

elm creek Watershed Management Commission

ADMINISTRATIVE OFFICE
3235 Fernbrook Lane • Plymouth, MN 55447
PH: 763.553.1144 • email: judie@jass.biz
www.elmcreekwatershed.org

Technical Advisory Committee Meeting Minutes | March 8, 2023

I. A meeting of the **Technical Advisory Committee (TAC)** of the Elm Creek Watershed Management Commission was called to order at 10:05 a.m., Wednesday, March 8, 2023, in the Plymouth Community Center, 14800 34th Avenue North, Plymouth, MN, by Chair Derek Asche.

Present: Heather Nelson, Champlin; Kevin Mattson, Corcoran; Nico Cantarero, Dayton; Derek Asche, Maple Grove; Ben Scharenbroich, Plymouth; Andrew Simmons, Rogers; Diane Spector and Erik Megow, Stantec; James Kujawa, Surface Water Solutions; Brian Vlach, Three Rivers Park District; Kris Guentzel and Kevin Ellis, Hennepin County Environment and Energy (HCEE); and Judie Anderson, JASS. Not represented: Medina.

Also present: Doug Baines, Dayton.

II. Motion by Scharenbroich, second by Simmons to **approve the Agenda** with the addition of item 4.a. Consider CIP – CSAH12/Dayton River Road Ravine Stabilization. *Motion carried unanimously.*

III. Motion by Scharenbroich, second by Simmons to **approve the Minutes of the December 13, 2022, meeting.** *Motion carried unanimously.*

IV. **Water Quality.**

A. **Elm Creek TMDL 10-Year Review.*** The Commission and Technical Advisory Committee (TAC) are interested in reviewing progress toward achieving the goals of the Elm Creek Watershed TMDL (Total Maximum Daily Load) study. Staff's March 1, 2023, memo provides a summary of the TMDL findings and introduces a framework for potential approaches to such a review. The goals of today's meeting are to: 1) familiarize TAC and Commissioners with the TMDL and the recommended actions; 2) consider options for inclusion in the proposed review of progress; and 3) obtain input and 2023 guidance from the TAC and Commissioners on how to proceed with a more defined proposal at the April meeting.

A TMDL is a diagnostic study undertaken when waters do not meet one or more water quality standards. The federal Clean Water Act requires the states to establish such standards and to assess their waters to determine which comply. Those that do not meet standards are added to the Environmental Protection Agency's (EPA) List of Impaired Waters, known as the 303(d) List after the relevant section of the law, and a TMDL must be prepared to evaluate the sources of pollutants and causes of the impairment, estimate the amount of pollutant reduction necessary (*load reduction*), and identify potential actions that could be taken to improve conditions in the waters.

The Elm Creek Watershed-wide TMDL process was completed in phases over several years, starting with additional monitoring and data gathering in 2009-2010, analysis and development of the TMDL in 2012-2014, and completion of the TMDL document and accompanying Watershed Restoration and Protection Strategies (WRAPS) report in 2015. The final reports were approved by the Minnesota Pollution Control Agency (MPCA) and EPA in 2016.

The Elm Creek TMDL study addresses multiple impairments, including:

1. Fish, Rice, Diamond, Goose, Cowley, Sylvan, and Henry Lakes, which are all impaired by excess nutrients (*total phosphorus, or TP*).
2. S Fork Rush Creek, Rush Creek main stem, Diamond Creek, and Elm Creek, which are impaired by high levels of *E. coli bacteria*.
3. Rush Creek main stem, Diamond Creek, and Elm Creek, impaired by *low dissolved oxygen (DO)* concentrations necessary to support aquatic life.
4. The upper and lower reaches of S Fork Rush Creek, Rush Creek main stem, Diamond Creek, and Elm Creek, where the fish and macroinvertebrate communities are impaired for *biotic integrity*.

In addition, during the development of the TMDL for the fish and macroinvertebrate impairments, the following factors were identified as probable stressors to the biotic community, and TMDLs:

5. Upper and lower reaches of S Fork Rush Creek, Rush Creek main stem, Diamond Creek, and Elm Creek, excessive nutrients (*total phosphorus, or TP*).
6. Elm Creek and Diamond Creek, excessive *total suspended sediment (TSS)*.

