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## MEMO

**TO:** Nine Mile Creek Watershed District Board of Managers  
**FROM:** Jordan Wein, Water Resources Project Manager  
**DATE:** March 19<sup>th</sup>, 2025  
**RE:** Anderson Lakes Protection Strategy Scope of Work

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**Requested Action:** Approve the Anderson Lakes Protection Strategy scope of work with Barr Engineering for a not to exceed amount of \$89,220.

**Presenter(s):** Jordan Wein, NMCWD, Janna Kieffer, Barr.

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### Background

NMCWD asked Barr Engineering to provide a scope of work to evaluate the current status of lake health of the Anderson Lakes and identify protection and management recommendations, as needed. The scope of work for this study is different than past water quality studies in that we are employing the Lake Project Assessment Framework. This approach will evaluate the current status of the lake following management strategies that were implemented between 2008 and 2014, review and assess goals for the lakes, and determine current management stages and recommendations for each lake. The work includes coordination with stakeholders and engagement with the public. NMCWD staff are providing background information for some tasks and assisting with coordination to reduce the overall scope costs.

This study was budgeted for in 2025 under the budget line item TMDL & UAA Studies (Water Quality Studies).

### Attachments or Linked Agenda Items:

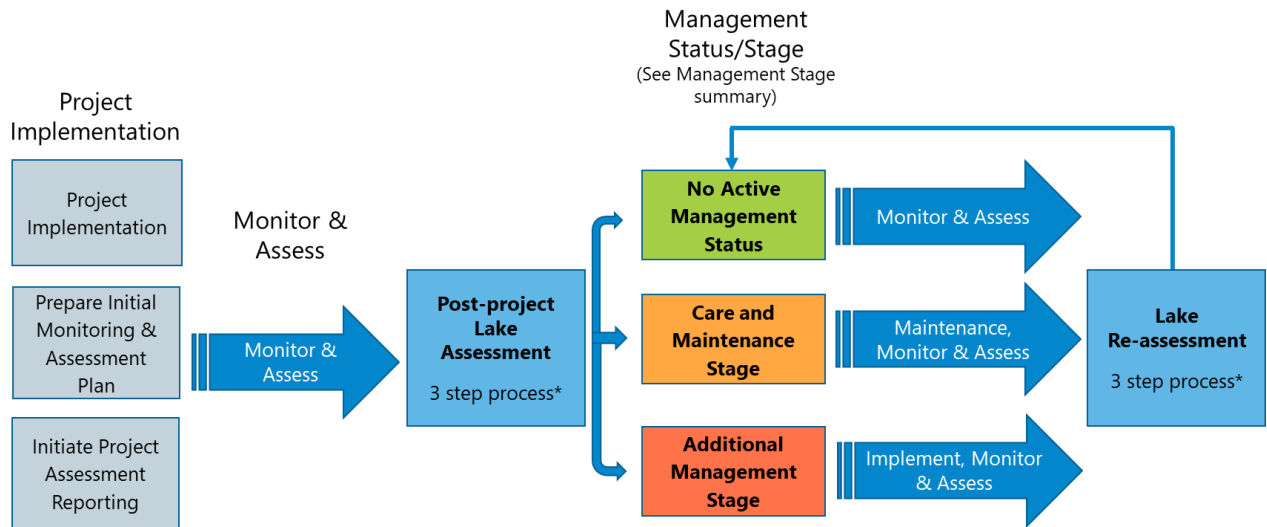
Anderson Lakes Protection Strategy Scope of Work

## Memorandum

**To:** Erica Sniegowski & Jordan Wein, Nine Mile Creek Watershed District  
**From:** Katie Turpin-Nagel & Janna Kieffer, Barr Engineering Co.  
**Subject:** Anderson Lakes - Scope of Work, Schedule, and Budget  
**Date:** February 14, 2025  
**Project:** Anderson Lakes Protection Strategy  
**c:** Brett Eidem, Nine Mile Creek Watershed District

Beginning in the late-1990s, the Nine Mile Creek Watershed District (NMCWD) used the Use Attainability Analyses (UAA) process to assess water quality conditions relative to the desired beneficial uses that can be reasonably achieved and maintained for a given waterbody and identify management recommendations. UAAs completed by NMCWD followed a stepwise, outcome-based evaluation and planning process that diagnosed water quality problems and their causes and identified recommended feasible alternative remedial strategies to achieve the water quality goals. The original UAA for the Anderson Lakes was completed in 2005 and several of the recommended management strategies from that study were implemented between 2008 and 2014.

