

3235 Fernbrook Lane N • Plymouth, MN 55447
Tel: 763.553.1144 • Fax: 763.553.9326
Email: judie@jass.biz • Website: www.shinglecreek.org

March 2, 2023

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, March 9, 2023, in the **Birch** Room 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 **NOT MEET** this month.

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, March 7, 2023**. Thank you.

Regards,

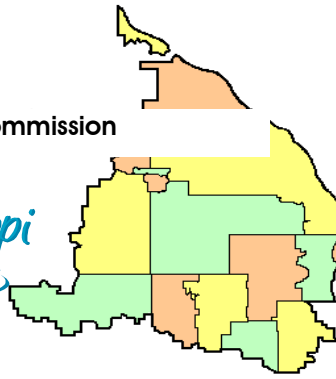
Judie A. Anderson
Administrator

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).**

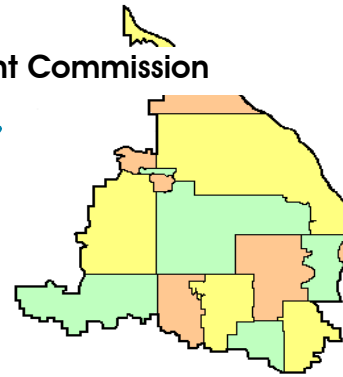
- 1** Pepe – Ham and cheese
- 2** Big John – Roast beef
- 3** Totally Tuna – Tuna salad and cucumber
- 4** Turkey Tom – Turkey
- 5** Vito – salami, capocollo, cheese, onion, oil and vinegar, oregano-basil (no mayo)
- 6** The Veggie – double cheese, avocado spread, cucumber
- 14** Bootlegger Club – Roast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



A combined regular meeting of the Shingle Creek (SC) and West Mississippi (WM) Watershed Management Commissions will be convened Thursday, March 9, 2023, 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 | March 9, 2023

1. Call to Order.
 - SCWM a. Roll Call.
 - √ SCWM b. Approve Agenda.*
 - √ SCWM c. Approve Minutes of Last Meeting.*
2. Reports.
 - √ SCWM a. Treasurer’s Reports and Claims** - voice votes.
3. Open forum.
 - a. No Salt Low Salt Minnesota – Amy Riegel. -
4. Project Reviews.
 - √ SCWM a. City Authorization for Project Reviews.*
 - √ SCWM b. Chloride Management Plan.*
5. Water Quality.
 - √ SCWM a. 2023 Maintenance Fund Activities.*
 - √ SC 1) Crystal Lake Carp Management.*
 - √ SC a) WSB Professional Services Agreement.*
5. Grant Opportunities.
6. Education and Public Outreach.
 - SCWM a. Smart Salt Legislation.*
 - √ SC b. Hennepin County Shared Education and Outreach Coordinator.*
 - SC 1) Agreement.*
 - SCWM c. 2022 NPDES Report.**
 - SCWM d. Next WMWA meeting –Tuesday, March 14, 2023, at 8:30 a.m., via Zoom.
7. Communications.
 - SCWM a. Staff Report.*
 - SCWM b. Communications Log.*
 - √ SCWM c. Invitation to Support Reauthorization of ENRTF Lottery Dedication.*
8. Other Business.
 - SCWM a. Pollution of Surface Waters Study.
 - √ SCWM 1) Letter of Support.*
 - √ SCWM 2) RFP.*
9. Adjournment.



**REGULAR MEETING | PUBLIC HEARING
 MINUTES | February 9, 2023**

(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 Chairman Andy Polzin at 12:45 p.m. on Thursday, February 9, 2023, in the Aspen Room, Plymouth Community Center, 14800 34th Avenue North, Plymouth, MN.

Present for Shingle Creek were: David Mulla, Brooklyn Center; Alex Prasch, Brooklyn Park; Burt Orred, Jr., Crystal; Karen Jaeger, Maple Grove; Ray Schoch, Minneapolis; Bill Wills, New Hope; John Roach, Osseo; Andy Polzin, Plymouth; Wayne Sicora, Robbinsdale; Diane Spector, Katie Kemmitt, and Todd Shoemaker, Stantec; Troy Gilchrist, Kennedy & Graven; and Judie Anderson, JASS.

Present for West Mississippi were: David Mulla, Brooklyn Center; Melissa Collins, Brooklyn Park; Gerry Butcher, Champlin; Karen Jaeger, Maple Grove; John Roach, Osseo; Diane Spector, Katie Kemmitt, and Todd Shoemaker, Stantec; Troy Gilchrist, Kennedy & Graven; and Judie Anderson, JASS.

Also present were: James Soltis, Brooklyn Center; Mitch Robinson and Greg Spoden, Brooklyn Park; Mark Ray, Crystal; Derek Asche, Maple Grove; Katie Kowalczyk, Minneapolis; Bob Grant and Nick Macklem, New Hope; James Kelly, Osseo; Leah Gifford, Ben Scharenbroich and Amy Riegel, Plymouth; and Wendy Scherer, Richard McCoy and Mike Sorensen, Robbinsdale.

II. Agendas and Minutes.

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

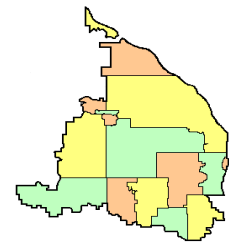
Motion by Roach, second by Butcher to approve the **West Mississippi agenda**.* *Motion carried unanimously.*

Motion by Schoch, second by Wills to approve the **minutes of the January 12, 2023, regular meeting**.* *Motion carried unanimously.*

Motion by Roach, second by Jaeger to approve the **minutes of the January 12, 2023, regular meeting**.* *Motion carried unanimously.*

III. Finances and Reports.

A. Motion by Schoch, second by Prasch to approve the Shingle Creek **February Treasurer's Report* and claims** totaling \$34,924.23. Voting aye: Mulla, Prasch, Orred, Jaeger, Schoch, Wills, Roach, Polzin, and Sicora; voting nay: none.



B. Motion by Butcher, second by Jaeger to approve the West Mississippi February Treasurer's Report* and claims totaling \$21,591.50. Voting aye: Mulla, Prasch, Butcher, Jaeger, and Roach; voting nay: none.

IV. Open Forum.

Jaeger inquired about the status of the **2009 paired intersection research project** undertaken by the Shingle Creek Commission and the City of Robbinsdale to investigate whether porous asphalt can be used as a physical substitute for road salt as an ice prevention method. McCoy responded that the results of the Commission investigation along with additional investigation by the University of Minnesota have been inconclusive. The pavements are reaching the end of their life in terms of durability and the City will likely return to “normal” pavement when overlays are undertaken.

[The regular meeting was suspended at 12:54 p.m. in order to conduct a public hearing.]

V. Public Hearing.*

A. In accordance with Minnesota Statutes 103B.231, which sets out the watershed management plan process for metro area Watershed Management Organizations (WMOs), the Commissions must hold a public hearing on their draft Fourth Generation Watershed Management Plan no sooner than 14 days following completion of the 60-day review period, which ended January 14, 2023. The purpose of the hearing is to provide a forum for the public, government agencies, and member cities to provide comments on the goals, management strategies and work plan proposed for the ten year period 2023-2032.

The Commissions submitted their Fourth Generation Watershed Management Plan to the reviewing entities in early November 2022. After the 60-day window, Stantec reviewed and compiled the received comments and provided recommended responses that were included in the meeting packet. Upon completion of the hearing a record of the hearing and all comments received and responses made must be forwarded to the Board of Water and Soil Resources (BWSR), which then has up to 90 days in which to consider approving the Plan. Once BWSR has approved the Plan, the Commissions have 120 days in which to adopt it. The Commissions should plan to adopt the Plan at their May or June 2023 meeting.

Kemmitt discussed the comments that were received from BWSR, Minnesota Department of Natural Resources (DNR), Minnesota Pollution Control Agency (MPCA), City of Minneapolis, Metropolitan Council, Minneapolis Parks and Recreation Board (MPRB), Hennepin County, and Bassett Creek WMO. Many comments were easily addressed. Some comments that were notable or received by more than one entity include:

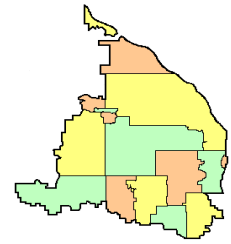
1. The plan is lengthy and technical. Can the plan sections be condensed to be more useful for those interested in the Plan?

Suggested response: *The Commissions have developed a 1-page fact sheet that is on the website that will help distil the content. The Watershed Plan page on the website will also be updated once the plan is adopted to direct people to the correct place for the information they seek.*

2. Maintenance roles of SCWMC, MPRB, and City of Minneapolis for Shingle Creek in Minneapolis should be clarified.

Suggested response: *The SCWMC, as a joint powers organization, has no maintenance and ownership role in the Creek.*

3. Bassett Creek WMO commented that all figures should be updated with the new legal boundary.



Suggested response: *The proposed new boundary is still under review and cannot be used in the Plan at this time.*

Comments received that require further discussion include:

4. BWSR and Metropolitan Council commented that Goal 1; “*Manage surface water resources of the watershed to meet or exceed state standards.*” was not measurable enough and/or not reasonable to accomplish within the Plan timeline provided.

Recommended response: *Stantec recommends the Commission respond by adding detail back into the goal from the Third Generation Plan of 10% improvement in water clarity of lakes over the previous 10 years.*

5. Hennepin County suggested the text “*Continue current Hennepin County jurisdiction over County Ditch #13.*” be changed to “*Work with Hennepin County to identify the proper jurisdiction for Shingle Creek, where currently designated as County Ditch #13, that provides the most consistent support and protection for the resource.*” Hennepin County also mentioned they would be interested in pursuing ditch abandonment that would allow for authority to transfer to the Department of Natural Resources as a public watercourse.

Recommended response: *Stantec recommends the Commission use the suggested text from Hennepin County to keep options for ditch jurisdiction open.*

6. The City of Minneapolis asked if there was any interest in increasing the cost share cap in the next 10 years to account for inflation.

Recommended response: Stantec recommends the TAC and Commission keep this comment in mind for future discussion.

B. Open Public Hearing. The public hearing was opened at 1:09 p.m.

No additional comments were received from either the member cities, the reviewing agencies, or the public. The public hearing was closed at 1:10 p.m.

C. Commission Discussion.

There being no further discussion, *motion by Schoch, second by Mulla to accept the responses and forward the proposed Plan to BWSR for final review and approval. Motion carried unanimously.*

Motion by Butcher, second by Jaeger to accept the responses and forward the proposed Plan to BWSR for final review and approval. Motion carried unanimously.

[The regular meeting resumed at 1:11 p.m.]

VI. Action Items.

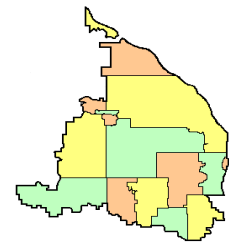
A. Election of Officers.

1. *Motion by Schoch, second by Prasch to elect the following: Polzin, Chair; Sicora, Vice Chair; Jaeger, Secretary; and Orred Treasurer. Motion carried unanimously.*

2. *Motion by Mulla, second by Roach to elect the following: Butcher, Chair; David Vlasin, Brooklyn Center, Vice Chair; and Jaeger, Secretary/Treasurer. Motion carried unanimously.*

B. Annual Appointments.

1. Official Newspaper – Osseo-Maple Grove Press.



2. Official Depositories – U.S. Bank and the 4M Fund.
3. Deputy Treasurer – Judie Anderson.
4. Auditor – Johnson Company Ltd.

Motion by Jaeger, second by Schoch to affirm the above appointments. *Motion carried unanimously.*

Motion by Butcher, second by Roach to affirm the above appointments. *Motion carried unanimously.*

VII. Project Reviews.

A. WM2022-06 Gateway Regional Park, Brooklyn Park.* Construction of a visitors' center, sidewalks, trails, and parking lots on 160 acres. Following development, the site will be 4 percent impervious with 6.8 acres of impervious surface, an increase of 4.4 acres. A complete project application was received on November 28, 2022. The applicant requested a 60-day review extension.

Commission rules require the site to abstract 1.1 inches of runoff from new and reconstructed impervious area within 48 hours. The new impervious area on this site is 6.8 acres, requiring the infiltration of 27,152 cubic feet within 48 hours. The applicant proposes to construct eight raingardens with the capacity to infiltrate 36,485 cubic feet within 48 hours. The applicant meets Commission volume control requirements.

To comply with the Commission's water quality treatment requirement, the site must provide treatment so there is no net increase in TP or TSS from pre- to post-development land cover. This standard can be met if the infiltration requirement is met. The applicant has met the infiltration requirement. The applicant meets Commission water quality treatment requirements.

Commission rules require that site runoff is limited to predevelopment rates for the 2-, 10-, and 100-year, 24-hour, and 100-year, 10-day critical storm event. Runoff from the site is routed through eight rain gardens. The applicant meets Commission rate control requirements.

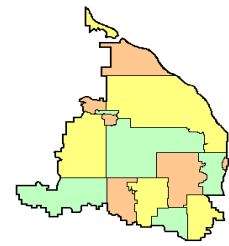
The erosion control plan includes a rock construction entrance, perimeter silt fence/biolog, rip rap at outlets, inlet protection, slope checks, and native seed specified on the basin slopes. The erosion control plan meets Commission requirements.

The National Wetlands Inventory identifies wetlands in the west and southeast portion of the site. The Commission is the LGU for WCA administration. 0.1 acres of fill are planned in the wetland located on the west side of the site. A replacement plan has been approved by the Commission. The applicant meets Commission wetland and buffer requirements.

The wetland located in the southeast area of the site is a DNR Public Water. The proposed project is not anticipated to negatively impact the wetland or its Aquatic Consumption/Aquatic Recreation status. The applicant meets Commission Public Waters requirements.

Cut and fill is proposed in the floodplain, but there is a net increase in floodplain storage. Additionally, the applicant submitted a HEC-RAS model to demonstrate no change to the floodplain high water level, restricted flow, or aggravated flooding on other land. The low floor elevations of the buildings (829.00 for the Visitors Center and 849.3 for the Maintenance Facility) are at least two feet higher than the FEMA 100-year flood elevation of 827 feet. The applicant meets Commission floodplain requirements.

The site is located in a Drinking Water Supply Management Area but is outside the Emergency Response Area. Therefore, infiltration is permitted, but infiltrated water must first filter through one foot of



soil, the top four inches of which are amended topsoil, and the bottom 8 inches of which are tilled. The applicant proposes to infiltrate through 24 inches of MN Stormwater Manual Mix E (80/20 sand/compost mix). The applicant meets Commission drinking water protection requirements.

City staff reports that the public notice requirement has been met through past presentations to the City Council as well as continued outreach from Three Rivers Park District and the City (City newsletter and updates on the project website).

A draft Operations & Maintenance (O&M) agreement between Three Rivers Park District and the City of Brooklyn Park was provided.

Motion by Jaeger, second by Mulla to advise the City of Brooklyn Park that Project 2022-06 is approved with two conditions:

1. Execute the O&M agreement between Three Rivers Park District and the City of Brooklyn Park for all stormwater facilities on the project site.
2. Demonstrate by double ring infiltrometer or witness test that the site can meet the design infiltration rate of:
 - a. 0.8 inches/hour for raingardens 1,2,7, and 8
 - b. 0.45 inches/hour for raingardens 3-6, and 9.

Motion carried unanimously.

B. WM2022-07 610 Zane 3rd Addition (Speculative Industrial Buildings), Brooklyn Park.*

Construction of two office/warehouse buildings and surrounding parking on a 19.7-acre site. Following development, the site will be 62 percent impervious with 13.61 acres of impervious surface, an increase of 13.61 acres. This project is the third addition of the larger 98-acre 610 Zane site. A complete project application was received December 30, 2022.

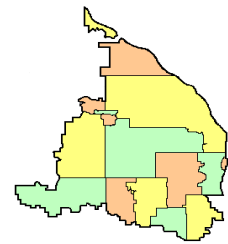
Commission rules require the site to infiltrate 1.1 inches of runoff from new impervious and reconstructed impervious area within 48 hours. Two existing infiltration basins, as part of regional treatment, are proposed to be expanded on site to treat on- and offsite impervious (94th Avenue and future development). The impervious areas are:

1. The onsite new and reconstructed impervious is 592,900 ft².
2. The offsite existing (94th Avenue) and anticipated future impervious is 322,800 ft².
3. The Western Infiltration Basin receives runoff from onsite impervious.
4. The Eastern Infiltration Basin receives runoff from onsite impervious, 94th Avenue, and a 3.7-acre future development (87% impervious).
5. Volume retention required: $915,700 \text{ ft}^2 \times 1.1'' \times 1 \text{ ft}/12'' = 83,940 \text{ ft}^3$

The applicant meets Commission volume control requirements.

To comply with the Commission's water quality treatment requirement, the site must provide treatment so there is no net increase in TP or TSS from pre- to post-development land cover. Meeting the infiltration requirement is considered sufficient to provide a similar level of treatment. The applicant has met the infiltration requirement. The applicant meets Commission water quality treatment requirements.

Commission rules require that site runoff is limited to predevelopment rates for the 2-, 10-,



and 100-year, 24-hour, and 100-year, 10-day critical storm event. Runoff from onsite, 94th Avenue, and the future development to the southeast are routed to two infiltration basins. The applicant meets Commission rate control requirements.

The erosion control plan includes a rock construction entrance, perimeter silt fence/biolog, inlet protection, rip rap at inlets, slope checks, silt fence surrounding infiltration basins, and native seed specified on the pond slopes. The erosion control plan meets Commission requirements.

The National Wetlands Inventory does not identify any wetlands on site. The applicant meets Commission wetland requirements. There are no Public Waters on this site. The applicant meets Commission Public Waters requirements.

There is no FEMA-regulated floodplain on this site. The low floor elevations of the buildings (874') are at least two feet higher than the high-water elevation of the infiltration basins (871') according to Atlas 14 precipitation. The applicant meets Commission floodplain requirements.

The site is located in a Drinking Water Supply Management Area but is outside the Emergency Response Area. Therefore, infiltration is permitted, but infiltrated water must first filter through one foot of soil, the top four inches of which are amended topsoil, and the bottom eight inches of which are tilled. The applicant proposes to infiltrate through the above media specification. The applicant meets Commission drinking water protection requirements.

A public hearing on the project will be conducted on February 8, 2023, as part of Planning Commission and City Council review of this project, meeting Commission public notice requirements.