Since completion of the Watershed TMDL, additional impairments have been designated or are pending in the watershed:

7. Elm Creek and the lower reach of S Fork Rush Creek are impaired for excess *chloride*. TMDLs for the streams were completed as part of the Twin Cities Metro Chloride TMDL.
8. Fish Lake and Weaver Lake are impaired for *mercury* in fish tissue. TMDLs were completed as part of the statewide mercury TMDL.
9. The MPCA is processing two new impairments: *TSS* in Elm Creek and *fish biotic integrity (F-IBI)* in Fish Lake.
10. The nutrient impairment for Fish Lake is proposed for “delisting” as the lake now meets state standards.

The MPCA does not have a formal process or guidance for undertaking reviews of progress toward meeting TMDLs. Entities such as cities and counties that are MS4s are required to annually report certain TMDL implementation activities that they take in the watershed, but that is not a comprehensive assessment, and does not include actions taken within the waterbodies such as stream restorations, lake alum treatments, or rough fish management. When they have undertaken other TMDL reviews of progress, Staff have considered the following analytical steps:

1. Update watershed runoff and pollutant loading and lake response modeling to reflect most current land use information and monitoring data.
2. Collect new monitoring and other data to fill data gaps.
3. Collect data on BMPs undertaken since the TMDL baseline year(s) to estimate progress toward meeting the identified pollutant load reductions and non-numeric requirements.
4. Evaluate monitoring data to determine water quality trends and progress toward meeting the standards.
5. Review implementation strategies and recommend any course corrections for the coming period.

Updating the various models used to quantify pollutant loading can range from simple to very detailed. Generally, this step is considered only when there has been significant land use change or where new data is available; for example, updating a lake response model to use measured sediment phosphorus release rates rather than literature values. While there has been development in the watershed, Staff don't think it is

significant enough to warrant the expense and effort to update the watershed pollutant loading models. Following review of the lake water quality and BMP data, there may be some lakes where lake response modeling might be helpful, such as Laura Lake, which was not included in the original TMDL.

1. Lakes. The Commission has been annually monitoring four sentinel lakes – Fish, Weaver, Diamond, and Rice – and occasionally monitoring other lakes on a rotating basis. While the sentinel lakes have a good set of data available, it would be helpful to obtain more data on Henry, Jubert, Dubay, Laura, and French, where there is very little data. The cost of monitoring those lakes for two consecutive years would be about \$8,000 per year. The 2023 budget includes \$12,617 for lake monitoring, including the sentinel lakes and two additional lakes, which in 2023 will likely be Sylvan and either Henry or Cowley. If two of the “additional” lakes were completed as part of the annual lake monitoring budget, then the additional cost would be about \$4,500 per year.

2. Streams. In addition to the partnership with the USGS to monitor flow and water quality on Elm Creek in the regional park, the Commission currently routinely monitors flow and water quality at three sites in the watershed: Elm Creek at its crossing of the Medicine Lake Regional Trail in Maple Grove; Rush Creek at Territorial Road; and Diamond Creek. Some data is available at other sites in the watershed. It may be helpful to collect additional data to help with the trend analysis. The Commission currently budgets \$10,020 annually for stream monitoring; adding another site would be an estimated \$3,500 annually.

The estimated cost to add additional lakes and one additional stream site in 2024-2025 would be about \$8,000 per year, or \$16,000 total.

3. Biological. The Commission has completed a minimal amount of biological (fish and macroinvertebrates) monitoring in the streams. There is some data at a few sites completed by the MPCA, and the 2023 budget includes funding to undertake sampling at a few sites. It is Staff’s recommendation that the Commission focus this review on quantifying chemical parameters and in the review develop a plan for more systematically undertaking biological monitoring for evaluation during the next progress review.

4. BMP Data. This task is compiling information about the BMPs undertaken in the watershed and estimating the pollutant load reductions achieved by each. Cities have been collecting and reporting watershed load reductions, including any structural BMPs or nonstructural such as enhanced street sweeping. In addition, load reduction data is estimated for development and redevelopment activity that requires a Commission project review. This data could be collected, assembled, and geolocated to document and summarize load reductions by receiving water. For example, the TMDL established TP load reductions for the entire length of Elm Creek; the individual cities through which Elm Creek flows are reporting data just for what occurs in their city.