With the implementation of several management practices over ten years ago in the Anderson Lakes, NMCWD now seeks to conduct a study to evaluate the current status of lake health and identify additional protection and management recommendations, as needed. Review of water quality monitoring data from recent years suggests generally good water quality conditions in the three lakes, indicating that development of a protection strategy may be most fitting as compared to a strategy requiring active management. However, the NMCWD intends to conduct a holistic evaluation utilizing an assessment framework to evaluate further and guide future management. The Lake Project Assessment Framework, shown in Figure 1, is currently under development by NMCWD and includes reviewing the success of the management practices on improving water quality and ecological health, evaluating current water quality conditions, reviewing and reassessing goals for the lakes, evaluating if additional management is needed and developing management and protection strategies. NMCWD is currently evaluating and piloting this framework under a separate scope of work. Use of the draft framework for this study will occur in close coordination with the pilot effort for consistency of evaluation.



**Figure 1** NMCWD Lake Project Assessment Framework (draft)

This memo summarizes the proposed scope of work to complete the Anderson Lakes Protection Strategy Project.

## Scope of Work

### Task 1. Historical review and evaluation of existing data

#### Task 1A. Introduction meetings with NMCWD, Cities, and Three Rivers Park District

An introduction meeting will be held with NMCWD, City of Eden Prairie, City of Bloomington, and Three Rivers Park District staff to introduce the project, discuss partnership interest, and ask for data to assist with the study. This scope of work assumes one introduction meeting will be held with all stakeholders and assumes that NMCWD will take the lead in coordinating the meeting. Barr will attend the meeting and provide high-level presentation content to introduce the project.

#### Task 1B. Review historical in-lake data

Barr will review historical water quality data, and the data collected in 2024, including:

- Water quality (e.g., nutrients, chlorides, chlorophyll-*a*, Secchi disk)
- Phytoplankton
- Zooplankton
- Fisheries
- Aquatic plants
- Lake levels/water quantity

#### Task 1C. Review watershed and upland data

Barr will:

- Utilize GIS land use and public waters and wetlands data and coordinate with cities and Three Rivers Park District to outline watershed changes and identify high-quality

resources within the watersheds.

- Coordinate with Eden Prairie, Bloomington, and Three Rivers Park District to retrieve any data collected on ecosystem/upland environments within the watersheds. Barr will review and summarize data received.
- Coordinate with NMCWD staff to perform drone visual assessment of the shoreline conditions. Barr will review and summarize data received.

#### **Task 1D. Identification of data gaps**

Barr will prepare a data gaps summary based on the data analysis completed in Tasks 1B and 1C.

### **Task 2. Review implemented best management practices (BMPs)**

#### **Task 2A. Summarize and evaluate outcomes of management practices implemented by NMCWD**

This task includes reviewing and summarizing the management practices implemented for each of the lakes and quantitatively or qualitatively evaluating (depending on data available) the effectiveness of the management practices on improving water quality and/or ecological health. Management practices that will be reviewed include:

- Stormwater pond east of NW Anderson Lake
- Winter lake drawdown on NW and SW Anderson Lakes
- Curly-leaf pondweed (CLP) herbicide treatments on NW, SW, and SE Anderson Lakes
- Alum treatment on SW Anderson
- Culvert modification and screen installation between SE and SW Anderson Lakes

#### **Task 2B. Summarize BMPs installed through the NMCWD stormwater permitting and cost share programs**

This task assumes NMCWD staff will assist with documenting best management practices (BMPs) that have been installed within the watersheds through NMCWD's regulatory and/or cost share programs and share this information with Barr staff for use in the study. Barr staff will coordinate with NMCWD staff for documentation and data needs (e.g., GIS data, tables). Effectiveness of the BMPs will not be evaluated as a part of this task, but a summary of locations and BMP types will be included.

