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Email: judie@jass.biz • Website: www.shinglecreek.org

February 1, 2024

Commissioners **and**
Technical Advisory Committee Members
Shingle Creek and West Mississippi
Watershed Management Commissions
Hennepin County, Minnesota

The agenda and meeting packets are available on the Commission's web site.

<http://www.shinglecreek.org/minutes--meeting-packets.html> **and**

<http://www.shinglecreek.org/tac-meetings.html>

Dear Commissioners and Members:

Regular meetings of the Shingle Creek and West Mississippi Watershed Management Commissions will be held Thursday, February 8, 2024, at Plymouth Community Center, 14800 34th Avenue North, Plymouth, MN.

Lunch will be served at 12:00 noon and the meetings will convene concurrently at 12:45.

The Technical Advisory Committee (TAC) will meet at 11:00 a.m., prior to the regular meeting.

In 2024 the Commissions will meet in a number of different rooms within the Community Center. **In February we will meet in CLASSROOM 2B, on the upper level.** A map is included on pages 2-3 of the meeting packet and shows the location of Classroom 2B. The elevator (marked with a red arrow) and the stairway to the second level can be reached by taking the first left just past the reception desk in the lobby and before you reach the Aspen Room.

Please make your meal choice from the items below and email me at judie@jass.biz to confirm your attendance and your meal selection by **noon, Tuesday, February 6, 2024.**

Thank you.

Regards,

Judie A. Anderson

Administrator

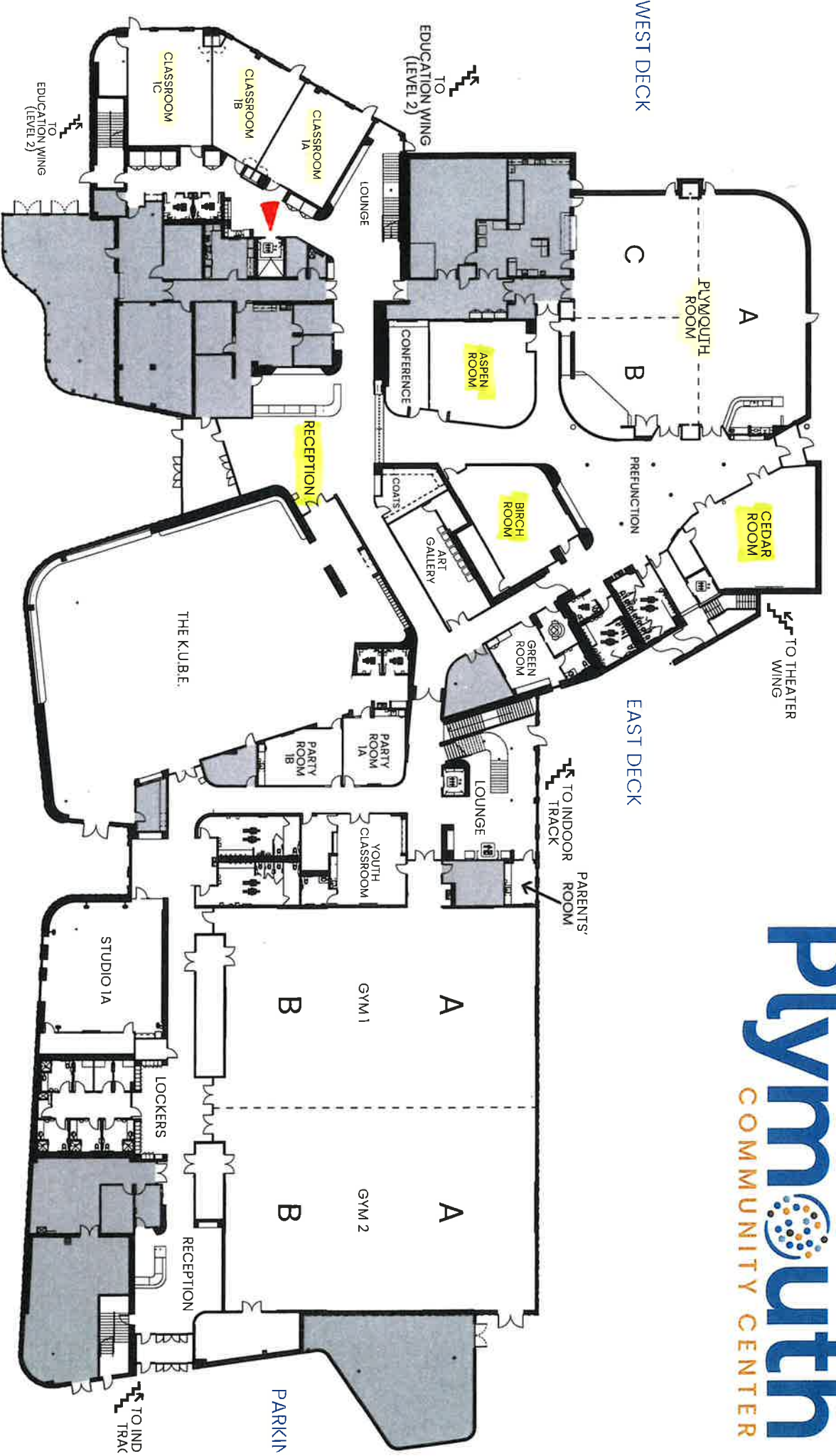
cc: Alternate Commissioners Member Cites Troy Gilchrist TAC Members
Stantec Consulting Services BWSR MPCA HCEE

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Order your deli sandwich box lunch. Sandwiches come with lettuce, tomato and mayo. As an alternative you may specify your sandwich with **wheat bread or as an **unwich** (lettuce wrapped).**

- 1** Pepe – Ham and cheese
- 2** Big John – Roast beef
- 3** Totally Tuna – Tuna salad and cucumber
- 4** Turkey Tom – Turkey
- 5** Vito – salami, capocollo, cheese, onion, oil and vinegar, oregano-basil (no mayo)
- 6** The Veggie – double cheese, avocado spread, cucumber
- 14** Bootlegger Club – Roast beef and turkey

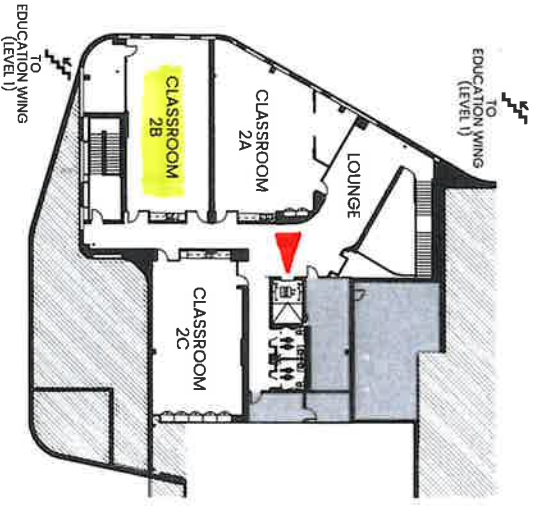
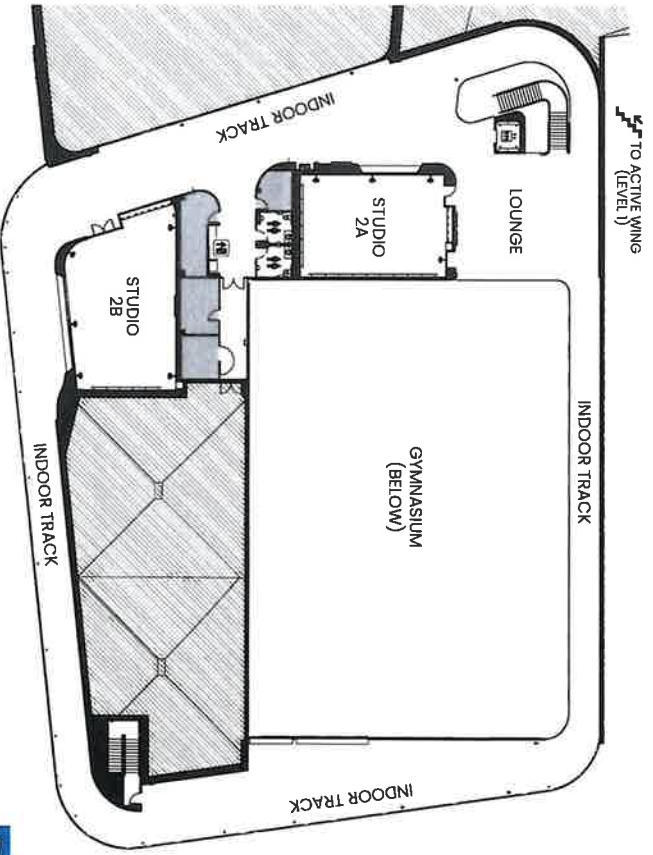
Plymouth COMMUNITY CENTER



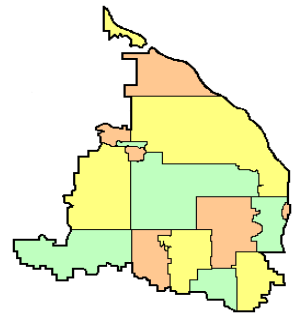
SYMBOL LEGEND

- VENDING
- RESTROOMS
- SENSORY ROOM
- STAIR
- SINGLE-STALL RESTROOMS
- ELEVATORS

Main Level



Upper Level



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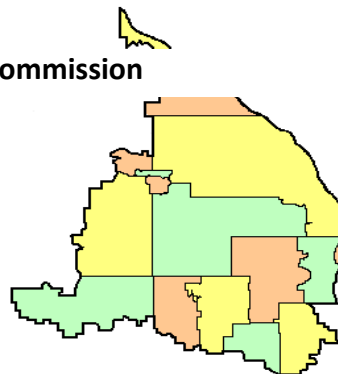
A combined regular meeting of the Shingle Creek (SC) and West Mississippi (WM) Watershed Management Commissions will be convened Thursday, February 8, 2024, at 12:45 p.m. Agenda items are available at <http://www.shinglecreek.org/minutes--meeting-packets.html>. *Black typeface denotes SCWM items, blue denotes SC items, green denotes WM items.*

A G E N D A
February 8, 2024

- | | |
|--------|---|
| | 1. Call to Order. |
| | a. Roll Call. |
| √ SCWM | b. Approve Agenda.* |
| √ SCWM | c. Approve Minutes of Last Meeting.* |
| | 2. Reports. |
| √ SCWM | a. Treasurer’s Report and Claims** - voice votes. |
| √ SCWM | 3. Election of Officers. Currently: |
| | a. Chair Andy Polzin Gerry Butcher |
| | b. Vice Chair Wayne Sicora David Vlasin |
| | c. Secretary Karen Jaeger Karen Jaeger |
| | d. Treasurer Burt Orred Karen Jaeger |
| √ SCWM | 4. Annual Appointments. Currently: |
| | a. Official Newspaper – Osseo-Maple Grove Press. |
| | b. Official Depositories – U.S. Bank and the 4M Fund. |
| | c. Deputy Treasurer – Judie Anderson. |
| | d. Auditor – Johnson Company Ltd. |
| | 5. Open Forum. |
| | 6. Project Reviews. |
| √ SCWM | 7. 2024 Work Plans.* |
| | 8. Water Quality. |
| √ SCWM | a. Approve 2024 Monitoring Plans. |
| √ WM | 1) Approve MWMO Contract Monitoring 65th Avenue.* |
| SCWM | b. Policy Papers, 2050 Met Council Water Supply Plan.* |
| SC | c. Ryan Creek Carp Barrier – update.* |
| | 9. Grant Opportunities. |
| √ SC | a. Approve WSB Contract for Carp Removals on Crystal Lake.* |
| √ SCWM | b. Authorize WBIF Participation and Nominations. |
| | 10. Education and Public Outreach. |
| SCWM | a. Update.** |
| SCWM | b. Next WMWA meeting – via zoom. 8:30 a.m., February 13, 2024. |

- SCWM
- SCWM
- SCWM
- 11. **Communications.**
 - a. Communications Log.*
 - b. Staff Report.*
 - 1) Met Council Metro Area Water Supply Plan.
 - 2) Grant Reporting.
 - 3) Grant project status.
- 12. **Other Business.**
- 13. **Adjournment.**

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* In meeting packet or emailed ** Supplemental email / Available at meeting
Previously transmitted * Available on website √ Item requires action



REGULAR MEETING MINUTES

January 11, 2024

(Action by the SCWMC appears in blue, by the WMWMC in green and shared information in black.
*indicates items included in the meeting packet.)

I. A joint meeting of the Shingle Creek Watershed Management Commission and the West Mississippi Watershed Management Commission was called to order by Shingle Creek Chair Andy Polzin at 12:48 p.m. on Thursday, January 11, 2024, at Plymouth Community Center, 14800 34th Avenue North, Plymouth, MN.

Present for Shingle Creek: David Mulla, Brooklyn Center; Greg Spoden, Brooklyn Park; Burt Orred, Jr., Crystal; Karen Jaeger, Maple Grove; Ray Schoch, Minneapolis; Bill Wills, New Hope; John Roach, Osseo; Andy Polzin, Plymouth; and Wayne Sicora, Robbinsdale.

Present for West Mississippi: David Mulla, Brooklyn Center; Melissa Collins, Brooklyn Park; Karen Jaeger, Maple Grove; and John Roach, Osseo. Not represented: Champlin.

Also present were: Mitch Robinson and Silas Harris, Brooklyn Park; Randy Bergstrom and Ben Perkey, Crystal; Derek Asche, Maple Grove; Liz Stout and Felicia Merkson, Minneapolis; Robert Grant and Nick Macklem, New Hope; James Kelly, Osseo; Amy Riegel and Ben Scharenbroich, Plymouth; Wendy Scherer and Jenna Wolf, Robbinsdale; Todd Shoemaker and Diane Spector, Stantec; Troy Gilchrist, Kennedy & Graven; Judie Anderson, JASS; Mike Sorensen, Minneapolis Park and Recreation Board; Brian Jastram, Rock Leaf Water Environmental LLC; and (guest speaker) Andy Erickson, St. Anthony Falls Lab, University of Minnesota.

II. AGENDAS AND MINUTES.

Motion by Schoch, second by Jaeger to approve the **Shingle Creek agenda**.* *Motion carried unanimously.*

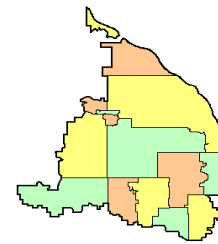
Motion by Jaeger, second by Collins to approve the **West Mississippi agenda**.* *Motion carried unanimously.*

Motion by Schoch, second by Wills to approve the **minutes* of the December 14, 2023, regular meeting**. *Motion carried unanimously.*

Motion by Roach, second by Jaeger to approve the **minutes* of the December 14, 2023, regular meeting**. *Motion carried unanimously.*

III. FINANCES AND REPORTS.

A. Motion by Schoch, second by Jaeger to approve the Shingle Creek **January Treasurer's**



Report* and claims totaling \$17,500.23. Voting aye: Mulla, Spoden, Orred, Jaeger, Schoch, Wills, Roach, Polzin, and Sicora; voting nay: none.

B. Motion by Collins, second by Roach to approve the West Mississippi January Treasurer's Report* and claims totaling \$146,381.65. Voting aye: Mulla, Collins, Jaeger, and Roach; voting nay: none; absent: Champlin.

IV. OPEN FORUM.

Andy Erickson, PhD, PE, is the Research Manager of the St. Anthony Falls Laboratory at the University of Minnesota. He discussed the "Five Things We Learned About Chloride: A Summary of Road Salt Research."

- Do we have a salt legacy problem?
- Can permeable pavements reduce road salt?
- Which anti-icing chemicals work best?
- Do road salt alternatives have environmental impacts?
- What else can we do?

