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August 4, 2022

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

The agenda and meeting packet are available to all interested parties on the Commission's web site. <http://www.shinglecreek.org/minutes--meeting-packets.html> | <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, August 11, 2022, in the **Aspen Room at Plymouth Community Center, 14800 34th Avenue North, Plymouth, MN.** (Directions are included on page two of this notice.) This venue will be the site of future Commission and TAC meetings.

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

The Technical Advisory Committee (TAC) will meet prior to the regular meeting at 11:30 a.m.

We will be ordering lunch from Jimmy John's this month. Please make your meal choice from the items on page two and email me at judie@jass.biz to confirm your attendance and your meal selection by **3:00 p.m., Tuesday, August 9, 2022.**

Thank you.

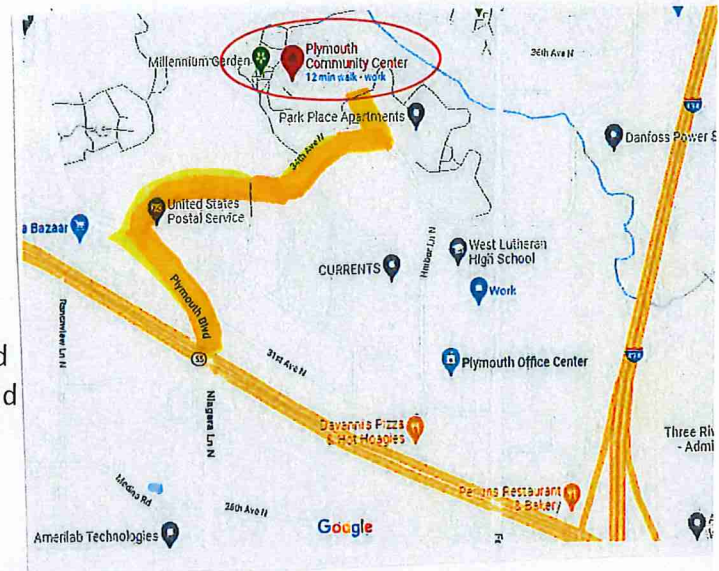
Regards,

Judie A. Anderson
Administrator

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

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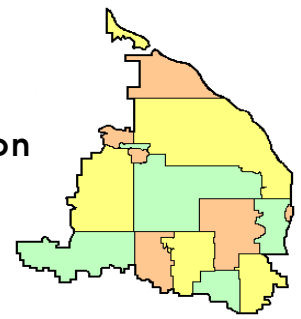
The Plymouth Community Center is located at 14800 34th Avenue North in Plymouth, a few blocks north of Plymouth City Hall. From the intersection of I-494 and Highway 55 in Plymouth, travel west on Highway 55 to the intersection of Highway 55 and Plymouth Boulevard. Turn north (right) on Plymouth Boulevard and proceed to 34th Avenue. Turn north (right) on 34th Avenue and proceed to the Community Center which is on the left side of the street. Turn left and proceed to the main (entry) parking lot. The Aspen Room is the first room on the left past the lobby inside the main entrance.



These are deli sandwich box lunches. 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 The Veggie – double cheese, avocado spread, cucumber**



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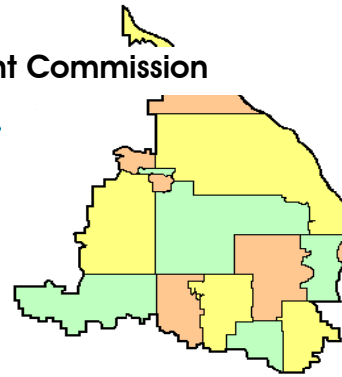
A combined regular meeting of the Shingle Creek and West Mississippi Watershed Management Commissions will be convened on Thursday, August 11, 2022, at 12:45 p.m. in the Aspen Room at Plymouth Community Center, 14800 34th Avenue North, Plymouth, MN. Agenda items are available at <http://www.shinglecreek.org/minutes--meeting-packets.html>. *Black typeface denotes SCWM items, blue denotes SC items, green denotes WM items.*

AGENDA

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 vote.
3. Open forum.
4. Project Reviews.
 - √ SC a. SC2022-05 North 100 Business Park, Brooklyn Center.*
 - √ WM b. WM2022-03 169 Logistics Center, Brooklyn Park.*
5. Third Generation Plan.
- √ SCWM a. Call for Public Meeting.*
- SCWM 6. Fourth Generation Plan - Update.*
 - a. Boundary Change - presentation.
- SC 7. Water Quality - Updates.*
 - a. Palmer Creek Estates Channel Restoration.
 - b. Plymouth/Maple Grove Pike Creek Project - presentation.
 - c. Crystal Lake Management Plan.
 - d. Bass Lake Vegetation Improvements.
8. Grant Opportunities.
 - SCWM a. Clean Water Fund Grant Application.*
 - 1) West Mississippi River Shoreline Stabilization.*
 - 2) Project Location.*
 - b. WBIF – verbal update.
- SCWM 9. Education and Public Outreach.
 - a. WMWA – update.**
 - b. Next WMWA meeting – 8:30 a.m., Tuesday, September 13, 2022.
- SCWM 10. Staff Report – no report this month.
11. Communications.
 - SCWM a. Communications Log.*
12. Adjournment.

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



**REGULAR and
PUBLIC MEETING MINUTES**

July 14, 2022

(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, July 14, 2022, at Crystal City Hall, 4141 Douglas Drive, Crystal, MN.

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

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

Also present were: Mitchell Robinson, Brooklyn Park; Heather Nelson, Champlin; Mark Ray, Crystal; Mark Lahtinen, Maple Grove; Katie Kowalczyk, Minneapolis; Nick Macklem, New Hope; Amy Riegel, Plymouth; Richard McCoy and Mike Sorensen, Robbinsdale; and James Fallon, USGS.

II. **Agendas and Minutes.**

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

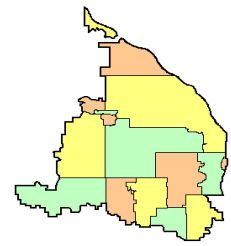
Motion by Roach, second by Butcher to approve the **West Mississippi agenda*** as revised. *Motion carried unanimously.*

Motion by Schoch, second by Jaeger to approve the **minutes of the June 9, 2022, regular meeting.*** *Motion carried unanimously.*

Motion by Roach, second by Butcher to approve the **minutes of the June 9, 2022, regular meeting.*** *Motion carried unanimously.*

III. **Finances and Reports.**

A. Motion by Schoch, second by Prasch to approve the Shingle Creek **July Treasurer's Report* and claims** totaling \$63,612.90. Voting aye: Mullen, Prasch, Bergstrom, Jaeger, Schoch, Grant, Roach, Polzin, and Sicora; voting nay: none.



B. Motion by Butcher, second by Roach to approve the **West Mississippi July Treasurer's Report* and claims** totaling \$11,569.96. Voting aye: Mulla, Prasch, Butcher, Jaeger, and Roach; voting nay: none.

IV. Open Forum.

James Fallon, Data Chief, Minnesota portion of Upper Midwest Water Science Center of the U.S. Geological Survey, was present to give an **update on USGS activities in Shingle Creek** and nearby watersheds. On pages 9 and 10 of these minutes are some links to the new USGS National Water Dashboard interactive map. It allows viewers to access real-time water data from over 13,500 stations nationwide.

[The regular meeting was suspended at 1:24 p.m. in order to conduct a public meeting.]