### **Task 3. Review and reassess water quality and ecological health goals**

#### **Task 3A. Review previous goals**

This task includes:

- Assessing how the lakes' current water quality compares to established goals or management guidelines, including state water quality standards for total phosphorus, chlorophyll-*a*, and Secchi disk; MnDNR index of biological integrity (IBI) thresholds for plants; WHO Recreation Risk Advisory Guidelines.
- Summarizing the original lake water quality and ecological goals defined by NMCWD in the 2005 UAA study and/or associated engineers reports and evaluating if the goals were met and are still being met based on available data.
  - If the goals were originally met, but are no longer being met what changes are we

- seeing in the lake?
- If the goals were never met, why not and what additional management is needed?

### **Task 3B. Meeting with NMCWD to reassess goals**

Barr will meet with NMCWD staff to discuss the summaries developed in Tasks 1, 2, and 3A. Based on the results of the water quality and watershed data review, BMP review, and review of previous goals, meeting participants will reassess lake water quality and ecological health goals. Reassessment of goals may include considerations for:

- Current water quality and ecological conditions
- Implemented or planned changes to NMCWD practices/policies (e.g., ecosystem services; diversity, equity, and inclusion (DEI))
- Changes in scientific knowledge
- Planning for future threats and outlining what may or may not be feasible to manage without significant capital investment (e.g., climate change, aquatic invasive species spread, winter fish kills, cyanobacteria)

### **Task 3C. Planning meeting with cities and Three Rivers Park District to confirm or refine goals**

Barr and NMCWD staff will lead a meeting with the City of Bloomington, City of Eden Prairie and Three Rivers Park District to discuss the summaries developed in Tasks 1, 2, 3A, and 3B. This meeting can help facilitate discussions related to:

- Outlining stakeholder observations and concerns
- Understanding stakeholder goals and management plans
- Establishing partnership interest
- Understanding how stakeholder interests may modify/refine NMCWD goal reassessment

This scope of work assumes one planning meeting will be held with all stakeholders together.

### **Task 3D. Meeting with NMCWD Board of Managers**

Barr will coordinate with NMCWD staff to develop a presentation summarizing the findings of Tasks 1 – 3C and will present the information to the Board of Managers at a NMCWD board meeting. This scope of work assumes two planning meetings with Barr and NMCWD staff to discuss how to best communicate and discuss reassessed lake goals with the Board of Managers. This scope of work also includes preparation time and attendance at the board meeting.

## **Task 4. Determine lake management status/stage**

### **Task 4A. Determine if reassessed goals require additional management practices**

Based on the conclusions of the goal reassessment meetings in Task 3, Barr will determine if any adjusted goals require the implementation of additional management practices. If additional management needs are identified, Barr will coordinate with NMCWD staff to adjust the scope of this study or identify future technical analyses needs (e.g., feasibility studies).

#### **Task 4B. Determine management status/stage for each lake**

In this task, Barr will review the outcomes of Tasks 1 – 4A and identify management statuses and stages for each Anderson Lake using the Project Framework Assessment categories. The Anderson Lakes are likely to fall into two of the three categories, and therefore we will include review of the following:

- Care and Maintenance Stage
  - Identification of lake specific maintenance practices and recommendations for their frequency and duration
  - Develop recommendations for monitoring (e.g., what to monitor, frequency)
  - Identification of partners to help implement practices and assist with monitoring
  - Identification of lake specific threats and ways to protect against these threats. If there are threats that can't be reasonably managed without significant investment, provide recommendations for monitoring, education, and public risk communication changes.
  - Identification of lake specific thresholds or triggers that would result in status change to "Additional Management Stage." Barr will work with NMCWD staff to develop these threshold values.
- Additional Management Stage
  - If additional management is identified during Tasks 1 – 4A, Barr will provide recommendations on if additional monitoring or modeling is needed to inform analysis and/or management decisions.
  - This scope of work assumes we will provide management recommendations for the following topics. If additional management needs are identified, Barr will coordinate with NMCWD staff to adjust the scope of this study or identify future technical analyses needs (e.g., feasibility studies).
    - Management of invasive aquatic plants is likely. The scope of work includes providing management recommendations contingent on NMCWD and City staff goals and possible partnerships that will be identified at stakeholder meetings.
    - Modifications to the culvert and macrophyte screen between SE and SW Anderson are likely. The scope of work includes design modification considerations.
  - Identification of lake specific thresholds or triggers that would result in status change to "Care and Maintenance Stage." Barr will work with NMCWD staff to develop these threshold values.

Summary tables will be developed for Task 4B to concisely and clearly outline management statuses, maintenance and protection practices, partnerships opportunities, potential threats, and thresholds/triggers.

**Task 4C. Cost estimates for monitoring, management, and protection recommendations**

Barr will develop an engineer's opinion of probable cost for the monitoring, management, and protection practices recommended in Task 4B. Cost ranges and contingencies will be applied based on the level of design.

**Task 4D. Meetings with NMCWD to review management and protection recommendations**

This scope of work assumes two planning meetings with Barr and NMCWD staff to discuss the determination of management stages for the Anderson Lakes.

**Task 4E. Meeting with cities and Three Rivers Park District**

This scope of work assumes one meeting with Barr, NMCWD, City of Bloomington, City of Eden Prairie, and Three Rivers Park District staff to discuss the preliminary management stages for the Anderson Lakes. The goal of these meetings is to solicit feedback prior to finalizing recommendations and presenting the information to the NMCWD Board of Managers.

**Task 5. Public engagement**

This scope of work assumes preparation for and attendance at two public meetings. The first public meeting is anticipated after completion of Task 1 – 3; the second public meeting after Task 4. Preparation for each meeting includes development of a PowerPoint presentation and attending a planning meeting with NMCWD staff and relevant stakeholders (e.g., cities).

**Task 6. Study Report and Deliverables**

Barr will prepare a report summarizing the results of Tasks 1 through 5. This scope of work assumes one round of review comments from NMCWD, City of Eden Prairie, City of Bloomington, and Three Rivers Park District staff and one round of review comments from the NMCWD Board of Managers.

Barr can also prepare additional deliverables that are identified during the Lake Assessment Framework development project as requested by NMCWD staff. Barr will coordinate with NMCWD staff to determine scope of work.

**Task 7. Presentation to NMCWD Board of Managers**

Barr will develop a presentation summarizing the study findings as outlined in the Study Report and will present the information to the Board of Managers at a NMCWD board meeting. This scope of work assumes one planning meeting with Barr and NMCWD staff to discuss how to best communicate and discuss the study with the Board of Managers. This scope of work also includes preparation time and attendance at the board meeting.

## Project Management

Project management will play a fundamental role in Tasks 1 – 7 to ensure the work meets the expectations of NMCWD staff and Board of Managers and other stakeholders (e.g., City of Bloomington, City of Eden Prairie, Three Rivers Park District, engaged public) and is within the established schedule and budget agreed upon. As such, the time and associated costs for project management are built into Tasks 1 – 7.

A project kickoff meeting will be scheduled with NMCWD staff following authorization of the study. At the meeting, project roles and responsibilities, expectations, scope, schedule, and administrative procedures will be discussed in further detail. This meeting will also provide an opportunity to discuss the participation of other key stakeholders, such as the cities and Three Rivers Park District, and determine when stakeholder meetings should be scheduled.

Throughout the project, Barr will provide updates to NMCWD staff regarding project progress, in addition to providing monthly progress reports and budget status updates. We will solicit feedback from you on an ongoing basis to ensure clear and timely communication.