Erickson's full presentation is available on the Commissions' website, www.shinglecreek.org. A link can be found on the home page.

V. OLD BUSINESS.

VI. PROJECT REVIEWS.

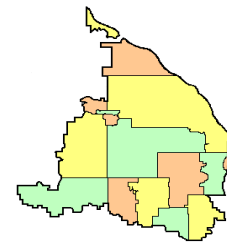
VII. WATER QUALITY.

VIII. GRANT OPPORTUNITITES.

SRP Channel Project.* The Commission and cities have a long history of undertaking projects to reduce phosphorus loading from a large wetland north of Upper Twin Lake on land owned by the Metropolitan Airports Commission (MAC) but not used for operations at the Crystal Airport. The wetland and some surrounding uplands are leased to the cities of Crystal and Brooklyn Center and used as open space. Most of the area is in Crystal and is known as the MAC Wildlife Area. This wetland is DNR catalog number 27-639W and is typically referred to as Wetland 639W.

The flow out of this wetland has been a major source of nutrients to the lake, and previous projects have been successful at reducing the export of particulate phosphorus, but less successful at reducing dissolved phosphorus. In 2021, following a research project to test various methods to reduce "soluble reactive phosphorus" (SRP), the Commission established the "SRP Channel Modification Project" to implement the most cost-effective option. This involved modifying a channel on the Crystal Airport property that conveys high flows around the wetland and lining it with iron-enhanced sand. The Commission allocated \$50,000 in Closed Projects Account funding as match to a \$75,000 grant from Hennepin County, and then levied \$125,000, for a total of \$250,000, to undertake the project.

The City of Crystal was unable to secure approval from MAC to modify the channel, which was constructed by the City with approval by MAC as part of the previous Commission-funded project "Wetland 639W Outlet Modification." Three Rivers Park District (TRPD) was planning to reconstruct the boardwalk



adjacent to the project area in 2024 and the Commission explored the possibility of partnering with TRPD to complete its project with theirs. However, Staff were recently advised that the boardwalk project has been postponed until later this decade.

The Hennepin County grant funds expired December 31, 2023. The County offered to extend the grant to the end of 2024, but it is now impossible to construct the project by that time. Staff recommends that the Commission (1) thank Hennepin County, advising them that the project cannot be completed by December 31, 2024, and no extension is necessary; and (2) close project 2021-04 and authorize transferring the accumulated levy funds (estimated at \$131,343.98) to the Closed Projects Account.

Motion by Schoch, second by Spoden to approve Staff's recommendation. *Motion carried, Crystal voting nay.*

IX. EDUCATION AND PUBLIC OUTREACH.

A. The **West Metro Water Alliance (WMWA)** met on January 9, 2024, to discuss the following initiatives.

1. Hennepin County Joint Education and Outreach Coordinator Grace Barcelow presented a draft of the **ArcGIS Survey123 form** Hennepin County has been developing. The map-based form will be used as a guide when meeting with property owners to discuss winter salting and help them develop a more sustainable management strategy.

2. Barcelow continues work on other initiatives, including developing a **Pet Waste Campaign** and materials for WMWA's member cities and a combined calendar of outreach materials to guide community outreach and education for WMWA, Watershed Prep, cities, and Hennepin County.

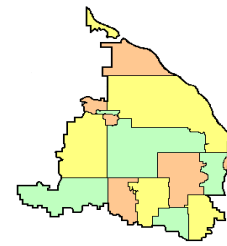
3. Amy Juntunen, JASS, is scheduling the next **steering committee meeting** that will guide the joint education and outreach coordinator's work in the coming year. The meeting is expected to occur in February.

4. WMWA educator Jessica Sahu Teli has a number of **Watershed Prep** classroom lessons planned for January and February before her schedule starts to get busy in the spring. The 2024 budget for the WMWA educator has been increased from 2023, allowing her to reach more students and attend more community events like festivals and tabling events.

5. WMWA will have a booth at **Discover Plymouth** on March 23 and will display educational materials, handouts, and native plant roots, as well as have native seeds for visitors to take home. Contact Amy Juntunen, amy@jass.biz, if you are interested in volunteering at the event for any amount of time.

6. WMWA discussed whether there was interest in allocating Watershed Based Implementation Funding (WBIF) to help continue achievement of the Hennepin County **Chloride Initiative's No Salt Low Salt campaign**. The primary need is to fund staff assistance in facilitating meetings and coordinating strategies between the 11 watersheds and Hennepin County and whether it should be broadened to include other entities in the Metro Area.

B. The **next WMWA meeting** is scheduled for 8:30 a.m., February 13, 2024, via Zoom.



X. 2024 WORK PLANS.

Staff's January 5, 2024, memos* list suggested activities for the 2024 Work Plan, organized by Goal Areas identified in the Fourth Generation Plan and as general Commission business. The lists include routine, ongoing activities as well as expected Commission-funded construction projects. In addition, Staff will bring a proposed 2024 Monitoring Plan to the Commissions' February meeting. Staff's memos also include the proposed activities in calendar form.

A. Goal 1. Protect, maintain, and improve the water quality and ecological integrity of the water and natural resources within the watersheds and the downstream receiving waters.

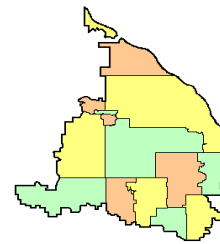
- Complete Bass and Shingle Creek Biotic and DO TMDL 5-year performance review.
- Complete Crystal Lake Management Plan, including final carp removal.
- Implement Meadow Lake Management Plan, including potential additional vegetation and fish management, alum treatment.
- Plan and design for stream restoration on Shingle Creek from Brookdale Park to downstream of Xerxes Avenue.
- Complete Eagle Lake Subwatershed Assessment (SWA).
- Initiate Eagle Lake Management Plan, implement projects identified in SWA.
- Partner with USGS to operate Queen Avenue monitoring site.
- Upkeep past project improvements; evaluate options for France Avenue carp barrier.
- Continue to identify, pursue grant funding for, and implement projects and programs addressing bacterial impairment in the Mississippi River.
- Identify boundaries of untreated areas directly connected to Mississippi River or other conveyances.
- Partner with the MWMO to undertake monitoring at the 65th Avenue outfall.
- Execute cooperative agreement with Brooklyn Park for Mississippi River stabilization project.
- Partner with a member city to complete a subwatershed BMP analysis.
- Stay abreast of other regional and state TMDLs.

B. Goal 2. Reduce stormwater runoff rates and volumes to limit flood risk, protect conveyance systems,

- Initiate Colorado Avenue infiltration trench feasibility study recommended based on Gaulke Pond SWA.
- Complete reviews of development and redevelopment projects as necessary.

C. Goal 3. Educate and engage all stakeholders in the watersheds on surface water issues and opportunities.

- Participate in the West Metro Water Alliance joint education and outreach group.
- Partner with Hennepin County and other local watersheds to fund and provide guidance to the shared Education and Outreach Coordinator.



- Work with shared E&O Coordinator to offer customized shoreline restoration workshops as part of effort to enhance outreach to lake associations.
- Develop Chloride Management Plan for the watershed.
- Develop a format and process for incorporating documentation of potential impacts to and outreach to underrepresented populations to increase engagement and help improve equitable outcomes.

D. Goal 4. Anticipate and proactively work to withstand adverse impacts from changing environmental and climate conditions.

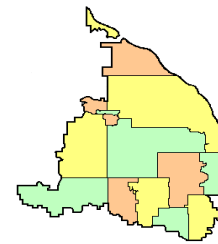
- Consider applying for an MPCA Community Resilience grant to model future precipitation scenarios in the watershed.

E. Continue ongoing administration and programming.

• Convene with BWSR and other entities eligible to receive funding from the next round of WBIF grants to establish priorities and select projects and strategies for funding. **Shingle Creek has been awarded \$191,622** and **West Mississippi has been awarded \$152,299**, which is available July 1, 2024. The Convene Group will meet in early 2024 with the goal of allocating those funds by May 1, to be contracted in May-June 2024 for expenditure starting July 1. Initial discussion at WMWA is that there is some interest in extending funding for the joint outreach coordinator, which was allocated \$30,000 from the previous WBIF grant.

- **Undertake routine flow and water quality at two outfalls into the Mississippi River.**
- **Conduct routine lake water quality monitoring and aquatic vegetation monitoring on Eagle and Pike Lakes and grant funded monitoring on Meadow Lake.**
- **Conduct Commission routine flow and water quality monitoring at SC-0 and SC-3 on Shingle and Bass Creeks.**
- If available in 2024, sponsor volunteer stream monitoring through RiverWatch.
- **Sponsor volunteer lake monitoring through CAMP (Met Council) on up to four lakes.**
- Prepare an annual water quality report.
- **Solicit cost-share projects from member cities funded from the Cost Share Fund and the annual \$100,000 levy and the Partnership Cost Share Fund and the annual \$50,000 levy.**
- **Solicit cost-share projects from member cities funded from the Cost Share Fund and the annual \$50,000 levy.**
- Review feasibility studies for 2024 proposed capital projects, undertake Plan Amendments, hold public hearings, order projects, and certify levies.
- Initiate review process for the revised Joint Powers Agreement, which may require a focused education and outreach effort for city staff and councils.
- Prepare a 2025 annual budget.
- Invite three guest speakers to make lunchtime water resources presentations.

Motion by Wills, second by Schoch to return the Shingle Creek 2024 Work Plan to the February meeting for final approval. Motion carried unanimously.



Motion by Mulla, second by Jaeger to return the West Mississippi 2024 Work Plan to the February meeting for final approval. *Motion carried unanimously.*

XI. COMMUNICATIONS.

A. **January Communications Log.*** No items required action.

B. **January Staff Report.***

1. **Metropolitan Council Metro Area Water Supply Plan.** Met Council recently invited state, county, municipal, and watershed staff to participate in one of two workshops (Jan 19 and Feb 8) that will guide development of the next Metro Area Water Supply Plan. Per the email invite: *In collaboration with a Core Team made up of a few local water resource leaders from the Northwest Metro, a two-workshop series is being planned for early 2024 to create space for locally driven creation of Metro Area Water Supply Plan content. The intent of this process is to lead to a shared vision for the Northwest Metro, prioritized areas of focus, and an action plan to further progress on local priorities.*

Staff will attend the January 19 workshop, provide a summary at the February 8 Commission meeting, and discuss if continued Staff involvement may be necessary.

2. **Metropolitan Council 2050 Water Policy Plan.** Met Council is updating its current Water Policy Plan as part of the region's long-range plan, Imagine 2050. The plan outlines water supply, water resources, and wastewater policies to align local and regional water priorities. It also sets guidelines and expectations about our regional wastewater system, and helps the region plan for future water needs.

Over the past two years, Council staff have written six research papers that investigate current and future water concerns and offer recommendations for the metro region. Staff will review four of the six papers over the next month, evaluate alignment with watershed goals, and provide a summary at the February Commission meeting.

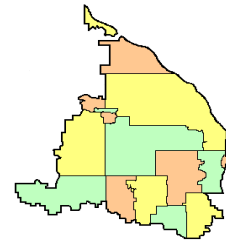
3. The **Clean Water Fund Projects and Practices Competitive Grant Application** submitted in August for the Eagle Lake Management Plan was not selected for funding, as announced by the Board of Water and Soil Resources. The selected projects lean heavily towards out-state organizations and not many metro-area projects are being selected. Staff will continue planning for internal load management on Eagle and Pike Lakes despite not being awarded the grant.

4. An addendum to the Staff Report includes an update of the **financial status of the grant and cost-share projects** currently in progress.

XII. OTHER BUSINESS.

A. **Reminder:** Commissioners and Alternate Commissioners must review, update and certify their statements of economic interest with the **Minnesota Campaign Finance Board*** by January 29, 2024.

B. Chair Polzin and Attorney Gilchrist have exchanged email communications regarding the **use of Closed Project Account funds.** Gilchrist noted that the policy is very broad as it pertains to potential uses of the funds, including their use before the receipt of tax funds from the County. A default provision of the policy is also very broad in that the Account can be used for any lawful purpose upon a majority vote of the Commission. He further noted that the language was unclear as to whether the Commission could include a completed and paid for project in a future tax levy request and would recommend conferring with the County



on this scenario. He suggested the Commissions consider what goes into deciding which CIP projects are funded with these funds (why this project rather than another).

C. Election of officers and annual appointments for 2024 will occur at the February meeting. If you are willing to serve as an officer, please contact Administrator Anderson.

D. There being no further business before the Commissions, the **joint meeting was adjourned** at 2:36 p.m.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Judie A. Anderson".

Judie A. Anderson
Recording Secretary
JAA:tim

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To: Shingle Creek WMO Commissioners

From: Todd Shoemaker, P.E.
Katie Kemmitt

Date: February 2, 2024

Subject: 2024 Work Plan

Recommended Commission Action	Approve the work plan or request it be brought back in March with modifications.
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The following are activities for the 2024 Work Plan that the Commission reviewed at their January meeting. Activities are organized by Goal Areas identified in the Fourth Generation Plan and as general, routine Commission business. There are routine, ongoing activities as well as some Commission-funded construction projects expected. Note that we will bring a proposed 2024 Monitoring Plan to the Commission in February, which will provide additional details. Activities in calendar form are attached.

Goal 1. Protect, maintain, and improve the water quality and ecological integrity of the water and natural resources within the watersheds and the downstream receiving waters.

- a. Complete the 5-year performance review for the Bass and Shingle Creek Biotic and DO TMDL.
- b. Partner with the City of Robbinsdale to complete the Crystal Lake Management Plan, including final carp removal under grant.
- c. Partner with the City of New Hope to implement the Meadow Lake Management Plan, including potential additional vegetation and fish management and evaluation of an additional alum treatment.
- d. Partner with the City of Brooklyn Park and Three Rivers Park District to continue planning and design for stream restoration on Shingle Creek from the end point of the Connections project in Brookdale Park to just downstream of Xerxes Avenue.
- e. Complete the Eagle Lake Subwatershed Assessment.
- f. Partner with the City of Maple Grove to initiate the Eagle Lake Management Plan and implement one or more small watershed projects identified in the Eagle Lake Subwatershed Assessment.
- g. Continue to partner with the USGS to operate the Queen Avenue monitoring site.
- h. Stay abreast of other regional and state TMDLs.
- i. Use funding from the Project Maintenance Fund to upkeep past project improvements, including evaluating options for the France Avenue carp barrier.

Goal 2. Reduce stormwater runoff rates and volumes to limit flood risk, protect conveyance systems, protect surficial groundwater, and reduce or mitigate impacts that have already occurred.

- a. Complete reviews of development and redevelopment projects as necessary.
- b. Initiate the Colorado Avenue infiltration trench feasibility study that was recommended based on the Gaulke Pond Subwatershed Assessment.

Goal 3. Educate and engage all stakeholders in the watersheds on surface water issues and opportunities.

- a. Participate in the West Metro Water Alliance joint education and outreach group.
- b. Partner with Hennepin County and other local watersheds to fund and provide guidance to the shared Education and Outreach Coordinator.
- c. Work with the shared education and Outreach Coordinator to offer customized shoreline restoration workshops as part of an effort to enhance outreach to lake associations.
- d. Develop a Chloride Management Plan for the watershed.
- e. Develop a format and process for incorporating documentation of potential impacts to and outreach to underrepresented populations to increase engagement and help improve equitable outcomes.

Goal 4. Anticipate and proactively work to withstand adverse impacts from changing environmental and climate conditions.

- a. Consider applying for an MPCA Community Resilience grant in 2024 to model future precipitation scenarios in the watershed.

Continue ongoing administration and programming.