A draft Operations & Maintenance (O&M) agreement between the applicant and the City of Brooklyn Park was not provided.

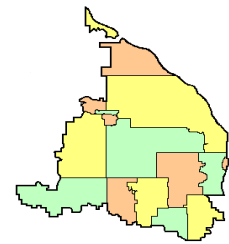
Motion by Prasch, second by Jaeger to advise the City of Brooklyn Park that Project 2022-07 is approved with the following conditions:

1. Provide a complete O&M agreement between the applicant and the City of Brooklyn Park for all stormwater facilities on the project site.
2. After construction, submit double ring infiltrometer or witness test results to verify the design infiltration rate of 0.8 inches/hour for basins A4 and D1.
3. Provide confirmation that the public hearing occurred on February 8, 2023. (Shoemaker stated that this public hearing was held.)

Motion carried unanimously.

C. WM2023-01 Range USA, Brooklyn Park.* Construction of a 15,000 ft² building and parking on a 4.87-acre site located at 9489 Winnetka Avenue North. Following development, the site will be 36 percent impervious with 1.73 acres of impervious surface, an increase of 1.73 acres. This project is the third addition of the larger 36-acre North Cross Business Park site. A complete project application was received January 19, 2023.

Commission rules require the site to infiltrate 1.1 inches of runoff from new impervious and reconstructed impervious area within 48 hours. An existing infiltration basin was previously constructed, as part of a regional treatment system, to provide 217,696 ft³ of treatment for an assumed 612,300 ft² of impervious area under the 1" abstraction rule. 465,400 ft² of the 612,300 ft² has been constructed since the 2014 approval. The applicant meets Commission volume control requirements.



To comply with the Commission's water quality treatment requirement, the site must provide treatment so there is no net increase in TP or TSS from pre- to post-development land cover. Meeting the infiltration requirement is considered sufficient to provide a similar level of treatment. The applicant has met the infiltration requirement. The applicant meets Commission water quality treatment requirements.

Commission rules require that site runoff is limited to predevelopment rates for the 2-, 10-, and 100-year, 24-hour, and 100-year, 10-day critical storm event. Runoff from the site is routed to a large infiltration basin. The applicant meets Commission rate control requirements.

The erosion control plan includes a rock construction entrance, perimeter silt fence/biolog, inlet protection, rip rap at inlets, and native seeding. The erosion control plan meets Commission requirements.

The National Wetlands Inventory does not identify any wetlands on site. The applicant meets Commission wetland requirements. There are no Public Waters on this site. The applicant meets Commission Public Waters requirements.

There is no FEMA-regulated floodplain on this site. The low floor elevations of the buildings (883') are at least two feet higher than the high-water elevation of the infiltration basins (880') according to Atlas 14 precipitation. The applicant meets Commission floodplain requirements.

The site is in a Drinking Water Supply Management Area but is outside the Emergency Response Area. Therefore, infiltration is permitted, and the infiltration basin was previously approved under project WM2014-06. The applicant meets Commission drinking water protection requirements.

A public hearing on the project was conducted on January 11, 2023, as part of Planning Commission and City Council review of this project, meeting Commission public notice requirements.

A draft Operations & Maintenance (O&M) agreement between the applicant and the City of Brooklyn Park was provided during the 2014 submittal (WM2014-06 North Cross Business Park).

Motion by Jaeger, second by Prasch to advise the City of Brooklyn Park that Project 2023-01 is approved conditioned that, after construction, double ring infiltrometer or witness test results are submitted to verify the design infiltration rate of 1.6 inches/hour for Northern basin (8P). *Motion carried unanimously.*

D. Included in the meeting packet were copies of the **Wetland Conservation Act (WCA) 2022 Annual Reporting Forms*** for both Commissions. The forms are used to report WCA activities where the Commissions serve as the LGUs for WCA (for the member cities of Brooklyn Center, Brooklyn Park, Champlin, Osseo, and Robbinsdale).

VIII. Water Quality.

A. 2023 Shingle Creek 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 Hennepin County Environment and Energy's (HCEE) RiverWatch program. Lake monitoring is performed by volunteers through the Met Council's Citizen Assisted Lake Monitoring Program (CAMP).

1. Staff's February 3, 2023, memo* presents the proposed 2023 monitoring program. This proposal is consistent with the soon-to-be 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 shows the TMDL review schedule for Shingle Creek.

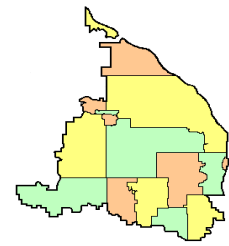


Table 1. Shingle Creek watershed TMDL approvals and review dates.

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, Schmidt - Nutrients	September 25, 2009	December 3, 2009	2017
Meadow - Nutrients	March 23, 2010	June 14, 2010	2019
Cedar Island, Pike, 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

In 2023, the Commission will complete the 5-year biotic and DO TMDL review report for Shingle and Bass Creeks. Under the Fourth Generation Plan, TMDLs will be reviewed systematically by priority. Review of Shingle and Bass Creek TMDLs will also be prioritized based on the impaired status of the streams. Lakes have been prioritized by tiers as shown in Table 3 on page 10.

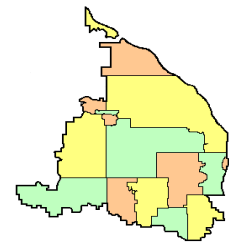
The information on the following pages describes the various monitoring programs, their purpose, proposed costs, and funding. Table 2 includes a summary of the budgets for each activity.

Table 2. 2023 proposed monitoring program budget and cost.

Activity	2023 Budget/Proposed Cost	Notes
Routine Commission Monitoring		
Stream Monitoring	\$34,000	See pages 8- 9 for a recap of included programs and tasks.
Lake Monitoring	\$28,000	See discussion on pages 9-10.
CAMP Lake Monitoring	\$5,200	See pages 9-10.
Grant Project Monitoring		
Bass Lake Alum Treatment	\$4,400	See page 11.
Bass Lake Vegetation Improvements	\$3,700	See page 11.
Meadow Lake Drawdown	\$7,700	See page 11.
Crystal Lake Management Plan	\$16,100	See page 11.

2. 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, 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, SC-2 was moved just downstream of Brooklyn Boulevard in order to obtain a better stage-discharge relationship. This site is identified as SC-3. In 2015, Bass Creek, BCP, 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 <https://waterdata.usgs.gov/monitoring-location/05288705/#parameterCode=00065&period=P7D>. The Commission also partners financially with the USGS in the operation of the Queen Avenue monitoring station.



The 2023 budget for routine stream monitoring is \$34,000. The budget includes labor and expenses for SC-0, SC-3, and BCP flow and water quality monitoring as follows:

- a. Equipment installation at beginning of season and decommission at end of season.
- b. Routine summer sampling approximately twice monthly from April to October, including field measurements of flow, pH, dissolved oxygen, temperature, and conductivity.
- c. Routine winter chloride sampling approximately once monthly from November to March, including field measurements of flow, pH, dissolved oxygen, temperature, and conductivity.
- d. Storm sampling targeting approximately one composite sample monthly from April to October using ISCO sampling
- e. Data entry and rating curve updates
- f. Laboratory analysis of water quality parameters, including total phosphorus (TP), ortho-phosphorus (ortho-P), total suspended solids (TSS), *E. coli*, and chloride.
- g. New batteries to power ISCO samplers and pressure transducers

3. Volunteer Stream Monitoring. In previous years high school student volunteers conducted 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 2023 budget includes \$2,000 to monitor two sites.

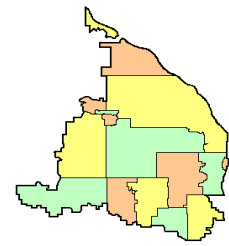
4. Intensive Lake TMDL Monitoring. To track the effectiveness of BMP implementation in improving lake water quality, the Commission routinely performs intensive lake monitoring to supplement the volunteer surface monitoring. Because the Commission's goals include achieving delisting of lakes that meet 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. Table 3 shows the lake monitoring schedule from the Third Generation Plan, updated to reflect the actual monitoring proposed.

The 2023 Lake Monitoring budget is \$28,000 and Upper and Middle Twin Lakes will be monitored biweekly. The water quality data collected will include surface and deep-water samples, water column temperature/DO profiles, and zooplankton and phytoplankton sampling. The budget includes labor and expenses for the activities described below. Lakes have been prioritized by tiers as seen in Table 3.

5. Aquatic Vegetation Surveys. A component of the intensive monitoring is to obtain or update surveys of lake aquatic vegetation. Aquatic vegetation plays an important role in water quality and biotic integrity, and the vegetation community can change as water quality changes. For 2023, surveys for Upper and Middle Twin will be updated in tandem with the intensive monitoring.

6. Fish Surveys. A carp population assessment will be completed for Upper and Middle Twin in 2023 to guide future carp management.

7. 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 the water quality of area lakes. Volunteers 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.

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. The larger lakes are monitored every other year while the smaller lakes are monitored every three years. When a lake undergoes the intensive sampling program, no CAMP monitoring is performed that year. Lakes scheduled for 2023 volunteer lake monitoring are Meadow Lake, Ryan Lake, and Lower Twin Lake. The 2023 budget is \$5,200 and includes Met Council fees and Stantec coordination.

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

	Water Quality Monitoring										
	23	24	25	26	27	28	29	30	31	32	
Tier 1 Lakes											
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		
Tier 2 Lakes											
Crystal Lake	Ci				X				X	C	
Meadow Lake	C				X					X	
Lake Success			C			C				C	
Lake Magda				X					X	C	
Tier 3 Lakes											
Bass Lake	Ci	C	Ci				C	X			
Pomerleau Lake	Ci	C	Ci				C	X			
Schmidt Lake	Ci	Ci	C			C				X	
Lower Twin Lake	C		C		C		C		C		
Ryan Lake	C			X				C			

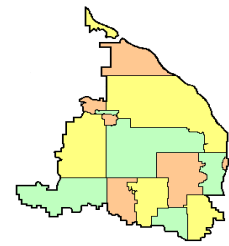
X denotes Commission monitoring, C denotes CAMP monitoring, and Ci denotes City monitoring

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.

8. 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.



Motion by Shoch, second by Orred to approve the 2023 Shingle Creek watershed monitoring program as proposed. *Motion carried unanimously.*

B. Shingle Creek 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.

1. Bass Lake Alum Treatment. A full curly-leaf pondweed (CLP) delineation will be done on Bass Lake in Spring 2023. 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 2023. The delineation will cost approximately \$4,400 and will be paid for from remaining Bass and Pomerleau Lakes Alum Treatment grant funds.

2. Bass Lake Vegetation Improvement. This project aimed to increase aquatic plant diversity in Bass Lake by transplanting desirable species from Big Carnelian to Bass Lake. After two transplant events in 2022, the final part of the grant project will be doing a late-summer point-intercept SAV survey on Bass Lake to assess plant diversity. This survey will cost approximately \$3,700 and will be paid for from grant funds.

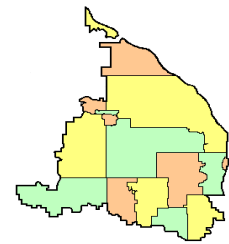
3. The Crystal Lake Management Plan began in 2020. This project includes carp assessment and tracking, alum applications, carp removal, SAV surveys, and water quality monitoring to address Crystal Lake’s impairment for nutrients. The grant expires in August 2023. The final summer of this grant will be focused on collecting final sediment core data and assessing the aquatic vegetation community.

a. Aquatic Vegetation Surveys. Crystal Lake has received two alum treatments, 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 2023. If necessary, the CLP will be treated with herbicide. The visual survey will cost approximately \$1,500 and will be paid for from grant funds.

b. Sediment Coring. In 2023 a follow-up round of sediment cores will be collected from Crystal Lake to assess success of the two alum treatments that were applied in Fall 2021 and 2022 in reducing internal phosphorus loading to the lake. The labor and laboratory expenses for collecting and processing sediment cores will cost approximately \$14,600 and will be paid for from grant funds.

4. 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 second summer season of this project will include a Spring CLP delineation and potential treatment, and two vegetation surveys. The lake water quality will be monitored by a CAMP volunteer. The CLP delineation/treatment and vegetation monitoring will cost \$7,700 and will be paid from grant funds.

C. 2023 West Mississippi Monitoring Plan.* For many years, the Commission did not routinely monitor water quality in the few streams 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 Gener-



ation Plan and subsequent budgets incorporated ongoing, routine monitoring for West Mississippi that includes monitoring flow and water quality at two sites/year on a rotating basis. The Commission has elected to continue that monitoring under the Fourth Generation Plan. In 2022 the Commission monitored the Environmental Preserve outlet and the 65th Avenue outfall. Results of the 2022 monitoring will be presented in the *Annual Water Quality Report* in April 2023.

1. Routine Monitoring. Mattson Brook and 65th Ave will be monitored in 2023 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, the Commission partnered with the Mississippi Watershed Management Organization (MWMO) to perform the monitoring in 2020-2022. MWMO has experience and equipment for doing 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 2023.

The 2023 budget for routine monitoring is \$22,600. The budget includes labor and expenses for the following:

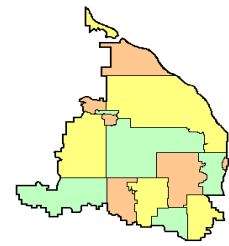
- a. Contract with MWMO for 65th Avenue flow and water quality monitoring (\$12,208.13)
- b. Mattson Brook flow and water quality monitoring (\$10,391.87)
- c. Equipment installation at beginning of season and decommission at end of season
- d. Routine sampling approximately once per month from April – October, including field measurements of flow, pH, dissolved oxygen, temperature, and conductivity.
- e. Storm sampling targeting approximately one composite sample per month from April – October using ISCO sampling
- f. Data entry and rating curve updates
- g. Laboratory analysis of water quality parameters, including total phosphorus (TP), ortho-phosphorus (ortho-P), total suspended solids (TSS), *E. coli*, and chloride.

2. Volunteer Stream Monitoring. In previous years high school student volunteers conducted macroinvertebrate monitoring through Hennepin County Environmental and Energy’s RiverWatch Program at Mattson Brook. The Commission contracts with the 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, the County has been finding it difficult to recruit a high school to monitor this site. The Commission did not budget for RiverWatch in 2023.

3. Volunteer Wetland Monitoring. As noted on page 10, in 2022 Hennepin County made the decision to end the WHEP program. The Commission will not budget for this program moving forward.

Motion by Butcher, second by Jaeger to approve the 2023 West Mississippi watershed monitoring program as proposed. *Motion carried unanimously.*

Motion by Roach, second by Butcher to approve the **Professional Services Agreement** with the Mississippi Watershed Management Organization to monitor the 65th Avenue outfall in 2023. *Motion carried unanimously.*



D. The Minnesota Department of Transportation (MnDOT) released the **Highway 252/I-94 Environmental Impact Statement Draft Scoping Document*** for public agency comment on January 13, 2023. As discussed and directed by the Commissions at the January 12, 2023, Commission meeting, Stantec has reviewed the document and prepared comments to be shared with MnDOT on February 6, 2023.

During their review Stantec staff received comments from the Commissioners representing Minneapolis (Ray Schoch), Brooklyn Center (David Vlasin and David Mulla), and Brooklyn Park (Alex Prasch). This group met to discuss both the request from MnDOT for the Commissions to review the draft Scoping Decision Document (SDD) and the content within the document. The group issued four comments to Stantec. Below are the Commissioners' comments and Stantec's responses in *italics*.

1. We'd like Stantec to request an extension from MnDOT for review of the draft SDD in order to give the Commissioners a chance to discuss and weigh in on the draft SDD in their meeting on February 9, 2023. *Stantec discussed this request with MnDOT's project consultant who did not recommend this approach. He noted that the 21-day informal agency review period was included in the process as a courtesy by MnDOT and not required by the Minnesota Environmental Policy Act (MEPA). Therefore, MnDOT does not anticipate extending the February 6, 2023, deadline, as there will be several more opportunities for agency and public comment.*

(The Commission's attorney concurs with Stantec's approach and can further explain the Commission role and responsibilities at the February 9, 2023, Commission meeting. A flow chart included as part of Stantec's February 2, 2023, memo shows the public and agency engagement process. It shows that the project is currently in the second of six opportunities for agency comment. Further, the second of four public comment periods will occur from March through May 2023 and be focused on the Draft Scoping Document.)

2. We'd like Stantec to work with the Commissioners in identifying the general outline and nature of review comments on the draft SDD before and at the February 9 meeting. To facilitate this, Commissioners should be given access to the draft SDD, should they wish it. *Given the deadline noted in #1, Stantec will submit initial technical comments to MnDOT by February 6, 2023, include those in the Commission packet for the February 9, 2023, meeting, and then review the initial technical comments at the TAC and Commission meetings.*

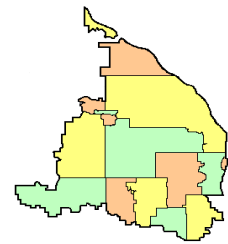
3. We are concerned with the potential impact of stormwater runoff and infiltration, and pollution arising from alternatives recommended by MnDOT on ground and surface water resources and the wildlife and people that depend on them. *Noted. Stantec's review will focus on responsible watershed and stormwater management consistent with the limitations of its statutory authorities and in compliance with their JPAs.*

4. We would like MnDOT to expand the evaluation criteria they apply to each project alternative. It appears that MnDOT's criteria for evaluating project alternatives do not currently address the impacts of project alternatives on ground and surface water sources for drinking water. In particular, we are concerned about pollution of these water supplies due to salinity associated with an expansion in impervious surfaces and due to toxic pollution arising from crashes involving heavy freight trucks. Evaluation criteria should also be developed to estimate impact of project alternatives on terrestrial and aquatic wildlife in the Mississippi National Recreation and River Area (MNRRA). *Noted. Stantec will note receipt of this comment in their February 6, 2023, response.*

The comments listed below will be issued to MnDOT by Stantec on behalf of the Shingle Creek and West Mississippi Watershed Management Commissions. Per MnDOT instructions, these comments will be submitted via email on February 6, 2023, to Brett Danner at SRF Consulting Group, Mark Lindeberg at MnDOT, and Anna Varney USDOT.