## Estimated Cost

Table 1 summarizes the estimated hours and costs to complete the proposed scope of work, by task. A more detailed table identifying cost and number of hours per subtask is also provided as an attachment. Project expenditures will be billed on a time and expense basis, not to exceed \$89,220 without prior authorization by you.

**Table 1. Estimated study costs by task**

Task	Description	Estimated Hours	Estimated Cost
Task 1	Historical review and evaluation of existing data	105	\$15,710
Task 2	Review implemented management practices' outcomes	49	\$7,300
Task 3	Review, reassess, and develop new goals	52	\$8,830
Task 4	Identification of management status/stage	176	\$27,060
Task 5	Public engagement	52	\$7,720
Task 6	Report	122	\$19,890
Task 7	Presentation to NMCWD Board of Managers	16	\$2,710
<b>Total Estimated Cost</b>		<b>572</b>	<b>\$89,220</b>



## Schedule

Table 2 summarizes a tentative project schedule, assuming authorization to proceed at the beginning of February 2025 and meetings are scheduled with stakeholders in February or early March 2025.

**Table 2. Proposed study schedule**

Task	Description	Proposed Schedule
Task 1	Historical review and evaluation of existing data	February - March 2025
Task 2	Review implemented management practices' outcomes	March 2025
Task 3	Review, reassess, and develop new goals	April - May 2025
Task 4	Identification of management status/stage	May - June 2024
Task 5	Public engagement	May & July 2025
Task 6	Report	July – August 2025
Task 7	Presentation to NMCWD Board of Managers	August 2025

## Conclusion

Thank you for the opportunity to prepare this scope of work for the Anderson Lake Protection Strategies Project. This scope of work has been developed based on discussions with NMCWD staff. The scope can be modified, as desired, to better reflect NMCWD preferences and/or priorities, which may include removing and/or modifying the proposed level of effort for given subtasks.

## Attachment

**Table A. Estimated study cost by subtask**

Subtask	Description	Estimated Hours	Estimated Cost
1A	Introduction and Kick-off Meetings	15	\$2,640
1B	Review historical in-lake data	44	\$6,400
1C	Review watershed and upland data	38	\$5,330
1D	Identification of data gaps	8	\$1,340
<b>Task 1 subtotal - Historical review/evaluation of existing data</b>		<b>105</b>	<b>\$15,710</b>
2A	Summarize and evaluate outcomes of BMPs	45	\$6,620
2B	Summarize BMPs installed through NMCWD stormwater permitting and cost share programs	4	\$680
<b>Task 2 subtotal - Review implemented management practices</b>		<b>49</b>	<b>\$7,300</b>
3A	Review previous goals	11	\$1,740
3B	Meeting with NMCWD staff to reassess goals	13	\$2,250
3C	Planning meeting with cities and TRBD - goals	13	\$2,250
3D	Meeting with NMCWD Board of Managers - goals	15	\$2,590
<b>Task 3 subtotal - Review, reassess, and develop new goals</b>		<b>52</b>	<b>\$8,830</b>
4A	Determine if reassessed goals required additional management practices	10	\$1,700
4B	Determine management status/stage	126	\$18,820
4C	Cost estimates	14	\$2,040
4D	Meetings with NMCWD staff to review protection and management recommendations	13	\$2,250
4E	Planning meeting with cities and TRBD – protection and management recommendations	13	\$2,250
<b>Task 4 subtotal - Identification of management status/stage</b>		<b>176</b>	<b>\$27,060</b>
<b>Task 5 total – Public Engagement</b>		<b>52</b>	<b>\$7,720</b>
<b>Task 6 total - Report</b>		<b>122</b>	<b>\$19,890</b>
<b>Task 7 total - Presentation to NMCWD Board of Managers</b>		<b>16</b>	<b>\$2,710</b>
<b>Total Estimated Cost</b>		<b>572</b>	<b>\$89,220</b>