- a. Convene with BWSR and other entities eligible to receive funding from the next round of WBIF grants to establish priorities and select projects and strategies for funding. Shingle Creek has been awarded \$191,622, which is available July 1, 2024. *The Convene Group will meet in early 2024 with the goal of allocating those funds by May 1, to be contracted in May-June 2024 for expenditure starting July 1. Initial discussion at WMWA is that there is some interest in extending funding for the joint outreach coordinator, which was allocated \$30,000 from the previous WBIF grant.*
- b. Conduct routine Commission lake water quality monitoring and aquatic vegetation monitoring on Eagle and Pike Lakes and grant funded monitoring on Meadow Lake.
- c. Conduct Commission routine flow and water quality monitoring at SC-0 and SC-3 on Shingle Creek and Bass Creek Park (BCP) on Bass Creek.
- d. If available in 2024, sponsor volunteer stream monitoring through RiverWatch.

- e. Sponsor volunteer lake monitoring through CAMP (Met Council) on up to four lakes.
- f. Prepare an annual water quality report.
- g. Solicit cost-share projects from member cities funded from the Cost Share Fund and the annual \$100,000 levy and the Partnership Cost Share Fund and the annual \$50,000 levy.
- h. Review feasibility studies for 2024 proposed capital projects, undertake Plan Amendments, hold public hearings, order projects, and certify levies.
- i. Prepare a 2025 annual budget.
- j. Invite three guest speakers to make lunchtime water resources presentations.
- k. Initiate the review process for the revised Joint Powers Agreement, which may require a focused education and outreach effort for city staff and councils.

2024 PROJECTED WORKPLAN	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<i>ROUTINE BUSINESS</i>												
Set annual workplan												
Set annual monitoring program												
Call for CIP/plan amendment proposals												
TAC considers CIP/ amendments and refers to Commission												
Call for public meeting on any proposed plan amendments												
Annual water quality report												
Lake monitoring												
Stream monitoring												
Adopt any plan amendments and set max levy												
Plan amendments and maximum levies to County												
Initial annual budget review for following year												
Finalize budget and send to cities												
Bass/Shingle Biotic and DO TMDL Five Year Review												
Clean Water Fund grant applications												
Call for public hearing on proposed capital projects												
Public hearing on proposed capital projects												
Annual progress review, education, and outreach report												
Project reviews												
Initiate review of revised JPA												
<i>PROJECTS & MISC.</i>												
WBIF Convene meeting												
Bass Lake herbicide treatment												
Crystal Lake herbicide treatment (if necessary) and carp removals												
Meadow Lake monitoring and additional management												
Shingle Creek Brookdale Park Planning & Design												
Eagle Lake Management Plan												

Ryan Creek carp barrier improvements												
Eagle Lake Subwatershed Assessment												
Colorado Ave trench feasibility study												
Provide customized shoreline restoration workshops												
Draft and adopt criteria for evaluating Commission projects for equity impact												
Draft and adopt Chloride Management Plan												

To: West Mississippi WMO Commissioners

From: Todd Shoemaker, P.E.
Katie Kemmitt

Date: February 2, 2024

Subject: 2024 Work Plan

Recommended Commission Action	Approve the work plan or request it be brought back in March with modifications.
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The following are suggested activities for the 2024 Work Plan that the Commission reviewed at their January meeting. Activities are organized by Goal Areas identified in the Fourth Generation Plan as well as some general, routine Commission business. Note that we will bring a proposed 2024 Monitoring Plan to the Commission in February, which will provide additional details. Activities in calendar form are attached.

Goal 1. Protect, maintain, and improve the water quality and ecological integrity of the water and natural resources within the watersheds and the downstream receiving waters.

- a. Continue to identify, pursue grant funding for, and implement projects and programs addressing the bacterial impairment in the Mississippi River.
- b. Stay abreast of other regional and state TMDLs.
- c. Identify boundaries of the untreated areas directly connected to the Mississippi River or other conveyances.
- d. Partner with the MWMO to undertake monitoring at the 65th Avenue outfall.
- e. Execute cooperative agreement with Brooklyn Park for the Mississippi River stabilization project.
- f. Partner with a member city to complete a subwatershed BMP analysis.

Goal 2. Reduce stormwater runoff rates and volumes to limit flood risk, protect conveyance systems, protect surficial groundwater, and reduce or mitigate impacts that have already occurred.

- a. Complete reviews of development and redevelopment projects as necessary.

Goal 3. Educate and engage all stakeholders in the watersheds on surface water issues and opportunities.

- a. Participate in the West Metro Water Alliance joint education and outreach group.

- b. Partner with Hennepin County and other local watersheds to fund and provide guidance to a shared Education and Outreach Coordinator.
- c. Work with the shared Education and Outreach Coordinator to offer customized workshops on shoreline restoration to lakeshore residents as part of an effort to enhance outreach to lake associations.
- d. Develop a Chloride Management Plan for the watershed.
- e. Develop a format and process for incorporating documentation of potential impacts to and outreach to underrepresented populations to increase engagement and help improve equitable outcomes.

Goal 4. Anticipate and proactively work to withstand adverse impacts from changing environmental and climate conditions.

- a. Consider applying for an MPCA Community Resilience grant in 2024 to model future precipitation scenarios in the watershed.

Continue ongoing administration and programming.

- a. Convene with BWSR and other entities eligible to receive funding from the next round of WBIF grants to establish priorities and select projects and strategies for funding. West Mississippi has been awarded \$152,299, which is available July 1, 2024. *The Convene Group will meet in early 2024 with the goal of allocating those funds by May 1, to be contracted in May-June 2024 for expenditure starting July 1. Initial discussion at WMWA is that there is some interest in extending funding for the joint outreach coordinator, which was allocated \$30,000 from the previous WBIF grant.* Undertake routine flow and water quality at two outfalls into the Mississippi River.
- b. If available in 2024, sponsor volunteer stream monitoring through RiverWatch.
- c. Prepare an annual water quality report.
- d. Solicit cost-share projects from member cities funded from the Cost Share Fund and the annual \$50,000 levy.
- e. Review feasibility studies for 2024 proposed capital projects, undertake Plan Amendments, hold public hearings, order projects and certify levies.
- f. Prepare a 2025 annual budget.
- g. Invite three guest speakers to make lunchtime water resources presentations.
- h. Initiate the review process for the revised Joint Powers Agreement, which may require a focused education and outreach effort for city staff and councils.

2024 PROJECTED WORKPLAN	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<i>ROUTINE BUSINESS</i>												
Set annual workplan	█											
Set annual monitoring program		█										
Call for CIP/plan amendment proposals	█	█										
TAC considers CIP/ amendments and refers to Commission			█	█								
Call for public meeting on any proposed plan amendments				█								
Annual water quality report				█								
Stream monitoring	█	█	█	█	█	█	█	█	█	█	█	█
Adopt any plan amendments and set max levy					█							
Plan amendments and maximum levies to County					█							
Initial annual budget review for following year					█							
Finalize budget and send to cities						█						
Clean Water Fund grant applications							█	█				
Call for public hearing on proposed capital projects								█				
Public hearing on proposed capital projects									█			
Annual progress review, education, and outreach report												█
Project reviews	█	█	█	█	█	█	█	█	█	█	█	█
Initiate review of revised JPA				█	█	█	█					
<i>PROJECTS</i>												
WBIF Convene meeting		█	█	█	█							
Execute cooperative agreement between City of Brooklyn Park and Watershed	█	█	█									
Provide customized shoreline restoration workshops	█	█	█	█	█	█	█	█	█	█	█	█
Draft and adopt criteria for evaluating Commission projects for equity impact analysis	█	█	█	█	█	█	█	█	█	█	█	█

Draft and adopt Chloride Management Plan																			
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To: Shingle Creek WMO Commissioners and TAC

From: Katie Kemmitt
Todd Shoemaker, P.E.
Diane Spector

Date: February 2, 2024

Subject: 2024 Shingle Creek Monitoring Plan

**Recommended
Commission Action**

Review and approve the 2024 monitoring plan.

Each year the Commission budgets and undertakes monitoring activities, including routine stream and lake monitoring and volunteer lake, stream, and wetland monitoring. Water quality and quantity monitoring on Shingle Creek and select lakes is performed by Stantec staff and the USGS and macroinvertebrate monitoring in Shingle Creek is performed by volunteers through the Hennepin County Environmental Services' (HCES) RiverWatch program. Lake monitoring is performed by volunteers through the Met Council's Citizen Assisted Lake Monitoring Program (CAMP).

The purpose of this memo is to present the proposed 2024 monitoring program. This proposal is consistent with the adopted Fourth Generation Management Plan, which includes routine monitoring tasks, specific monitoring efforts to support Commission administered grants, and monitoring to evaluate progress toward the TMDLs. **Table 1** below shows the TMDL review schedule for Shingle Creek. This year the Commission will complete the 5-year biotic and DO TMDL review report for Shingle and Bass Creeks. Under the Fourth Generation Plan, TMDL's will be reviewed systematically by priority. Lakes have been prioritized by tiers that can be seen in **Table 3**. Tiers are as follows:

Tier 1 – Impaired lakes with management actions planned. These lakes are priority lakes for intensive monitoring under the Fourth Generation Plan. Intensive monitoring will be used to evaluate lakes for management projects.

Tier 2 - Impaired lakes with previous management or none planned. The lakes are second priority for intensive lake monitoring under this Plan, as they are impaired

Tier 3 – Delisted lakes. These lakes are third priority and will be monitored primarily through the CAMP program unless declines in water quality are detected.

Review of Shingle and Bass Creek TMDLs will also be prioritized based on the impaired status of the streams.

Table 1. Shingle Creek watershed TMDL approvals and review dates.

TMDL	TMDL EPA Approval	Implementation Plan Approval	Third Generation Plan 5-Year Progress Review
Shingle Creek Chloride	February 14, 2007	March 5, 2007	2014
Twin and Ryan Nutrients	November 9, 2007	November 13, 2007	2014
Crystal Nutrients	March 25, 2009	July 7, 2009	2016
Pomerleau, Bass, and Schmidt Nutrients	September 25, 2009	December 3, 2009	2017
Meadow Nutrients	March 23, 2010	June 14, 2010	2019
Cedar Island, Pike, and Eagle Nutrients	April 14, 2010	May 18, 2010	2018
Magda Nutrients	September 30, 2010	October 1, 2010	2019
Shingle and Bass Creeks Biotic and DO	November 4, 2011	January 30, 2012	underway

2024 Proposed Monitoring Program

The information set forth below explains the various monitoring programs, their purpose, and the proposed costs and funding. **Table 2** includes a summary of the budgets for each monitoring activity.

Table 2. 2024 proposed monitoring program budget and cost.

Activity	Funding Source	2024 Budget or Proposed Cost
Stream Monitoring	Commission Monitoring Program	\$36,000
Lake Monitoring	Commission Monitoring Program	\$30,000
CAMP Lake Monitoring	Commission Monitoring Program	\$5,000
Volunteer Stream Monitoring	Commission Monitoring Program	\$2,000
Bass Lake Alum Treatment	Closed projects account	\$8,200
Meadow Lake Drawdown	Clean Water Fund grant + commission match	\$21,600
Crystal Lake Management Plan	319 grant + commission match	\$34,300

ROUTINE STREAM MONITORING

Routine Stream Flow and Water Quality Monitoring. The Commission has routinely monitored stream flow and water quality in Shingle Creek since 1996. Two locations, one downstream of Humboldt Avenue in Minneapolis (“SC-0,” see attached **Figure 1** for all monitoring locations) and one upstream of Zane Avenue in Brooklyn Park (“SC-2”) have been monitored for water quantity and various water quality chemical parameters. In 2007, the monitoring location upstream of Zane Avenue was moved from upstream to just downstream of Brooklyn Boulevard in order to obtain a better stage-discharge relationship. This site is identified as SC-3 and SC-2 is no longer monitored. In 2015 Bass Creek (“BCP” on Figure 1) was added as a third site to be routinely monitored for water quality and conductivity. The Bass Creek monitoring station has helped provide better information about water quality in Bass Creek, which is impaired for chloride and biota.

A fourth site at Queen Avenue in Minneapolis (“SC-1/USGS”) is monitored for flow by the US Geological Survey (USGS) as a part of its ongoing National Assessment of Water Quality (NAWQA). Chemical parameters are no longer routinely measured at the USGS site, except for continuous conductivity and temperature. That data are available on-line real-time at [SHINGLE CREEK AT QUEEN AVE IN MINNEAPOLIS, MN - USGS Water Data for the Nation](#). The Commission also partners financially with the USGS in the operation of the Queen Avenue monitoring station.

The 2024 budget for routine stream monitoring is \$36,000. The budget includes labor and expenses for the following:

- SC-0, SC-3, and BCP flow and water quality monitoring:
 - o Equipment installation at beginning of season and decommission at end of season
 - o Routine summer sampling approximately twice per month from April – October, including field measurements of flow, pH, dissolved oxygen, temperature, and conductivity.
 - o Routine winter chloride sampling approximately once per month from November – March, including field measurements of flow, pH, dissolved oxygen, temperature, and conductivity. USGS site is also monitored during this time.
 - o Storm sampling targeting approximately one composite sample per month from April – October using ISCO sampling.
 - o Data entry and rating curve updates.
 - o Laboratory analysis of water quality parameters, including total phosphorus (TP), ortho-phosphorus (ortho-P), total suspended solids (TSS), *E. coli*, and chloride.

LAKE MONITORING

Intensive Lake TMDL Monitoring. To track the effectiveness of BMP implementation in improving lake water quality, the Commission routinely performs intensive lake monitoring to supplement the volunteer surface monitoring. Because the Commission's goals include achieving delisting of lakes that meet their TMDLs and water quality, the Fourth Generation monitoring plan continues more rigorous lake monitoring sufficient to demonstrate to the MPCA and EPA that conditions have improved. Attachment 1 shows the lake monitoring schedule from the Fourth Generation Plan, updated to reflect the actual monitoring completed.

The 2024 Lake Monitoring budget is \$30,000 and Eagle and Pike Lakes will be monitored ahead of internal load management. The budget includes labor and expenses for the activities described below.

Water Quality: For 2024, Eagle and Pike Lakes will be monitored biweekly. The water quality data collected for the lakes will include surface and deep-water samples, water column temperature/DO profiles, and zooplankton and phytoplankton sampling.

Aquatic Vegetation Surveys. A component of the intensive monitoring is to obtain or update surveys of lake aquatic vegetation. As we have discussed with the Commission in the past, aquatic vegetation plays an important role in water quality and biotic integrity, and the vegetation community can change as water quality changes. For 2024, surveys for Eagle and Pike Lakes will be updated in tandem with the intensive monitoring.

Plankton Samples. Phytoplankton and zooplankton samples will be collected from each lake and compared to samples from previous years. Plankton communities are indicative of lake health and food web dynamics and can indicate if harmful algae blooms are a threat to the community.

GRANT PROJECTS

The following monitoring tasks are built into ongoing grant projects. While not funded from the Commission's general fund budget, they are presented here for completeness.

MONITORING TO SUPPORT BASS LAKE ALUM TREATMENT AND VEGETATION IMPROVEMENTS GRANTS

Bass Lake Alum Treatment: A full curly-leaf pondweed (CLP) delineation will be done on Bass Lake in Spring 2024. CLP is a persistent invasive species in Bass Lake and has been treated with herbicide annually since 2020. Bass Lake will likely be treated with herbicide for CLP abundance in 2024. The delineation will cost approximately \$4,400. Last year, PLM treated the lake with herbicide and invoiced the Commission \$3,740. We expect this year's treatment to cost a similar amount based on the predicted treatment area. Both the delineation and treatment will be paid for from remaining Bass and Pomerleau Lakes Alum Treatment grant funds from the Closed Projects Account.

