

**Technical Advisory Committee  
MINUTES | November 10, 2022**

A meeting of the Technical Advisory Committee (TAC) of the Shingle Creek and West Mississippi Watershed Management Commissions was called to order by Chair Richard McCoy at 11:32 a.m., Thursday, November 10, 2022, in the Aspen Room, Plymouth Community Center, 14800 34th Avenue North, Plymouth, MN.

Present: James Soltis, Brooklyn Center; Mitchell Robinson, Brooklyn Park; Heather Nelson, Champlin; Mark Ray, Crystal; Katie Kowalczyk, Minneapolis; Nick Macklem, New Hope; Amy Riegel and Ben Scharenbroich, Plymouth; Richard McCoy and Mike Sorensen, Robbinsdale; Diane Spector, Todd Shoemaker, and Katie Kemmitt, Stantec; Kris Guentzel, Hennepin County Environment and Energy; and Judie Anderson, JASS. Not represented: Maple Grove and Osseo.

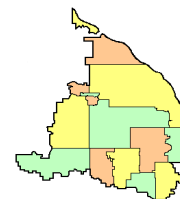
Also present: Andy Polzin, Plymouth, and Grady Bowles, Houston Engineering, and Henneh Kota and Paul Hudalla, Minneapolis, for Item III.

- I. Motion by Ray, second by Robinson to **approve the agenda.**\* *Motion carried unanimously.*
- II. Motion by Ray, second by Riegel to **approve the minutes\*** of the August 11, 2022, meeting. *Motion carried unanimously.*
- III. **Minneapolis Cost Share Request.\***

**A.** Kowalczyk, Kota, Hudalla, and Bowles were in attendance to present a cost share request from the City of Minneapolis to the Shingle Creek Commission for improvements proposed adjacent to 46th Avenue and Shingle Creek. The proposed improvements would replace a failed and eroded outlet to Shingle Creek and incorporate green infrastructure to manage and convey runoff to the creek rather than through traditional pipes. The green infrastructure consists of two rain gardens, a dry swale, and a step pool system consisting of three pools discharging into the creek. The City requests the maximum cost-share amount of \$50,000.

The City prepared preliminary designs for two options with the estimated cost of the stormwater work at between \$151,000 (Option B) and \$163,000 (Option A). The higher cost of option A is because of incorporation of larger step-pools adjacent to Shingle Creek.

- B.** Staff have reviewed the preliminary plans and note the following benefits of the project:
- 1. Replacing failed “gray” infrastructure (pipe) with the more natural aesthetic of green infrastructure.
  - 2. This is a “pilot project” for Minneapolis and may serve as an example for future outfall stabilization projects.
  - 3. Improving water quality (Table 1) for an area with no existing stormwater management.
  - 4. Adding green space for the surrounding community.



**Table 1. Water quality benefits of the proposed project\***

	Volume Captured (cf)	TSS Reduction (lb/yr)	TP Reduction (lb/yr)	Normalized Cost (\$/lb TP)
Proposed Green Infrastructure*	2,134	216	1.2	\$4,200-\$4,600

\*Water quality benefits represent both Options A and B.

**C.** Staff recommend that the City address the following comments as the project proceeds to final design:

1. Document plunge pool stability:
  - a. Effect of Shingle Creek flows
  - b. Effect of pipe flows
2. Provide MIDS BMP parameters or MIDS file to confirm modeling corresponds to the design.
3. Conduct soil borings to verify design infiltration rates.
4. Provide pretreatment to ensure the functionality of the credited system.
5. Provide a reinforced EOF (emergency overflow) at the dog leg of swale for 100-yr event.
6. Provide a revegetation plan (native species recommended).
7. Verify that a public easement (or equivalent) is dedicated.
8. Execute and record an Operations and Maintenance Agreement prior to release of any funds.

*[Nelson arrived 11:42 a.m.]*

With the revisions recommended above, Staff recommends approval of this cost share application. If approved by the TAC and the Commission, the City would submit 90% design plans. The City will look at the velocities for a 100-year flow event to make sure the step pools are properly sized.

