors = \$8,000

Total estimated cost = \$13,741

Schedule:

May 2024 – July 2024

Deliverables:

All relevant collected data to be included in the Existing Conditions plan sheet(s) and associated documentation

**Task 3: Preliminary Permitting and Review (\$3,703)**

EOR and District staff will reach out to potential permitting agencies to discuss the project activities, goals and permitting requirements. Agencies may include (but not be limited to) MPCA (NPDES and SWPPP), City of Wyoming, MnDNR (Appropriations), Chisago County, BWSR, and USACOE. EOR will also access any other state agency permits applicable to the NPDES permit and the MnDNR water appropriations permit. An EAW is not expected to be required for this project. Final permit applications and approvals will be completed after final design and are not included within this scope.

Estimated Hours and Cost:

24 hours = \$3,616; Mileage, equipment expenses = \$87

Total estimated cost = \$3,703

Schedule:

June 2024 – October 2024

Deliverables:

Assessment of permitting requirements and compilation of preliminary permitting submittals

**Task 4: 60% Design (\$38,621)**

This task will include 60% design of the iron-enhanced sand filter treatment system. Prior to completion of 60% designs, District staff, with EOR support, will host meetings with stakeholders and City of Wyoming to gather additional input on permitting requirements, site constraints, and operational needs. This task will include design calculations, water and phosphorus budget modeling, CADD drawing, landscaping planning, and updated cost estimating. EOR will assess multiple configurations to identify the most efficient design. Filter and pre-treatment sizing and configuration, pump sizing, landscape planning, inlet and outlet configuration and sizing, discharge location will all be analyzed to maximize water quality treatment within the project budgetary constraints. Project Engineer will host a design charrette with additional EOR professionals not directly involved in the project to vet the preliminary concepts and explore alternative design concepts to optimize the cost-benefit of the project.

Estimated Hours and Cost:

252 hours = \$38,484; Mileage, printing expenses = \$137

Total estimated cost = \$38,621

Schedule:

July 2024 – October 2024

Deliverables:

60% design plans and Feasibility Report

**Dedicated Team**

Proposed primary EOR staff dedicated to the project and their individual roles are identified below:

- District Engineer – *Greg Graske, PE*
- Water Quality Scientist – *Anne Wilkinson, PhD*
- Project Manager, Design Engineer and Engineer of Record – *Kyle Crawford, PE*
- Supporting Design Engineer – *Derek Lash, PE, CPESC*
- Landscape and Restoration Designer – *Kevin Biehn, PLA*
- Wetland Ecology & Environmental Permitting Lead – *Jimmy Marty, WPC*
- Principal Oversight - *Cecilio Olivier, PE*
- H&H Modeling Lead – *Trevor Rundhaug, PE*
- Civil Technician, Field Services & Construction Observation – *Multiple*

## **Summary**

The total estimated cost for engineering services to implement the feasibility phase of the Heath Avenue Iron-Enhanced Sand Filter project is \$58,784. We recommend the Board motion to authorize EOR to initiate work on the following tasks in an amount not to exceed \$58,784:

- Task 1 Project Administration and Coordination
- Task 2: Data Collection
- Task 3: Preliminary Permitting and Review
- Task 4: 60% Design

Remaining tasks may occur following Board approval and ordering of the project. Request for authorization to proceed with remaining tasks will be completed at that time.