V. Public Meeting.

A. The Shingle Creek and West Mississippi Third Generation Watershed Management Plan and Capital Improvement Programs (CIP) are proposed for a Minor Plan Amendment (MPA). The Technical Advisory Committee (TAC) and Commissions have discussed creating a Project Maintenance Fund several times over the last few months, most recently at the June 9, 2022 meeting when the Commissions initiated a Minor Plan Amendment to add such a Fund to the CIP.

As proposed, the Minor Plan Amendment would revise the Shingle Creek CIP to add a new project – “Project Maintenance Fund.” This would create a segregated fund similar to the Cost Share programs that would be funded by an annual levy and would be used for non-structural and maintenance activities to improve or maintain water quality. These are activities such as ongoing long-term efforts to manage carp or curly-leaf pondweed, which would be the largest need, but also maintenance of fish barriers or BMPs installed as research projects, etc.

Notice of the public meeting was sent to the member cities, county, and reviewing agencies, and published as required by statute and the Plan. The purpose of this meeting is to discuss the proposed Minor Plan Amendment and any comments received prior to or at this meeting. (This is not a formal public hearing.) After that discussion, the Commissions may consider a resolution adopting the Minor Plan Amendment. As of this date, no comments have been received. The proposed amendment is shown in Staff’s July 8, 2022, memo.*

B. Open public meeting. The public meeting was opened at 1:30 p.m.

1. No comments on the proposed amendment were received from the reviewing agencies, member cities or the public.
2. No one was present from the general public.
3. The public meeting was closed at 1:31 p.m.

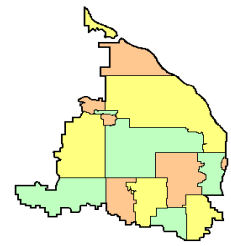
C Commission Discussion.

Motion by Schoch, second by Grant to adopt **Resolution 2022-02 Adopting a Minor Plan Amendment Revising the Capital Improvement Program.*** *Motion carried unanimously.*

Motion by Jaeger, second by Butcher to adopt **Resolution 2022-02 Adopting a Minor Plan Amendment Revising the Rules and Standards.*** *Motion carried unanimously.*

[The regular meeting was reconvened at 1:32 p.m.]

VI. Project Reviews.



VII. Third Generation Watershed Management Plan.

VIII. Fourth Generation Watershed Management Plan.

A. Updates – July 6, 2022.*

1. Schedule. Staff are a little behind the original schedule but still on track to have a draft document by the end of August for preliminary review. The final topics for general discussion will be budget, JPA, and opportunities for public review of the Implementation Plan.

2. SCWM Boundary Change. Staff is progressing on the boundary analysis. Shoemaker presented some preliminary figures showing some of the changes that will affect the Elm Creek and Bassett Creek watershed boundaries. Stantec has confirmed a good “mesh” of those boundaries and is now updating the legal boundaries accordingly.

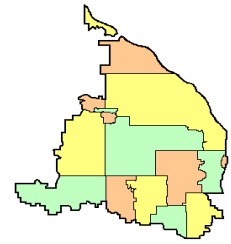
3. Review of Draft Priorities, Goals, and Policies. Based on input received at the June meeting Staff have refined the goals and priorities and placed them into textual context. They also met with Hennepin County to discuss climate resiliency and groundwater and incorporated those discussions into the text. Commissioners are asked to review and refine these priorities, goals, and strategies, which are the foundation of the Implementation Plan. In the Plan, these goals and priorities will be followed by a description of the specific actions the Commissions will take, which will be summarized in the Implementation Plan table. (See details in item B., below.)

4. Review of Preliminary Implementation Plan Table. Staff continue to flesh out the individual lake and stream resource plans that will help to define both the monitoring program and the Implementation Plan. They have developed a draft Implementation Plan that incorporates Capital Projects, Project Maintenance, and Other Implementation actions such as special studies. While they have tried to set a schedule that both balances workload and keeps annual budget, levy and other expenditures relatively stable, there are a few exceptions to that (notably 2023). They will work with the Commissions and the cities to further refine activities and schedules, so some of these might move around between years and some of the estimated costs might be further refined. The Third Generation Plan enables the Commissions to make annual adjustments to years and costs without having to amend the Plan; a Minor Plan Amendment is only necessary to add a project or significantly alter a project already on the CIP. That provision will be carried over to the Fourth Generation Plan.

B. Priorities and Goals.* Through the identification and prioritization of issues in the watersheds, the Commissions developed goals that will guide activities over the coming decade. These goals were derived from the Gaps Analysis and a review of the accomplishments and unfinished business from the Third Generation Plan; as well as discussions with Commissioners, Technical Advisory Committee members, state agency staff, other city staff; and citizen input.

The framework to achieve these goals is set forth in the Implementation Plan and Capital Improvement Program detailed in Section xx of this Plan. Member cities supplement and complement these actions with additional policies and programs tailored to their unique priorities and needs. The philosophy of the Joint Powers Agreements and this Plan is that the management plan establishes certain common goals and standards for water resources management in the watersheds, agreed to by the member cities, and implemented by those cities through activities at both Commission and local levels. Successful achievement of the goals in this Plan is dependent on the member cities and their dedication to this effort.

Priorities:



1. **Achieve lake and stream goals.** Continue to work aggressively toward achieving TMDL lake and stream goals.
2. **Stimulate implementation.** Foster completion of TMDL load reduction and other implementation activities by identifying improvements, sharing in their cost, and proactively seeking grant funds.
3. **Engage and educate.** Expand the public education and outreach program to reach more stakeholders, including vulnerable communities and historically underrepresented groups.
4. **Develop climate resiliency and sustainability.** Anticipate and proactively work to understand and minimize adverse impacts from changing environmental and climate conditions.

Water Quality and Ecological Integrity. While the Commissions' First Generation Plans were primarily focused on adopting and implementing standards for development and redevelopment projects to moderate the impacts of stormwater runoff on receiving waters, by the time of the Second Generation Plan water quality monitoring confirmed that several lakes did not meet state water quality standards. Thirteen of the sixteen lakes were subsequently designated as Impaired Waters by the MPCA due to high concentrations of nutrients. The Shingle Creek Commission was an early implementer of Total Maximum Daily Load (TMDL) studies to diagnose the sources of this excess phosphorus and develop implementation plans to reduce nutrient inputs to the lakes.

Shingle Creek and Bass Creek were also found to be high in chloride concentration, low in dissolved oxygen, and non-supportive of fish and other aquatic life. The Second and Third Generation Plans focused on implementing capital and other projects and assessing progress. As noted in this Plan's Self-Assessment of Progress, those efforts have paid off: three of the original thirteen lakes (Schmidt, Ryan, and Lower Twin) have been removed from the official Impaired Waters List, and two more (Bass and Pomerleau) are slated to be removed, or "de-listed" in 2024. Monitoring data also shows a significant improvement in some water quality parameters in Shingle and Bass Creeks, but not all: chloride and bacteria remain stubbornly high. The fish and biotic communities remain impaired in the creeks, and several lakes are infested with invasive aquatic vegetation.

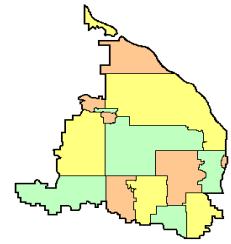
Wetlands also perform a key role in the ecological integrity of the watersheds. Much of the original acreage of wetlands in Shingle Creek has either been filled or significantly altered by development. The northern half of West Mississippi developed much later, under the regulation of the Wetland Conservation Act (WCA). While they have not been filled, many of the wetlands in that watershed have been altered by changing hydrology that redirected runoff and reduced surficial groundwater recharge. While there are a few wetlands of higher quality, most have been impacted to some degree.