At January 1, 2022, the balance in the City Cost Share Fund was \$329,210.

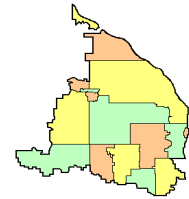
Motion by Ray, second by Robinson to recommend approval of this project. *Motion carried unanimously.*

**IV. Linear Project Review Threshold.**

New project review requirements are now in effect (as of October 1, 2022) for the Shingle Creek and West Mississippi Commissions. One of the changes is that linear projects that create or disturb one acre or more of impervious surface are now subject to Commission requirements. Under the previous rules, linear projects were subject to Commission requirements only if they created one acre or more of impervious surface.

Under the new requirement, most neighborhood street projects could come to the Commissions for review because they almost always disturb more than one acre. Staff recommends maintaining the threshold for Commission review – when a linear project creates more than one acre of new impervious surface. This clarification can be made to the Rules as a housekeeping update with no plan amendment required.

Discussion centered on two issues – the differentiation between “create” and “disturb,” and the impact of underlying soils.



Riegel recommended following MPCA guidance. It was also recommended that definitions be added to the rules; otherwise, they should remain as currently written.

This discussion will be continued at the December meeting.

**V. Chloride Management Requirements for Project Applicants.\***

**A.** The Shingle Creek and West Mississippi TAC and Commissions have a thorough understanding of how road salt (chloride) use for winter safety can negatively impact water bodies. Shingle Creek is impaired for chloride and its condition has not improved since the Shingle Creek Chloride TMDL was published. Road salt can contaminate drinking water, have negative impacts on aquatic organisms, and corrode infrastructure, among other impacts.

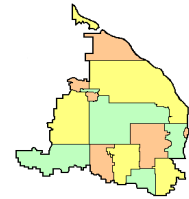
To help minimize sources of chloride in the watershed, the TAC and Commissions have been more frequently recommending to cities approval of development projects pending submittal of a chloride management plan from developers. The purpose of a chloride management plan is to ensure proper winter maintenance BMPs are used for developments in the watershed to minimize the amount of excess chloride applied to pavement and to reduce the amount of chloride that makes its way to water bodies in the watersheds.

**B.** There are some difficulties with requiring chloride management plans from project applicants. The entity submitting project plans for permitting often doesn't have a strong relationship with the entity who will ultimately be doing winter maintenance, making it difficult to ensure management plans get upheld and implemented. Winter maintenance crews are often contracted out especially for large developments. Requiring chloride management plans, however, may help increase awareness of chloride issues in the watershed and be an additional tool to educate people on the negative impacts of salt use.

Staff have researched chloride management plan requirements from various cities and watersheds in the Metro Area to understand what is currently being done, what is working well, and what options exist for Shingle Creek and West Mississippi to require a chloride management plan with project applications. They reviewed chloride management requirements from Nine Mile Creek and Coon Creek Watershed Districts, Mississippi Watershed Management Organization, and the cities of Edina, Bloomington, and Plymouth, as well as the draft Winter Maintenance Management Plan templates created for the Hennepin County Chloride Initiative by Fortin Consulting (included in the meeting packet). Chloride management plans, as a requirement for development, are a relatively new idea and haven't been implemented in many places, so there was not much overall feedback from the watersheds and cities on how requiring chloride management plans have been going.

**C.** Based on the review described above, Staff propose four potential options for the Commissions to implement a chloride management requirement with project submittals ranging from 1 (easier to implement) to 3 (more difficult/resource intensive to implement):

1. Do not add a chloride management plan requirement and instead continue efforts on chloride education and outreach in the watersheds.
2. Require project applicants to name an individual or multiple individuals responsible for winter chloride management onsite.
3. Require project applicants to submit a Chloride Management Plan using the templates provided in the Winter Maintenance Management Plan created for the Hennepin County



Chloride Initiative by Fortin Consulting. Project applicants would use the calculator to choose which template to use: basic, intermediate, or detailed.