There are also other types of actions taken that the cities are not required to report on in the NPDES permit annual reports. These may include lake internal load reductions from an alum treatment, or habitat improvements achieved through stream restoration. These should also be documented as progress toward achieving the goals established in the TMDL. Depending on how much data is available and how it is organized, and the number of BMPs for which removals would need to be calculated, this could be a simple GIS exercise, or it may be more extensive. Staff estimate the level of effort to be in the \$5,000-8,000 range.

5. Evaluating Monitoring Data. Three Rivers Park District has been collecting and maintaining data for many years, and the annual report includes figures and tables showing water quality by year. It may be interesting to run some trend analysis statistics where there is a good data set to determine if there are any statistically significant trends. This might be a \$2,000-3,000 effort.

6. Review Implementation Strategies and Report. This task would include compiling the information developed in the previous tasks to provide an overall summary of actions taken and progress made to date. The WRAPS report, which is the “implementation plan” of the TMDL, identified a universe of potential

actions the various stakeholders could take to make progress toward the TMDL. This task would identify what has been successful and what not so successful and develop a prioritized action plan for the next several years. This would be rolled into the Commission's Fourth Generation Watershed Management Plan as an appendix. It is likely that this would be an \$8,000-10,000 effort.

7. Summary. It is likely that this TMDL 10-year Progress Review would be a \$35,000-40,000 effort, depending on how much additional monitoring is desired. The TAC and the Commission will discuss this review process with an anticipation, if they decide to proceed, of budgeting for the 10-year review as part of the upcoming 2024 operating budgeting process.

Motion by Scharenbroich, second by Cantarero to table further discussion and a recommendation to the Commission to the April meeting. *Motion carried unanimously.*

Asche requested that Staff also provide a figure showing where monitoring is currently being conducted as well as where monitoring occurs as part of a subwatershed assessment.

B. Preliminary Scope – South Fork Rush Creek SWA.*

Staff have been working to define the proposed scope of work for the three studies proposed for potential funding from the Watershed-Based Implementation Funding grant. The Commission allocated \$92,774 for "Priority Assessments," identifying the (1) South Fork Rush Creek Subwatershed assessment requested by the City of Corcoran, (2) the North Fork Rush Creek Remeander Feasibility Assessment for the reach adjacent to Stieg Woods in Rogers, and (3) a remeander feasibility study for the Diamond Lake outlet channel to Diamond Creek in Dayton. Corcoran Commissioner Guenther has requested that any decision about this project be put on hold until April since he will be unable to attend the March meeting.

Staff propose to proceed in a similar manner to the Rush Creek Headwaters SWA. The general items of work include:

1. Data Collection and Review. This task includes identifying collecting, and compiling available data and information including but not limited to:

- a. Land cover and land use
- b. Sites of ecological diversity or significance
- c. Soils and topography
- d. NWI Wetlands, probable wetlands, and drained wetlands
- e. Individual Sewage Treatment System locations
- f. Registered feedlots and allowable animal units
- g. Nonregistered animal operations and estimated animal units

2. Summarize Existing Conditions. Like the Headwaters SWA, this data will be used to create a series of maps that will depict:

- a. Location and extent of intact natural cover (forest/wetland)
- b. Hydrologic soil group, soil erodibility, and estimated soil loss rate
- c. Mean slope
- d. Location and extent of potentially tiled drained agricultural land
- e. Location and relative impact of failing septic systems, where applicable
- f. Location of feedlots and other animal operations

3. BMP Identification. Using the Agricultural Conservation Planning Framework (ACPF) toolbox, Stantec will identify up to ten potential projects that could yield the greatest benefit toward reducing sediment and phosphorus input to the South Fork Rush Creek. Staff will work with Hennepin County

conservationists and City staff to “ground truth” those locations, ruling out those that may seem on paper to be feasible, but which may be difficult to actually implement.

4. BMP Prioritization. Using the ground-truthed ACPF outputs, Staff will estimate the cost of each BMP using unit prices and rank them by magnitude and cost-effectiveness of the estimated load reductions.

5. Technical Summary. The Rush Creek Headwaters SWA broke down the subwatershed into six smaller Management Units. Staff would expect to do something similar for the South Fork Rush Creek SWA. The final report will present individual prioritized lists of BMPs by Management Unit. In addition, they will compile all the geospatial data, including the prioritized BMP locations, into an interactive online map.