The Fourth Generation Plan will continue to focus on improving the lakes and streams in the watersheds to meet state water quality and ecological integrity standards and protecting those that meet those standards. The primary implementation strategies to achieve these goals are shown in Staff's July 6, 2022, memo.

The Commissions will continue to operate a robust monitoring program to track water quality trends and assess progress.

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

Five strategies to achieve this goal are listed in Staff's memo.



Water Quantity, Groundwater and Drainage. One of the statutory responsibilities of the Commissions is to prevent and mitigate flooding. This has been accomplished primarily by ensuring that development and redevelopment does not create new volumes and rates of runoff that may cause downstream flooding. Despite the extensive upper watershed development that has occurred since the Commissions were established in 1985, there are few non-localized flooding problems in the two watersheds. Early on the Commissions and member cities identified this as an important issue and enacted the appropriate controls to limit rates and volumes of runoff from new development and redevelopment. A second Commission responsibility is managing or staying abreast of surface water-groundwater interactions, including groundwater recharge, stream baseflow and lake levels, wellhead protection and maintaining adequate hydrology to wetlands. Hennepin County intends to update its Groundwater Plan in the next several years, and the Commissions will provide input to that analysis and assist in implementing County priority actions.

Shingle Creek from approximately Xerxes Avenue North in Brooklyn Park to Webber Park in Minneapolis was ditched and channelized as Hennepin County Ditch #13 in 1910 and remains under the County's jurisdiction. Hennepin County is willing to transfer authority to the Shingle Creek Commission or the member cities, but neither has expressed an interest.

This Fourth Generation Plan will continue to rely on the development rules and standards to limit new rates and volumes of runoff and to require infiltration or other abstraction such as stormwater reuse to protect and replenish surficial groundwater. The Commission also maintains a hydrologic and hydraulic model for the watershed that was updated in 2021 and will be used to track any impacts to flood flows and elevations due to land use change.

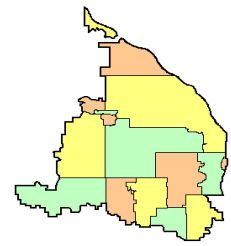
Goal 2: *Reduce stormwater runoff rates and volumes to limit flood risk, protect conveyance systems, protect surficial groundwater, and reduce or mitigate impacts that have already occurred.*

Strategies to achieve this goal are listed on page 3 of Staff's July 6 memo.

Education and Engagement. The Commissions initially established an Education and Outreach Program as part of the Second Generation Plan. At about the same time the member cities were required to develop education and outreach plans as part of their National Pollution Discharge Elimination System (NPDES) stormwater permits. Because these requirements were common across the cities, the member cities requested that the Second Generation Plan be designed to help them fulfill the NPDES Public Education and Outreach requirements, and this was continued in the Third Generation Plan.

The Commissions also collaborate with the Elm Creek and Bassett Creek WMOs as part of the West Metro Water Alliance (WMWA) and participate in Metro-wide education and outreach initiatives such as Blue Thumb, Watershed Partners and Northland NEMO. The WMWA collaboration is an opportunity to pool resources on larger or region-wide initiatives, such as the ongoing Watershed PREP program providing specialized classroom lessons to 4th graders and the shared education and outreach coordinator position proposed jointly with Hennepin County in 2023.

Over the past decades the demographics in the watersheds reflect a growing economic, racial, ethnic, and cultural diversity. Residents living in roughly two-thirds of the land area in Shingle Creek were estimated by Hennepin County to be among the most vulnerable to environmental injustice in the county based on race, income, ability, health, and social status, with parts of West Mississippi also experiencing more moderate vulnerability. As a part of this planning process, the watersheds partnered with Bassett Creek WMO to learn and start a conversation about environmental injustice, how other organizations are increasing their outreach



to underserved communities, and how to begin building relationships and work toward more equitable environmental outcomes.

The Fourth Generation Plan will continue to expand the education and outreach program to meet both the needs of the member cities' stormwater permits as well as other supplemental topics and will continue to partner with WMWA to expand joint offerings, including realizing a vision of a shared education and outreach coordinator. This expanded effort will also include renewed focus on developing more opportunities to engage all communities in the watersheds, and to require an Equity Impact Analysis be completed for all projects receiving Commission funding.

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

Three strategies to achieve this goal are listed in Staff's memo on page 4.

Climate Resilience and Sustainability. Water and natural resources are directly influenced by climate – precipitation, temperature, and other actors. Our climate is non-static: the Minnesota State Climatology Office has observed and documented changes in our climate since the late 1800's. Research suggests that the state will continue to get warmer and wetter, with more extreme rainfall events. Winters are warming, summers are more humid, and the growing season is expanding.

The highly altered and developed landscape in the watersheds limits options to prevent or mitigate impacts and increases vulnerability to changing conditions. The cumulative impact of development – paving over surfaces that previously could infiltrate precipitation and prevent flooding, loss of woods and grasslands and wetlands – is a loss of resiliency to adapt to the increasing variability in climate.

The types of changes observed in Minnesota also have the potential to more directly and negatively affect water resources. Increased daily temperatures and a longer growing season may cause shifts in lake aquatic vegetation and result in more frequent algal blooms. Runoff from more frequent, higher intensity rain events increases flows, velocities, and shear forces in streams, increasing erosion and stream instability. Biotic integrity is diminished as lake and stream aquatic species select toward those that are more tolerant to pollution or to highly variable flows.

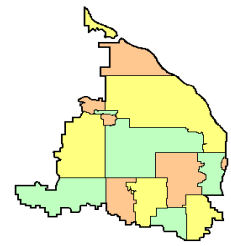
The Fourth Generation Plan will focus on better understanding the magnitude of those impacts both locally and regionally and identifying appropriate responses. The Commissions' hydrologic and hydraulic models will be used to evaluate how future precipitation patterns may affect the extent and duration of flood events, and to identify infrastructure that may be at long-term risk of flooding. It will also be used to evaluate the impacts of potential development rules and standards changes.

Because local and regional partnerships will be necessary to combat non-static climate, the Commissions will collaborate with: (1) Hennepin County in implementing and updating its Climate Action Plan; (2) the Metropolitan Council with its Climate Vulnerability Assessment; and (3) the State Climatology office to better understand and quantify impacts and potential responses.

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

To achieve this goal, four strategies are listed on the last page of Staff's July 6, 2022, memo.

C. Capital Improvement Programs. Included in the meeting packet were spreadsheets* showing the Shingle Creek and West Mississippi proposed 2023-2032 CIPs. Annual project costs range from \$340,000



to \$6,480,00 for Shingle Creek and \$150,00 to \$410,00 for West Mississippi. Commission shares range from \$180,000 to \$2,035,00 and \$100,000 to \$225,000, respectively.

IX. Water Quality.

X. Grant Opportunities.

The Board of Water and Soil Resources (BWSR) is now taking applications for its annual **Clean Water Fund grants**, which are funded through the 2008 Clean Water, Land, and Legacy Amendment (CWLA). This statewide competitive program awards grants from several subprograms, including Projects and Practices, the Projects and Practices Drinking Water sub-program, Multipurpose Drainage Management, and Soil Health as well as specialized loan programs. By far the largest program, funded this year by an estimated \$9.7 million from the dedicated sales tax proceeds, is the Projects and Practices program. A description* of this program is included in the meeting packet. Shingle Creek has been very successful over the last several years in obtaining over \$2 million in grant funding from the CWLA to undertake projects, including the Palmer Estates Stream Restoration, Connections II Stream Restoration, Meadow Lake Management Plan, Bass and Pomerleau Alum Treatment, the Becker Park Infiltration project, and the original Connections I Stream Restoration.