MONITORING & MANAGEMENT TO SUPPORT MEADOW LAKE GRANT PROJECT

The Meadow Lake Drawdown project began in Fall 2021. The project includes adaptive management to control the fathead minnow and CLP populations in the lake and address the nutrient impairment. The third summer season of this project will include a Spring CLP delineation and potential treatment, two vegetation surveys, and water quality sampling. A fish survey will also be performed. The monitoring and potential management (i.e., herbicide) will cost approximately \$21,600 and will be paid from grant funds.

MONITORING & MANAGEMENT TO SUPPORT CRYSTAL LAKE MANAGEMENT PLAN GRANT

The Crystal Lake Management Plan began in 2020. This project includes carp assessment and tracking, alum applications, carp removal, SAV surveys, and water quality monitoring and intends to address Crystal Lake's impairment for nutrients. The grant has been extended to expire in June 2024. Carp removals will occur in early summer before the grant is closed out.

Aquatic Vegetation Surveys. Crystal Lake has received two alum treatments, with the most recent one occurring in September 2022. It is not uncommon for an increase in water clarity as a result of alum treatments to spur aquatic vegetation growth. Crystal Lake only has two previously observed aquatic plant species: waterlily and curly-leaf pondweed (CLP), both in extremely low abundance. To ensure that CLP does not take over the lake as a result of increased clarity, a visual survey of CLP abundance will be done in early Spring 2024. If necessary, CLP will be treated with herbicide. The visual survey will cost approximately \$1,500 and will be paid for from remaining grant funds.

Carp Removals. The Commission has contracted with WSB Engineering for carp removals in 2021, 2022, and 2023. WSB will complete another summer of carp removals in 2024 and has provided a preliminary cost estimate of \$19,964 for their services. Stantec staff will complete daily carp baiting and assist WSB with removals for an estimated cost of \$12,800.

VOLUNTEER MONITORING

Volunteer Lake Monitoring. The Shingle Creek Commission has participated in the Met Council's "Citizen Assisted Lake Monitoring Program" (CAMP) since 1993. This program trains volunteers to take surface water samples and make water quality observations from late spring to early fall, using standardized reporting techniques and forms. The CAMP program has been the Commission's primary means of obtaining ongoing lake water quality data. This program is also an NPDES Education and Outreach BMP.

CAMP was initiated by the Met Council to supplement the water quality monitoring performed by Met Council staff and to increase our knowledge of water quality of area lakes. Volunteers in the program monitor the lakes every other week from mid-April to mid-October. They measure surface water temperature and Secchi depth, and collect surface water samples that are analyzed by the Met Council for total phosphorous, total Kjeldahl nitrogen, and chlorophyll-a. The volunteers also judge the appearance of the lake, its odor, and its suitability for recreation.



Memo

The Met Council charges \$760 per lake to cover the cost of supplies for volunteers, analysis of samples, and the Regional Reports. The Commission owns seven equipment kits purchased in past years and will not have to purchase any more kits unless key equipment needs to be replaced.

Lakes are monitored on a rotating schedule, filling in around routine Commission and City monitoring schedules. It is assumed that when a lake undergoes the routine Commission sampling program, no CAMP monitoring will be performed that year. Lakes scheduled for 2024 volunteer lake monitoring are Cedar Island, Bass, and Pomerleau Lakes. The 2024 budget is \$5,000 and includes Met Council fees and Stantec coordination.

Volunteer Stream Monitoring. In previous years high school student volunteers conduct macroinvertebrate monitoring through Hennepin County Environmental Services' RiverWatch Program at two locations on Shingle Creek. The Commission contracts with Hennepin County for this service at a cost of \$1,000 per site. Hennepin County maintains an interactive online map showing locations throughout the county and stream grades going back to 1996: hennepin.us/riverwatch. The 2024 budget includes \$2,000 to monitor two sites.

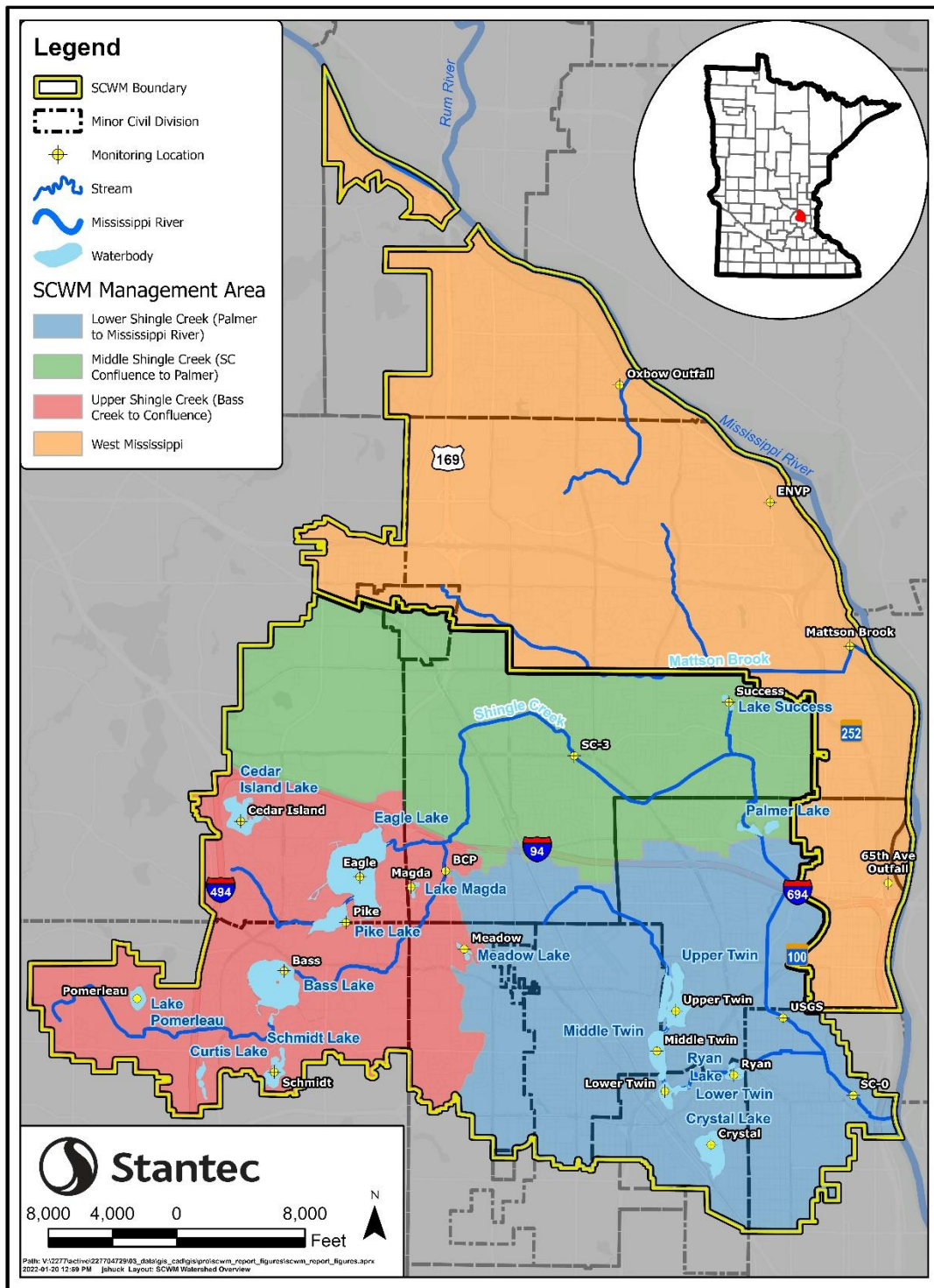


Figure 1. Shingle Creek and West Mississippi watershed monitoring locations.



Memo

Attachment 1: Lake Monitoring Schedule

Table 3. Draft lake monitoring schedule for Shingle Creek lakes 2023-2032.

Lake	Water Quality Monitoring										
	23	24	25	26	27	28	29	30	31	32	
<i>Tier 1 Lakes – Impaired with management actions planned</i>											
Cedar Island	Ci	C, Ci	Ci	C, Ci	Ci	X, Ci	Ci	C, Ci	Ci	Ci	
Eagle	Ci	X, Ci	Ci	C, Ci	Ci	X, Ci	Ci	C, Ci	Ci	Ci	
Pike	Ci	X, Ci	Ci	C, Ci	Ci	C, Ci	Ci	C, Ci	Ci	Ci	
Upper Twin	X		X		C		X		C		
Middle Twin	X		X		C		X		C		
<i>Tier 2 Lakes – Impaired lakes with previous management or none planned</i>											
Crystal Lake	Ci				X				X	C	
Meadow Lake	C				X					X	
Lake Success			C			C				C	
Lake Magda				X					X	C	
<i>Tier 3 Lakes – Delisted lakes</i>											
Bass Lake	Ci	C	Ci				C	X			
Pomerleau Lake	Ci	C	Ci				C	X			
Schmidt Lake	Ci, C	Ci	C			C				X	
Lower Twin Lake	C		C		C		C		C		
Ryan Lake	C			X				C			

¹X denotes Commission monitoring, C denotes CAMP monitoring, and Ci denotes City monitoring. Colored letters indicate departures from scheduled.

To: West Mississippi WMO Commissioners and TAC

From: Todd Shoemaker, P.E.
Katie Kemmitt
Diane Spector

Date: February 2, 2024

Subject: 2024 West Mississippi Monitoring Plan

**Recommended
Commission Action**

Review and approve the 2024 monitoring plan. Review and approve professional services agreement with the MWMO to complete 65th Avenue outfall monitoring.

The West Mississippi Watershed Management Commission for many years did not routinely monitor water quality in the few streams that are present in the watershed. The Commission undertook stream and outfall monitoring in 1990-1992 and found that the water quality of runoff from the watershed was generally within ecoregion norms. Since much of the watershed was poised to develop under Commission rules regulating the quality and rate of runoff, the Commission elected to discontinue further monitoring. In 2010 and 2011 the Commission authorized a repeat of the 1990-1992 monitoring, to determine current conditions and evaluate whether the development rules were protective of downstream water quality.

The Third Generation Plan and subsequent budgets incorporated ongoing, routine monitoring for West Mississippi that includes monitoring flow and water quality at two sites per year on a rotating basis. The Commission has elected to continue that monitoring under the Fourth Generation Plan. In 2023 the Commission monitored the Mattson Brook and the 65th Avenue outfall (**Figure 1**). Results of 2023 monitoring will be presented in the Annual Water Quality Report in April 2024.

Routine Monitoring. Figure 1 shows monitoring sites within Shingle Creek and West Mississippi. The Environmental Preserve (ENVP) site and 65th Avenue stormwater pipe will be monitored in 2024 for flow and water quality using automatic samplers. Continuous flow will be monitored using pressure transducers, and water quality will be analyzed through field parameter measurements, periodic grab samples, and storm composite sampling using ISCO automated samplers purchased by the Commission in 2010.

Due to continued difficulties accessing the 65th Avenue outfall in the past, West Mississippi WMC partnered with the Mississippi Watershed Management Organization (MWMO) to perform the monitoring in 2020-2023. MWMO has experience and equipment for performing stream monitoring in confined spaces like stormwater pipes and can perform the monitoring safely and efficiently. Results

from MWMO's monitoring have been satisfactory and the partnership will be continued in 2024. See attached for the draft Professional Services Agreement and Scope of Services from MWMO for 65th Avenue stormwater pipe monitoring.

The 2024 budget for routine monitoring is \$24,000. The budget includes labor and expenses for the following:

- Contract with MWMO for 65th Ave flow and water quality monitoring (\$11,202)
- ENVP flow and water quality monitoring (\$12,798)
 - o Equipment installation at beginning of season and decommission at end of season
 - o Routine sampling approximately once per month from April – October, including field measurements of flow, pH, dissolved oxygen, temperature, and conductivity.
 - o Storm sampling targeting approximately one composite sample per month from April – October using ISCO sampling
 - o Data entry and rating curve updates
 - o Laboratory analysis of water quality parameters, including total phosphorus (TP), ortho-phosphorus (ortho-P), total suspended solids (TSS), *E. coli*, and chloride.

Volunteer Stream Monitoring. In previous years high school student volunteers conducted macroinvertebrate monitoring through Hennepin County Environmental Services' RiverWatch Program at one location in West Mississippi – Mattson Brook (see **Figure 1** for location). The Commission contracts with Hennepin County for this service at a cost of \$1,000 per site. Hennepin County maintains an interactive online map showing locations throughout the county and stream grades going back to 1996: hennepin.us/riverwatch. In the past few years Hennepin County has been finding it difficult to recruit a high school to monitor this site. The Commission did not budget for this monitoring for 2024.

Volunteer Wetland Monitoring. In 2007 the Commission began participating in Hennepin County Environmental Services' Wetland Health Evaluation Program (WHEP), a volunteer monitoring program. Through this program, adult volunteers monitored vegetative diversity and macroinvertebrate communities in wetlands. In 2022, Hennepin County made the decision to end the WHEP program. The Commission will not budget for the program moving forward.

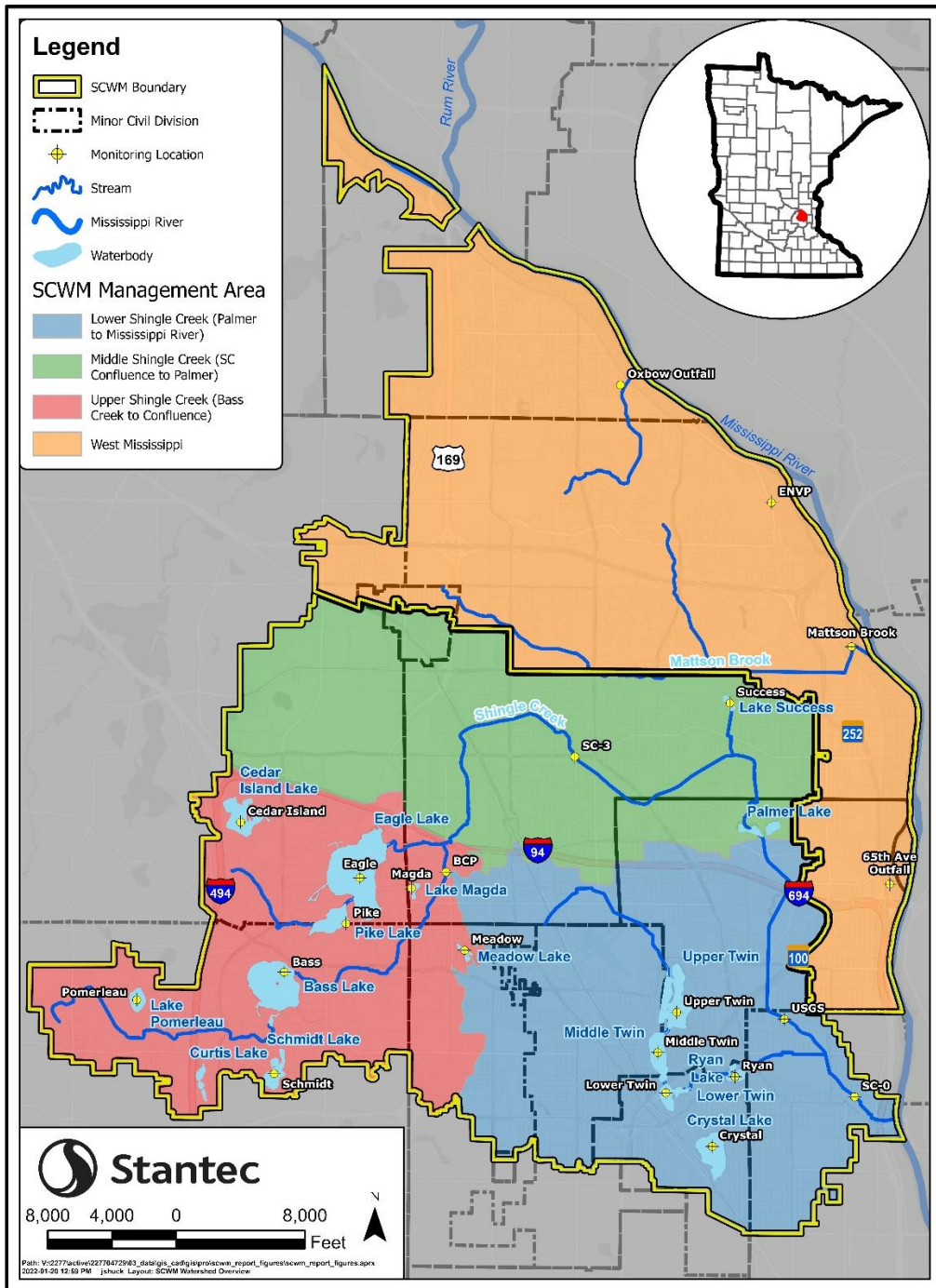


Figure 1. Shingle Creek and West Mississippi watershed monitoring locations

PROFESSIONAL SERVICES AGREEMENT

THIS AGREEMENT is made by and between the West Mississippi Watershed Management Commission (“WMWMC”), and the Mississippi Watershed Management Organization (“MWMO”), a Minnesota joint powers organization, for stormwater monitoring services. The WMWMC and the MWMO may hereinafter be referred to individually as a “party” or collectively as the “parties.” The parties hereby agree as follows:

I. SCOPE OF AGREEMENT

The MWMO agrees to perform stormwater monitoring services for the WMWMC as described on Exhibit A, which is attached to and made a part of this Agreement.