6. Meetings. Staff would expect to have at least three “small group” meetings with the affected cities: Corcoran, Medina, and Maple Grove, and potentially one Open House with the public.

At this time the estimated cost to undertake this project is \$60,400. An open question that may add to that cost is whether a recent windshield or aerial survey of small animal operations has been completed or whether that would need to be added to this cost. The grant requires a 10% match, or about \$5,600. Under the Commission’s SWA policy, the Commission would contribute 75% of that, about \$4,200, from its budget, and the local participants the other 25%. When they finalize the cost, Staff will present the breakdown by funding partner and confirm that the participants have agreed to their shares.

C. Preliminary Scope – North Fork Rush Creek Remeander.* This scope of work is less advanced than the SWA. Based on a scope Stantec recently completed for a feasibility study and conceptual design of a natural channel restoration of similar length in Brooklyn Park, Staff estimate the cost to be about \$28,000 for data collection and review and field work and alternatives development and an additional \$11,000 for 30% design.

1. Data Collection and Review. This task would start with assembling previous studies, planning documents, and publicly available soils, hydrology, wetland, vegetation, and historical aerial imagery of the creek area, available utility information, and modelling, water quality, and flow data. Staff would also review existing hydraulic model data, features, and results. In this task they would visit the site to note potential constraints, current channel conditions, eroded banks, hydrogeologic factors like springs and seeps, vegetation quality, storm sewer outfalls and infrastructure, and opportunities for habitat improvement. Staff will also perform a site topological survey and a tree survey.

2. Alternatives Assessment and Basis of Design. Staff will work with the city of Rogers, Hennepin County, and Three Rivers Park District to refine design alternatives that meet Commission goals for water quality and ecological improvements, and which will work with the Stieg Woods Master Plan, upcoming extension of CR 117 and the future extension of the Rush Creek Regional Trail. These alternative designs will address bank stabilization, erosion and sediment control practices, water control practices, infrastructure impacts, visual quality and ‘fit’ within the surrounding area. The conceptual design alternative work will be presented in a Basis of Design memo describing and summarizing the desktop and field data collection and analysis, design alternative elements and impacts to the surrounding areas, project cost estimates, pollutant reduction estimates, and a comparison table of each alternative focusing on cost and pollutant reduction/water quality improvement potential.

3. 30% Preliminary Design of Selected Alternative. Should the stakeholders be able to select and commit to a design alternative, Staff will prepare preliminary plans and opinion of probable cost and the final basis of design memorandum.

Staff plan to bring the final scopes for these projects back in April for formal consideration. Based on their initial scoping work, the \$92,774 may not be sufficient to undertake all three identified assessments.

V. CSAH12/Dayton River Road Ravine Stabilization.* This project appears on the Commission's 2023 CIP at a cost of \$382000, the Commission's share being \$95,500. The project is located along Hennepin County CSAH12 on Three Rivers Park District property that will provide future access to the West Mississippi River Regional Trail from Dayton to Champlin. This stabilization of the ravines will reduce excessive sediment and nutrients discharged directly to the Mississippi River as well as provide stability to adjacent roadway infrastructure. The project will be funded by the Park District, Hennepin County, and the Commission through the CIP County tax levy.

Vlach has informed Commission Staff that there was a pre-construction meeting for this project on March 1, 2023, and that construction will likely be completed mid-summer 2023. He is currently seeking to set up a contract agreement with the Commission to secure funding for the project. Hennepin County does not want to enter into a multi-agency agreement, rather they want the Park District to set up an agreement with the Commission to be reimbursed for the Commission's contribution toward the project, which is now calculated to be \$110,000. He is aware that, while the CIP funds will not be available until 2024, the project can move forward and be paid for after completion.

The project meets all CIP-eligibility requirements, pending approval of the Commission, except that the proposing city (Dayton) must provide a revised "Exhibit A" with the updated costs and any revisions to the project description.

Staff will work with the Commission's attorney to revise the language of the draft agreement* and return it to the April meeting.

VI. The **next meeting** of the Technical Advisory Committee is scheduled for 10:00 a.m., Wednesday, April 12, 2023, preceding the commission's regular meeting.

There being no further business, the meeting was adjourned at 11:16 a.m.

Respectfully submitted,



Judie A. Anderson
Recording Secretary
JAA:tim