Projects and Practices grants require a 25% local match and must be used to implement priority protection or restoration actions listed in or derived from a current state approved and locally adopted plan, and must have clear, measurable outcomes. Grants would be available in Spring 2023 and must be fully expended by December 31, 2025. Eligible applicants include counties, WMOs, cities, and a few other entities. Applications are due August 22, 2022.

At this time Shingle Creek has no pending projects that are positioned for construction or implementation. The next projects that might benefit from grant funding are the proposed Bass Creek Stabilization from TH 169 to 63rd Avenue, and the Eagle Lake Management Plan. Both those projects require additional planning and feasibility work before they would be ready to request grant funding, perhaps in 2023.

There is one potential project in West Mississippi that Brooklyn Park and Hennepin County have proposed in the past, stabilizing severely eroding Mississippi Riverbanks adjacent to several private properties. The city had submitted an application last year, but it was not selected for funding. Presumably this could be submitted again, noting that the West Mississippi Commission is dedicating a majority of its Watershed Based Implementation Funding as well as Partnership Cost Share to the project.

Motion by Roach, second by Mulla to direct Staff to prepare an application for the West Mississippi restoration project for approval at the August meeting. *Motion carried unanimously*

XI. Education and Public Outreach.

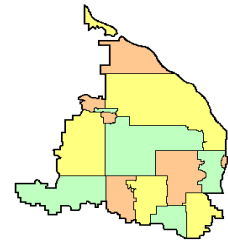
The West Metro Water Alliance (WMWA) will meet via Zoom at 8:30 a.m., August 9, 2022.

At their July meeting, members of WMWA focused on creating a position description for the education and outreach coordinator. This will be a two-year limited duration Hennepin County position dedicated half time to WMWA/funding partners activities and half time to more general County environmental education and outreach activities.

XII. Communications.

A. Staff Report.*

1. Watershed Boundary Adjustments. (See VIII.A.2., above.)



2. Watershed Based Implementation Funding. The Shingle Creek and West Mississippi Convene Groups have made recommendations for funding. They are awaiting a final project description for the proposed joint education and outreach coordinator, which is expected in August. Once that is received, any final adjustments will be made and Staff will proceed to work with BWSR to contract the funds.

3. Crystal Lake Management Plan. Stantec, WSB, and the City of Robbinsdale have been working together to bait and remove carp using box nets on the south shore of Crystal Lake for the second year in a row. Three removal events have occurred in 2022, removing 1,459 carp from the lake, and bringing the total removed for both years to 5,382 carp. At least one more removal is planned for this summer. The second alum treatment is planned for September 2022. Sediment phosphorus release rates measured from cores taken in May 2022 show a significant decrease.

4. Bass and Pomerleau Lakes Native Plant Translocation. Stantec has begun planning the harvesting and transplanting of vegetation to Bass Lake. Vegetation will be harvested with the assistance of the DNR and the Bass Lake Improvement Association from Big Carnelian Lake in May Township, MN. Big Carnelian was chosen because of its extremely diverse vegetation community. Stantec scoped plot locations in Bass Lake and is working to set up plots to be deployed in the lake.

5. Meadow Lake Management Plan. Monthly water quality monitoring has been ongoing on Meadow Lake and the lake appears in good condition. A fish survey and vegetation survey are planned for late July to assess the impact of the drawdown on the fathead minnow and curly-leaf pondweed populations. Sediment cores will be collected from the lake in July to assess the impact of the drawdown on sediment consolidation, phosphorus fractions, and phosphorus release rates.

6. Connections II and Bass Creek Restoration Projects. Connections II has had all major restoration and stabilization elements installed. Vegetation is coming in and the City of Brooklyn Center has removed trees from the stream corridor that fell during a late spring storm event. All that remains from the project is a vegetative maintenance task scheduled for Summer of 2023. Bass Creek has also had all major restoration and stabilization elements installed. The contractor is onsite this week finalizing stabilization and working through a final punch list. The contractor plans to complete the punch list by July 15 so all that will remain for the project is a vegetative maintenance task scheduled for Summer of 2023.

7. Palmer Creek Estates Channel Restoration. 60% plans and permitting are underway for stabilization of Schmidt and Ives Channels at Palmer Creek Estates. Construction is planned for this winter. Stantec expects to present the final design at the August TAC meeting, and the City will host a public meeting in September.

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

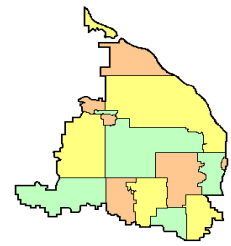
XIII. Other Business.

XIV. Adjournment. There being no further business before the Commissions, the joint meeting was adjourned at 2:40 p.m.

Respectfully submitted,

Judie A. Anderson
Recording Secretary
JAA:tim

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Real-time streamflow for all USGS gages in Minnesota

- [USGS Current Conditions for Minnesota Streamflow](#)

Current web page for Shingle Creek

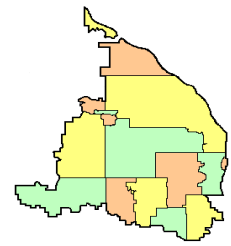
- [USGS Current Conditions for USGS 05288705 SHINGLE CREEK AT QUEEN AVE IN MINNEAPOLIS, MN](#)
- Stage (water level), discharge, water temperature, and specific conductance.
- In box to right of graph, can compare Shingle data to other sites, like Minnehaha (05289800) or Rice Cr (05288580)
- This web page also has links at the top header that will take other data and information collected at the gage, including
 - **Link to WaterWatch gage dashboard** which contains context-added information regarding gage
 - [USGS WaterWatch's "Site Dashboard"](#) where you'll graphs of
 - ◇ Cumulative flow hydrograph
 - ◇ Duration Hydrograph give current flow in context of range of flows that have occurred in period of record
 - ◇ Flood Tracking chart AND table of annual peaks
 - ◇ Rating curve with recent Qms and link to table of our current rating curve (You can add any station ID to this link to get current rating curve for that site)
 - ◇ Raster hydrograph
 - This site may undergo changes in the next year or so also
- **Link:** gage is also part of the USGS National WQ network [USGS National Water Quality Network](#)
 - ◇ [Factsheet https://pubs.usgs.gov/fs/2021/3019/fs20213019.pdf](https://pubs.usgs.gov/fs/2021/3019/fs20213019.pdf)
 - ◇ [NWQN Real-time WQ web site https://nrtwq.usgs.gov/nwqn/#/](https://nrtwq.usgs.gov/nwqn/#/)
 - ◇ <https://nrtwq.usgs.gov/nwqn/#/site/05288705>
 - ◇ [Graphs of annual loads and trends \(WRTDS\)](#)
 - ◇ [Graphs of observed concentrations and trends \(WRTDS\)](#)

Link: Next Generation Monitoring pages [SHINGLE CREEK AT QUEEN AVE IN MINNEAPOLIS, MN - USGS Water Data for the Nation](#). Features still being added (I don't use it yet). Slider bars. Simplified selection buttons. Map is better. Available data and meta data. Still in progress: Historical data, data retrievals route to classic pages (or use Water Services)

New WaterDashboard National Map of Streamgages [USGS | National Water Dashboard](#)

Under gaging stations:

- ◇ Discharge (default) Zoom into metro. Summaries of stations in map view
- ◇ SW Levels – can see which are in NWS flood status, rising falling, etc.
- ◇ WQ turn on ALL, see stations with water temp, or SC
- ◇ Atmospheric
- ◇ Weather Conditions> recent radar-indicated precip or NWS QPF:1,2,3 days
- ◇ Hydrology
- ◇ Rivers
- ◇ Watershed boundaries
- ◇ Aquifers (uppermost bedrock)



New HIVIS Webcams [USGS HIVIS \(Hydrologic Imagery Visualization and Information System\)](#)

USGS reasons for cameras are (1) winter discharge estimates, knowing conditions before/instead of trip, stage verification, outreach, future LSPIV; NWS ice jams; cooperators: water transparency, conditions, etc.