II. COMPENSATION

The MWMO will be compensated at the intervals and at the rates stated in Exhibit A. The total compensation under this Agreement will not exceed **\$11,201.80**. The MWMO shall submit itemized invoices for services rendered.

III. EXPENSE REIMBURSEMENT

Reimbursable expenses identified on Exhibit A will be paid upon submission of itemized invoice to the WMWMC. The WMWMC agrees to pay for reimbursable expenses, if reasonably and necessarily incurred. The parties agree that in no event shall reimbursable expenses be incurred without prior written approval from WMWMC. This sum, if any, is not included in the compensation set out in Paragraph II, Compensation.

IV. EFFECTIVE DATE AND TERMINATION DATE

This Agreement shall be in full force and effect from **January 1, 2024 through June 15, 2025**, unless otherwise extended by mutual agreement of the parties or is terminated earlier under Paragraph XVI, Cancellation, Default and Remedies.

V. SUBSTITUTIONS AND ASSIGNMENTS

Services by the MWMO will be performed by the following person(s):

Emily Resseger, Monitoring, Assessment, and Research Program Manager,

Dustin McHenry, Water Resources and Instrumentation Specialist,
Eva Hansen, Environmental Specialist,
Mary Thelen, BS, Environmental Specialist,
and hired interns.

Upon approval by the WMWMC, the MWMO may substitute other persons to perform the services. If substitution is permitted by the WMWMC, the MWMO shall furnish information to the WMWMC to allow proper review of the qualifications of the substituted person. No assignment of this Agreement shall be permitted without the written amendment signed by the WMWMC and the MWMO.

VI. CONTRACT ADMINISTRATION

All provisions of this Agreement shall be coordinated and administered by the people identified in Paragraph XVII.

VII. AMENDMENTS

No amendments may be made to this Agreement except in writing signed by both parties.

VIII. INDEPENDENT CONTRACTOR

The MWMO and its employees are not employees of the WMWMC. It is agreed that the MWMO and its employees will act as an independent contractor and acquire no rights to tenure, workers' compensation benefits, unemployment compensation benefits, medical and hospital benefits, sick and vacation leave, severance pay, pension benefits or other rights or benefits offered to employees of the WMWMC, its departments or agencies. The parties agree that the MWMO and its employees will not act as the agent, representative or employee of the WMWMC.

IX. INDEMNIFICATION

Each party shall be responsible for its own acts and omissions and the results thereof to the extent authorized by law. Each party agrees to defend, indemnify and hold the other harmless from any and all liability, claims, causes of action, judgments, damages, losses, costs, or expenses, including reasonable attorney's fees, resulting directly or indirectly from the party's negligent actions or inactions. The party seeking to be indemnified and defended shall provide timely notice to the other party when the claim is brought. The party

undertaking the defense shall retain all rights and defenses available to the party indemnified and no immunities or limits on liability are hereby waived that are otherwise available to either party.

X. CONTRACTOR'S INSURANCE

Each party shall be responsible for maintaining its own liability insurance with limits at least matching the liability limits established in Minnesota Statutes, section 466.04 and, to the extent required by law, workers' compensation insurance for its own employees.

XI. DATA PRACTICES

The parties are required to comply with the Minnesota Government Data Practices Act and all other applicable state and federal laws relating to data privacy or confidentiality. Each party agrees to immediately report to the other party any requests from third parties for information relating to this Agreement. The parties agree to respond promptly to inquiries from the other party concerning data requests. Each party agrees to hold the other party, its officers, and employees harmless from any claims resulting from the unlawful disclosure or use of data protected under state and federal laws by the other party.

XII. COMPLIANCE WITH THE LAW

Each party agrees to comply with all applicable federal, state and local laws, rules, regulations, and ordinances applicable to the performance of its duties under this Agreement including, but not limited to, the laws relating to non-discrimination in hiring or labor practices.

XIII. AUDITS

The MWMO agrees that the WMWMC, the State Auditor or any of their duly authorized representatives, at any time during normal business hours and as often as they may reasonably deem necessary, shall have access to and the right to examine, audit, excerpt and transcribe any books, documents, papers, and records that are relevant and involve transactions relating to this Agreement for a period of at least 6 years.

XIV. APPLICABLE LAW

The law of the State of Minnesota shall govern all interpretations of this Agreement, and the appropriate venue and jurisdiction for any litigation that may arise under this Agreement will be in and under those courts located within the County of Hennepin, State of Minnesota, regardless of the place of business, residence or incorporation of the MWMO.

XV. CONFLICT AND PRIORITY

In the event that a material conflict is found between provisions in this Agreement, the MWMO’s Proposal, if any, or the WMWMC’s Request for Proposals, if any, the provisions in the following rank order shall take precedence: 1) Exhibit A; 2) Agreement; 3) Proposal; and last 4) Request for Proposals.

XVI. CANCELLATION, DEFAULT AND REMEDIES

Either party may cancel this Agreement upon thirty (30) days written notice, except that if the MWMO fails to fulfill its obligations under this Agreement in a proper and timely manner, or otherwise violates the terms of this Agreement, the WMWMC has the right to terminate this Agreement immediately, if the MWMO has not cured the default after receiving seven (7) days written notice of the default. The MWMO will be paid for services rendered prior to the effective date of termination.

XVII. NOTICES

Any notice or demand, authorized or required under this Agreement shall be in writing and shall be sent by certified mail to the other party as follows:

To the MWMO: Emily Resseger (eresseger@mwmo.org) or
Dustin McHenry (dmchenry@mwmo.org)
Mississippi Watershed Management Organization
2522 Marshall Street NE,
Minneapolis, MN 55418-3329

To The WMWMC: Todd Shoemaker (todd.shoemaker@stantec.com), or
Katie Kemmitt (katie.kemmitt@stantec.com), or
Dian Spector (dspector@stantec.com)
Stantec
1 Carlson Parkway North Suite 100
Plymouth, MN 55447

The parties being in Agreement, have caused this Agreement to be signed as follows:

[Signature page follows]

FOR THE MWMO:

By _____

Its _____

Date _____

By _____

Its _____

Date _____

FOR THE WMWMC:

By _____

Its _____

Date _____

By _____

Its _____

Date _____

Exhibit A

SERVICE PROVIDER'S Name/ Organization: MWMO	Federal EIN: 41-0544530
Mailing Address: 2522 Marshall ST NE Minneapolis, MN 55418	Telephone Number: 612-746-4970
Work Dates: January 1 st , 2024 to June 15 th , 2025 Monitoring period January 1, 2024 to December 31, 2024.	Email: eresseger@mwm.org Tel. 612-746-4980 bmchenry@mwm.org Tel. 612-746-4985

Background

The West Mississippi Watershed Management Commission (WMWMC) routinely measures flow and water quality at several stream and stormwater outfall sites throughout the West Mississippi Watershed.

WMWMC in 2020 contracted with MWMO to research, scope, design, installed, operate and maintain a stormwater outfall monitoring station to measure the quantity and quality of stormwater flowing through 65th Ave stormwater trunk line.

In 2024, the WMWMC plans to continue to monitor the outlet of the storm sewer trunk line that runs between 65th Avenue North in Brooklyn Center (referred to as the 65th Avenue Outfall). WMWMC would like to again employ the services of the MWMO to inspect, maintain, and operate the 65th Avenue stormwater trunk line stormwater outfall to monitor the stormwater quantity and water quality.

Scope of Services

MWMO staff will continue to inspect, maintain, and operate a stormwater outfall monitoring station that was installed in 2020 to measure the quantity and quality of stormwater flowing through the 65th Ave trunk line. Monitoring will continue year-round for 2024. Monitoring activities will be conducted as follows.

- **Flow monitoring:** continuously record stage/level and velocity (if possible) at a location upstream of pipe outlet to Mississippi River
- **Frequency:**

- Target one field grab (non-event) sample per month
- Target one storm or melt event composite sample per month
- Field parameters to be collected:
 - General site conditions
 - Stage/level
 - Temperature
 - Conductivity
 - Dissolved Oxygen
 - pH
 - Transparency
- Laboratory water quality parameters to be sampled:
 - Total phosphorus
 - Ortho-phosphate
 - Total suspended solids
 - Chloride
 - *E. coli*

Budget

Water quality samples will be delivered to the Metropolitan Council Environmental Services Lab for analysis.

Table 1. Activity and cost breakdown for WMWMC 2023 Monitoring.

Activity	Cost
Collect samples	\$1,250.57
Equipment Maintenance	\$2,737.37
Data Management	\$1,192.64
Admin – (invoicing and annual report)	\$1,474.17
Mileage – Expense	\$418.08
Analytical lab cost (Metropolitan Environmental Lab)	\$2,262.00
Subtotal	\$9,334.83
Contingency – 20%	\$1,866.97
Total	\$11,201.80

Deliverables

1. All stormwater quantity and quality data will be delivered by 6/15/2025.
2. A monitoring report will be provided outlining the monitoring activities that were conducted and summary analysis of the data collected.

Payment Schedule

The cost of stormwater monitoring activities may not exceed **\$11,201.80**.

A final itemized invoice must be submitted by the MWMO along with the stormwater quantity and quality data, no later than **June 15th 2025**. Payment will be made as soon as possible upon receiving the invoice and data.

To: Shingle Creek/West Mississippi WMO Commissioners

From: Todd Shoemaker PE
Diane Spector
Katie Kemmitt

Date: February 1, 2024

Subject: Metropolitan Council Draft 2050 Water Policy Plan Update Policy Papers

**Recommended
Commission Action**

For information.

The Metropolitan Council is in the early stages of developing its 2050 Policy Plan to guide housing and development; parks; transportation; and water and wastewater planning in the seven county Metropolitan Area. The 2050 Plan currently being developed will set forth the core vision, values, and goals for the region. This will guide both Met Council operations and the Comprehensive Plans of cities, which must be consistent with and implement actions toward achieving those goals. This memo provides a high-level overview of the issues that the Met Council is considering and taking input on for the draft 2050 Water Policy Plan. The Council's goal is to complete this Plan by **March 2025**.

How does this impact the Commissions and the member cities? While the Met Council is an advisory body to watershed management organizations (WMOs) in the Metro Area and does not approve watershed plans, there is an expectation by the Board of Water and Soil Resources (BWSR) which does govern WMOs that watershed plans be consistent with the Met Council Water Policy Plan. City Local Stormwater Management Plans, which are a required component of their Comprehensive Plans, must be consistent with both the relevant watershed plans and the Met Council Water Policy Plan.

The Commissions just completed a 10-year update of their joint Watershed Management plan last year. There is no requirement that the Commissions update the Fourth Generation Watershed Management Plan to reflect the 2050 Water Policy Plan when it is done. Watershed planning is on a different cycle than comprehensive planning. When the Commissions began the Fourth Generation Plan process, the Met Council did provide input on the likely policies and goals that would be considered in the 2050 Policy Plan. As you will see below, many of the issues emerging for the 2050 Plan the Commissions considered in the Fourth Generation Plan.

There are six draft policy papers, four of which are relevant to the SCWM WMO: Protecting Our Region's Water Quality; Exploring Water Reuse; Protecting Source Water Areas; and Water and Climate Change. The other two are Wastewater Planning and Protecting Rural Waters. What follows are bulleted highlights of each policy area. More information and the full draft policy papers, executive summaries, and feedback forms can be found here: [2050 Water Policy Plan Update - Metropolitan Council \(metro council.org\)](https://metro council.org/2050-Water-Policy-Plan-Update) and [Water Policy Plan Research - Metropolitan Council \(metro council.org\)](https://metro council.org/Water-Policy-Plan-Research).

TOPIC: PROTECTING WATER QUALITY

<i>Central Concerns:</i>	<u>Commission 4th Gen Plan Policies/Actions</u>
<ul style="list-style-type: none"> • A growing population: 3.2 million people today, more than 4 million by 2050. • Climate change, which is bringing a warmer and wetter climate. • Contaminants of concern. 	
<i>Environmental Justice And Water Equity</i>	
<ul style="list-style-type: none"> • Alleviate imbalances that cause injustice and build trust through partnerships and discussions. • Integrate equity metrics into programs, projects, and services. 	<ul style="list-style-type: none"> • Continue to work with cities, stakeholders to better understand issues and potential responsive actions • Incorporate Environmental Justice analyses into project and program selection
<i>Watershed Approach</i>	
<ul style="list-style-type: none"> • Water policies are prioritized, targeted, measurable, and effective at improving water quality. 	<ul style="list-style-type: none"> • Plan includes several policies that are measurable. Commissions systematically perform subwatershed assessments and feasibility studies to target the most effective actions.
<ul style="list-style-type: none"> • Address regionally significant contaminants of emerging concern: <ul style="list-style-type: none"> • Chloride • Nutrients • PFAS (per- and polyfluoroalkyl substances) • Volatile organic contaminants (VOCs) 	<ul style="list-style-type: none"> • Plan includes actions to enhance education and outreach on chlorides and nutrients. • Commissions rely on state/Met Council to address regional concerns about PFAS and VOCs.
<ul style="list-style-type: none"> • Make water resources management a critical part of land use decisions and planning protocols and procedures. <ul style="list-style-type: none"> • Encourage pollution prevention/protection actions for Priority Waters. • Promote stormwater best practices. • Encourage the utilization of retrofit stormwater management to reduce volume. • Protect habitat and open spaces. 	<ul style="list-style-type: none"> • Commissions review city local plans for these planning actions. • Rules and standards require stormwater best management practices to reduce pollutants and manage runoff volumes and rates. • Plan includes lake and stream management activities to protect and improve water quality and ecological integrity.
<i>Water Sustainability</i>	
<ul style="list-style-type: none"> • Implement and promote the use of green infrastructure solutions where feasible. 	<ul style="list-style-type: none"> • Rules allow stormwater reuse and require infiltration and other abstraction.
<ul style="list-style-type: none"> • Design and place infrastructure based on the latest scientific and engineering knowledge to maximize climate resiliency. 	<ul style="list-style-type: none"> • Commissions adopted Atlas 14 precipitation data and stay current on the latest thinking regarding precipitation and temperature changes. • Plan includes actions to use the watershed models to help predict the impacts of 2060 potential precipitation patterns.