General:

1. Since this is a transportation-focused project, we understand why the Purpose and Need Statement emphasizes transportation criteria such as traffic volume and transit time. However, this may have resulted in shortchanging environmental quality criteria such as stormwater runoff and groundwater protection.



Stormwater Management:

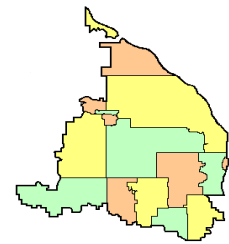
1. Section 9.2.25 references “A preliminary drainage design ... for Hwy 252 and I-94. The drainage design identified stormwater basins for water quality treatment and rate control consistent with current regulatory requirements.”
 - a. Note that the Commission adopted revised rules in October 2022.
2. Page 9-30 states coordination with the DNR for public watercourse impacts. Also include SC/WMWMC in these discussions.
3. Page 9-30 states none of the proposed alternatives will include work in Shingle Creek. However, the following sentence suggests an outfall and pipe size increase to Shingle may be necessary for I-94 flood remediation.
 - a. Clarify if work is expected in Shingle Creek and the extent of the work. Coordinate design with the Shingle Creek Watershed Management Commission.
4. Note [that] Shingle Creek is under a TMDL for chloride and biotic integrity. The project should include plans to:
 - a. Minimize chloride concentrations to Shingle Creek through a chloride management plan.
 - b. Mitigate impacts to the biotic integrity of Shingle Creek.
5. Figure 9.6 of the report acknowledges potential impacts to wetlands and floodplains for alternatives. Note [that] the project is subject to the Minnesota Wetland Conservation Act and Commission wetland and floodplain alteration rules.
6. The project is within the Minneapolis-St. Paul-St. Cloud Priority A Drinking Water Supply Management Area (DWSMA) and the Brooklyn Center Groundwater Emergency Response Area. The project area also bisects a “moderately” vulnerable DWSMA and is approximately 1,700 feet from a highly vulnerable DWSMA. The environmental review should include:
 - a. Evaluation criteria related to impacts of the project on ground and surface water sources for drinking water.
 - b. A comprehensive emergency response plan for hazardous spills that could threaten the drinking water supply and surface water resources.
 - c. Stormwater design shall consider prohibition of infiltration within the Emergency Response Area.

In his February 8, 2023, memo* to the Commissions, Attorney Gilchrist discussed their **scope of authority to comment** on state projects. In the memo, Gilchrist stated that, under the JPAs, the focus of the Commission’s authority is on flood control, water quality, groundwater recharge, and water conservation. Further, he recommends that any comments submitted to MnDOT as part of the public comment process be limited to floodplain and water quality issues as may be recommended by the Commissions’ engineers.

It was a consensus that Shoemaker will be in charge of any future informal meetings regarding this SDD. All were reminded to be cognizant of the requirements of Minnesota’s Open Meeting Law.

E. Shingle Creek Scopes of Work for Proposed Projects.*

Included in the meeting packet are four proposed scopes of work for various projects that the Technical Advisory Committee and the Commissions have discussed over the past year. Two are proposed to be funded from the Watershed-Based Implementation Funding (WBIF) Grants and two are proposed for funding from the Closed Projects Account. Staff recommends reallocating funding from the City Cost Share



Account to the Closed Projects Account to fund some of this work. The City Cost Share account balance is currently well over \$300,000, taking into account the 2022 encumbrance for the upcoming Minneapolis Shingle Creek Parkway rain garden demonstration project. The Commission has levied another \$100,000 in 2023 for this program, which will increase that balance. At this time there are no other pending cost-share projects.

The Commission maintains a Closed Prprojects account in which to deposit levy funds that are “left over” when CIP projects are completed for less than the amount levied. The Commission has designated that those funds are to be used for limited purposes: to cover overages when CIP projects exceed the budget; to fund additional projects; or to complete special studies such as feasibility studies to help define and scope future CIP projects and to prepare them for grant applications. As of the 2021 audit, that balance was about \$108,000.

Staff recommends that the Shingle Creek Commsision reallocate \$150,000 from the City Cost Share Account to the Closed Projects Account. With the 2023 levied funds, that will still leave well over \$200,000 in that account for city projects.

1. Gaulke Pond Subwatershed Assessment (SWA).* The primary objectives of this project are to identify stormwater volume reductions to the Memory Lane—Gaulke Pond system and develop 30-percent design plans, cost estimates, and a basis of design memo appropriate for grant funding requests for the selected location.

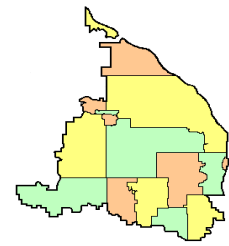
Gaulke Pond is located within the City of Crystal and bordered to the north by property owned by the City of Crystal, to the east by Fair School, and to the south and west by residential properties. Gaulke Pond is the most downstream in a series of four ponds, including Memory Pond, Brownwood Pond, and Hagemeister Pond. The Gaulke Pond chain collects runoff from a 905-acre mixed residential, institutional, and commercial watershed, draining portions of New Hope, Crystal, and Robbinsdale. The pond is land-locked and has no gravity outlet; water is pumped from the pond into municipal storm sewer that ultimately discharges into Lower Twin Lake. This study will focus on reducing the stormwater runoff volume before water enters the Gaulke Pond chain, with focus on areas that are highly impervious and have potential for redevelopment.

Proposed services include data collection and evaluation, identification of potential volume reduction best management practices (BMPs) and locations, development of alternatives, and preparation of preliminary plans of the Commission-selected BMP. Stantec will coordinate work with Commission and Technical Advisory Committee (TAC) members, as well as with the cities of New Hope and Crystal.

The estimated cost to complete this scope of work is \$29,900, prepared on a time and materials basis, per Stantec’s Professional Services Agreement (PSA) dated March 11, 2021. The estimate will not exceed that amount without prior authorization from the Commission. The work will be funded by the 2023 WBIF grant (\$30,000).

2. Eagle Lake Subwatershed Assessment (SWA).* The primary objectives of this project are to identify and prioritize potential stormwater practices to reduce phosphorus and sediment loading to the Eagle Lake subwatershed and the evaluation of internal loading within Eagle and Pike Lakes including sediment cores and a survey of the submerged aquatic vegetation in the two lakes.

The Commission has previously studied the Eagle Lake subwatershed through the Cedar Island, Pike and Eagle Lakes Nutrient TMDL completed in 2010 and in the TMDL 5-year review. The TMDL concluded that internal load management, biologic management, and reduction of nonpoint sources of phosphorus in the watershed by retrofitting Best Management Practices (BMPs) would have the most impact on reducing phosphorus load and improving water quality. The 5-Year review identified a 39% reduction in TP



for Pike Lake, and a 29% TP reduction for Eagle Lake. Pike Lake Subwatershed Assessments were completed in 2017 and 2019. These past studies identified general practices to reduce the watershed load to the lake.

Tasks will include collecting and analyzing sediment cores as well as conducting two point-intercept aquatic vegetation surveys on both lakes. From this Stantec will identify up to ten potential projects. Potential BMP opportunities will be identified, finalized, and ranked using model results. Following selection of one of the highest priority locations. Stantec will develop 30-percent design plans, cost estimates, and a basis of design memo appropriate for grant funding requests for the selected location.

The estimated cost to complete this scope of work is \$55,000, prepared per aforementioned criteria. The work will be funded by the WBIF grant (\$30,000) and the Closed Project Account.

3. Brookdale Park Shingle Creek Re-meander Project.* The primary project objectives are to re-meander a previously straightened segment of the creek using natural channel design techniques, reduce soil loss to improve water quality and fish and wildlife habitat through biological enhancements, and integrate proposed improvements within the park for improved user educational and recreational opportunities.

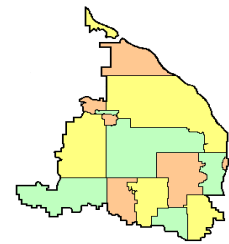
This Brooklyn Park (City) community park is approximately 180-acres in size and contains active recreation and an extensive trail network along the creek that connects schools, natural areas, and regional trails. The project area is a segment of Shingle Creek approximately 5,500-feet in length. Restoration of this channel is an implementation action in the Shingle Creek Biotic and DO TMDL and the Fourth Generation Plan. Restoring sinuosity to a channel generally improves water quality and aquatic habitat and can allow better connections to the adjacent floodplain. The feasibility study will inform how to accomplish these goals while maintaining or lowering the flood elevation. Because this reach of the creek is located within a city park with only a few adjacent residences, it is an opportunity to restore a more natural channel design that incorporates significant habitat and functional uplift.

Proposed services include development of re-meander alternatives and preparation of preliminary plans of the selected alternative for Shingle Creek from the terminus of the Connections 1 project 700' downstream of Noble Avenue to Xerxes Avenue, located within Brookdale Park. Stantec will update the water quality model, analyze and use their findings to inform design options and generate up to two feasible, conceptual design alternatives which will address bank stabilization, erosion, sediment, and water control practices, infrastructure impacts, visual quality and "fit" within the surrounding area. After presenting the alternatives, Stantec will be able to select components of the two alternatives to proceed to refine one design alternative into 30% preliminary design plans and opinion of probable cost that incorporates anticipated construction limit, access, and easements.

The estimated cost to complete this scope of work is \$39,000, prepared per aforementioned criteria. The project will be funded from the Commission's Closed Project Account.

4. Shingle Creek Regional Trail Bank Stabilization and Fishing Access Improvements Project.* The primary project objectives are to develop feasible solutions for bank stabilization and fishing access improvements along the Shingle Creek Regional Trail between Xerxes Avenue and the trail crossing north of Palmer Lake, a 2,000-foot segment.

From previous studies and planning documents, generate up to two feasible conceptual design alternatives, calculating estimated pollutant reduction and feasible opinion of probable costs for each alternative, incorporating fishing access points, bank stabilization, erosion, sediment, and water control practices, infrastructure impacts, visual quality and "fit" within the surrounding area. Final set of deliverables, in electronic format, will be sufficient for the Commission to submit for grant funding applications.



The estimated cost to complete this scope of work is \$25,000, prepared per aforementioned criteria. The project will be funded from the Commission's Closed Project Account.

Motion by Sicora, second by Schoch to reallocate \$150,000 from the Cost Share Account to the Closed Project Account, approve and fund the four scoping projects as described, and fund the Eagle/Pike Lake project with an additional \$5,000 for Internal Loading & Aquatic Vegetation Evaluation. *Motion carried unanimously.*

IX. Grant Opportunities.

X. Education and Public Outreach.

A. The **Conservation Education and Implementation Partnership Program** will be coordinated by a new limited-duration education and outreach coordinator shared with Hennepin County and the Richfield-Bloomington WMO. Watershed-Based Implementation Funding (WBIF) to help fund the program has been approved by the Board of Water and Soil Resources (BWSR). The Hennepin County Board has approved the new position and the County is in the process of finalizing the job description and working through the hiring process.

A focus group of city staff and other stakeholders met to discuss their specific needs and desires so that the program Steering Committee can refine the first year's work plan. The second year will build off knowledge gained, and needs identified by the stakeholders as well as the education and outreach needs of the five participating WMOs. The focus group results will be discussed at the next WMWA meeting.

B. The **West Metro Water Alliance (WMWA)** will meet via Zoom at 8:30 a.m., February 14, 2023.

C. Riegel will present an overview of the **Low Salt No Salt Minnesota program** at the Commissions' March meeting.

XI. Communications.

A. Staff Report. No report this month.

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

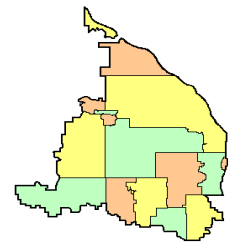
C. Invitation to Support the Reauthorization of the ENRTF Lottery Dedication.* John Anderson, Local Government Program Manager, Conservation Minnesota, is working to reconvene a coalition to put the ENRTF (Environment and Natural Resources Trust Fund) back on the ballot for voters in 2024. Staff will bring more information back to the Commissions at the March meeting.

XII. Other Business.

A. During the development of the Fourth Generation Plan Staff noted that the current **Joint Powers Agreements (JPAs)*** would expire during the ten-year period covered by the plan. Staff proposed and the Commissioners agreed to wait until the plan was completed to start the process of amending and renewing the JPAs that enable and govern the Commissions.

Gilchrist has estimated that the cost of updating the JPAs would be about \$7,000. If any controversial issues arise during development, the final cost may be more than that. However, the work required is mainly to refresh the documents by eliminating outdated or no longer relevant text, and clarifying authorities to incorporate current policies and practices, which have evolved since the JPAs were first developed over 30 years ago.

Gilchrist proposes to draft a new JPA for Shingle Creek first, assuming West Mississippi will be largely a mirror of that document. That work should be complete by this spring/summer, depending on any



unforeseen issues or complications. The revised JPAs would then be presented to the cities for their review and approval. The TAC should discuss and provide input on the desired process to obtain City Manager and City Council review and comment. There has been some turnover in City Managers in recent years, and it may be helpful to host a virtual informational meeting to help the managers understand the work and accomplishments of the Commissions so they can advise their City Councils.

Since the documents will be essentially the same, in his **February 2, 2023, memo**,* Gilchrist suggests splitting the cost of JPA development 50/50 between the two Commissions, or an estimated \$3,500 each. The Shingle Creek Commission set aside a contribution from the operating budget each year to help fund the work and accumulated \$62,000 in that restricted account, of which \$52,500 was used to fund its share of the Fourth Gen Plan development. West Mississippi did not set aside specific dedicated funding but funded its share of the work from its unrestricted cash reserves. Both sources are adequate to fund the proposed JPA update work. Staff recommends the Commissions authorize Attorney Gilchrist to begin this work.

Motion by Schoch, second by Sicora to authorize the Attorney to proceed based on his February 2, 2023, proposal. Motion carried unanimously.

Motion by Roach, second by Jaeger to authorize the Attorney proceed based on his February 2, 2023, proposal. Motion carried unanimously.

B. Companion bills intended to help reduce chloride loading in Minnesota have been again introduced into the state legislative process this session. [HF820/SF755](#) would formally establish a certification program for commercial applicators to learn about best management practices for applying road salt and related products for controlling snow and ice. The bills would also limit the liability of those operators and property owners against financial damages from slips and falls if the applicator and owners are certified and that BMPs in accordance with the practices were undertaken and documented.

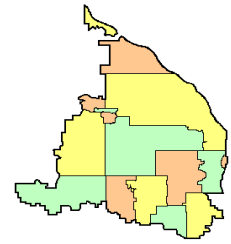
This legislation would provide a significant incentive for private applicators to get trained and certified and would help address probably the biggest barrier to the reduction in the use of salt by private applicators and property managers: fear of being sued for slips and falls. While there is currently a certification program, the MPCA developed and managed that program using grant funds. This legislation would allow the agency to charge a fee to allow the program to be self-funding.

Similar legislation was introduced the last few sessions and, while there was considerable support through the various committee hearings, it never made it to final adoption. A citizens' advocacy group SOS, Stop Over Salting, has been working tirelessly over the past few years to track and promote the legislation.

Staff will keep an eye on this legislation as it makes it way through the committee process. SOS sometimes contacts us to ask Commissioners with Senators or Representatives on key committees to contact them to ask for their support. Certainly, Commissioners are free to contact their legislative delegation at any time whether the bill is in committee or going for a floor vote. The Commissions could also take a formal position and express its support for the bills to all the senators/representatives whose districts encompass some part of the watersheds. Staff will provide a list of those legislators at the March meeting.

C. **Motion by Roach, second by Shoch to NOT waive monetary limits on municipal tort liability insurance established by MN State §466.04. Motion carried unanimously.**

Motion by Butcher, second by Jaeger to NOT waive monetary limits on municipal tort liability insurance established by MN State §466.04. Motion carried unanimously.



D. Commissioner appointments have been received from the cities of:

1. Brooklyn Park – [Alex Prasch and Greg Spoden](#) | [Alex Prasch and Melissa Collins](#)
2. Osseo – [John Roach and James Kelly](#) | [John Roach and James Kelly](#)
3. Plymouth – [Andy Polzin and Leah Gifford](#)
4. Robbinsdale - [Wayne Sicora](#)

XIII. Adjournment. There being no further business before the Commissions, the joint meeting was adjourned at 3:06 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/West Mississippi WMO Commissioners
From: Todd Shoemaker
Date: March 2, 2023
Subject: City authorization for project reviews

**Recommended
Commission Action**

Discuss city authorization for project reviews

The Shingle Creek and West Mississippi “Project Review Application” form includes an authorization section that states the application “must be completed by City before review can proceed.” This requirement stems from the Commission’s *Rules and Standards* Rule B.1 and B.2, which state:

Rule B.1: “...All project review applications must be authorized by the municipality where the proposed project is located.”

Rule B.2: “Project review applications shall be submitted on forms provided by the Commission.”

The purposes of these requirements are twofold:

- 1) The Commissions are not entities with permitting authority. They are simply conducting a review on behalf of and at the request of the cities. A City uthorization initiates that request.
- 2) Site plans often go through several iterations as a development evolves and as the applicant gets feedback from various city departments and the Planning Commission. This requirement ensures the city has checked the submittal to ensure it reflects all those City comments and is, in essence, “final.”

A recent applicant asserted the the City does not have jurisdiction to require that the applicant obtain City authorization because the applicant is a public entity. Therefore, staff requests direction from the Commission on how this requirement may apply to public entities like the Metropolitan Airports Commission (MAC), Hennepin County, MnDOT, Metropolitan Council, and the Three Rivers Park District.

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To: Shingle Creek/West Mississippi WMO Commissioners

From: Diane Spector
Katie Kemmitt

Date: March 2, 2023

Subject: Chloride Management Plan

**Recommended
Commission Action**

Discuss ideas for a Commission Chloride Management Plan

Despite the existing chloride TMDL and improvements in watershed stakeholder understanding of chloride pollution, the Shingle Creek and West Mississippi Watersheds continue to have issues with chloride pollution. The Commissions have expressed concern over chloride use at new developments and have been increasingly recommending Chloride Management Plans with watershed approval of project reviews; however, the Commissions acknowledge that there is often a disconnect between project applicants, project owners, and building maintenance staff and this may not be the most effective way to get people to use less salt. There is concern that a property chloride management plan will not actually get implemented if written and submitted through this process, as the project submitter and the property maintenance staff are often a few degrees removed. After discussion on the topic at the Commissions' November 2022 meeting, consensus was reached that the Commissions should focus on salt use education and outreach instead. The 2023 Work Plan contains an activity to develop a chloride management plan for the watershed that includes an education and outreach component.