- ◇ Show Hastings for visuals
- ◇ Elm Cr for useful ice estimates & stage verification, dune movement
- ◇ Show Minnehaha Cr outflow: gate setting changes
- ◇ Bad River Reservation site Denominie site, stage data AI

Large Scale Photometric Image Velocimetry [Streamflow Estimation from Advanced Imaging \(LSPIV\) in Pennsylvania | U.S. Geological Survey \(usgs.gov\)](#)

Currently 2 in flashy parts of Minnesota. We plan to pilot a site with Coon Cr WD to help them rate some of their channels

SHINGLE CREEK WATERSHED MANAGEMENT COMMISSION**PROJECT REVIEW SC2022-05: NORTH 100 BUSINESS PARK**

Owner: Dan Salzer
Company: Scannell Properties
Address: 294 Grove Lane, Suite 140 Wayzata MN 55391

Engineer: Brian M. Wurdeman
Company: Kimley-Horn and Associates, Inc.
Address: 767 Eustis Street, Suite 100 St. Paul, MN

Phone: 651-645-4197
Email: brian.wurdeman@kimley-horn.com

Purpose: Redevelopment of former Sears store into a two-building commercial park on approximately 17 acres.

Location: Section 3, Township 118N, Range 21W Brooklyn Center, Hennepin County, MN.

- Exhibits:**
1. Project review application, dated 6/8/202, received 6/8/2022.
 2. Site plan, preliminary plat, grading (Figure 2), utility, erosion control, and landscaping plans, by Kimley-Horn, dated 8/4/22, received 8/4/22.
 3. Hydrologic calculations, by Kimley-Horn, dated 8/4/22, received 8/4/22.
 4. Project review fee of \$2500, dated 7/7/22, received 7/7/22.

- Findings:**
1. The proposed project is a redevelopment of an existing site into a two-building industrial park. The site is 17.4 acres. Following development, the site will be 75 percent impervious with 12.9 acres of impervious surface, a decrease of 3.0 acres.
 2. The complete project application was received on 7/7/2022. To comply with the 60-day review requirement, the Commission must approve or deny this project no later than the 8/11/2022 meeting. Sixty calendar-days expires on 9/4/2022.
 3. To comply with the Commission's water quality treatment requirement, the site must provide ponding designed to NURP standards with dead storage volume equal to or greater than the volume of runoff from a 2.5" storm event, or BMPs providing a similar level of treatment - 85% TSS removal and 60% TP removal. Infiltrating 1.3-inches of runoff, for example, is considered sufficient to provide a similar level of treatment. If a sump is used the MnDOT Road Sand particle size distribution is acceptable for 80% capture. Runoff from the site is proposed to be routed to a filtration and infiltration basins. The applicant meets Commission water quality treatment requirements.

SC2022-05: North 100 Business Park (Sears)

- 4. Commission rules require that site runoff is limited to predevelopment rates for the 2-, 10-, and 100-year storm events. Runoff from the site is routed to a SE basin, Highway 100, and the Frontage Road. The applicant meets Commission rate control requirements (Table 1).

Table 1. Runoff from site (cfs).

Drainage Area	2-year event		10-year event		100-year event	
	Pre-	Post-	Pre-	Post-	Pre-	Post-
Highway 100	47.4	4.2	73.0	20.5	128.3	100.7
SE Basin	7.5	0.7	11.3	9.8	19.6	18.0
Frontage Road	9.6	0.5	14.5	0.9	25.0	1.5
Total Site	64.5	5.4	98.8	29.8	173.0	120.0

- 5. Commission rules require the site to infiltrate 1.0 inch of runoff from the new impervious area within 48 hours. The new impervious area on this site is 12.9 acres, requiring infiltration of 1.1 acre-feet within 48 hours. The applicant proposes filtration and infiltration basins. The filtration and infiltration basins have a combined 1.6 acre-feet of capacity to filter/infiltrate the required volume within 48 hours. The applicant meets Commission volume control requirements.
- 6. The erosion control plan is included with a rock construction entrance, perimeter silt fence/biolog, silt fence surrounding detention ponds/infiltration basins, inlet protection, rip rap at inlets, slope checks, and native seed specified on the pond slopes. The erosion control plan meets Commission requirements.
- 7. The National Wetlands Inventory does not identify any wetlands on site. The applicant meets Commission wetland requirements.
- 8. There are no Public Waters on this site. The applicant meets Commission Public Waters requirements.
- 9. There is no FEMA-regulated floodplain on this site. The low floor elevations of the buildings are at least two feet higher than the high water elevation of the filtration basin and infiltration basin according to Atlas 14 precipitation. The applicant meets Commission floodplain requirements.
- 10. The site is located in a Drinking Water Management Area but is outside of the Emergency Response Area. Therefore, infiltration is permitted, but infiltrated water must first filter through 1 foot of soil, the top four inches of which are amended topsoil, and the bottom 8 inches of which are tilled. The applicant meets Commission drinking water protection requirements.
- 11. A public hearing on the project was conducted on June 23, 2022 as part of Planning Commission review of this project, meeting Commission public notice requirements.
- 12. A draft Operations & Maintenance (O&M) agreement between the applicant and the City of Brooklyn Center was not provided.

SC2022-05: North 100 Business Park (Sears)

13. A Project Review Fee of \$2500 has been received.

Recommendation: Recommend approval subject to the following conditions:

1. Demonstrate double-ring infiltrometer or witness test that the site can meet the design infiltration rate of 0.8 inches/hour.
2. Provide a complete O&M agreement between the applicant and the City of Brooklyn Center for all stormwater facilities on the project site.
3. Provide an EOF at an elevation of 852.9' with multiple spot elevations around the berm at 853.4'. 100-yr HWL shall be below the EOF and the EOF shall be at least 0.5' below top of berm. Reinforced EOF shall extend to the toe of the slope to prevent erosion.

Stantec, Inc.
Engineers for the Commission

Todd Shoemaker, P.E.