TOPIC: EXPLORING WATER REUSE

<i>Central Concerns:</i>	<u>Commission 4th Gen Plan Policies/Actions</u>
<p>While existing sources of water are abundant, some factors may limit future availability:</p> <ul style="list-style-type: none"> • Contamination • Increased demand for drinking water • Regulatory usage limits • Climate change 	
<p><i>Stormwater Reuse</i></p>	
<ul style="list-style-type: none"> • Develop guidelines for implementing stormwater reuse. • Better understand the risks of stormwater reuse. 	<ul style="list-style-type: none"> • Commissions’ Rules allow for stormwater reuse such as pond withdrawal for irrigation and require infiltration and other abstraction. • Commissions rely on state agencies for guidance regarding reuse.
<p><i>Wastewater Reuse</i></p>	
<ul style="list-style-type: none"> • Update current guidelines for implementing wastewater reuse. 	<ul style="list-style-type: none"> • Commissions do not regulate or manage wastewater.

TOPIC: PROTECTING SOURCE WATER AREAS

<i>Central Concerns:</i>	<u>Commission 4th Gen Plan Policies/Actions</u>
<p>Source water protection is complicated by different and overlapping management jurisdictions and authorities. Overlapping boundaries, different priorities, and scope of impact can make it difficult to ensure safe, sustainable, and sufficient drinking water for the region.</p>	
<p><i>Integrated Water Planning</i></p>	
<ul style="list-style-type: none"> • Build more collaborations between communities and water suppliers. • Enhance existing policies on stormwater/wastewater reuse. 	<ul style="list-style-type: none"> • Many of the same actions taken to protect and improve lakes and streams protect surface source waters such as the Rules and Standards, and projects and actions to reduce nutrient and sediment loading. • Recharge of the surficial aquifers is enhanced by infiltration requirements, and the Rules help protect groundwater quality by limiting or prohibiting infiltration in sensitive areas. • Commissions rely on state agencies for guidance regarding reuse.

TOPIC: WATER AND CLIMATE CHANGE

<i>Central Concerns:</i>	<u>Commission 4th Gen Plan Policies/Actions</u>
<ul style="list-style-type: none"> • Currently experiencing altered weather patterns influencing the amount and quality of water. • Preparation and intervention needed to build resilience. 	
<i>Mitigation</i>	
Take actions to reduce greenhouse gases and increasing stored carbon in soils and vegetation.	<ul style="list-style-type: none"> • Many of the same actions taken to protect surface water quality such as promoting low impact development, minimizing new impervious surface, enhancing buffers, planting trees and using native vegetation, can also reduce greenhouse gas emissions.
<i>Adaptation</i>	
<ul style="list-style-type: none"> • Share information and best practices across state agencies, climate experts, watersheds, water suppliers, planners, and residents. • Enhance water quality and quality monitoring to improve early trend detection. • Consider climate vulnerabilities and risks to water resources, land and infrastructure. • Reduce impervious surfaces, integrated green infrastructure and nature-based solutions. • Promote low-impact design and promote stormwater and wastewater reuse. • Understand impacts of environmental injustices and create solutions in coordination with impacted communities. 	<ul style="list-style-type: none"> • One of the 4th Gen Plan’s goals is to “Anticipate and proactively work to withstand adverse impacts from changing environmental and climate conditions.” • Plan includes and action to collaborate with stakeholder agencies to share information and better understand actions that would be most effective. • Plan includes actions to use the watershed models to identify areas more at risk of flooding as precipitation changes, with a special focus on impacts to infrastructure and areas where communities may be less resilient.

To: Shingle Creek Commissioners & TAC Members

From: Lucas Clapp, EIT
Todd Shoemaker, PE

Date: January 31, 2024

Subject: France Avenue Fish Barrier Evaluation

**Recommended
Commission Action**

For information and discussion.

INTRODUCTION

The fish barrier at France Avenue (outlet of Twin Lakes to Ryan Lake) frequently clogs, which reduces flow capacity through the barrier and floods backyards of adjacent properties. The Commission installed the fish barrier at this location (and at an inlet to Upper Twin Lake on Bass Lake Road) as the "first line of defense" to controlling the carp population within Twin Lakes. Stantec researched five options to reduce maintenance of the existing France Avenue barrier:

1. Dredge a channel upstream of the barrier to reduce vegetation and debris movement downstream;
2. Install a low voltage fish barrier;
3. Install a high voltage fish barrier;
4. Replace the existing physical barrier, and
5. Modify the existing physical barrier.

This memorandum describes each option in more detail and compares estimated capital costs, maintenance costs, time to implement, and relative effectiveness.

BACKGROUND: HISTORY OF CARP IN THE TWIN LAKES CHAIN

The Twin chain of lakes includes four lakes (Upper, Middle, and Lower Twin Lakes, and Ryan Lake). The Minnesota Pollution Control Agency (MPCA) designated all four as impaired for water quality in 2002. Thanks to substantial efforts to reduce watershed pollutant loads, Ryan and Lower Twin Lake have since been removed from the impaired waters list. Management efforts now generally focus on reducing internal loading sources within the lakes. A significant contributor to internal loading are common carp (*Cyprinus carpio*), which uproot and displace aquatic plants and reduce habitat structure that lead to increased turbidity, sediment phosphorus release, and poor water quality conditions. The Commission and its partners invested \$110,000 with matching funds from the Minnesota Department of Natural Resources (DNR) to study and remove carp within the Twin chain of lakes between 2016 and 2019.

The carp study evaluated population, migration habits, control of reproduction and migration, and the effect of removing carp from the chain of lakes. Four electro-boat shocking events occurred between 2016 and 2018 to estimate the carp population between Upper, Middle, and Lower Twin Lakes. Estimates showed an average of 177 lbs/acre of carp, which was double the acceptable amount necessary to achieve water quality goals (89 lbs/acre). Upper Twin Lake had the highest density with a total of 268 lbs/acre. The Commission established a removal goal of 33,000 lbs to achieve an average density of 89 lbs/acre throughout the Twin Lakes system.

A 2017 study of migration habits showed carp tend to stay in the deep waters of Middle and Upper Twin in the winter months and move to shallow areas for spawning in spring, including Ryan Lake via Ryan Creek. Tracking also indicated carp are freely moving in and out of the Twin Lakes system (Figure 1). Ryan Lake is connected via Ryan Creek and storm sewer to Shingle Creek, where there are additional spawning areas.

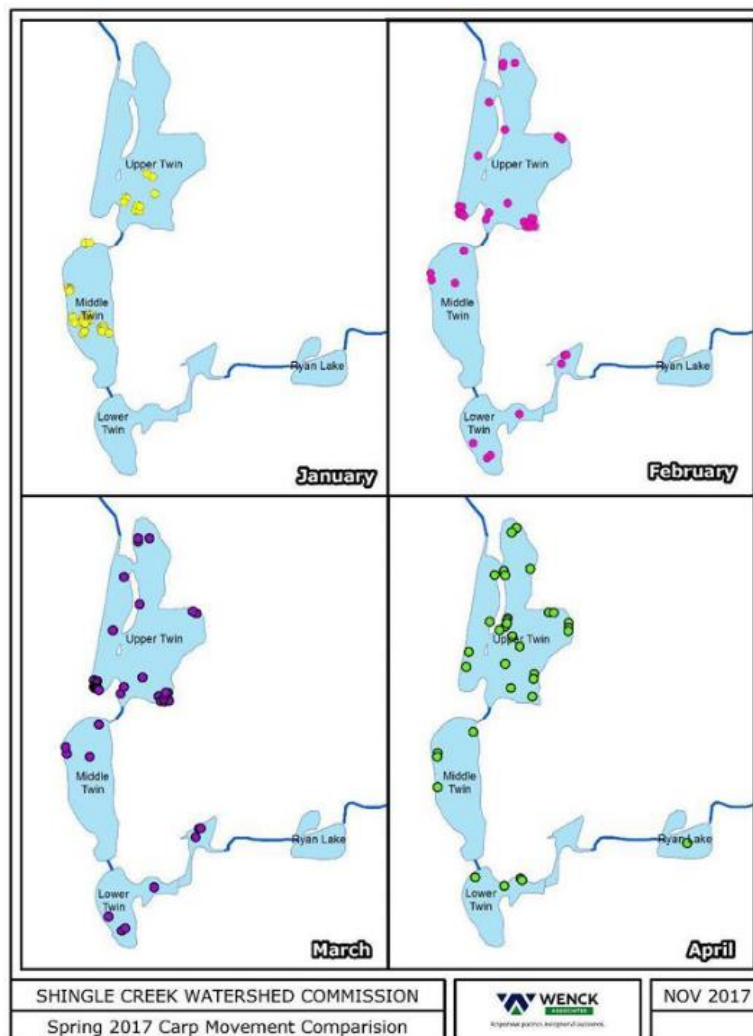


Figure 1. Movement of carp in the Twin Lakes chain in 2017.

A better understanding of carp movement resulted in the installation of two fish barriers in 2017 at Bass Lake Road and France Avenue to prevent the migration of carp (Figure 2). The Commission also investigated aeration of Upper Twin Lake to prevent winter kill of native species and allow them to out compete carp in the Lake; however, the City of Brooklyn Center did not want to take on the legal liability of owning the aeration system.



Figure 2. 2017 Fish barrier installation locations in the Twin Lakes chain.

The Commission and its partners organized seven carp removal events in 2018 and 2019. In total, approximately 14,450 lbs. (44% of the goal) were removed from the lakes. The seven events included two winter removals, electro-boat removal, and trapping behind the France Avenue barrier.

CURRENT STATUS OF CARP IN TWIN LAKES

Thanks to the removal events and fish barriers, the current carp population in the Twin chain of lakes is likely lower than when carp density was first measured in 2016, but measurements have not been taken since that time. It is likely that carp reproduce within the shallow areas of the Twin chain of lakes; therefore, the Commission may want to consider obtaining an updated population estimate to understand population growth or reductions since 2018. In fact, the 2018 study noted that continued efforts to remove carp and limit reproduction habitat would be necessary to meet the average density goal of 89 lbs/acre. Currently, the only mitigation strategies to control Carp population are the fish barriers at Bass Lake Road and France Avenue North.

CLOGGING AT THE FRANCE AVENUE FISH BARRIER

The fish barriers installed at Bass Lake Road and France Avenue function as the first step in carp population control in the Twin Lakes chain. The fish barrier at France Avenue (outlet of Twin Lakes to Ryan Lake) frequently clogs, which reduces flow capacity through the barrier and floods backyards of adjacent properties.

Stantec researched five options to reduce maintenance of the existing France Avenue barrier:

1. Dredge a channel upstream of the barrier to reduce vegetation and debris movement downstream;
2. Install a low voltage fish barrier;
3. Install a high voltage fish barrier;
4. Replace the existing physical barrier, and
5. Modify the existing physical barrier.

Besides literature review, we interviewed Ben Scharenbroich (City of Plymouth), Peter Sorensen (University of Minnesota: Fish Physiology & Behavior), and Matt Kocian (Lake and Stream Manager at the Rice Creek Watershed District). The sections below list four key factors to consider for each option (capital cost, maintenance, timeline, and effectiveness) and then specific comments for each of those factors.

Dredging Upstream Wetland Channel. Stantec evaluated dredging a 450-foot-long channel through the wetland upstream of the France Avenue barrier to reduce the source of debris clogging the fish barrier (Figure 3). Table 1 lists the key factors and considerations for the dredging option.

Table 1. Channel dredging factors and considerations.

Factor	Considerations
Capital Cost	\$100,000 - \$150,000 depending on surveying and sediment analysis, construction access route, and project permitting requirements.
Maintenance	Clogging may continue due to leaf fall, debris, and eventual reestablishment and accumulation of sediment and cattails in the channel. Maintenance costs assume additional dredging every 10 years to preserve channel.
Timeline	1-4 years
Effectiveness	Questionable because debris and other dead vegetation will likely still reach the fish barrier.

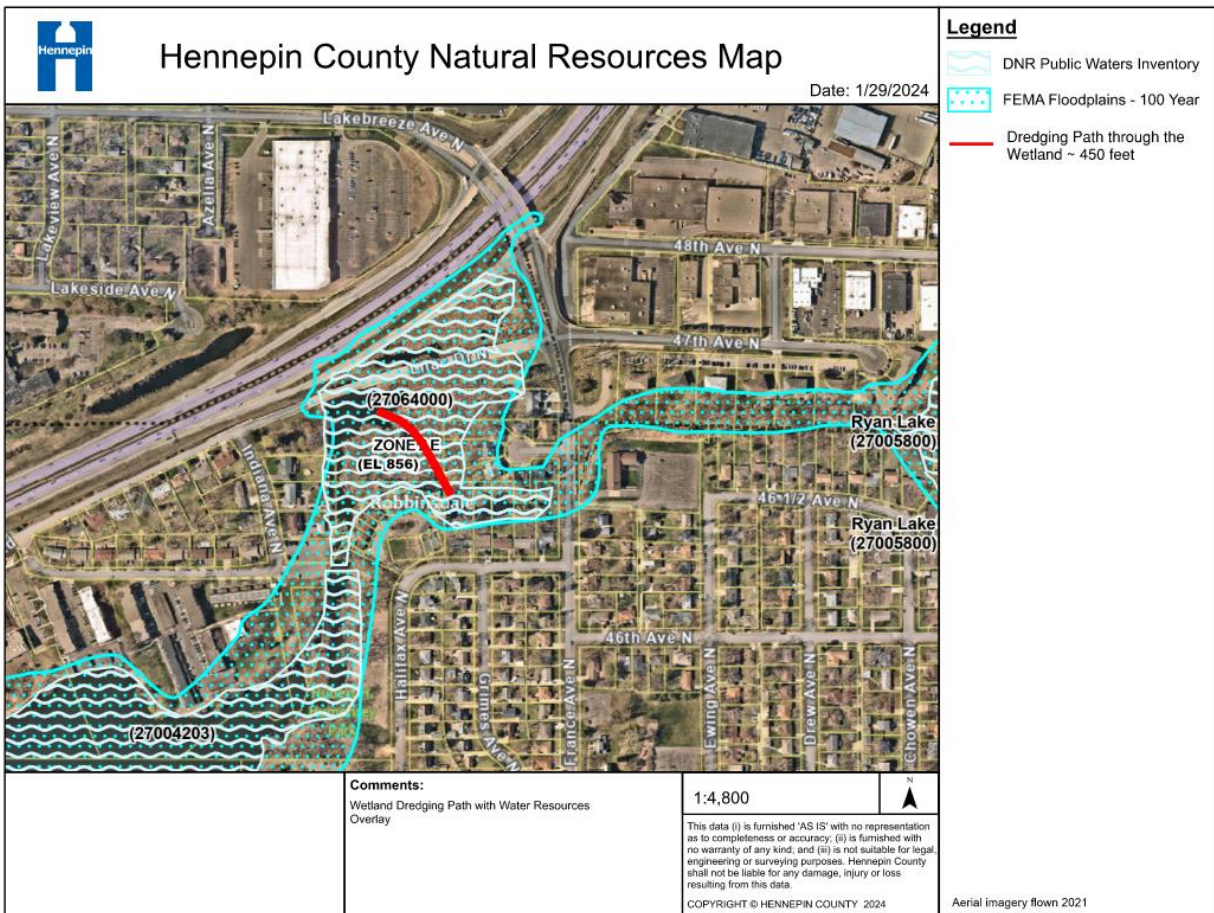


Figure 3. Location of wetland dredging with Hennepin County water resources overlay.

Install Low Voltage Fish Barrier. Low voltage fish barriers use a constant AC power supply the connects to floating electrodes attached to a heavy mat on the bottom of the channel (Figure 4). Electric barriers use electrical pulses to deter fish from passing through the suspended electrodes. They are safe for humans and aquatic organisms; adjustable after installation; and the floating electrodes allow for the passage of debris. At stream velocity greater than 1 ft/s, though, fish are unable to react in time and can more easily pass through the barrier.