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 a shared Education and Outreach Coordinator.
- c. Develop a Chloride Management Plan for the watershed.

The purpose of this memo is to initiate a discussion among the Commissioners on what a chloride management plan for the watersheds should look like. Attached is a draft matrix to start the discussion of how the Commissions want to approach a chloride management plan, including what messages should be conveyed to various stakeholders, who is responsible for relaying those messages, and what existing resources can be used. Ahead of the March 2023 meeting, please review the draft matrix and come ready to discuss.

Concurrently, the Hennepin County Chloride Initiative has been working on a campaign called Low Salt No Salt for local government unit (LGU) staff to communicate chloride issues and management strategies to the community. The campaign targets property managers, communities of faith, and

homeowners associations. The Low Salt No Salt campaign is now live and resources are available on the website at <https://rpbcwd.org/low-salt-no-salt>.

The website hosts a toolbox for LGUs to use to start conversations about chloride use with the community, including videos, presentations, conversation starter ideas, pledge forms, and more. The website also has model winter maintenance contracts for properties and links to other resources such as Smart Salting Training and water quality data.

Stakeholder	Message	Responsible Communicator	Resources for Communicator/Stakeholder
General public		Watershed Education & Outreach Coordinator, City staff	
Property Owners (single-family homes, HOAs, etc.)		City staff	Low Salt No Salt website Train the Trainer workshops
Property Managers		City staff	Low Salt No Salt website Train the Trainer workshops
City Maintenance Staff		City staff	Smart Salting Training
Developers/Redevelopers	Optimize site design for low salt use	Project review staff (Stantec); Commissions	??
...			

To: Shingle Creek/West Mississippi WMO Commissioners
From: Diane Spector
Katie Kemmitt
Date: March 2, 2023
Subject: 2023 Proposed Maintenance Fund Activities

**Recommended TAC
and Commission
Action**

Review and approve 2023 activities funded by the maintenance fund.

In 2022 the Commissions approved a new Maintenance Fund intended to maintain, repair, or replace Commission-led projects to continue providing water quality benefits. Projects considered for Commission funding under the Maintenance Fund are described in the policy (attached) and are evaluated by the TAC and recommended to the Commission for approval. The proposed activities and their costs are described below and in **Table 1**.

Crystal Lake Carp Management

The Crystal Lake Management Plan is ongoing, and the federal 319 grant that funded the project ends in August 2023. WSB completed two summers of carp removals in 2021 and 2022. An updated population estimate at the end of 2022 estimates 5,666 additional carp need to be removed from the lake to meet water quality goals. The Commission has exhausted carp management funds from the 319 grant but there is value in additional carp removals to bring the lake closer to a healthy amount of carp to support the longevity of water quality improvements made from past carp removals and alum treatments. The additional carp management proposed for Maintenance Fund funding includes:

- Planning and project management
- Daily (5x/week) carp baiting for the duration of removals
- Assistance with 3-4 removal events
- Contract with WSB for carp removal permitting, equipment installation, removals, and disposal (Scope of Work and contract attached)

Bass Lake Curly-leaf Pondweed (CLP) Management

Bass Lake has been treated with diquat herbicide for three consecutive years for a curly-leaf pondweed (CLP) infestation. CLP is persistent and often requires up to 7 years of treatment per DNR recommendation. Bass Lake requires additional CLP management in 2023. This additional year of Bass Lake CLP management includes:

- Curly-leaf pondweed delineation and mapping
- Herbicide treatment permitting and coordination
- Contract with herbicide applicator and application oversight.

The cost of the herbicide treatment will depend on the applicator, the delineated area of CLP growth, and the unit price of diquat herbicide, which is market dependent. The expected cost of the herbicide application including applicator fees and materials is \$10,000. Stantec will coordinate a request for quote following the delineation. This applicator cost estimate of \$10,000 is our best estimate based on past experience and estimated 2023 herbicide unit prices. The window between when the delineation area is approved by the DNR and when the optimal treatment window occurs is narrow, thus Stantec recommends the Commissions provide authorization for application to proceed immediately after obtaining the quote. The contract will be reviewed by the Commissions’ attorney before application and will be brought to the following meeting for ratification. If the applicator fees are substantially more than estimated, Stantec will contact the Chair and get his decision and approval to proceed.

Summary

Staff recommends proceeding as follows:

- Approve activities for a third year of carp removals in Crystal Lake, including the third contract with WSB consultants.
- Approve activities for treatment of CLP in Bass Lake. Authorize applicator to proceed immediately following receipt of the quote, pending any unexpected costs and contract review by the Commissions’ attorney.

Table 1. Proposed 2023 Maintenance Fund activities.

Activity	Labor Hours	Labor	Expenses	TOTAL
<i>Crystal Lake Carp Management</i>				
Planning & Project Management	8	\$1,136	--	\$1,136
Baiting	40	\$,4,160	\$393	\$4,553
Assistance with Removal Events	24	\$2,496	--	\$2,574
Contract with WSB	--	--	\$17,084	\$17,084
	75	\$7,792	\$17,556	\$25,347
<i>Bass Lake CLP Management</i>				
Delineation and Mapping	22	\$2,622	\$110	\$2,732
Permitting and Oversight	8	\$940	\$10	\$950
Contract with applicator	--	--	\$10,000*	\$10,000
	60	\$3,562	\$10,120	\$13,682
TOTAL				\$39,029

*The is an estimate based on previous year’s treatments and the predicted unit cost of herbicide.

**SCOPE OF WORK
COMMON CARP MANAGEMENT METHODS
IN CRYSTAL LAKE: 2023**

For the Shingle Creek Watershed District



February 22, 2023

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. 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.

Spring electrofishing of spawning carp: Methods

In 2021 and 2022, carp have been noticed to spawn in only one main area in the lake. This area is limited to less than ½ an acre in the southwest area near a patch of lily pads. We predict this to occur again in 2023. When spawning activity reaches its peak between April and May, a 200' block net would be dropped to contain the carp in the small area. WSB would then conduct electrofishing in the area to gather mark and recapture data using PIT tags implanted in 2022 as the previous marks. Since carp activity is elevated and aggregations are obvious, we do not anticipate high numbers of non-target species to be present. However, all non-carp species would be captured, held in a holding tank until carp captures had completed for the day and then would be released. This would be to reduce any disruption of activities and displacement that could be stressful to non-carp species. Electrofishing would be limited to this small area for no more than a total of 4 hours per day for a maximum of 2 days (8 hours total). All bycatch would be counted and reported with carp totals at the conclusion of the exercise.

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.

Disposal of Carp

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

DATA ANALYSIS AND REPORTING

Following field efforts in 2023, all collected data will be compiled into a report and will combine data from 2021 and 2022 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 and 2022 removal data, CPUE for removal methods of box netting and other methods attempted, and total population and pounds removed. WSB will provide Stantec with raw data downloaded from PIT array used to time removal events.

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.

SCHEDULE OF OPERATIONS:

	2023							
	May	June	July	August	September	October	November	December
Permitting and project management	■	■	■	■	■	■	■	■
Spring electrofishing sampling	■							
Installation of box nets		■						
Trapping operations		■	■	■				
Uninstall of equipment, decontamination, and patching				■				

**WSB & ASSOCIATES, INC.
PROFESSIONAL SERVICES AGREEMENT**

This Professional Services Agreement (the "Agreement") is made as of the 28th day of February 2023, by and between Shingle Creek and West Mississippi Watershed Management Commissions with an address of 3235 Fernbrook Lane North, Plymouth, Minnesota 55447 ("Client"), and WSB & Associates, Inc. dba WSB with offices located at 701 Xenia Avenue South, Suite 300, Minneapolis, Minnesota 55416 ("Consultant").

Client and Consultant, for the consideration enumerated herein, do hereby agree as follows:

SECTION 1 / GENERAL CONTRACT TERMS AND CONDITIONS

The General Contract Terms and Conditions shall be as set forth in Exhibit A.

SECTION 2 / SCOPE OF WORK

The scope of work to be performed by Consultant is set forth in Exhibit B. The work and services to be performed hereunder and described in Exhibit B shall be referred to herein and in the General Contract Provisions as the "Project".

SECTION 3 / COMPENSATION

The amount, method and timing for payment to the Consultant shall be in accordance with Exhibit C.

SECTION 4 / WORK SCHEDULE

The preliminary schedule of the work, if required, is set forth in Exhibit B.

SECTION 5 / CLIENT RESPONSIBILITIES

The client responsibilities are set out in Exhibit F.

SECTION 6 / SPECIAL CONDITIONS

Special conditions, if any, are as set forth in Exhibit G.

SECTION 7 / EXHIBITS

The following Exhibits are attached hereto and made a part of this Agreement:

- Exhibit A General Contract Provisions
- Exhibit B Scope of Work
- Exhibit C Compensation
- Exhibit D Insurance Schedule
- Exhibit E Rate Schedule
- Exhibit F Client Responsibilities
- ~~Exhibit G Special Conditions~~

All references to the "Agreement" in this Document and the Exhibits shall mean this Agreement and all of the Exhibits as one integrated Agreement.

SECTION 8 / ACCEPTANCE OF AGREEMENT

Upon written acceptance of this Agreement by Client, Consultant shall commence the work. The undersigned hereby accept the terms and conditions of this agreement and Consultant is hereby authorized to perform the services described herein.

CLIENT: **SHINGLE CREEK AND WEST
MISSISSIPPI WATERSHED
MANAGEMENT COMMISSIONS**
ADDRESS: 3235 FERNBROOK LANE NORTH

 PLYMOUTH, MN 55447

CONSULTANT: **WSB & ASSOCIATES, INC. dba
WSB**
ADDRESS: 701 XENIA AVENUE SOUTH
 SUITE 300
 MINNEAPOLIS, MN 55416

BY: _____

NAME: _____

TITLE: _____

BY: _____

NAME: _____

TITLE: _____

**EXHIBIT A
GENERAL CONTRACT PROVISIONS**

ARTICLE 1 – PERFORMANCE OF THE WORK

Consultant shall perform the services under this Agreement in accordance with the care and skill ordinarily exercised by members of Consultant's profession practicing under similar circumstances at the same time and in the same locality. Consultant makes no warranties, express or implied, under this Agreement or otherwise, in connection with its services.

ARTICLE 2 – ADDITIONAL SERVICES

If the Client requests that the Consultant perform any services which are beyond the scope as set forth in the Agreement, or if changed or unforeseen conditions require the Consultant to perform services outside of the original scope, then, Consultant shall promptly notify the Client of cause and nature of the additional services required. Upon notification, Consultant shall be entitled to an equitable adjustment in both compensation and time to perform.

ARTICLE 3 – SCHEDULE

Unless specific periods of time or dates for providing services are specified in a separate Exhibit, Consultant's obligation to render services hereunder will be for a period which may reasonably be required for the completion of said services. The Client agrees that Consultant is not responsible for damages arising directly or indirectly from any delays for causes beyond Consultant's control. For purposes of this Agreement, such causes include, but are not limited to, strikes or other labor disputes; severe weather disruptions, or other natural disasters or acts of God; fires, riots, war or other emergencies; any action or failure to act in a timely manner by any government agency; actions or failure to act by the Client or the Client's contractor or consultants; or discovery of any hazardous substance or differing site conditions. If the delays outside of Consultant's control increase the cost or the time required by Consultant to perform its services in accordance with professional skill and care, then Consultant shall be entitled to a reasonable adjustment in schedule and compensation.

ARTICLE 4 – CONSTRUCTION OBSERVATION

If requested by Client, Consultant shall visit the project during construction to become familiar with the progress and quality of the contractors' work and to determine if the work is proceeding, in general, in accordance with plans, specifications or other contract documents prepared by Consultant for the Client. The Client has not retained the Consultant to make detailed inspections or to provide exhaustive or continuous project review and observation services.

Consultant neither guarantees the performance of any Contractor retained by Client nor assumes responsibility for any Contractor's failure to furnish and perform the work in accordance with the construction documents. Client acknowledges Consultant will not direct, supervise or control the work of contractors or their subcontractors, nor shall Consultant have authority over or responsibility for the contractors' means, methods, or procedures of construction. Consultant's services do not include review or evaluation of the Client's, contractor's or subcontractor's safety measures, or job site safety. Job Site Safety shall be the sole responsibility of the contractor who is performing the work.

For Client-observed projects, the Consultant shall be entitled to rely upon and accept representations of the Client's observer. If the Client desires more extensive project observation or full-time project representation, the Client shall request such services be provided by the Consultant as an Additional Service. Consultant and Client shall then enter into a Supplemental Agreement detailing the terms and conditions of the requested project observation.

ARTICLE 5 – OPINIONS OF PROBABLE COST

Opinions, if any, of probable cost, construction cost, financial evaluations, feasibility studies, economic analyses of alternate solutions and utilitarian considerations of operations and maintenance costs, collectively referred to as "Cost Estimates," provided for are made or to be made on the basis of the Consultant's experience and qualifications and represent the Consultant's best judgment as an experienced and qualified professional design firm. The parties acknowledge, however, that the

Consultant does not have control over the cost of labor, material, equipment or services furnished by others or over market conditions or contractor's methods of determining their prices, and any evaluation of any facility to be constructed or acquired, or work to be performed must, of necessity, be viewed as simply preliminary. Accordingly, the Consultant and Client agree that the proposals, bids or actual costs may vary from opinions, evaluations or studies submitted by the Consultant and that Consultant assumes no responsibility for the accuracy of opinions of Cost Estimates and Client expressly waives any claims related to the accuracy of opinions of Cost Estimates. If Client wishes greater assurance as to Cost Estimates, Client shall employ an independent cost estimator as part of its Project responsibilities.

ARTICLE 6 – REUSE AND DISPOSITION OF INSTRUMENTS OF SERVICE

All documents, including reports, drawings, calculations, specifications, CADD materials, computers software or hardware or other work product prepared by Consultant pursuant to this Agreement are Consultant's Instruments of Service and Consultant retains all ownership interests in Instruments of Service, including copyrights. The Instruments of Service are not intended or represented to be suitable for reuse by the Client or others on extensions of the Project or on any other project. Copies of documents that may be relied upon by Client are limited to the printed copies (also known as hard copies) that are signed or sealed by Consultant. Files in electronic format furnished to Client are only for convenience of Client. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. Consultant makes no representations as to long term compatibility, usability or readability of electronic files.

If requested, at the time of completion or termination of the work, the Consultant may make available to the Client the Instruments of Service upon (i) payment of amounts due and owing for work performed and expenses incurred to the date and time of termination, and (ii) fulfillment of the Client's obligations under this Agreement. Any use or re-use of such Instruments of Service by the Client or others without written consent, verification or adaptation by the Consultant except for the specific purpose intended will be at the Client's risk and full legal responsibility and Client expressly releases all claims against Consultant arising from re-use of the Instruments of Service without Consultant's written consent, verification or adaptation.

The Client will, to the fullest extent permitted by law, indemnify and hold the Consultant harmless from any claim, liability or cost (including reasonable attorneys' fees, and defense costs) arising or allegedly arising out of any unauthorized reuse or modification of these Instruments of Service by the Client or any person or entity that acquires or obtains the reports, plans and specifications from or through the Client without the written authorization of the Consultant. Under no circumstances shall transfer of Instruments of Service be deemed a sale by Consultant, and Consultant makes no warranties, either expressed or implied, of merchantability and fitness for any particular purpose. Consultant shall be entitled to compensation for any consent, verification or adaptation of the Instruments of Service for extensions of the Project or any other project.

ARTICLE 7 – PAYMENTS

Payment to Consultant shall be on a lump sum or hourly basis as set out in the Agreement. Consultant is entitled to payment of amounts due plus reimbursable expenses. Client will pay the balance stated on the invoice unless Client notifies Consultant in writing of any disputed items within fifteen (15) days from the date of invoice. In the event of any dispute, Client will pay all undisputed amounts in the ordinary course, and the Parties will endeavor to resolve all disputed items. All accounts unpaid after thirty (30) days from the date of original invoice shall be subject to a service charge of 1-1/2% per month, or the maximum amount authorized by law, whichever is less. Consultant reserves the right to retain instruments of service until all invoices are paid in full. Consultant will not be liable for any claims of loss, delay, or damage by Client for reason of withholding services or instruments of service until all invoices are paid in full. Consultant shall be entitled to recover all reasonable costs and disbursements, including reasonable attorney fees, incurred in connection with collecting amounts owed by Client. In addition, Consultant may, after giving seven (7) days' written notice to Client, suspend services under this Agreement until it receives full payment for all amounts then due for services, expenses and charges. Payment methods, expenses and rates may be more fully described in Exhibit C and Exhibit E.

ARTICLE 8 – SUBMITTALS AND PAY APPLICATIONS

If the Scope of Work includes the Consultant reviewing and certifying the amounts due the Contractor, the Consultant's certification for payment shall constitute a representation to the Client, that to the best of the Consultant's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in general accordance with the Documents issued by the Consultant. The issuance of a Certificate for Payment shall not be a representation that the Consultant has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Client to substantiate the Contractor's right to payment, or (4) ascertained how or for what purpose the Contractor has used money previously paid on account of the Contract Sum. Contractor shall remain exclusively responsible for its Work.

If the Scope of Work includes Consultant's review and approval of submittals from the Contractor, such review shall be for the limited purpose of checking for conformance with the information given and the design concept. The review of submittals is not intended to determine the accuracy of all components, the accuracy of the quantities or dimensions, or the safety procedures, means or methods to be used in construction, and those responsibilities remain exclusively with the Client's contractor.

ARTICLE 9 – HAZARDOUS MATERIALS

Notwithstanding the Scope of Services to be provided pursuant to this Agreement, it is understood and agreed that Consultant is not a user, handler, generator, operator, treater, arranger, storer, transporter, or disposer of hazardous or toxic substances, pollutants or contaminants as any of the foregoing items are defined by Federal, State and/or local law, rules or regulations, now existing or hereafter amended, and which may be found or identified on any Project which is undertaken by Consultant.

The Client agrees to indemnify Consultant and its officers, subconsultant(s), employees and agents from and against any and all claims, losses, damages, liability and costs, including but not limited to costs of defense, arising out of or in any way connected with, the presence, discharge, release, or escape of hazardous or toxic substances, pollutants or contaminants of any kind, except that this clause shall not apply to such liability as may arise out of Consultant's sole negligence in the performance of services under this Agreement arising from or relating to hazardous or toxic substances, pollutants, or contaminants specifically identified by the Client and included within Consultant's services to be provided under this Agreement.