8/4/2022

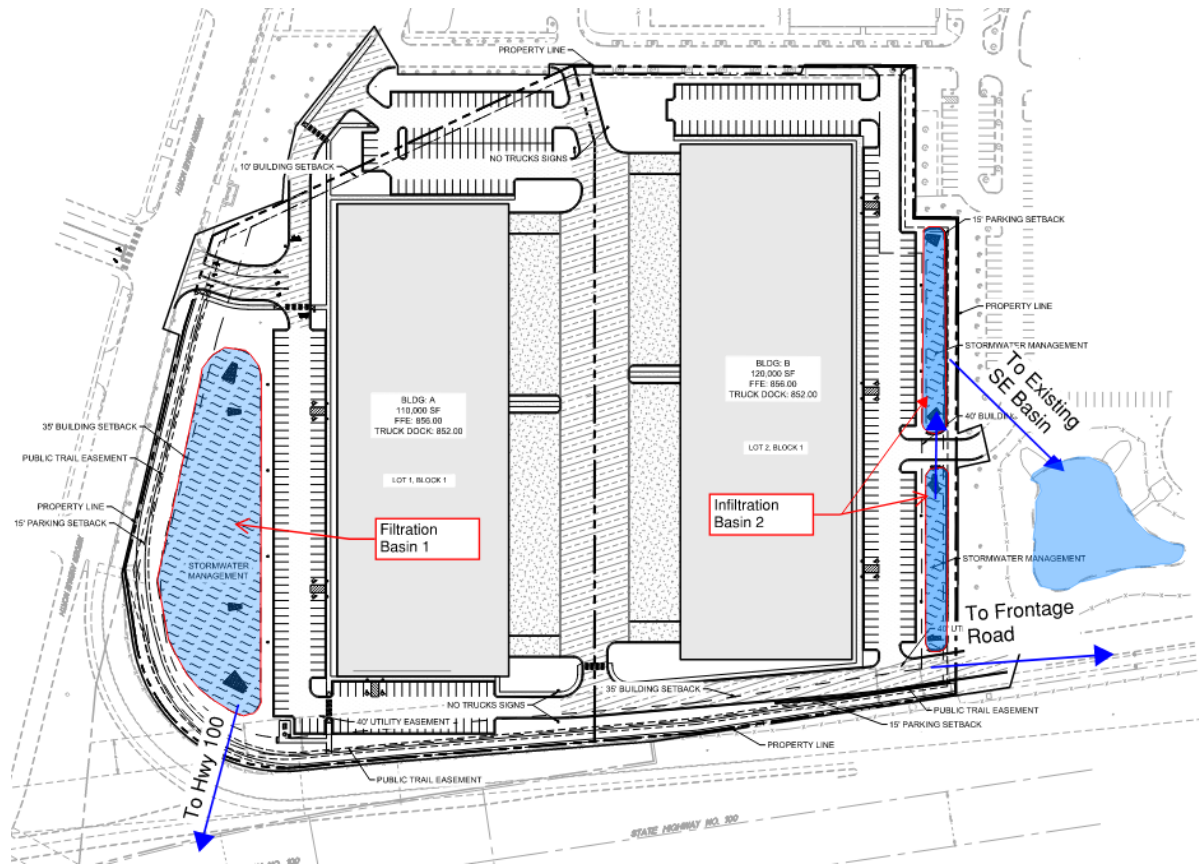
SC2022-05: North 100 Business Park (Sears)

Figure 1. Site location.



SC2022-05: North 100 Business Park (Sears)

Figure 2. Site grading plan.



WEST MISSISSIPPI WATERSHED MANAGEMENT COMMISSION

PROJECT REVIEW WM2022-03: 169 Logistics Center

Owner: Peter Mork
Company: Capital Partners Development LLC
Address: 5201 Eden Avenue, Suite 50 Edina, MN 55436

Engineer: Dan Wilke
Company: Carlson McCain, Inc.
Address: 3890 Pheasant Ridge Dr NE, #100 Blaine, MN 55449

Phone: 952-346-3864
Email: dwilke@carlsonmccain.com

Purpose: New development of two industrial buildings with parking lots

Location: No address assigned; southeast corner of Hwys 169 and 610 (Figure 1)

Exhibits:

1. Project review application and a project review fee of \$2500, dated 06/30/2022, rcvd. 06/30/2022.
2. Site plan (Figure 2), preliminary plat, grading, utility, erosion control, and landscaping plans dated and hydrologic calculations, by Carlson McCain, dated 07/25/2022, rcvd. 07/25/2022.

Findings:

1. The proposed project is 10.8 acres of undeveloped land. Following development, the site will be 71 percent impervious, an increase of 7.7 acres.
2. The complete Project Review was received on 07/06/2022. To comply with the 60-day review requirement, the Commission must approve or deny this project no later than the 08/11/2022 meeting. Sixty calendar days expire on 09/04/2022.
3. To comply with the Commission's water quality treatment requirement, the site must provide ponding designed to NURP standards with dead storage volume equal to or greater than the volume of runoff from a 2.5" storm event, or BMPs providing a similar level of treatment - 85% TSS removal and 60% TP removal. Infiltrating 1.3-inches of runoff, for example, is considered sufficient to provide a similar level of treatment. If a sump is used the MnDOT Road Sand particle size distribution is acceptable for 80% capture.

Runoff from the site is proposed to be routed to an infiltration basin and three underground infiltration chambers. The applicant meets Commission water quality treatment requirements.

4. Commission rules require that site runoff be limited to predevelopment rates for the 2-, 10-, and 100-year storm events. Runoff from the site is directed to an infiltration basin and three underground chambers. The Commission’s rate control requirements are met.

Table 1. Runoff from site (cfs).

Drainage Area	2-year event		10-year event		100-year event	
	Pre-	Post-	Pre-	Post-	Pre-	Post-
Southern Wetland	7.3	3.2	15	6.9	34	34
Northern Swale	6.2	0.6	13	1.4	29	4.7

5. Commission rules require the site to infiltrate 1.0” of runoff from new impervious area within 48 hours. The new impervious area on this site is 7.7 acres, requiring that 0.64 acre-feet be infiltrated within 48 hours. The applicant proposes one infiltration basin and three underground infiltration chambers that provide 1.24 acre-feet and can infiltrate the required volume within 48 hours, which meets Commission requirements.
6. The NWI does not identify any wetlands on site. The applicant meets Commission wetland requirements.
7. There are no Public Waters on this site. The applicant meets Commission Public Waters requirements.
8. There is no floodplain on this site. The low floor elevations of the buildings are at least two feet higher than the high-water elevation of the northern infiltration basin. The Atlas 14 100-year flood elevation is 881’ and the adjacent low floor is 888’. The applicant meets Commission floodplain requirements.
9. An erosion control plan was submitted with the project review and includes rock construction entrance, perimeter silt fence, slope checks, and native seed specified on the pond slopes. The erosion control plan meets Commission requirements.
10. The site is not located in a Drinking Water Management Area (DWSMA). The applicant meets Commission drinking water protection requirements.
11. A public hearing on the project was held on July 13th, 2022 as part of Planning Commission and City Council review of this project, meeting Commission public notice requirements.
12. A draft Operations & Maintenance (O&M) agreement between the applicant and the City of Brooklyn Park was not provided.
13. A Project Review Fee of \$2500 has been received.

Recommendation: Recommend approval subject to the following conditions:

WM2022-03: 169 Logistics Center

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. Demonstrate by double ring infiltrometer or witness test that the site can meet the design infiltration rate of 0.8 inches/hour.