Table 2. Low voltage fish barrier factors and considerations.

Factor	Considerations
Capital Cost	\$100,000 - \$200,000 depending on vendor and installation location.
Maintenance	Minimal maintenance because debris passes downstream.
Timeline	1-2 years
Effectiveness	Most effective at stream velocity <1 ft/s, which would be reached with Ryan Creek stream flow of approximately 5 cfs. We do not have flow measurements at France Avenue, but this is a relatively low flow and would be exceeded relatively frequently, thereby allowing carp passage.

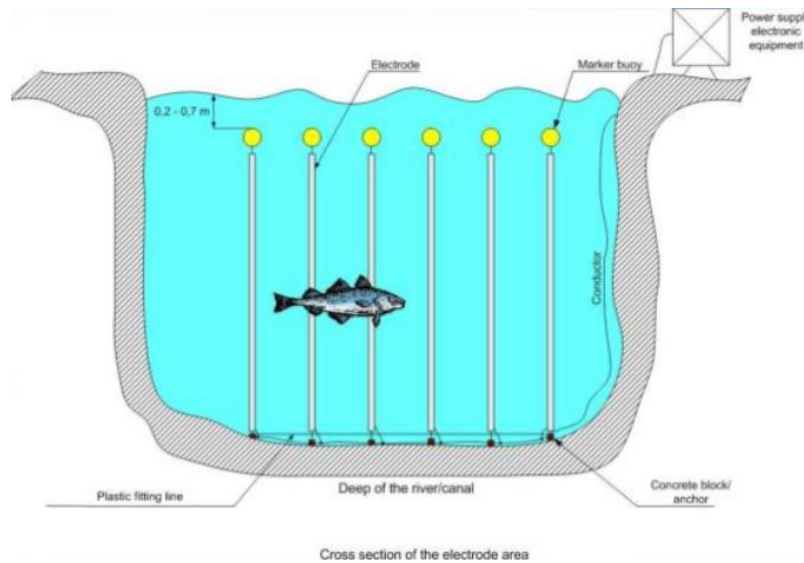


Figure 4. Diagram of low voltage electric fish barrier. (image courtesy Procom Systems)

Install High Voltage Electric Fish Barrier. A high voltage fish barrier system is likely the most effective option but also the most expensive option. A high voltage system uses fixed electrodes across the bottom of the channel and involves more safety infrastructure than a low voltage system (Figure 5). Such systems can be harmful to aquatic organisms and require fencing or similar deterrents to protect the public.

Table 3. High voltage fish barrier factors and considerations.

Factor	Considerations
Capital Cost	\$500,000 - \$1,000,000 depending on vendor and installation location.
Maintenance	Minimal maintenance because debris passes downstream.
Timeline	2-4 years
Effectiveness	Most effective of the five options and likely too robust of a solution for this situation.



Figure 5. High voltage electric fish barrier (image courtesy of Smith-Root).

Replace the Existing Physical Barrier. Physical barriers typically incorporate a horizontal bar design to allow small debris like leaves to pass. Larger debris may need to be removed or can wash over the barrier during high flows (Figure 6). Mr. Kocian and Mr. Sorensen noted these systems are less costly and may be the best option for the Twin Lakes chain.

Table 4. Factors and considerations for replacing the existing fish barrier.

Factor	Considerations
Capital Cost	\$50,000 - \$100,000 to remove existing barrier and construct new one similar to Figure 6.
Maintenance	Mr. Kocian has observed debris accumulation but indicates that it does not reduce flow. Assume three maintenance visits per year: one annual visit and two during the spring.
Timeline	1-2 years
Effectiveness	Impedes fish passage in both directions and allows for the flow of small debris.



Figure 6. Horizontal bar fish barrier (image courtesy Rice Creek Watershed District).

Modify the Existing Physical Barrier. Mr. Sorenson described a fish barrier with a horizontal liftgate that has performed well and cost approximately \$10,000 to retrofit the liftgate. This design allows for the gate to be raised during non-migratory periods and lowered in the spring and early summer when carp are moving to spawning locations. Potential modifications to the existing barrier are shown in Figure 7.

Table 5. Factors and considerations for modifying the existing fish barrier.

Factor	Considerations
Capital Cost	\$15,000 - \$30,000 for partial removal of existing barrier and installation of new bars and liftgate.
Maintenance	Assume four maintenance visits per year: two annual visits and two spring visits.
Timeline	0.5-2 years
Effectiveness	Impedes fish passage in both directions, allows for the flow of small debris, and allows for partial removal during non-migratory periods.

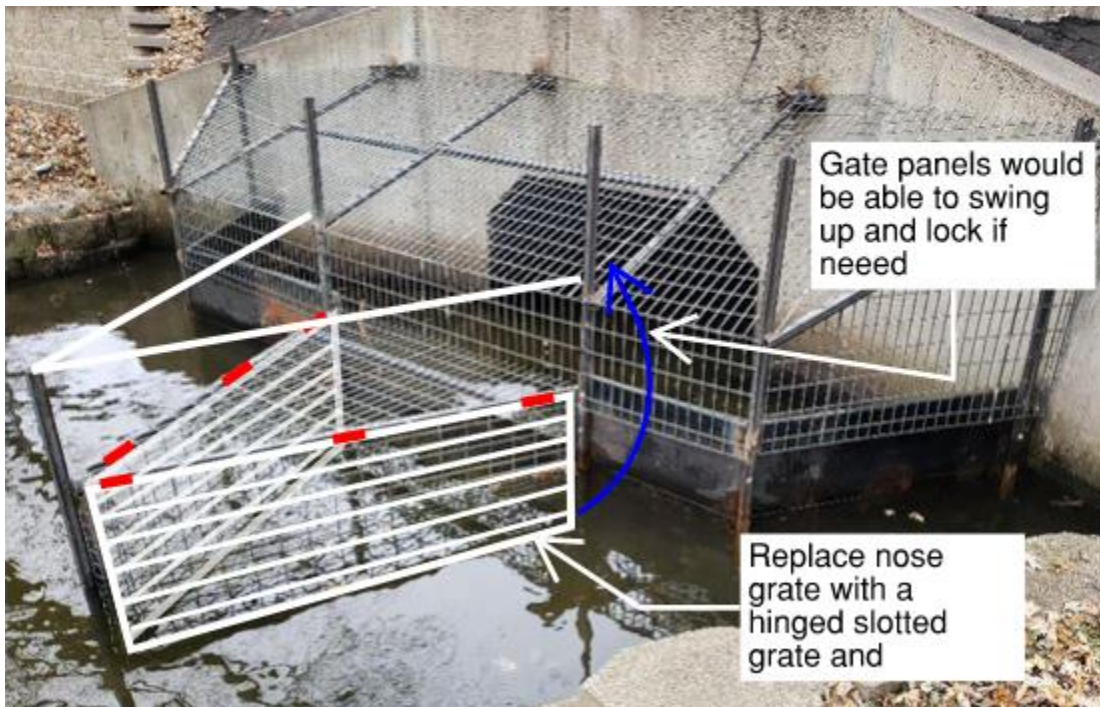


Figure 7. Potential modification of the existing France Avenue barrier.

The five options detailed above are summarized in Table 6 to compares costs and effectiveness.

Table 6. Options summary.

Options	Capital Cost	Lifetime Maintenance Cost	Time to Complete (yrs)	Effectiveness
Channel Dredging	\$100,000 - \$150,000	\$100,000	1-4	Low
Low Voltage	\$100,000 - \$200,000	\$27,000	1-2	Medium
High Voltage	\$500,000 - \$1,000,000	\$27,000	2-4	High
New Physical Barrier	\$50,000 - \$100,000	\$51,000	1-2	Medium
Modify Existing Barrier	\$15,000 - \$30,000	\$67,000	0.5-2	Medium

RECOMMENDATION

Stantec has reviewed carp management history in the Twin Lakes chain and evaluated five potential fish barrier options for France Avenue. We offer two recommendations to continue carp management within the Twin Lake chain and reduce maintenance frequency of the France Avenue fish barrier:

1. Update the estimate of the carp population within the Twin Lakes chain to quantify effectiveness of past efforts and guide future actions.
2. Modify the existing fish barrier as outlined in Table 5 and Figure 7.

To: Shingle Creek/West Mississippi WMO Commissioners
From: Katie Kemmitt
Date: February 2, 2024
Subject: Crystal Lake Management Plan – Carp Removals

**Recommended TAC
and Commission
Action**

Review and approve scope with WSB for carp removals on Crystal Lake in 2024.

Crystal Lake Management Plan - Carp Removals

The Crystal Lake Management Plan was initiated in 2020 and funded by a federal 319 grant. Since then, two alum treatments have been applied to the lake, and three years of carp management have taken place. In addition, water quality and sediment core sampling, zooplankton and phytoplankton collection, and sediment, fish, and vegetation surveys have been completed. Sediment phosphorus release has been significantly reduced after the two alum treatments.

The 319 grant that funded the project was scheduled to expire in December 2023; however, the Commission had remaining match funds that needed to be spent in order to close out the grant. The Commission was awarded an extension to the grant through June 30, 2024 in order to spend remaining match. As of October 2023, the Commission still had about \$40,000 in match that needed to be spent.

Stantec recommends the Commission contract for a fourth year of carp management with WSB Engineering. The contract will include carp removals in early summer 2024 using box netting techniques. WSB provided the attached scope and contract with a budget of \$19,964. Payment for the contract with WSB will come from match funds and contribute to the Commission's total match required for the grant. Stantec assistance with 2024 carp baiting and removals, as well as additional project work (i.e., sediment coring and analysis) that occurred between October and December 2023 is expected to fulfill the remainder of the Commission's match requirement.

Attached is WSB Engineering's scope and contract for 2024 carp removals for review and approval.

**SCOPE OF WORK
COMMON CARP MANAGEMENT METHODS
IN CRYSTAL LAKE: 2024**

For the Shingle Creek Watershed District



January 15, 2024

Prepared by:

Jordan Wein, Senior Environmental Scientist

WSB, 178 East 9th Street, Suite 200, St. Paul, MN 55101



INTRODUCTION

Common carp (referred to as carp for the remainder of this proposal) are well-known to be a significant driver of poor water quality parameters. While foraging, they root around in lake sediments where nutrients like phosphorous can be locked up in an inactive form. When disturbance occurs from an overabundance of carp, large amounts of phosphorous are reintroduced to the water column where they become available for algae. This in turn promotes green algae blooms, turbid water conditions, as well as a lack in rooted aquatic vegetation. The main parameters that are measured to decide if a water body belongs on the Minnesota Pollution Control Impaired Waters List are total phosphorous (TP), chlorophyll-a (algae abundance), and clarity (measured by secchi depth). Carp can contribute significantly to the internal loading of TP and management of their populations below a threshold of 100kg/ha (Bajer et al, 2009) is generally considered to be an inexpensive method of managing internal loading (Bartodziej et al, 2017).

In 2020, surveys completed by Wenck for Shingle Creek Watershed District identified carp in Crystal Lake above the 100 kg/ha threshold that indicates a need for management. Carp were found in numbers that warranted testing of removal methods in order to guide future long-term management.

In 2021, WSB tested two removal techniques including baited box nets and pop netting. These methods were used simultaneously to take advantage of the carp aggregation that has formed following baiting with corn. In 2022 and 2023, WSB continued removals using baited box net traps. These results have led to the watershed district to plan for this removal project and costs associated with that effort. WSB's proposal is detailed below.

Baited Box and Float Netting: Methods

Corn is a very selective bait and does not attract native fish like bass, northern pike or bluegill. Therefore, drawing in carp to a small area can be advantageous to removal efforts. Baited box netting can be effective at capturing carp that are within the box net area by quickly raising the sides of the net around foraging carp. Box netting is not susceptible to debris on the bottom of the lake or steep drop-offs that can make it difficult to keep a continuous wall of netting without allowing the carp to escape out the bottom. Walls on the outside of the net are hand raised quickly by pulling several ropes from shore that are



attached to posts. This occurs during nighttime hours since carp foraging is highest at night. Once trapped, the carp can then be rolled toward one side of the net and easily lifted into a boat for transfer out of the lake. The typical dimensions are 60' X 30' X 10', which is the style used in 2021 and 2022. We recommend multiple efforts simultaneously (at least 2) used in the area of the aggregation to catch as many as possible in the area while they are relatively naïve to the bait.

We will also use a net trap designed to have the perimeter of the submerged net float to the surface which traps foraging carp inside the net area. The dimensions are no less than 100' X 40'. This style was also effective in 2021 and somewhat in 2022.

We are aware of U.S. Patent No. 10,959,413 ("the '413 patent"). WSB takes IP very seriously and

asked counsel to review the patent claims. From the review we have been advised that the box net system utilized by WSB does not infringe any claim of the '413 patent. Every claim of the '413 patent requires a weight. Specifically, every claim requires a weight that is secured to a cord and a release mechanism for holding the weight at the top of a stem/post. A box net system that does not include a weight cannot infringe any claim of the '413 patent. The box net system utilized by WSB does not include a weight.

As done in 2022, we will continue in 2023 to actively monitor the activity of PIT tagged carp at the bait station, assuming Stantec staff are able to successfully implant fish in late spring/early summer 2022 preceding removal events. This data will be used to analyze carp behavioral patterns and determine the time of the day when carp are aggregated at the bait station. The data will be used to plan removal operations during peak carp activity and maximize the chance of successful catch.

All carp will be counted, checked for PIT tags and a subsample will be measured and weighed in order to estimate total weight and individuals removed.

Modified baited hog trap: Methods



A new baited technique to trap carp was tested in 2023. It was designed to be able to trap carp in a much larger area with automated methods. This involves building a barrier out of material such as chicken wire or welded wire in an area with depths of 2-4 feet. The barrier is installed with an “apron” that lays in front of the barrier to prevent carp from digging under that barrier and escaping. Carp are allowed to enter via 1 or 2 5-foot-wide gates as seen being installed in the photo above. A sliding gate is raised 4 feet off the lake bottom and held in place with a locking switch. The area inside the barrier is baited on a similar schedule as the baited box net traps to allow carp to enter the area for food. Using mechanisms like remote cameras and PIT antennas to detect aggregations of carp inside the trap area, a decision to drop the gates can be made. Then, the gates are dropped remotely from a phone app by releasing the locked gates so they can instantly drop into position and block escape. The carp are then held in the trap area until a crew can be assembled to conduct the removal from the trap efforts. This allows managers to trap aggregated carp while they’re most dense and return when convenient.

WSB recommends considering the installation of one such trap in the middle area of the south shoreline. If the area is found to not be suitable for effective trapping due to lake conditions, then a standard baited box net trap will be installed in its place.

Disposal of Carp

WSB would handle the logistics of transporting carp for disposal from the lake.

DATA ANALYSIS AND REPORTING

Following field efforts in 2024, all collected data will be compiled into a report and will combine data from 2021 through 2023 for an overall analysis. Deliverables include a description of each removal event, including number of fish captured in each net, an updated population and biomass density estimate based on mark/recapture calculations or extrapolation from 2021 through 2023 removal data, CPUE for removal methods of box netting and other methods attempted, and total population and pounds removed.

INVOLVEMENT OF STANTEC STAFF/VOLUNTEERS

WSB requests the help of Stantec staff and/or volunteers to save on budget and to further ensure

success during removal efforts. We estimate this time to include 4-5 weeks of daily baiting the area with corn (~1 hour per day), 4-6 hours assistance with installation, and 4-8 hours of assistance with removal events (estimated 3-4 events totaling 12-24 hours). Ideally, removal events would include up to 2 Stantec staff. Finally, Stantec will be responsible for providing cracked corn for baiting.