ARTICLE 10 – INSURANCE

Consultant has procured general and professional liability insurance. On request, Consultant will furnish client with a certificate of insurance detailing the precise nature and type of insurance, along with applicable policy limits. Additional Insurance requirements are listed in Exhibit D.

ARTICLE 11 – TERMINATION OR SUSPENSION

If Consultant's services are delayed or suspended in whole or in part by Client, or if Consultant's services are delayed by actions or inactions of others for more than sixty (60) days through no fault of Consultant, Consultant shall be entitled to either terminate its agreement upon seven (7) days written notice or, at its option, accept an equitable adjustment of rates and amounts of compensation provided for elsewhere in this Agreement to reflect reasonable costs incurred by Consultant in connection with, among other things, such delay or suspension and reactivation and the fact that the time for performance under this Agreement has been revised.

This Agreement may be terminated by either party upon seven (7) days written notice should the other party fail substantially to perform in accordance with its terms through no fault of the party initiating the termination. In the event of termination Consultant shall be compensated for services performed prior to termination date, including charges for expenses and equipment costs then due and all termination expenses.

This Agreement may be terminated by either party upon thirty (30) days' written notice without cause. Consultant shall upon termination only be entitled to payment for the work performed up to the Date of termination. In the event of termination, copies of plans, reports, specifications, electronic drawing/data



Furthermore, Consultant agrees to defend, indemnify and hold Client, its directors, officials, officers, employees, volunteers, and agents free and harmless for any alleged infringement of any patent, copyright, trade secret, trade name, trademark, or any other proprietary right of any person or entity in consequence of the us on the project or in providing the services of any method, process, product, or concept specified, depicted, or utilized. For purpose of clarification and not limitation, the costs to defend, indemnify, and hold the Client harmless from any such infringement claim is not subject to the limitation of liability provisions contained in this Agreement.

files (CADD), field data, notes, and other documents whether written, printed or recorded on any medium whatsoever, finished or unfinished, prepared by the Consultant pursuant to this Agreement and pertaining to the work or to the Project, (hereinafter "Instruments of Service"), shall be made available to the Client upon payment of all amounts due as of the date of termination. All provisions of this Agreement allocating responsibility or liability between the Client and Consultant shall survive the completion of the services hereunder and/or the termination of this Agreement.

ARTICLE 12 – INDEMNIFICATION

The Consultant agrees to indemnify and hold the Client harmless from any damage, liability or cost to the extent caused by the Consultant's negligence or willful misconduct.

The Client agrees to indemnify and hold the Consultant harmless from any damage, liability or cost to the extent caused by the Client's negligence or willful misconduct.

ARTICLE 13 – WAIVER OF CONSEQUENTIAL DAMAGES

The Consultant and Client waive claims against each other for consequential damages arising out of or relating to this contract. This mutual waiver includes damages incurred by the Client for rental expenses, for loss of use, loss of income, lost profit, project delays, financing, business and reputation and for loss of management or employee productivity or of the services of such persons; and (2) Damages incurred by the Consultant for principal office expenses including the compensation for personnel stationed there, for losses of financing, business and reputation and for loss of profit except anticipated profit arising directly from the Work. The Consultant and Client further agree to obtain a similar waiver from each of their contractors, subcontractors or suppliers.

ARTICLE 14 – WAIVER OF CLAIMS FOR PERSONAL LIABILITY

It is intended by the parties to this Agreement that Consultant's services shall not subject Consultant's employees, officers or directors to any personal legal exposure for the risks associated with this Agreement. Therefore, and notwithstanding anything to the contrary contained herein, the Client agrees that as the Client's sole and exclusive remedy, any claim, demand or suit shall be directed and/or asserted only against Consultant, and not against any of Consultant's individual employees, officers or directors.

ARTICLE 15 – ASSIGNMENT

Neither Party to this Agreement shall assign its interest in this agreement, any proceeds due under the Agreement nor any claims that may arise from services or payments due under the Agreement without the written consent of the other Party. Any assignment in violation of this provision shall be null and void. Nothing contained in this Agreement shall create a contractual relationship with or a cause of action in favor of a third party against either the Consultant or Client. This Agreement is for the exclusive benefit of Consultant and Client and there are no other intended beneficiaries of this Agreement.

ARTICLE 16 – CONFLICT RESOLUTION

In an effort to resolve any conflicts that arise during the design or construction of the project or following the completion of the project, the Client and Consultant agree that all disputes between them arising out of or relating to this Agreement shall be submitted to nonbinding mediation as a precondition to any formal legal proceedings.

ARTICLE 17 – CONFIDENTIALITY

The Consultant agrees to keep confidential and not to disclose to any person or entity, other than the Consultant's employees, subconsultants and the general contractor and subcontractors, if appropriate, any data and information furnished to the Consultant and marked CONFIDENTIAL by the Client. These provisions shall not apply to information in whatever form that comes into the public domain, nor shall it restrict the Consultant from giving notices required by law or complying with an order to provide information or data when such order is issued by a court, administrative agency or other authority with proper jurisdiction, or if it is reasonably necessary for the Consultant to complete services under the Agreement or defend itself from any suit or claim.

ARTICLE 18 – AVAILABLE INSURANCE PROCEEDS AND LIMITATION OF LIABILITY

Consultant maintains professional liability insurance with a liability limit of not less than \$2,000,000 per claim. The Consultant's total liability to Client shall not exceed the total available insurance policy limits per claim available to Consultant under its professional liability insurance policy. Client hereby agrees that to the fullest extent permitted by law, the Consultant's total liability to Client for any and all injuries, claims, losses, expenses or damages whatsoever arising out of or in any way related to or arising from this Agreement from any cause or causes including, but not limited to, Consultant's negligence, errors, omissions, strict liability, breach of contract or breach of warranty (Client's Claims) shall not exceed the total policy limits available to Consultant under its professional liability insurance policy for settlement or satisfaction of Client's Claims under the terms and conditions of the Consultant's professional liability insurance policy applicable hereto.

Notwithstanding the language above, Client agrees that with regard to any claim arising from or relating to Consultant's provision of geotechnical engineering services, construction materials testing, special inspections, and/or environmental engineering services, including but not limited to environmental site assessments, that Consultant's liability for any claims asserted by or through Client shall be limited to \$50,000.

Client and Consultant each further agree that neither will be responsible for any incidental, indirect, or consequential damages (including loss of use or loss of profits) sustained by the other, its successors or assigns. This mutual waiver shall apply even if the damages were foreseeable and regardless of the theory of recovery plead or asserted.

ARTICLE 19 – CONTROLLING LAW

This Agreement is to be governed by the laws of the State of Minnesota. Any controversy or claim arising out of or relating to this Agreement, or the breach thereof, including but not limited to claims for negligence or breach of warranty, that is not settled by nonbinding mediation shall be settled by the law of the State of Minnesota.

ARTICLE 20 – LOCATION OF UNDERGROUND IMPROVEMENTS

Where requested by Client, Consultant will perform customary research to assist Client in locating and identifying subterranean structures or utilities. However, Consultant may reasonably rely on information from the Client and information provided by local utilities related to structures or utilities and will not be liable for damages incurred where Consultant has complied with the standard of care and acted in reliance on that information. The Client agrees to waive all claims and causes of action against the Consultant for claims by Client or its contractors relating to the identification, removal, relocation, or restoration of utilities, or damages to underground improvements resulting from subsurface penetration locations established by the Consultant.

**EXHIBIT B
SCOPE OF WORK
COMMON CARP MANAGEMENT IN CRYSTAL LAKE 2023
ROBBINSDALE, MN**

The Client intends to retain Consultant to provide professional services for the Common Carp Management in Crystal Lake 2023 project (Project) located in Robbinsdale, MN. The Scope of Services is outlined below.

ARTICLE B.1 – SCOPE OF SERVICES

B.1.1 PROJECT MANAGEMENT

- (1) Consultant will conduct and manage the Project including obtaining all required approvals from the Minnesota Department of Natural Resources (DNR) Fisheries to capture and properly dispose of the carp. Included is time to prepare for and conduct meeting with DNR and City of Robbinsdale in consideration of management plans for the future of Crystal Lake.

B.1.2 CARP CAPTURE EFFORTS

- (1) Baited Box Netting.
 - A. Consultant will use at least two (2) baited box net removal devices on the south end of Crystal Lake. The walls on the outside of the net will be hand-raised quickly by pulling several ropes from shore that are attached to posts. This will happen at the time of the greatest aggregation as determined by Passive Integrated Transponder (PIT) tag data.
 - B. Consultant is aware of the U.S. Patent No. 10,959,413 (“the ‘413 patent”). Consultant 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 stemp/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 Consultant does not include a weight. Any patent infringement or related claims brought against Client related to Consultant’s services under this Agreement shall be subject to Consultant’s indemnification obligation set out in the second paragraph of Article 12 in Exhibit A.
- (2) Spring Electrofishing
 - A. Consultant will conduct targeted efforts using boat electrofishing to sample spawning carp in a small area on the southwest corner of Crystal Lake. The area totals around 0.5 acres. Consultant includes time to conduct two (2) sampling events.
- (3) Disposal of Carp
 - A. Consultant will handle the logistics and provide for the proper transporting from the lake and disposal of the carp.

B.1.3 DATA ANALYSIS AND REPORTING

- (1) Following field efforts in 2023, all collected data will be compiled into a report.
- (2) Deliverables include an updated population and biomass density estimate based on mark/recapture calculations, Catch Per Unit Effort (CPUE) for removal methods of box netting, and other methods attempted, and total population and pounds removed.

ARTICLE B.2 – SCHEDULE *(continued on the next page)*

	2023							
	May	June	July	August	September	October	November	December
Permitting and project management	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Spring electrofishing sampling	Yellow							
Installation of box nets		Yellow						
Trapping operations		Yellow	Yellow	Yellow				
Uninstall of equipment, decontamination, and patching				Yellow				
Data analysis and reporting							Yellow	Yellow

ARTICLE B.3 – EXCLUSIONS

B.3.1 The following items are excluded from the Agreement and are the responsibility of the Client.

(1) CLIENT/VOLUNTEER INVOLVEMENT

- A. Client will assist with daily baiting the area with corn for four to five (4-5) weeks for approximately one (1) hour per day.
- B. Client will provide four to six (4-6) hours of assistance with installation, and four to eight (4-8) hours of assistance with removal events estimated at four (4) events.
- C. Client will provide bait in the form of fifty (50) pounds bag of cracked corn.

ARTICLE B.4 – ADDITIONAL SERVICES

Additional services may be added upon approval by both Client and Consultant via amendment to this Agreement.

**EXHIBIT C
COMPENSATION
COMMON CARP MANAGEMENT IN CRYSTAL LAKE 2023
ROBBINSDALE, MN**

The Client shall pay the Consultant for Basic Services rendered on an hourly basis, not-to-exceed the amount of \$17,084 as mutually agreed to and deemed fair and reasonable for the particular work to be performed.

Consultant's current fee schedule with hourly rates is attached to this contract as Exhibit E. The rate schedule is for 2023 and will remain in effect for services rendered through December 31, 2023.

The fee schedule will be evaluated on an annual basis by the Consultant and adjusted to account for inflation and other factors. The Consultant will submit a revised fee schedule prior to December 31 on an annual basis.

The following represents the compensation terms:

ARTICLE C.1 – PROJECT COMPENSATION

Compensation for the scope of services as outlined in Exhibit B is detailed below.

Project Management	\$1,464
Carp Capture Efforts	\$14,644
Data Analysis and Reporting	\$976
TOTAL	\$17,084

ARTICLE C.2 – INDEPENDENT CONSULTANTS

The cost of services performed by independent consultants or agencies for environmental evaluation, soil testing, laboratory services, or other services will be billed to the Client.

ARTICLE C.3 – RECEIPT OF PAYMENT

Consultant shall submit monthly invoices describing in detail the services performed in accordance with this contract. Separate statements shall be submitted for each project or a detailed breakdown shall be furnished showing the distribution of charges to each project. The Client shall pay Consultant upon receipt of each monthly invoice.

ARTICLE C.4 – EXPENSES

Consultant shall be reimbursed for reasonable expenses related to the scope of services of this contract and/or individual projects. The Consultant shall be reimbursed for the actual cost of the expenses, without markup. Typical expenses include, but are not limited to, the following:

- Permit fees
- Plan and specification reproduction fees
- Costs related to the development of project photos

The following shall not be considered reimbursable expenses:

- Mileage
- Mobile phone usage
- Computer equipment time
- Preparation and reproduction of common correspondence
- Mailing

**EXHIBIT D
INSURANCE SCHEDULE**

GENERAL LIABILITY

Broker:	Marsh & McLennan Agency, LLC	
Type of Insurance:	Commercial General Liability	
Coverage:	General Aggregate	\$4,000,000
	Products-Comp/Ops Aggregate	\$2,000,000
	Personal & Advertising Injury	\$2,000,000
	Each Occurrence	\$2,000,000
	Damage to Rented Premises	\$100,000
	Medical Expenses (Any one person)	\$25,000

AUTOMOBILE LIABILITY

Broker:	Marsh & McLennan Agency, LLC	
Type of Insurance:	Any Auto	
Coverage:	Combined Single Limit	\$2,000,000

UMBRELLA

Broker:	Marsh & McLennan Agency, LLC	
Coverage:	Each Occurrence/Aggregate	\$10,000,000

WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY

Broker:	Marsh & McLennan Agency, LLC	
Coverage:	<u>Statutory</u>	
	Each Accident	\$ 1,000,000
	Disease-Policy Limit	\$ 1,000,000
	Disease-Each Employee	\$ 1,000,000

PROFESSIONAL LIABILITY

Broker:	H. Robert Anderson and Associates, Inc.	
Coverage:	Each Claim	\$ 5,000,000
	Annual Aggregate	\$ 10,000,000

Certificates of Insurance will be provided upon request.

2023 Rate Schedule



	Billing Rate/Hour
SR. PRINCIPAL SR. ASSOCIATE	\$235
PRINCIPAL ASSOCIATE	\$173 – \$223
SR. PROJECT MANAGER SR. PROJECT ENGINEER	\$173 – \$223
PROJECT MANAGER	\$152 – \$170
PROJECT ENGINEER GRADUATE ENGINEER	\$102 – \$169
ENGINEERING TECHNICIAN ENGINEERING SPECIALIST	\$68 – \$167
LANDSCAPE ARCHITECT SR. LANDSCAPE ARCHITECT	\$78 – \$162
ENVIRONMENTAL SCIENTIST SR. ENVIRONMENTAL SCIENTIST	\$68 – \$160
PLANNER SR. PLANNER	\$80 – \$167
GIS SPECIALIST SR. GIS SPECIALIST	\$78 – \$167
CONSTRUCTION OBSERVER	\$104 – \$135
SURVEY	
One-Person Crew	\$175
Two-Person Crew	\$235
OFFICE TECHNICIAN	\$60 – \$102

Costs associated with word processing, cell phones and reproduction of common correspondence are included in the above hourly rates. Vehicle mileage is included in our billing rates [excluding geotechnical and construction materials testing (CMT) service rates]. Mileage can be charged separately, if specifically outlined by contract. | Reimbursable expenses include costs associated with plan, specification, and report reproduction; permit fees; delivery costs; etc. | Multiple rates illustrate the varying levels of experience within each category. | Rate Schedule is adjusted annually.

**EXHIBIT F
CLIENT RESPONSIBILITIES**

The Client's responsibilities related to the services to be provided by Consultant are generally as set out below. These responsibilities can be modified through Supplemental Agreements.

In order to permit the Consultant to perform the services required under this Agreement, the Client shall, in proper time and sequence and where appropriate to the Project, at no expense to the Consultant:

ARTICLE F.1

Provide available information as to its requirements for the Project, including copies of any design and construction standards and comprehensive plans which the Client desires Consultant to follow or incorporate into its work.

ARTICLE F.2

Guarantee access to and make all provisions for the Consultant to enter upon public and private lands to enable the Consultant to perform its work under this Agreement.

ARTICLE F.3

Provide such legal, accounting and insurance counseling services as may be required for this Project.

ARTICLE F.4

Notify the Consultant whenever the Client observes or otherwise becomes aware of any defect in the Project construction or design.

ARTICLE F.5

Designate a Client Representative with authority to transmit and receive instructions and information, interpret and define the Client's policies with respect to services rendered by the Consultant, and authority to make decisions as required for Consultant to complete services required under this Agreement.

ARTICLE F.6

Act promptly to approve all pay requests, Supplemental Agreements, or request for information by Consultant as set out below.

ARTICLE F.7

Furnish data (and professional interpretations thereof) prepared by or services performed by others, including where applicable, but not limited to, previous reports, core borings, sub-surface explorations, hydrographic and hydrogeologic surveys, laboratory tests and inspection of samples, materials and equipment; appropriate professional interpretations of the foregoing data; environmental assessment and impact statements; property, boundary, easement, right-of-way, topographic and utility surveys; property description; zoning, deed and other land use restrictions; and other special data.

ARTICLE F.8

Require all Utilities with facilities in the Client's Right of Way to Locate and mark said utilities upon request, Relocate and/or protect said utilities as determined necessary to accommodate work of the Project, submit a schedule of the necessary relocation/protection activities to the Client for review and comply with agreed upon schedule.

ARTICLE F.9

Review all reports, sketches, drawings, specifications and other documents prepared and presented by the Consultant, obtain advice of legal, accounting and insurance counselors or others as Client deems necessary for such examinations and render in writing decisions pertaining thereto.

ARTICLE F.10

Where appropriate, endeavor to identify, remove and/or encapsulate asbestos products or materials or pollutants located in the project area prior to accomplishment by the Consultant of any work on the Project.

ARTICLE F.11

Provide record drawings and specifications for all existing physical plants of facilities which are pertinent to the Project.

ARTICLE F.12

Provide the foregoing in a manner sufficiently timely so as not to delay the performance by the Consultant of the services in accordance with the Contract Documents.

ARTICLE F.13

Consultant shall be entitled to rely on the accuracy and completeness of information or services furnished by the Client or others employed by the Client. Consultant shall endeavor to verify the information provided and shall promptly notify the Client if the Consultant discovers that any information or services furnished by the Client is in error or is inadequate for its purpose.