Stantec Consulting Services, Inc.
Engineers for the Commission

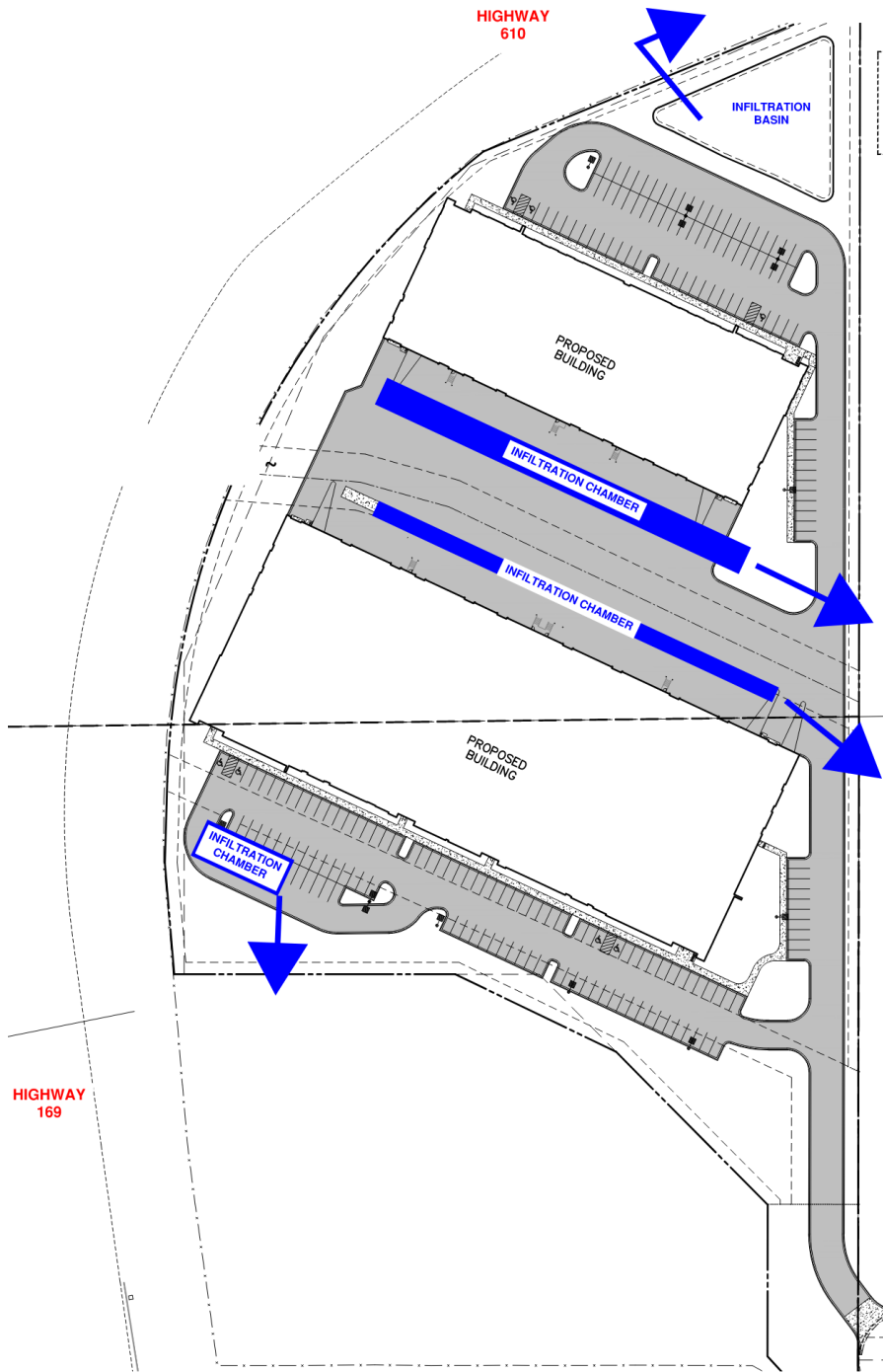
Todd Shoemaker, P.E.

08/05/2022

Figure 1. Site location.



Figure 2. Site plan.



To: Shingle Creek/West Mississippi WMO Commissioners

From: Todd Shoemaker, P.E.
Diane Spector

Date: August 5, 2022

Subject: 2022 Capital Improvement Program: Call for Public Hearing

Recommended Commission Action	Each Commission should call for a Public Hearing on September 8, 2022 to consider proposed projects and proposed levies.
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The Commissions had previously established maximum proposed levies for the 2022 Capital Improvement Program (CIP). The next step in the process is to receive and discuss feasibility studies for any proposed capital projects and call for a public hearing on those projects and programs that you desire to move forward. There are no proposed capital projects for 2022. Tables 1 and 2 attached show the annual cost share programs and the new Project Maintenance Fund and their proposed levies followed by short project summaries.

The final step in the CIP process will be to hold a public hearing on the proposed projects. This should occur at the Commissions’ regular September 8, 2022 meeting. At that time the Commissions will formally order the projects and certify levies to Hennepin County.

Table 1. Shingle Creek 2022 CIP Projects (2023 levy).

Project	Total Estimated	City/ Private	Grant	Commission Share
Cost share (city projects)	\$200,000	\$100,000	0	\$100,000
Partnership cost share (private projects)	50,000	0	0	50,000
Maintenance fund	50,000	0	0	50,000
Subtotal	\$300,000	\$100,000	\$0	\$200,000
5% additional for legal/admin costs				10,000
Subtotal				210,000
TOTAL LEVY (101% for uncollectable)				\$212,100

Table 1b. Levy by project.

Project	Total Levy
Cost share (city projects)	\$106,050
Partnership cost share (private projects)	\$53,025
Maintenance fund	\$53,025
Total	\$212,100

Table 2. West Mississippi 2022 CIP Projects (2023 levy).

Project	Total Estimated	City/Private	Grant	Commission Share
Cost share (city projects)	\$100,000	\$50,000	0	\$50,000
Partnership Cost Share	100,000	0	0	100,000
Subtotal	\$150,000	\$50,000	\$ 0	\$150,000
5% additional for legal/admin costs				7,500
Subtotal				157,500
TOTAL LEVY (101% for uncollectable)				\$159,075

Table 2b. Levy by project.

Project	Total Levy
Cost share (city projects)	\$53,025
Partnership Cost Share	106,050
Total	\$159,075

Shingle Creek Projects

Cost Share Fund. This annual project provides cost sharing to retrofit voluntary BMPs on city property. The TAC developed policies and procedures to administer these funds and makes recommendations to the Commission on which projects should be funded. The annual levy is \$100,000, to be matched at least one-to-one by a member city or cities. Applications are open until funds are depleted.

Partnership Cost Share Fund. This annual project provides cost sharing to retrofit voluntary BMPs on private property. The TAC developed policies and procedures to administer these funds and makes recommendations to the Commission on which projects should be funded. The annual levy is \$50,000, and funding does not require a match. Applications are open year-round until the funds are depleted.

Maintenance Fund. This program makes funds available for nonstructural practices such as, but not limited to, rough fish management; invasive aquatic vegetation control; alum treatment touch-up; native aquatic vegetation translocation; and maintenance of Commission- installed projects for which a member City has not accepted maintenance

West Mississippi Projects

Cost Share Fund. This annual project provides cost sharing to retrofit voluntary BMPs on city property. The TAC developed policies and procedures to administer these funds and makes recommendations to the Commission on which projects should be funded. The annual levy is \$50,000, to be matched at least one-to-one by a member city or cities. Applications are open until funds are depleted.

Partnership Cost Share Fund. This annual project provides cost sharing to retrofit voluntary BMPs on private property. The TAC developed policies and procedures to administer these funds and makes recommendations to the Commission on which projects should be funded. The annual levy is \$50,000, and funding does not require a match. Applications are open year-round until the funds are depleted.

To: Shingle Creek/West Mississippi WMO Commissioners/TAC

From: Todd Shoemaker PE
Diane Spector
Katie Kemmitt

Date: August 5, 2022

Subject: SCWM boundary adjustments update

**Recommended
Action**

For discussion and input.

SCWM Boundary Change

Staff is progressing on the boundary analysis and will have a more complete assessment of progress at the August 11 meeting. Todd will present.