SCHEDULE OF OPERATIONS:

	2024							
	May	June	July	August	September	October	November	December
Permitting and project management	■	■	■	■	■	■	■	■
Installation of box nets		■						
Trapping operations		■	■	■				
Uninstall of equipment, decontamination, and patching				■				
Data analysis and reporting							■	■

BUDGET:

Crystal Lake Carp Management 2024	Expenses: Equipment Use	Sr. Env. Scientist	Sr. Env. Scientist	Water Resources Intern	Line-item total
Hourly rate		\$134	\$134	\$100	
Permitting and project management		8			\$1,072
Carp removal operations (installations, removals, uninstall)	\$4,000	48	28	31	\$17,284
Data analysis and reporting		12			\$1,608
Overall Project total					\$19,964

To: Shingle Creek/West Mississippi WMO Commissioners/TAC

From: Diane Spector
Katie Kemmitt

Date: February 2, 2024

Subject: Watershed Based Implementation Funding Convene Meeting Preparation

Recommended Action

For each watershed, designate two city representatives and a watershed representative. Provide general guidance to the selected designees.

The Board of Water and Soil Resources (BWSR) biennially appropriates funding for a program called Watershed-Based Implementation Funding (WBIF). The WBIF funding is allocated to targeted watersheds to be distributed according to guidelines agreed upon by the eligible entities in the allocation area (“the Partnership”). The BWSR Board approved allocations for fiscal year 2024-2025, including \$191,662 to the Shingle Creek allocation area and \$152,299 to the West Mississippi allocation area, which will become available July 1, 2024. A minimum 10% match is required.

The BWSR Funding Policy for the program specifies that each Partnership will include one decision-making representative from each watershed district and/or watershed management organization, soil and water conservation district, county with a current groundwater plan, and up to two decision-making representatives from municipalities within the allocation area. For these two allocation areas, that would include the respective commission, Hennepin County in its capacity as the county SWCD, and up to two cities. Other parties may participate in discussions regarding the use of the funding, but only the decision-making representatives may make the final recommendation to BWSR. The city and watershed representatives may be TAC members or Commissioners.

Staff recommends that at the February 8, 2024 TAC meeting the TAC and Commissions discuss which two persons the cities would like to represent them at the first official convene meeting to be held in mid- to late February and who should represent each Commission. The county will also be asked to designate a representative, and BWSR will be formally represented as well. At that meeting the group will begin discussing options for the use of the funds.

Staff recommends that the TAC and Commissioners start thinking about their priorities and objectives for the funding. Activities eligible for funding span a very wide range of options, but all must be focused on prioritized and targeted cost-effective actions with *measurable water quality results*. Funding is not limited to capital projects; anything in the Fourth Generation Plan’s Implementation Plan may be eligible as long as its end goal is the protection and improvement of water quality. As a reminder, the Implementation Plan included several broad areas that would be eligible, including:

- Implementing an education and outreach program
- Implementing TMDL management actions
- Completing subwatershed assessments and follow-up implementation cost share

- Matching grants
- Capital improvement projects

Other projects to consider for WBIF funding that are not on the Commissions' CIP:

- Funding the shared education and outreach coordinator
- Continuation of Hennepin County Chloride Initiative
- Feasibility studies for Oxbow Creek or Mattson Brook in West Mississippi

The Partnerships may choose to award the funds to one high-priority project or make numerous awards for varying objectives – for example dividing up the funds into an allocation for BMP cost share, a lake internal load or stream restoration feasibility study, a priority subwatershed assessment, targeted resident outreach, and one or more projects. Or you may decide to focus on one or two priority lakes and undertake a suite of activities focused on making a measurable improvement in water quality.

Tables 1 and 2 show the current CIPs for each Commission. You may add one or more projects to the CIP by Minor Plan Amendment for eligibility for the WBIF funding if that is approved prior to submitting a work plan.

Aside from designating the required representatives, the secondary purpose of this discussion is to provide some broad guidance and direction to the designees to consider during the Convene meeting. For example, the Commissions may want to make it known to the Partnership that their preference is to fund capital projects.

At the March Convene meeting the Partnerships will complete some procedural details and then discuss the desired objectives and outcomes from the use of the funding before diving into determining how fundable activities will be solicited and selected. Recommended activities approved by BWSR may then be detailed in a work plan starting approximately June 2024. Funding would be available July 1, 2024, following submittal and approval of the work plan.

From BWSR WBIF Convene Meeting guidance:

Recommended Convene Meeting Objectives:

1. Choose a decision-making process.
2. Decide how to select activities for funding. Note that partnerships may also want to choose funding targets for different categories (e.g., projects, studies, education).
3. Partnerships may select activities by:
 - Developing a list of potential activities from eligible plans,
 - Dividing funding among eligible entities in an equitable manner,
 - Selecting a few priority waterbodies (lake, streams) and/or groundwater areas to prioritize activities,
 - Using agreed upon criteria to select activities, or
 - Using a process approved by the BWSR Central Region Manager.

4. Select the highest priority, targeted, measurable, and eligible activities to be submitted to BWSR as a budget request.
5. Confirm which entity will serve as grantee and/or fiscal agent for each selected activity and decide on the source of the 10% required match.

Table 1. Current Shingle Creek CIP, as adopted 2023.

IMPLEMENTATION PROGRAM	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Watershed-wide Programs						-	-	-	-	-
<i>City Cost Share Program</i>	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000
Commission Contribution	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Local Contribution	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
<i>Partnership Cost Share Program</i>	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Commission Contribution	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Local Contribution	0	0	0	0	0	0	0	0	0	0
<i>Project Maintenance Fund</i>	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Commission Contribution	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Local Contribution	0	0	0	0	0	0	0	0	0	0
Stream Projects										
<i>Bass Creek TH 169 to 63rd Avenue</i>	500,000									
Commission Contribution	500,000									
Local Contribution	0									
<i>Shingle Creek Brookdale Park Natural Channel</i>	1,250,000									
Commission Contribution	1,250,000									
Local Contribution	0									
<i>Minneapolis Shingle Creek Stream Restoration</i>		400,000			300,000					
Commission Contribution		400,000			300,000					
Local Contribution		0			0					
<i>Shingle Creek or Bass Creek Restoration Project</i>								400,000		
Commission Contribution								400,000		
Local Contribution								0		
Eagle, Pike, and Cedar Island Lakes										
Capital Projects										
<i>Lake Internal Load Improvement Project-Eagle/Pike</i>	30,000	170,000								
Commission Contribution	30,000	170,000								
Local Contribution	0	0								
<i>Lake Internal Load Improvement Project-Cedar Island</i>						30,000	170,000			

IMPLEMENTATION PROGRAM	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Commission Contribution						30,000	170,000			
Local Contribution						0	0			
<i>Pike Creek Stabilization</i>	395,000									
Commission Contribution	105,000									
Local Contribution	290,000									
Maintenance Projects										
<i>Aquatic Vegetation Mgmt</i>										
Commission Contribution			15,000	15,000					15,000	15,000
Local Contribution										
Special Studies										
<i>Subwatershed Assessment and Internal Load Feasibility- Eagle/Pike Lake</i>	50,000									
Commission Contribution	20,000									
WBIF Contribution	30,000									
Twin and Ryan Lakes										
Capital Projects										
<i>Wetland 639W Weir Wall Enhancement</i>			100,000							
Commission Contribution			100,000							
Local Contribution			0							
<i>Lake Internal Load Project</i>						200,000				
Commission Contribution						200,000				
Local Contribution						0				
Maintenance Projects										
<i>Modify France Ave Fish Barrier</i>										
Commission Contribution	8,000									20,000
Local Contribution										
<i>Carp Management</i>										
Commission Contribution	30,000	30,000			25,000		25,000		25,000	
Local Contribution										

IMPLEMENTATION PROGRAM	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<i>Aquatic Vegetation Mgmt</i>										
Commission Contribution						15,000				
Local Contribution										
Special Studies										
<i>Gaulke Pond Subwatershed Assessment</i>	30,000									
Commission Contribution	0									
WBIF Contribution	30,000									
Bass, Schmidt, and Pomerleau Lakes										
Capital Projects										
<i>New Project</i>										
Commission Contribution										
Local Contribution										
<i>New Project</i>										
Commission Contribution										
Local Contribution										
Maintenance Projects										
<i>Aquatic Vegetation Mgmt</i>										
Commission Contribution	12,000	10,000		10,000		10,000		10,000		10,000
Local Contribution										
Crystal Lake										
Capital Projects										
<i>New Project</i>										
Commission Contribution										
Local Contribution										
<i>New Project</i>										
Commission Contribution										
Local Contribution										
Maintenance Projects										
<i>Aquatic Vegetation Mgmt</i>										

IMPLEMENTATION PROGRAM	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Commission Contribution			10,000	10,000	10,000			10,000	10,000	
Local Contribution										
<i>Rough Fish Mgmt</i>										
Commission Contribution			25,000		25,000		25,000	25,000		
Local Contribution										
Meadow, Magda, and Success Lakes										
Capital Projects										
<i>New Project</i>										
Commission Contribution										
Local Contribution										
<i>New Project</i>										
Commission Contribution										
Local Contribution										
Maintenance Projects										
<i>Aquatic Vegetation Mgmt</i>										
Commission Contribution			10,000			25,000				
Local Contribution			0			0				
<i>Rough Fish Mgmt</i>										
Commission Contribution										
Local Contribution										
Special Study-Magda Subwatershed Assessment									30,000	
Commission Contribution									30,000	
Local Contribution									0	
Stormwater BMP Projects										
Capital Projects										
<i>Maple Grove Pond P57</i>		648,000								
Commission Contribution		162,000								
Local Contribution		486,000								
<i>Maple Grove Pond P33</i>				574,000						
Commission Contribution				143,500						

IMPLEMENTATION PROGRAM	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Local Contribution				430,500						
<i>Minneapolis Flood Area 5 Water Quality Projects</i>							6,000,000			
Commission Contribution							250,000			
Local Contribution							5,750,000			
<i>Maple Grove Pond P55</i>										855,000
Commission Contribution										213,800
Local Contribution										641,200
<i>New Project</i>										
Commission Contribution										
Local Contribution										
Other										
<i>Special Study-Flood Resiliency Modeling</i>	30,000									
Commission Contribution	30,000									
Local Contribution	0									
<i>5th Generation Plan</i>	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Commission Contribution	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Local Contribution	0	0	0	0	0	0	0	0	0	0
TOTAL IMPLEMENTATION PLAN	2,505,000	1,528,000	410,000	884,000	610,000	940,000	6,480,000	710,000	340,000	1,165,000

Table 2. Current West Mississippi CIP, as adopted 2023.

IMPLEMENTATION PROGRAM	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<i>City Cost Share Program</i>	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Commission Contribution	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Local Contribution	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
<i>Partnership Cost-Share BMP Projects</i>	100,000	100,000	100,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Commission Contribution	100,000	100,000	100,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Local Contribution	0	0	0	0	0	0	0	0	0	0
<i>New Project</i>										
Commission Contribution										
Local Contribution										
<i>New Project</i>										
Commission Contribution										
Local Contribution										
<i>Champlin Woods Trail Rain Gardens</i>	180,000									
Commission Contribution	45,000									
Local Contribution	135,000									
<i>New Project</i>										
Commission Contribution										
Local Contribution										
<i>Special Study-Flood Resiliency Modeling</i>	30,000									
Commission Contribution	30,000									
Local Contribution	0									
TOTAL IMPLEMENTATION PLAN	410,000	200,000	200,000	150,000	150,000	150,000	150,000	150,000	150,000	150,000

To: Shingle Creek/West Mississippi WMO Commissioners

From: Todd Shoemaker, PE, CFM
Katie Kemmitt

Date: February 1, 2024

Subject: February 2024 Staff Report

**Recommended
Commission Action**

For discussion and information.

General Updates*Metropolitan Council Metro Area Water Supply Plan*

During development on the 2015 *Water Supply Plan*, the Met Council recognized a need for “subregional” plans rather than one plan for the entire Twin Cities metropolitan area. Staff attended a workshop on January 19 so Met Council staff could gather information to guide development of the next Metro Area Water Supply Plan for the Northwest subregion. To date, Met Council has engaged more than 135 participants representing more than fifty local governments, state agencies, and nonprofit partners across seven subregions. Wit

At the workshop, Met Council staff noted the *Water Supply Plan* is not a regulatory effort but rather encouraging collaboration between communities to achieve a shared understanding of issues/barriers and goals/strategies for success. Participants offered the following thoughts on each:

- Issues/barriers: chloride impacts; PFAS/emerging contaminants; ecosystem impacts (i.e. White Bear Lake); “cheap” water.
- Goals/strategies: see decreasing trend for summer water demand; accepted water balance using collected data; improved education (brown lawns are okay); increased staffing, creating career pathways for operators; regional coordination with state agencies.
- What does success look like? Well-understood water balance; strong, regional education program; proactive funding.

Next, Met Council will bring the local participants of the subregions together to hear from each other and make any final changes to their input before final drafting of the plan begins.

Grant Reporting

Staff completed year-end reporting for several grants, including:

- Crystal Lake Management Plan (MPCA 319 Grant)
- Meadow Lake Drawdown (FY21 Watershed-Based Implementation Funding (WBIF))
- Bass Creek Restoration (FY21 WBIF)
- Connections II Shingle Creek Restoration (BWSR Clean Water Fund (CWF))
- Meadow Lake Management Plan (BWSR CWF)

- Palmer Creek Stream Stabilization (BWSR CWF)
- Eagle Lake and Gaulke Pond Subwatershed Assessments (FY23 WBIF)
- Mississippi River Streambank Stabilization (FY23 WBIF: West Mississippi)

Items in Bold Italic have changed since the last report

Grant Projects

Project	Grant Source	Expiration	Status
<i>Shingle Creek</i>			
Shingle Cr Connections II	CWF	12/31/23	Complete, submitted to BWSR for final grant payment
Bass Creek Restoration	WBIF	12/31/23	Complete, submitted to BWSR for final grant payment
Meadow Lake Mgmt Plan: Drawdown	WBIF	12/31/23	Complete, submitted to BWSR for final grant payment
Crystal Lake Mgmt Plan	MPCA 319	05/30/24	Final sediment core results & spring carp removals
Wetland 639W SRP Channel Extension	HCES	12/31/23	Closed
Meadow Lake Mgmt Plan	CWF	12/31/24	Grant has been extended for possible 2024 BMPs
Palmer Creek Estates Stream Resto: Plymouth	CWF	12/31/24	Work mostly complete, punch list items & veg
Bass Lake Vegetation Mgmt	DNR CPL	06/30/25	In progress
Eagle Lake SWA	WBIF	12/31/25	Complete except for final report
Gaulke Pond Area SWA	WBIF	12/31/25	Complete except for final report
<i>West Mississippi</i>			
Miss Riverbank Stabilization	WBIF	12/31/25	In progress

Cost Share Projects

Project	Partner	Amount	Status
<i>Shingle Creek</i>			
Shingle Creek Rain Gardens	City-Mpls	\$50,000	In progress
Highland Gables	Partner-Metro Blooms	\$49,993	In progress (\$35,903.81 pd to date)
<i>West Mississippi</i>			
Miss Gateway Shoreline Stabil	Partner-3 Rivers	\$75,000	Awarded, not yet started

Encumbered Balances as of 12/31/23 (Amounts are approximate)

Watershed	City Cost Share	Partnership	Closed Projects	Assigned	Unrestricted
Shingle Creek	\$292,639	\$106,000	\$106,000 850,000	\$23,000	\$69,000
West Mississippi	\$460,000	\$130,000	\$151,000	\$154,000*	\$120,000

*About \$89,000 assigned to "Grant Match account"