ARTICLE F.14

Client shall bear all costs incidental to compliance with the requirements of this article.



February 15, 2023

Dear Members of the Minnesota House and Senate,

We, the undersigned organizations, ask for your support in passing the Smart Salting Bill (HF820/SF755) so that it can become law during the 2023 legislative session. We believe this proposal represents a win-win approach that will protect our precious water resources while supporting small businesses.

The over-use of salt and deicing chemicals is widespread in Minnesota. These compounds contain chloride, an ingredient that is toxic to freshwater fish and other aquatic life. Year after year, these ice-melting chemicals find their way into our lakes, wetlands, and groundwater supplies. Since there is no practical way to remove chloride, it simply accumulates over time, gradually choking the life out of our waterways. One study has already projected that by 2050, some waterbodies in the Twin Cities Metro Area may no longer be able to support aquatic life.

We know that property owners and snow-removal contractors want to be a part of the solution. Smart salting practices emphasize using the correct type and amount of deicer for the given conditions. This not only helps the environment, but saves them money. Unfortunately, many property managers and contractors feel pressured to over-apply ice-melt chemicals in order to alleviate fears of potential lawsuits by those who might not realize that more salt does not always equal more melting.

HF820/SF755 sets up a voluntary approach whereby property managers and snow-removal contractors can become certified in well established, science-based based practices for applying salt and deicing chemicals. Those who become certified and adopt these best practices will receive limited protection from liability arising from snow and ice-related hazards. By incentivizing smart salting in this way, the bill will not only improve environmental outcomes but also help our salt applicators to become more effective, leading to improved public safety outcomes as well as cost savings.

We urge your support in helping to reverse the trend of chloride contamination in our waterbodies by passing HF820/SF755 and expanding the availability and benefits of smart salting training.

Sincerely,



Bassett Creek Watershed Management Commission

Capitol Region Watershed District

Carnelian-Marine-St. Croix Watershed District

Coon Creek Watershed District

City of Edina

Elm Creek Watershed Management Commission

Freshwater Society

City of Fridley

Minnesota Association of Watershed Districts

Mississippi Watershed Management Organization

Nine Mile Creek Watershed District

Pioneer-Sarah Creek Watershed Management Commission

Ramsey-Washington Metro Watershed District

Rice Creek Watershed District

Riley Purgatory Bluff Creek Watershed District

Shingle Creek Watershed Management Commission

Valley Branch Watershed District

West Mississippi Watershed Management Commission

To: Shingle Creek WMO Commissioners
From: Diane Spector
Date: March 2, 2023
Subject: Cooperative Agreement With Hennepin County
For Shared Education and Outreach Coordinator

**Recommended
Commission Action**

Acting as Fiscal Agent for WMWA, authorize entering into an agreement with Hennepin County to provide funding for the shared Education and Outreach Coordinator.

Hennepin County has completed its internal personal work to finalize a job description for the Education and Outreach coordinator that will be shared by Hennepin County and the West Metro Water Alliance (WMWA). They expect to get that position posted and recruitment to occur in the first few weeks of March with a goal of having someone on board perhaps in time for Earth Day on April 22.

Shingle Creek acts as the Fiscal Agent for WMWA, collecting and disbursing funds and paying consultants and contractors such as the classroom educator. In the development of the plan for the shared coordinator, in addition to dedicating a portion of the Watershed-Based Implementation Funding (WBIF) grant from the Board of Water and Soil Resources (BWSR) to fund this position and activities, the four WMOs that are formally part of WMWA agreed to reallocate their annual Special Project funds to support this new position.

Contract No: _____

COOPERATIVE AGREEMENT

THIS COOPERATIVE AGREEMENT (“**Agreement**”) is made and entered into by and between the County of Hennepin, State of Minnesota (“**County**”), A-2300 Government Center, Minneapolis, Minnesota 55487, on behalf of the Hennepin County Environment and Energy Department, 701 Fourth Avenue South, Suite 700, Minneapolis, Minnesota 55415-1600, (“**Department**”) and Shingle Creek Watershed Management Commission, a Minnesota joint powers watershed management organization (“**Commission**”). The County and the Commission may hereinafter be referred to individually as a “party” or collectively as the “parties.”

RECITALS

- A. The Commission is a member of the West Metro Watershed Alliance (“**WMWA**”), a group of watershed management organizations formed to collaborate on various projects related to education and outreach on water quality matters.
- B. The Commission serves as the fiscal agent for the WMWA and has agreed to enter into this Agreement to facilitate the ~~receipt-disbursement~~ of funding ~~to~~from the County for ~~training~~ purposes as provided herein.
- C. The parties wish to work more collaboratively and with other partners to provide joint opportunities for education and outreach to residents of Hennepin County regarding water and natural resources.
- D. The parties benefit from a cooperative framework within which to share resources in the interest of furthering collaboration to protect water and natural resources.
- E. The parties have been meeting regularly to create a scope for a Conservation Education and Implementation Partnership, attached hereto as Exhibit A, (“**Education Partnership**”) that will engage WMWA and other partners in a lasting effort to align water and natural resource protection aims in Hennepin County.
- F. The parties have identified at least three specific program elements of the Education Partnership that both entities wish to contribute to financially and are in need of a legal framework to support these financial exchanges.
- G. The parties anticipate the Education Partnership to be funded by the parties and partners as identified in the attached Exhibit A.

AGREEMENT

In consideration of the mutual undertakings and agreements hereinafter set forth, the County, on behalf of the Department, and the Commission hereby agree as follows:

1. County Obligations. The County agrees to do or provide the following in support of the Education Partnership:

- (a) To hire, through the Department, a full-time, ~~two-year limited duration grant-based~~, program coordinator (“**Program Coordinator**”) and dedicate 0.5 FTE of the Program Coordinator’s time to manage and coordinate the work associated with the deliverables and overall management of the Education Partnership as further described in the attached Exhibit A. The County will be solely responsible for hiring, paying, and managing the Program Coordinator including, but not limited to, providing all human resources, technical support, and other services as needed;
- (b) To provide a total of \$33,000 over the term of this Agreement (\$16,500 in 2023 and \$16,500 in 2024) in the form of wages and benefits to the Program Coordinator to support the delivery of education services to accomplish the goals of the Education Partnership as further described in the attached Exhibit A; and
- (c) Invoice the Commission for its contributions as set out below.

2. Commission Obligations. The Commission agrees to do or provide the following in support of the Education Partnership:

- (a) To work with the Department and contributing partners to develop consensus on a workplan and more detailed deliverables and provide regular and ongoing feedback and support for the Education Partnership; and
- (b) To provide, on behalf of WMWA, a total of \$24,000 to the Department over the term of this Agreement (\$12,000 in 2023 and \$12,000 in 2024) to support the delivery of education services to accomplish the goals of the Education Partnership as further described in the attached Exhibit A. The Commission will pay the invoices received from the Department for the two payments indicated above within 35 days from receipt.

3. Term. This Agreement shall be effective as of the date of execution by the County and shall end on December 31, 2025, unless terminated earlier as provided herein.

4. Equal Employment Opportunity – Civil Rights. During the performance of this Agreement, the County agrees to the following: No person shall, on the grounds of race, color, religion, age, sex, disability, marital status, public assistance, criminal record, creed or national origin, be excluded from full employment rights in, be denied the benefits of, or be otherwise subjected to discrimination under any program, service, or activity under the provisions of and all applicable federal and state laws against discrimination including the Civil Rights Act of 1964.

5. Standards. The County and Commission shall comply with all applicable Federal and State statutes and regulations as well as local ordinances now in effect or hereafter adopted. Failure to meet the requirements of the above may be cause for cancellation of this contract effective the date of receipt of the Notice of Cancellation.

Commented [KG1]: The WBIF grant period extends until 12/31/25, so I was able to make this position extend until then. This gives us a little cushion too to get program deliverables done and funding for continuation (hopefully) sorted.

6. Independent Contractor. It is mutually understood that both parties to this Agreement act as independent contractors relative to the other. County employees, including the Program Coordinator, shall not be considered to be either temporary or permanent employees of the Commission.
7. Indemnification. The County and the Commission mutually agree, to the fullest extent permitted by law, to indemnify and hold each other harmless for any and all damages, liability or cost (including reasonable attorneys' fees and costs of defense) arising from their own negligent acts, errors or omissions in the performance of their respective services under this Agreement, to the extent each party is responsible for such damages and losses on a comparative basis of fault. The parties agree to provide proof of contractual liability insurance upon request. This paragraph does not diminish, with respect to any third party, any defense, immunity, or liability limit that the County or the Commission may enjoy under law.
8. Data Practices. All data collected, created, received, maintained, or disseminated, or used for any purpose in the course of the County and the Commission's performance of the Agreement is governed by the Minnesota Government Data Practices Act, Minnesota Statutes, Chapter 13 (MGDPA) and all other applicable state and federal laws, rules, regulations and orders relating to data privacy or confidentiality, which may include the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and/or the Health Information Technology for Economic and Clinical Health Act (HITECH), adopted as part of the American Recovery and Reinvestment Act of 2009. The County and Commission agree to abide by these statutes, rules, and regulations and as they may be amended.
9. Entire Agreement. The entire Agreement between the parties is contained herein and supersedes all oral agreements and negotiations between the parties relating to the subject matter. All items that are referenced or that are attached are incorporated and made a part of this Agreement. If there is any conflict between the terms of this Agreement and referenced or attached items, the terms of this Agreement shall prevail.
10. Modifications. Any alterations, variations, modifications, or waivers of provisions of this Agreement shall only be valid when they have been reduced to writing as an amendment to this Agreement signed by the parties. The County and Commission agree to amend this Agreement as needed to reflect actual costs and any additional shared financial needs as they arise and are mutually agreed upon under the framework set forth by Exhibit A. No such amendments shall be valid unless they are signed by both parties.
11. Default and Cancellation. Either the County or the Commission may terminate this Agreement with or without cause by giving the other party forty-five (45) days written notice prior to the effective date of such termination. In the event of a termination, parties will come to a mutual agreement on financial compensation for partially completed tasks.
12. Ownership of Documents and Intellectual Property. All property of the Commission or County used, acquired, or created in the performance of work under this Agreement,

including documents and records of any kind, shall remain the property of the original owner. Neither party shall have the sole right to use, sell, license, publish, or otherwise disseminate any product developed in whole or in part during the performance of work under this Agreement.

- 13. Contract Administration. In order to coordinate the services of the Department with the activities of the Commission so as to accomplish the purposes of this Agreement, Karen Galles, Supervisor, Land and Water Unit, or her successor, shall manage this Agreement on behalf of the Department and serve as liaison between the County and the Commission. The Commission shall identify a person to serve as the primary contact for the purposes of this Agreement and provide the person's contact information to the Department.
- 14. Notices. Any notice or demand which must be given or made by a party hereto under the terms of this Agreement or any statute or ordinance shall be in writing, and shall be sent registered or certified mail. Notices to the County shall be sent to the County Administrator with a copy to the originating Department at the address given in the opening paragraph of the Agreement. Notice to the Commission shall be sent to the contact person identified by the Commission.
- 15. Minnesota Laws Govern. The Laws of the State of Minnesota shall govern all questions and interpretations concerning the validity and construction of this Agreement and the legal relations between the herein parties and their performance. The appropriate venue and jurisdiction for any litigation hereunder will be those courts located within the County of Hennepin, State of Minnesota. Litigation, however, in the federal courts involving the herein parties will be in the appropriate federal court within the State of Minnesota. If any provision of this Agreement is held invalid, illegal or unenforceable, the remaining provisions will not be affected.

SHINGLE CREEK WATERSHED MANAGEMENT COMMISSION

The Commission certifies that the person who executed this Agreement is authorized to do so on behalf of the Commission as required by applicable articles, bylaws, resolutions or ordinances.*

Printed Name: _____

Signed: _____

Title: _____

Date: _____

* Commission shall, upon request, submit applicable documentation (articles, bylaws, resolutions or ordinances) that confirms the signatory's delegation of authority. This documentation shall be submitted at the time Commission returns the Agreement to the County. Documentation is not required for a sole proprietorship.

COUNTY ADMINISTRATOR AUTHORIZATION

Reviewed by the County Attorney's Office

County OF HENNEPIN
STATE OF MINNESOTA

Assistant County Attorney

By: _____
David J. Hough, County Administrator

By: _____
Assistant County Administrator - Public Works

Date: _____

Recommended for Approval

By: _____
Director, Environment and Energy Department

Date: _____

[Cooperative Agreement for Training Funds kg.docx](#)

[Z:\Shingle Creek\Education\Shared Educator 2023\DOCSOPEN:#856752-v2-](#)

EXHIBIT A

[attached hereto]

To: Shingle Creek/West Mississippi WMO Commissioners

From: Diane Spector
Katie Kemmitt
Todd Shoemaker, PE, CFM

Date: March 2, 2023

Subject: March 2023 Staff Report

**Recommended
Commission Action**

For discussion and information.

General Updates*Fourth Generation Management Plan.*

The Fourth Generation Management Plan Final Draft has been submitted to the Board of Soil and Water Resources for approval. The Plan will go to the Central Region Committee on April 6th and then to full Board for approval on April 26th. The Commissions should plan to adopt the plan at their May meeting.

252/94 project.

Per Commission direction at the February 9, 2023 meeting, staff facilitated formation of a subgroup to track and review the Highway 252/I-94 EIS progress. The SC/WM 252/94 EIS Review Subgroup held virtual meetings on February 21 and 28, 2023. Invitees included David Vlasin, David Mulla, Ray Schoch, Alex Prasch, Mitch Robinson, Liz Stout, Liz Heyman, and Stantec staff. Future meetings will be scheduled on an as-needed basis.

MnDOT hosted Cooperating and Participating Agency Meeting #8 on February 23, 2023. Project updates included:

- MnDOT discussed the draft scoping document informal agency review process
 - o Comments received from approximately 2/3 of invited agencies
 - o Cataloging comments and preparing responses
 - o Responses to be distributed prior to public comment period
 - o Likely to provide all comments and responses to all agencies
 - o MnDOT available to meet 1:1 after issuing responses
- Equity and Health Assessment
 - o Report 1: baseline conditions completed spring 2022
 - o Report 2: priorities completed summer 2022
 - o Report 3: in progress; health and equity review of the draft scoping document project alternatives
- Next steps

- Public comment period: March 21 – May 18, 2023
- Present to City Council
 - Brooklyn Park: March 27
 - Brooklyn Center: April 10
- Policy Advisory Committee: March 23 (virtual)
- Pop-ups: March 27, April 3, April 10
- Open house: April 18 (in-person), April 27 (virtual)
- Meeting #9: summer 2023

Next subgroup meetings

- March: review of MnDOT responses, potential 1:1 meeting with MnDOT
- 2 PM, March 28

Project Updates

Legal Boundary Update.

The boundary update already received concurrence from the three neighboring watersheds. We are now asking for approval of the boundary change from all member cities with a goal of concurrence received by the end of March.

The following Cities provided specifics on their schedules so far:

- City of Brooklyn Center added the boundary update to their Feb 27th agenda
- City of Plymouth added the boundary update to their March 14th agenda

After we receive concurrence from all municipalities, we will notify BWSR and then file the new boundary with Hennepin County. Hennepin County requires notification of boundary changes for special taxing districts by July 1st.

Bass Lake Alum Treatment U of M Study

Several faculty at the U of M led by Ray Newman are collaborating on a study through the USGS to evaluate the impact of lake alum treatments on aquatic vegetation. One of their study lakes is Bass Lake, and we have been providing them with our data pre- and post-alum treatment. We recently met with their team to coordinate monitoring and modeling activities for 2023. There is a social science component to this as well, so some team members may be reaching out to Plymouth City staff and Bass Lake Association members to collect their observations.

[The United States Geological Survey Water Resources Research Act Program: Grant Details for Project 2021MN003AIS \(usgs.gov\)](https://www.usgs.gov/programs/water-resources-research-act-program/grant-details-for-project-2021MN003AIS)



SHINGLE CREEK / WEST MISSISSIPPI WATERSHED MANAGEMENT COMMISSION
MONTHLY COMMUNICATION LOG
February 2023

Date	From	To	SC	WM	Description
1/31/23	Low Salt No Salt Initiative	Katie Kemmitt	X	X	Attended Low Salt No Salt Train the Trainer event at Riley Purgatory Bluff Creek Watershed District
2/7/23	Brian Johnson, Met Council	Diane S	x		Request for information on lakes expected to be enrolled in CAMP in 2023
2/9/23	Amy Timm, MPCA	Katie Kemmitt, Diane Spector	X		Discuss Crystal Lake grant management reporting requirements and ways MPCA can support watershed work in the future
2/10/23	Hennepin County Environment and Energy	Lisa Tillman	X	X	Attended workshop on new Hennepin County Groundwater Atlas
2/13/23	Katie Kemmitt, Diane Spector, Anne Wilkinson	Nick Macklem, New Hope	X		Discuss alum treatment on Meadow Lake and City contracting requirements
2/15/23	Katie Kemmitt, Diane Spector, Kurt Krautmann	April Londo, DNR	X		Discuss permitting requirements for aquatic invasive treatment on Meadow Lake
2/15/23	Abby Moore, MWMO	Judie A	X	X	Request for SC and WM to sign on to a letter from numerous Metro WMOS supporting the smart salting limited liability legislation. Authorization given.
2/21/23	Dan Sjoblom, Alliant	Todd Shoemaker	X		Endeavor Development submitted a complete project review application on April 28, 2022. The 60-day review deadline was on 6/27/2022, which required Commission action at the 6/9/2022 meeting. In an email to Todd Shoemaker on May 26, 2022, the applicant acknowledged some site changes were still occurring, and therefore, requested an additional 60 days for this project review. Stantec extended the review deadline to August 26, 2022. Endeavor submitted a second extension request on August 5, 2022. Stantec extended the review deadline to 10/27/22, which requires Commission action at the 10/13/22 meeting. Endeavor submitted a third extension request on October 27, 2022. Stantec extended the review deadline to 12/24/22, which requires Commission action at the 12/8/22 meeting. Endeavor submitted a fourth extension request on December 20, 2022. Stantec extended the review deadline to 2/22/23, which requires Commission action at the 2/8/22 meeting. Endeavor submitted a fifth extension request on February 21, 2023. Stantec extended the review deadline to 4/23/23, which requires Commission action at the 4/13/23 meeting.