**4.** Add chloride management requirements to the Operations and Maintenance agreements between the site owner and the City.

Staff recommend Option 1, the Commission refrain from adding any additional requirements to project review submittals and continue to focus on chloride education and outreach in the watersheds.

The members concurred. This topic will be addressed as part of the “Low Salt No Salt” campaign next year and added to the 2023 Work Plan.

## **VI. MPCA Climate Resilience Grants.\***

**A.** The Minnesota Pollution Control Agency (MPCA) is now taking applications for Planning Grants for the Stormwater, Wastewater, and Community Resilience program.\* \$395,000 is available to support climate-planning projects in communities across Minnesota. This funding will help communities assess vulnerabilities and plan for the effects of Minnesota’s changing climate in three areas: (1) Improving stormwater resilience and reducing localized flood risk; (2) Improving the resilience of wastewater systems; and (3) Adapting community services, ordinances, and public spaces.

**B.** This was a new grant program in 2021, and the Commission approved submitting a grant application to use the Shingle Creek HUC8 model to estimate the potential impacts of future precipitation patterns. The application was not funded. Supposedly the DNR is currently doing some modeling for at least some parts of the West Mississippi watershed, but Staff have not seen it and can’t say whether it is suitable for such a modeling exercise.

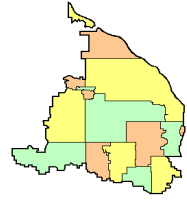
**C.** Staff recommend that Shingle Creek reapply this year using the same general work plan as last year. Last year the grant program funded grants to a few other WMOs and cities to undertake essentially the same activities:

**1.** Model and map midcentury precipitation scenarios to create projected flood inundation areas for the 1%+ 24-hour rainfall event and the 1%+ 10 day event. A ‘plus’ is a rainfall depth taken from the 90th percentile estimate for the given rainfall frequency. FEMA often evaluates not only the 1% storm event but also the 1%+ storm event as a way to provide perspective on the range of values one COULD expect in the 1% event. The State Climatology Office also suggests using the 90th percentile as a proxy for midcentury precipitation.

**2.** Identify potential future flooding risks in the watershed by reviewing known flooding areas, infrastructure, structures, and emergency vehicle routes in or in close proximity to predicted future hazardous flood conditions.

**3.** Develop policy recommendations for using the scenario data. For example, this modeling could be used to help the cities and county better understand how to properly design new infrastructure such as culverts, bridges, etc. that would be expected to have a mid-century useful life.

It should be noted that completing this type of resiliency modeling is called out in the Fourth Generation Plan as a priority implementation action. The cost of undertaking this work was estimated last year at just under \$25,000, with a grant request of about \$22,000 and a 10% local match of about \$2,500. Staff have not yet updated the estimate but believe it will be in that ballpark.



Applications are due January 12, 2023. If the TAC recommends and the Commission approves, pursuing this grant, Staff will bring a draft workplan and application to the Commission at the December 8, 2022, meeting. The level of effort to prepare the application and associated documents will be minimal since much of what was prepared last year can be reused.

Motion by Riegel, second by Kowalczyk to recommend proceeding with this application .  
*Motion carried unanimously.*

**VII. WBIF Update.** Spector reported that the Shingle Creek and West Mississippi Convene Groups' recommendations have been submitted to the Board of Water and Soil Resources (BWSR), which is currently reviewing the associated work plans.

**VIII. Other Business.**

**A.** Riegel announced that the City of Plymouth will be hosting a Smart Salting Workshop on November 30.

**B.** The **next TAC meeting** is scheduled for 11:00, Thursday, December 8, 2022, prior to the regular Commission meetings.

**C** There being no further business, the TAC meeting was adjourned at 12:41 p.m.

Respectfully submitted,

A handwritten signature in black ink, reading "Judie A. Anderson". The signature is written in a cursive style.

Judie A. Anderson  
Recording Secretary  
JAA:tim

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