REAUTHORIZING THE LOTTERY DEDICATION TO THE ENVIRONMENT AND NATURAL RESOURCES TRUST FUND

SIGN-ON LETTER AND INFORMATIONAL RESOURCES

Contents:

- 2 Sign-On Letter to Legislators
- 3 Reauthorization Principles
- 4 ENRTF and LCCMR Frequently Asked Questions
- 6 The Benefits of the ENRTF
- 8 A Brief History of the ENRTF
- 10 Additional External Resources and Contact Info.

*Sign on to support the reauthorization of the lottery dedication to the ENRTF at:
<https://bit.ly/ENRTFreauthorization>*

Updated: December 2, 2022



**CONSERVATION
MINNESOTA**



Support the Constitutional Amendment Reauthorizing the Dedication of State Lottery Proceeds to the Environment and Natural Resources Trust Fund

Members of the Minnesota State Legislature,

We, the undersigned organizations, ask that Minnesotans be given the opportunity to reauthorize the dedication of state lottery proceeds to the Environment and Natural Resources Trust Fund through a constitutional amendment, allowing voters to pass on a tradition of conservation to the next generation.

In 1988, Minnesota voters overwhelmingly passed constitutional amendments to establish a state lottery and to create the Environment and Natural Resources Trust Fund (ENRTF), a permanent trust with principal funding provided by a portion of net lottery proceeds. Proving popular with Minnesotans, the ENRTF has been reapproved by two additional constitutional amendments. In 1990, 75.31% of voters upgraded the use of lottery proceeds from a statutory dedication to a constitutional dedication expiring in 2001. And in 1998, 73.95% of voters extended this dedication until 2025. Today, support for the ENRTF remains strong, with 73% of survey respondents favoring the rededication of lottery proceeds to the Trust Fund.

For over three decades, the ENRTF has offered a stable, long-term funding source for unique, innovative projects conducted by local and Tribal governments, non-profit and community organizations, colleges and universities, and federal and state agencies. Using funding recommendations from the Legislative-Citizen Commission on Minnesota Resources (LCCMR), the Legislature has appropriated over \$900 million from the Trust Fund for the protection, conservation, preservation, and enhancement of the state's air, water, land, fish, wildlife, and other natural resources. This crucial investment has protected ecosystems, aided local communities, promoted outdoor recreation, improved health outcomes, pursued environmental equity, bolstered agricultural resiliency, and supported strong businesses and good-paying jobs across the state.

We believe that Minnesotans deserve the opportunity to vote to renew the constitutional dedication of lottery proceeds to the ENRTF until 2050; while also restoring the Fund's original 50% apportionment of net proceeds and improving the LCCMR. The ENRTF will play a critical role in addressing emerging challenges to our natural resources. It's vital that we extend this funding for the years to come.

We have a rare chance to continue a tradition of stewardship in Minnesota and to improve and extend the effective use of our state lottery proceeds. We respectfully urge the Legislature to support placing the constitutional rededication of lottery proceeds to the Environment Natural Resources Trust Fund on the ballot in 2024, allowing Minnesotans to ensure the stable protection of our environment for the next generation.

Sincerely,



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**ENVIRONMENT
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Principles for the Reauthorization of the ENRTF Lottery Dedication

For over thirty years, the Environment and Natural Resources Trust Fund (ENRTF) has provided stable, long-term funding for innovative conservation and natural resource projects across Minnesota. However, the ENRTF's funding source, the constitutional dedication of net proceeds from the state lottery, is set to expire in 2025.

It's time to reauthorize the dedication of lottery proceeds to the ENRTF, allowing Minnesotans to renew and improve our state's commitment to environmental protection. We're urging the Legislature to put this vital funding back on the ballot as a constitutional amendment in 2024, and we're encouraging legislators to incorporate the following principles in this effort:

Reauthorize the use of net lottery proceeds for the ENRTF until 2050

The ENRTF was created through a constitutional amendment in 1988. In 1990, a second amendment constitutionally dedicated the fund's lottery proceeds until 2001. And in 1998, a third amendment extended this dedication until 2025, prolonging the ENRTF's funding source for a generation.

With the dedication set to expire, the Legislature should give Minnesotans the chance to pass the torch to the next generation, reauthorizing the use of lottery proceeds for another 25 years.

Restore the original 50 percent allocation of net lottery proceeds to the ENRTF

When the ENRTF was founded in 1988, the Legislature statutorily dedicated 50% of net lottery proceeds to the fund. However, amid a budget shortfall in 1990, legislators raided the lottery dedication to fund a capital investment package, decreasing the ENRTF's allocation of proceeds to 40%.

Now facing a historic budget surplus, the Legislature should reverse this raid and restore the original 50% allocation of net lottery proceeds to the ENRTF.

Reallocate unclaimed lottery prizes to the ENRTF

Not only has the allocation of net lottery proceeds to the ENRTF decreased from 50% to 40%, but the total proportion of net lottery proceeds stemming from lottery revenues has decreased due to the use of an in-lieu tax paid by State Lottery, effectively decreasing the "on the dollar" funding for the ENRTF from each sale.

Although the in-lieu tax (~\$50 million) is already appropriated to other causes, lost funding can still be recouped through the reallocation of unclaimed prizes, which currently default to the General Fund. By dedicating unclaimed prizes to the ENRTF, the Legislature can help to restore about \$10 million to the Trust Fund each year.

Reform the Legislative-Citizen Commission on Minnesota Resources

In recent years, the Legislative-Citizen Commission on Minnesota Resources (LCCMR), which sets recommendations for ENRTF appropriations, has been hampered by gridlock. The commission has not been able to consistently reach a 12-vote supermajority necessary to pass official recommendations.

To ensure the effective appropriation of ENRTF dollars, the Legislature should make changes to improve equitable citizen representation and to limit institutional conflicts on the LCCMR.



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Frequently Asked Questions on the Environment and Natural Resources Trust Fund

* Source: <https://www.lccmr.mn.gov/about/faq-index.html> (LCCMR Website)

What is the Environment and Natural Resources Trust Fund?*

The Environment and Natural Resources Trust Fund (ENRTF) is a permanent fund in the Minnesota state treasury dedicated to funding activities that protect, conserve, preserve, and enhance the state’s air, water, land, fish, wildlife, and other natural resources. The ENRTF was created in 1988 when 77% of Minnesota voters approved an amendment to the Minnesota Constitution (Art. XI, Sec.14). The ENRTF provides a long-term, consistent, and stable source of funding for Minnesota’s environment and natural resources for the benefit of current and future generations.

Money in the ENRTF originates from a combination of contributions and investment income. Forty percent of the net proceeds from the Minnesota State Lottery, or approximately 6.2 cents of every dollar spent on playing the lottery, goes into the ENRTF, which is then managed and invested for continued growth by the State Board of Investment. Up to 5.5% of the market value of the ENRTF is available to spend on projects each year. The LCCMR makes annual project funding recommendations to the Minnesota Legislature based on a competitive, multi-step proposal and selection process.

How has ENRTF money been spent?*

Between 1991 and 2022, the ENRTF has provided over \$900 million to over 1,850 projects around the state. Funded projects fall into the following broad subject areas:

- Agriculture/Forestry/Mining
- Biological Diversity
- Education/Outreach
- Historic Preservation
- Invasive Species
- Natural Areas and Habitat
- Natural Resource Info./Planning
- Recreation
- Renewable Energy
- Water Resources

What is the Legislative-Citizen Commission on Minnesota Resources?*

The Legislative-Citizen Commission on Minnesota Resources (LCCMR) is a commission of legislators and citizens whose primary function is to make funding recommendations to the Minnesota Legislature for special environmental and natural resources protection and enhancement projects, primarily from the Environment and Natural Resources Trust Fund (ENRTF). Additionally, the LCCMR tracks all projects funded through its proposal process to ensure outcome achievement.

The LCCMR is composed of 17 members: five senators, five representatives, five citizens appointed by the governor, one citizen appointed by the Senate, and one citizen appointed by the House. Legislative members are appointed by legislative leadership and must include representation from both majority and minority parties. The citizen members appointed to the LCCMR must have experience or expertise in the science, policy, or practice of the protection, conservation, preservation, and enhancement of the state’s environment and natural resources.

LCCMR developed from a program initiated in 1963 to preserve, develop, and maintain the natural resources of Minnesota. The name and funding sources have changed over the years, with the most recent change in 2006, when the commission was restructured into its current form, the Legislative-Citizen Commission on Minnesota Resources, with the addition of non-legislative citizen members in order to include citizen input more directly in the decision-making process.

How does the ENRTF differ from Legacy Funds?*

ENRTF appropriations are only a small part of total state spending relating to the environment and natural resources. The general fund, bonding, and user fees have accounted for the bulk of spending in these areas. The voter-adopted outdoor heritage, clean water, parks and trails, and arts and cultural heritage amendment (Legacy Amendment) to the Minnesota Constitution (MN Constitution Art. XI, Sec. 15), passed in November 2008, dedicates portions of three-eighths of one percent of state sales tax to specific types of environment and natural resources projects through June 30, 2034 and provides a boost to state spending in these areas.

Expenditures of money from each of the different funds follow different guidelines. The Outdoor Heritage Fund, Clean Water Fund, and Parks and Trails are limited to very targeted types of environment and natural resources projects. The ENRTF has a broader mandate with greater flexibility in the types of environment and natural resources projects it can fund. The specific language defining the use of the ENRTF and each of the three new funds is as follows:

- Environment and Natural Resources Trust Fund: "for the public purpose of protection, conservation, preservation, and enhancement of the state's air, water, land, fish, wildlife, and other natural resources" (Art. XI, Sec.14).
- Outdoor Heritage Fund: "may be spent only to restore, protect, and enhance wetlands, prairies, forests, and habitat for fish, game, and wildlife" (Art. XI, Sec.15).
- Clean Water Fund: "may be spent only to protect, enhance, and restore water quality in lakes, rivers, and streams and to protect groundwater from degradation, and at least five percent of the clean water fund must be spent to protect public drinking water sources" (Art. XI, Sec.15).
- Parks and Trails Fund: "may be spent only to support parks and trails of regional or statewide significance" (Art. XI, Sec.15).

Why does the lottery dedication need to be reauthorized? And why does it require a constitutional amendment?

The ENRTF is a vital source of long-term, flexible environmental funding for innovative natural resource projects. This funding is made possible through the money the fund receives from net lottery proceeds. Following the creation of the ENRTF in 1988, the dedication of state lottery proceeds to the ENRTF received constitutional protection in 1990 via an amendment, and another amendment in 1998 extended this protection until 2025.

The constitutional dedication of net lottery proceeds to the ENRTF protects this funding from being cut or otherwise reallocated without voter approval. When the ENRTF was founded in 1988, its lottery dedication was only statutory, and the Legislature immediately cut the allocation of proceeds in the next session. To ensure that net lottery proceeds will continue to fund environmental protection for the next generation, we must extend the constitutional protection for the ENRTF's lottery dedication. Doing so requires a constitutional amendment approved by Minnesota voters during the 2024 General Election.

In addition, reauthorization legislation allows the Legislature to make necessary changes to improve the effectiveness of the ENRTF, such as restoring the original allocation of net lottery proceeds to the Fund, transferring unclaimed prizes to the Fund, and reforming the LCCMR to improve equity and efficiency.



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Benefits of the Environment and Natural Resources Trust Fund

Since its first appropriations in 1991, the Environment and Natural Resources Trust Fund (ENRTF) has provided over \$900 million in stable, long-term funding for innovative projects in natural resource management. Today, the ENRTF offers over \$70 million annually to help protect our Great Outdoors and to ensure that every Minnesotan can enjoy and benefit from a healthy, thriving environment.

The impacts of the ENRTF are far-reaching, helping aid local communities, protect ecosystems, promote outdoor recreation, improve health outcomes, emphasize environmental equity, bolster agricultural resiliency, and support successful businesses and good-paying jobs. *These impacts include:*

Conservation of Ecosystems and Biodiversity

- Over \$460 million for projects with natural area and habitat benefits and over \$440 million for projects with biological diversity benefits.
- Over \$70 million for projects with invasive species mitigation benefits, including research and management programs addressing emerald ash borers, aquatic invasives, plant and animal diseases, and more.
- Public, private, and nonprofit habitat conservation, preserving, restoring, and enhancing Minnesota's wetlands, lakes, prairies, forests, rivers, and beyond.
- Restorative species reintroduction projects, returning native elk, bison, mussels, wild rice, and more.
- Comprehensive monitoring and assessment programs to research, survey, and address ecosystem health.

Efforts Toward Clean Air, Safe Water, and Healthy Communities

- Over \$300 million for projects with water resources benefits, investing in watershed conservation, wetland restoration, water quality monitoring, local water management, pollution treatment/prevention research, etc.
- Projects for improved air quality, focusing on urban air pollution, indoor air and asthma management, air quality in schools, biofuel research, emissions and waste reduction, and sustainable deconstruction.
- Efforts to address harmful pollution, including PFAS, leaded gasoline, lead, plastic, mercury, and more.
- Analysis of children's environmental health, environmental health risks, and antibiotic resistance.

Emphasis on Environmental Equity

- Programs to improve diversity in environmental careers and in the natural resources community.
- Education and recreation opportunities for low-income and underserved youth, including outdoor adventures, hands-on learning, school forests and outdoor classrooms, and after-school programs.
- Improved outdoor access for Minnesotans with disabilities, including accessible fishing piers, retrofitted state and regional parks, recreational opportunities, and programs for disabled veterans.
- Support for Tribal priorities, including Indigenous conservation and education projects, cultural site restoration, wild rice protection, elk reintroduction, and Tribal land re-acquisition.
- Studies on pollution and climate impact disparities, including monitoring emerging viruses in urban water cycles, quantifying new water realities, and assessing urban air pollution.

Support for Local Communities

- Over \$135 million in direct funding for local government entities, including municipalities, counties, soil and water conservation districts, watershed districts, joint powers boards, school boards, and public utilities.
- Widespread funding for local communities through state agency-led grant and technical assistance programs, providing support for parks and trails acquisition, water recreation, community-based planning, renewable energy projects, invasive species response, water system management, conservation efforts, etc.

Programming for Environmental Education and Awareness

- Over \$200 million for projects with educational outreach benefits.
- Funding for environmental information and awareness through museums, zoos, environmental learning centers, public exhibits, radio/television programming, etc.
- Teacher training programs for environmental education curriculum and innovative learning opportunities
- Hands-on educational experiences for youth and adults, including research participation projects, conservation apprenticeships, cultural learning programs, immigrant naturalist courses, recreation opportunities, and more.

Solutions for Sustainable Agriculture, Forestry, and Mining

- Over \$120 million for projects with agriculture, forestry, and mining benefits.
- Agricultural programs to promote pest control, organic farming training, agricultural diversification, cover cropping, soil health, private land conservation, biomass conversion, water retention, etc.
- Forestry programs to promote woodland certification, sustainable management, pest and disease prevention, soil impact minimization, habitat preservation, bioeconomy research, water protection, etc.
- Mining programs to promote sulfate release management, habitat potential of mine lakes, forest restoration on unproductive minelands, metal removal from mine waters, water quality impacts, etc.

Funding for Parks, Trails, and Recreation

- Over \$350 million for projects with recreational benefits.
- Funding for local and state-led parks acquisition and trail development.
- Support for expanded recreational opportunities through fishing infrastructure, habitat preservation, disability access, sportsmen's training and infrastructure, youth outreach, and ecotourism.

Innovation for Renewable Energy Solutions

- Over \$35 million for projects with renewable energy benefits.
- Research on cutting-edge technology for energy storage, grid systems, biomass gasification, thermoelectric generators, wind-produced renewable ammonia, geothermal heat pumps, alternative fuels, and more.
- Renewable energy development and energy efficiency projects at farms, environmental learning centers, water infrastructure, ice rinks, waste management facilities, Tribal communities, public schools, etc.

Investment in Natural Resource Research, Information, and Planning

- Over \$370 million for projects with natural resource information and planning benefits.
- Over \$200 million in direct funding for higher education institutions to conduct research and programming.
- Research and information integration across the environmental spectrum, including on pollution, air and water quality, ecosystem health, wildlife populations, energy solutions, soil health, agricultural outcomes, etc.
- Technical assistance and planning for land use, conservation, resiliency, and natural resource usage.



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History of the Environment and Natural Resources Trust Fund

1988 Amendment: Establishing the Environment and Natural Resources Trust Fund

- 1986 Falling proportions of state expenditures for environmental funding and inconsistent funding for the Reinvest in Minnesota (RIM) conservation program lead to calls for new conservation funding sources.
- 1987 Rep. Willard Munger introduces legislation for a constitutional amendment establishing the Environment and Natural Resources Trust Fund (ENRTF), proposing funding from a combination of income, sales, and cigarette taxes.
- Gov. Rudy Perpich offers support for ENRTF legislation but proposes funding from a potential state lottery for both the Trust Fund and the Greater Minnesota Corporation, which faced cuts.
- 1988 Rep. Munger and Senate Majority Leader Roger Moe advance ENRTF legislation, attempting to utilize tax revenues to establish the Fund. Munger's bill includes a constitutional dedication of lottery proceeds to the Trust Fund; Moe's bill only includes a statutory dedication of proceeds.

By mid-session, the ENRTF legislation is stripped to the use of only cigarette taxes, jeopardizing the eventual effectiveness of the Fund.

A budget dispute between legislators and Gov. Perpich on the Greater Minnesota Corporation leads to compromise legislation, combining the ENRTF amendment and a state lottery amendment into one bill and proposing to allocate proceeds to the ENRTF and the GMC. The ENRTF would receive a *statutory* dedication of 50% of net lottery proceeds, the GMC would receive the other 50%.

Combined ENRTF and lottery legislation passes the Legislature, with a 37-28 vote in the Senate and a 77-55 vote in the House, cutting across party lines. The bill places two separate amendments on the ballot.

A campaign to support the ENRTF amendment is led by the Citizens to Preserve Minnesota's Natural Heritage, a broad coalition composed of conservation, sportsmen's, business, tourism, and labor groups. The coalition is chaired by former Governors Elmer Anderson (R) and Wendell Anderson (DFL).

In the 1988 General Election, the ENRTF amendment passes 77.41% to 17.68%, establishing the Environment and Natural Resources Trust Fund. The lottery amendment also passes, securing funding.

1990 Amendment: Constitutionally Dedicating Lottery Proceeds to the Trust Fund

- 1988 After Rep. Munger's constitutional dedication of lottery proceeds to the ENRTF fails in favor of a statutory dedication, Munger predicts that the Legislature will raid lottery proceeds and vows to return with another amendment for a constitutional dedication.
- 1989 Approaching the 1990 session, the Legislature faces a \$161 million budget shortfall. Legislators call for a reallocation of lottery proceeds, primarily targeting a reduction to the GMC's share of funding.
- 1990 Rep. Munger champions legislation to establish a constitutional dedication of 50% of lottery proceeds to the ENRTF and to allocate 4 cents of the state cigarette tax to the ENRTF.

Mid-session, the Senate DFL Caucus proposes using lottery proceeds to supplement a \$387 million capital investment bill. The proposed change decreased the ENRTF's share of net proceeds from 50% to 40%, decreased the GMC's share from 50% to 25%, and allocated 35% to capital projects.

As a compromise, the Senate's capital investment bill, with lottery allocation changes, adds an amendment question to constitutionally dedicate the ENRTF's lottery proceeds until 2001, protecting the ENRTF from future statutory raids.

With the ENRTF constitutional dedication included, the capital investment bill passes the Legislature, with a 55-6 vote in the Senate and a 113-18 vote in the House.

The campaign to support the ENRTF is once again led by the Citizens to Preserve Minnesota's Natural Heritage. Both candidates for governor, Rudy Perpich (DFL) and Arne Carlson (R), support the effort.

In the 1990 General Election, the amendment to constitutionally dedicate 40% of lottery proceeds to the ENRTF until 2001 passes 75.31% to 17.89%, protecting the ENRTF's funding source for a decade.

1998 Amendment: Extending the Constitutional Dedication of Proceeds to the ENRTF

1997 Over 100 organizations form the Environmental Trust Fund Coalition, originally aiming to establish a permanent constitutional dedication of lottery proceeds to the ENRTF.

Rep. Munger and Sen. Steve Morse introduce bills to create a constitutional amendment extending the dedication until 2050.

In committee, the House bill is quickly reduced from a 2050 expiration to a 2020 expiration. A hunting and fishing rights amendment is briefly attached to the ENRTF bill but is later removed. Rep. Munger promises hunting and fishing amendment advocates that he will hear their amendment in 1998.

The House ENRTF bill passes 131-0. However, the Senate version does not advance in 1997 due in part to a dispute over the advancement of the hunting and fishing rights amendment.

1998 Amid a continued dispute, the Senate Rules Committee pulls and re-refers the ENRTF bill from the Environment and Natural Resources Committee to keep it on track. The hunting and fishing rights amendment eventually passes separately.

In a compromise, the ENRTF bill is reduced on the Senate floor from a 2050 expiration to a 2025 expiration. The final bill passes the Senate by a vote of 62-3 before being re-passed by the House by a vote of 132-0.

By the election, the Environmental Trust Fund Coalition grows to over 200 organizations supporting the amendment. The amendment also received vocal support from all three candidates for governor, Jesse Ventura (Reform), Norm Coleman (R), and Skip Humphrey (DFL).

In the 1998 General Election, the amendment to extend the constitutional dedication of lottery proceeds to the ENRTF until 2050 passes 73.95% to 21.88%, prolonging funding for an additional 24 years.



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Additional Resources

LCCMR's Frequently Asked Questions on the Environment and Natural Resources Trust Fund
<https://www.lccmr.mn.gov/about/faq-index.html>

List of all projects funded by the Environment and Natural Resources Trust Fund
https://www.lccmr.mn.gov/projects/all_projects8.php

Statutes governing the Environment and Natural Resources Trust Fund
<https://www.revisor.mn.gov/statutes/cite/116P>

LCCMR's Six-Year Strategic Plan for the Environment and Natural Resources Trust Fund
https://www.lccmr.mn.gov/documents/strategic_plan/lccmr_strategic_plan.pdf

LCCMR meetings page
<https://www.lccmr.mn.gov/calendar/calendar-index.html>

Environment and Natural Resources Trust Fund information from Minnesota's Legacy website
<https://www.legacy.mn.gov/environment-natural-resources-trust-fund>

Environment and Natural Resources Trust Fund Facebook page
<https://www.facebook.com/mnenrtf/>

Environment and Natural Resources Trust Fund Twitter page
<https://twitter.com/mnenrtf>

Environment and Natural Resources Trust Fund Youtube page
<https://www.youtube.com/@mnenvironmentandnaturalres5988>

Contact Information

If you have any questions/comments about the informational resources included in this document, or if you have any questions/comments about the reauthorization process, please contact David Pelikan at david@conservationminnesota.org or (262) 685-7265.

(Date)

To: Legislative-Citizen Commission on Minnesota Resources

From: *(Name, position)*
(Contact info)

Re: Support for the proposal, "Pollution of Surface Waters from Chloride in Groundwater"

The University of Minnesota is proposing to study how chloride from street salting ends up polluting our lakes and streams all year around. I support their effort because we have an all-season challenge with chloride in our lakes and streams coming from groundwater, and need to know how to deal with it. This project will be the first step.

(Something about your chloride challenges). I fully support this proposed research.

If you have any questions or need additional information, please contact me at the email or phone numbers above.

Sincerely,
(Signature)
(Name)



Environment and Natural Resources Trust Fund

2024 Request for Proposal

General Information

Proposal ID:

Proposal Title: Pollution of Surface Waters from Chloride in Groundwater

Project Manager Information

Name: John Gulliver

Organization: U of MN - College of Science and Engineering

Office Telephone: (651) 202-0786

Email: gulli003@umn.edu

Project Basic Information

Project Summary: We propose identifying hot spots of groundwater chloride pollution of surface waters, which is a long term source increasing impairment.

Funds Requested: \$602,000

Proposed Project Completion: June 30, 2027

LCCMR Funding Category: Methods to Protect, Restore, and Enhance Land, Water, and Habitat (F)

Project Location

What is the best scale for describing where your work will take place?

Statewide

What is the best scale to describe the area impacted by your work?

Statewide

When will the work impact occur?

During the Project and In the Future

Narrative

Describe the opportunity or problem your proposal seeks to address. Include any relevant background information.

This project will investigate groundwater pollution of rivers and streams by chloride. It will identify the sources, assess the risk, determine hot spots, and thus improve the water quality of our lakes and streams. Most surface water regulations do not consider groundwater as a pollution source for surface water, but a 2020 court case in Hawaii, has changed that. The pollution of surface water by groundwater is therefore an important research topic.

Groundwater media has the ability to filter particulates and adsorb dissolved chemicals but there are exceptions.

Chloride is a highly-mobile chemical that is not adsorbed by soil and passes through the groundwater into our lakes and streams. Chloride-based salts, placed onto roads and parking lots during winter, are plowed to the side and infiltrate to groundwater.

What is your proposed solution to the problem or opportunity discussed above? Introduce us to the work you are seeking funding to do. You will be asked to expand on this proposed solution in Activities & Milestones.

This proposal is about finding solutions to the chloride and phosphate groundwater-to-surface water pollution. There are varying amounts of groundwater to surface water pollution of chlorides, depending upon the source loading, makeup of the soil and the predominant groundwater flow. A tight soil, for example, will typically have a lower groundwater discharge, and correspondingly less pollution of surface water. A tight soil will also retain more pollutant in capillary spaces. A sandy soil, on the other hand, will have correspondingly greater groundwater recharge and more groundwater pollution. The combination of all of these considerations requires research to determine where chloride groundwater pollution of surface water is more likely and less likely, so that it is possible to focus source reduction on the the potential hot spots within the State.

What are the specific project outcomes as they relate to the public purpose of protection, conservation, preservation, and enhancement of the state's natural resources?

Chloride is a powerful pollutant of our lakes and rivers, directly impacting aquatic species. This project will identify how groundwater exacerbates the contamination of surface water—largely ignored for current surface water pollution management. The result will clarify the potential connections between groundwater and surface water, where this interaction is most likely to occur, allow us to suggest ways of minimizing this source of contamination to surface waters, and allow us to respond to the new legal regulation of groundwater that is significantly connected to surface water.

Activities and Milestones

Activity 1: Project Management and Quality Assurance

Activity Budget: \$27,970

Activity Description:

Project management will include initiating agreements, tracking deliverables, preparing invoices, and reporting to the LCCMR. Our team will develop a Technical Advisory Committee (TAC) which will meet every six months while the project team will meet internally every two weeks. The TAC will advise the project team on technical issues and concerns throughout the project. The TAC will be comprised of one to two representatives from state entities (e.g., Minnesota Pollution Control Agency (MPCA), Minnesota Department of Natural Resources (DNR) and one to two local public entities (cities or watershed districts).

A Quality Assurance Project Plan (QAPP) will be created before any field activity starts. The plan will list the sites to be investigated, the number of surface and groundwater sites, the type of data that will be needed, how often data are collected, maintenance protocols, how data will be managed, and lastly how data will be analyzed. The research team will develop the QAPP from an approved template for monitoring studies. We will use accessible river site and groundwater wells to sample for surface and groundwater. We will follow the general guidelines of prior groundwater sampling protocols and analyze the samples ourselves or identify a qualified local laboratory for the study.

Activity Milestones:

Description	Completion Date
1. Invitations for TAC accepted	September 30, 2023
2. QAPP completed	September 30, 2023

Activity 2: Groundwater Monitoring and Laboratory Studies

Activity Budget: \$273,523

Activity Description:

We propose studying up to three areas with different connectivity between surface and groundwater. We will use available groundwater atlases and work closely with state hydrogeologists to identify the study areas. The monitoring sites will be selected in consultation with our TAC and the availability of prior groundwater models. The groundwater sites will be: 1) downgradient from pollutant sources, upgradient from surface water sites, and 3) accessible. The surface water sites will be: 1) downgradient from groundwater sites, 2) accessible from river or bridge, and 3) safe to sample. Each site will have up to three monitoring wells and a surface water station. The aquifer material will be characterized for particle size. We will use a combination of automated sensors and monthly sampling for water quality over two years. Conductivity and water depth will be measured to provide a continuous record. Monthly grab samples will be collected from the wells and river and, in combination with continuous data, used to calibrate and verify the groundwater pollutant transport model. Samples will be analyzed for chloride and oxygen and hydrogen isotopes.

Activity Milestones:

Description	Completion Date
1. Study sites selected	October 31, 2023
2. Well drilling complete	November 30, 2023
3. Sampling completed (year 1)	November 30, 2024
4. Sampling completed (year 2)	June 30, 2025
5. Summary report on data collection	January 31, 2026

Activity 3: Modeling and Analysis of Groundwater Pollution of Surface Waters

Activity Budget: \$300,507

Activity Description:

Numerical models that quantify the groundwater pollution of surface waters will be developed for the selected field sites. Existing data sets will be collected and compiled, and data gaps will be identified which will guide field data collections. Several locations in the southeast karst region, and the north-central sandplains region are currently under detailed study supported by LCCMR, MDH, and the Anishinaabe Agriculture Institute. The research sites at these locations are good candidates for the proposed research. Groundwater flow models either have been or are currently being developed and calibrated for these sites. A surface water model component will be coupled to these groundwater flow models to provide integrated models that quantify the flow connectivity between surface water and groundwater. These integrated models will be used to simulate chloride transport in the groundwater and to quantify the groundwater contribution of chloride pollution of surface waters.

Activity Milestones:

Description	Completion Date
1. Data compilation and identification of data gaps	December 31, 2023
2. Develop surface water - groundwater integrated flow model	December 31, 2024
3. Develop surface water - groundwater integrated chloride transport model	June 30, 2026
4. Couple surface water and groundwater models	June 30, 2026

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Dr. Nigel Pickering	Geosyntec Consultants	Nigel Pickering will be a Co-PI for this project and the Project Manager for all the Geosyntec tasks. He will manage the overall project, schedule, and budget. He will help pick suitable groundwater monitoring sites, prepare the collected water quality data and interact with the modeling team.	Yes
David Richardson	Geosyntec Consultants	David will be a Co-PI and Senior Engineer for this project. He will help pick suitable groundwater monitoring sites, oversee the well drilling and groundwater monitoring, and analyze the collected water quality data.	Yes
Dr. Neven Kresic	Geosyntec Consultants	Kevin will be the Project Director and Technical Advisor for the Geosyntec portion of this project. He will oversee the project content and obligations and provide technical advice from his groundwater modeling and monitoring experience.	Yes
Dr. Peter T. Weiss	Valparaiso University	Dr. Weiss is a Visiting Professor at the St. Anthony Falls Laboratory, University of Minnesota, every summer. He will be involved in Activities 2 and 3, Laboratory studies to determine adsorption properties of isotopes in groundwater and surface water.	Yes
Brooke Asleson	Minnesota Pollution Control Agency	Advise on field sites and modeling efforts; collaboration and communication between the research community and state and local government units to improve understanding and outreach; outreach to practitioners and the local community.	No

Long-Term Implementation and Funding

Describe how the results will be implemented and how any ongoing effort will be funded. If not already addressed as part of the project, how will findings, results, and products developed be implemented after project completion? If additional work is needed, how will this work be funded?

The proposed project will find hot spots of chloride pollution stemming from groundwater flow into surface waters. Follow-on research on mitigating these hot spots will require additional funding. Aside from the LCCMR, there are many potential in-state sources that may fund the mitigation of groundwater to surface water chloride pollution, such as the Minnesota Department of Transportation, the Local Road Research board, the Minnesota Stormwater Research Council and the Minnesota Pollution Control Agency.

Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
Reduce Chlorides in Minnesota Waters by Evaluating Road-Salt Alternatives and Pavement Innovations	M.L. 2018, Chp. 214, Art. 4, Sec. 2, Subd. 04c	\$400,000

Project Manager and Organization Qualifications

Project Manager Name: John Gulliver

Job Title: Professor Emeritus

Provide description of the project manager's qualifications to manage the proposed project.

John Gulliver is a professor emeritus in the Department of Civil, Environmental and Geo- Engineering, performing his research at the St. Anthony Falls Laboratory. He is continuing research into the future because it is his advocacy. Much of his research, in conjunction with other faculty, involves the development of new technology for stormwater treatment and assessment of field performance of stormwater treatment practices. He has led 108 research projects, most recently on the retention of metals by bioretention media, the infiltration rates of various stormwater treatment

practices, the impact of various types of impervious areas on runoff, and the impact of climate change on stormwater infrastructure. He is a co-author of the book, *Optimizing Stormwater Treatment Practices: A Handbook of Assessment and Maintenance*, published by Springer. Professor Gulliver is active in outreach to the community, including workshops, the monthly Stormwater Seminar Series and publication of the practitioner-oriented newsletter, *Stormwater Updates*.

Organization: U of MN - College of Science and Engineering

Organization Description:

The St. Anthony Falls Laboratory (SAFL), an interdisciplinary fluids research and educational facility of the College of Science and Engineering at the University of Minnesota. SAFLs research is focused at the intersection of fluid dynamics with major societal challenges in energy, environment and health. SAFL integrates experiments in the laboratory and field with advanced computational tools and theory to obtain innovative, science-based solutions to real-world fluid-flow problems. SAFL serves as a resource for departments across the Twin Cities campus, the statewide University system, and the broader research community. The connections and collaborations reach across the country and all over the world, and SAFL partners with local, state and federal agencies; private consulting firms; businesses of many kinds; technical associations; and other educational institutions to expand knowledge and solve problems.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
John Gulliver,		PI and project manager; will be in charge of overall project management and tasks required to complete activities			7.5%	0.12		\$27,910
John Nieber		Co-PI, Supervision of one graduate research assistant who will be utilizing a large-scale groundwater flow model			33.5%	0.12		\$23,934
Peter Kang		Co-PI, Supervision of one graduate research assistant who will be modeling detailed flow and transport around soil particles			33.5%	0.12		\$14,892
2 Graduate Research Assistants		One GRA will be modeling flow and transport around particles and the other GRA will be modeling flow and transport at a larger scale.			48%	3		\$251,828
Undergraduate Research Assistants		Help in field monitoring and laboratory studies			0%	0.6		\$18,001
							Sub Total	\$336,565
Contracts and Services								
Geosyntec Consultants	Sub award	Groundwater and surface water sampling and analysis and a portion of project management, including: Well installation (9), \$49500, Water quality sondes (6), \$19800, Instrument enclosures (3), \$3300, Travel (4800 mi), \$3036, WQ analyses (302 PO4/NO3/Cl), \$24948, and Grain size analysis (9 samples), \$19800.				1.14		\$237,056
Dr. Peter T. Weiss	Professional or Technical Service Contract	Dr. Weiss will be involved in all portions of the project, from field monitoring to verification of groundwater flow modeling. He will lead the laboratory studies.				0.36		\$25,085
							Sub Total	\$262,141
Equipment, Tools, and Supplies								

							Sub Total	-
Capital Expenditures								
							Sub Total	-
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								
	Conference Registration	2 people	Registration for the Minnesota Water Resources Conference					\$550
	Miles/ Meals/ Lodging	49 trips of 100 miles at \$0.56/mile	Travel to groundwater monitoring sites					\$2,744
							Sub Total	\$3,294
Travel Outside Minnesota								
							Sub Total	-
Printing and Publication								
							Sub Total	-
Other Expenses								
							Sub Total	-
							Grand Total	\$602,000

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
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Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
State				
			State Sub Total	-
Non-State				
			Non State Sub Total	-
			Funds Total	-

Attachments

Required Attachments

Visual Component

File: [bcee96c2-530.pdf](#)

Alternate Text for Visual Component

Left-truck distributing salt brine. Middle truck plowing snow. Right-map of chloride impairments in the TCMA...

Optional Attachments

Support Letter or Other

Title	File
Geosyntec Letter	ccfae5fe-4a9.pdf
Peter Weiss Letter of Commitment	71d1a80e-71d.docx
MPCA Partnership Letter	fd3ca506-a75.pdf
Authorization Letter	e0c83bb2-536.doc

Administrative Use

Does your project include restoration or acquisition of land rights?

No

Does your project have potential for royalties, copyrights, patents, or sale of products and assets?

No

Do you understand and acknowledge IP and revenue-return and sharing requirements in 116P.10?

N/A

Do you wish to request reinvestment of any revenues into your project instead of returning revenue to the ENRTF?

N/A

Does your project include original, hypothesis-driven research?

Yes

Does the organization have a fiscal agent for this project?

No