To: Shingle Creek/West Mississippi WMO Commissioners/TAC

From: Todd Shoemaker PE
Diane Spector
Katie Kemmitt

Date: August 5, 2022

Subject: Water quality updates

**Recommended
Action**

For discussion and input.

Updates on ongoing water quality projects:

Palmer Creek Estates Stream Stabilization Plan Review

Chris Meehan, PE will present 60% design plans for the Palmer Creek Estates stream stabilization project.

Plymouth/Maple Grove Pike Creek Project

Ben Scharenbroich, City of Plymouth, will present on the Plymouth/Maple Grove Pike Creek restoration project.

Crystal Lake Management Plan

The second year of carp management on Crystal Lake ended on 7/20/22. WSB executed 6 removal events and removed over 3,500 fish from the lake, bringing the total number of carp removed from both 2021 and 2022 to over 7,500. The second alum treatment is scheduled for Fall 2022. Katie will present some water quality and sediment data collected from the lake in 2022 and provide an update on project progress.

Bass Lake Vegetation Improvements

On July 27th, Stantec, the DNR, volunteers from the Bass Lake Improvement Association and Schmidt Lake, and the City of Plymouth worked together to harvest and introduce native, desirable aquatic plants to Bass Lake. Think of it like gardening in a lake! Twelve native species were collected from Big Carnelian Lake near Stillwater, Minnesota by snorkeling and wading. Plants brought back to Bass Lake where they were "planted" in burlap mats and secured to the lake bottom in fenced-off plots. Staff will be checking in on the plots periodically throughout the rest of the summer to see what plants have success in Bass Lake. Katie will show some pictures from the field event and share plans for monitoring.

To: West Mississippi WMO Commissioners
From: Diane Spector
Date: August 5, 2022
Subject: Clean Water Fund Grant Application

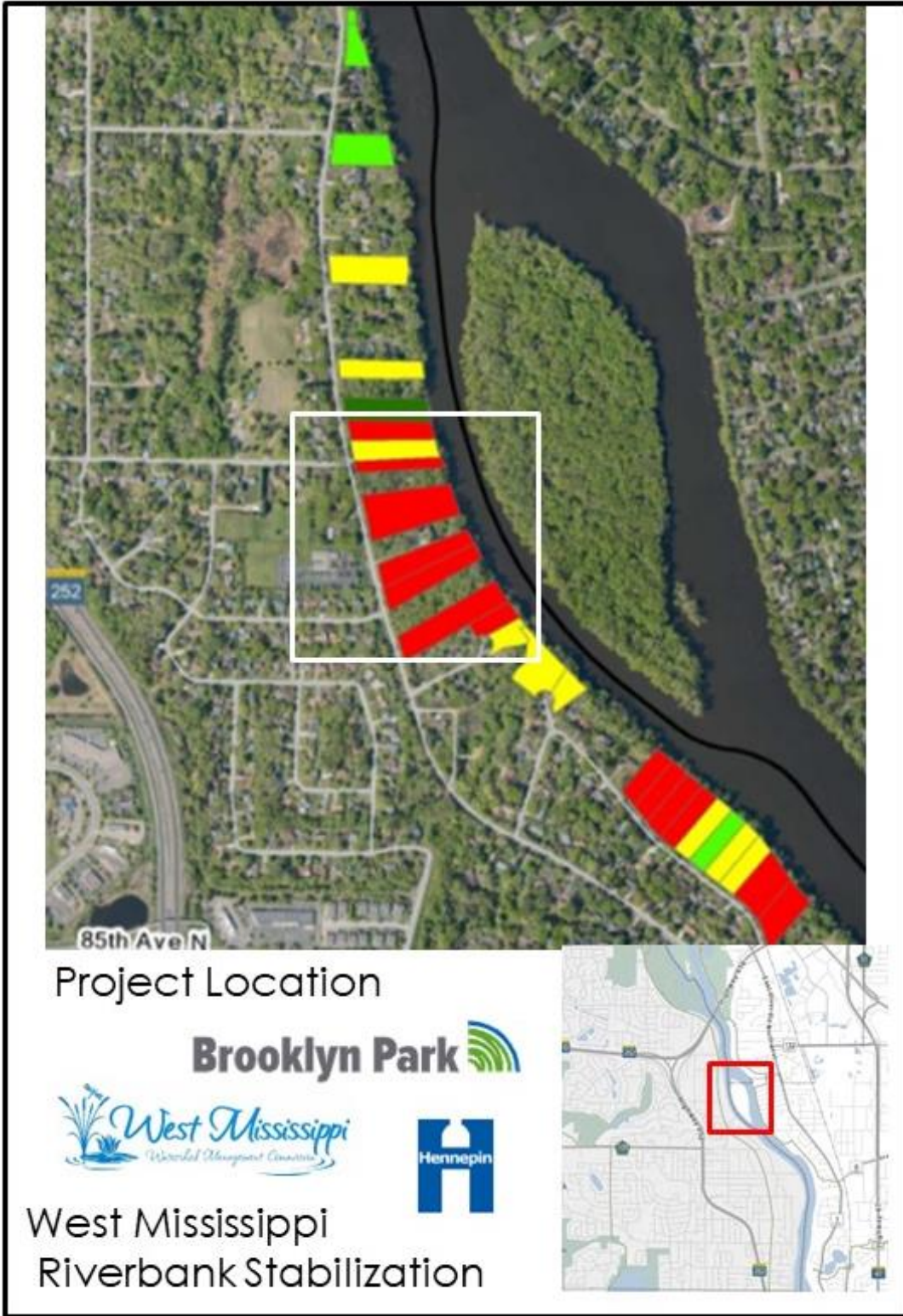
**Recommended
Commission Action**

Comment and authorize submittal of application with any further revisions.

The Clean Water Fund grant applications are due August 22, 2022. The Commission authorized completion of an application for a project in Brooklyn Park, The West Mississippi River Shoreline Stabilization project. This is a joint Brooklyn Park/Hennepin County project to stabilize severely eroding riverbanks on seven properties just west of Banfill Island (see Figure 1). The application had previously been submitted by the city, but it did not get funded.

To emphasize and make clearer that this project is also a priority for the Commission, the Commission is now the applicant. The Commission had previously adopted a Partnership Cost Share Program and clearly specified that the funds could be used for high priority riverbank projects under certain conditions, which this project does meet. Should this application be funded, as is typical of Commission grant funded projects, the City and Commission would execute a subgrant agreement whereby the Commission agrees to pass the grant funding through to the City and the City agrees to take on all the responsibilities of the grant agreement.

The draft application is attached for your review and comment. This is still a work in progress and there will likely be some additional wordsmithing prior to its submittal.



The main image is an aerial photograph of a residential area along a river. A black line traces the riverbank. Several rectangular areas are highlighted with colors: green, yellow, and red. A white rectangular box highlights a specific section of the riverbank with red and yellow highlights. A road labeled '252' and '85th Ave N' is visible on the left. Below the aerial map is a smaller inset map showing a larger geographic area with a red rectangle indicating the project's location.

Project Location

Brooklyn Park

West Mississippi
Watershed Management Committee

Hennepin

West Mississippi
Riverbank Stabilization

Clean Water Fund FY23 Projects and Practices Questions
Responses limited to 2000 characters except where noted.

West Mississippi River Shoreline Stabilization

Project Abstract: Succinctly describe what you are trying to achieve and how you intend to achieve those results, including the type and quantity of projects and/or practices included in the application budget and anticipated outcomes.

This Mississippi River Shoreline Stabilization Project will enhance water quality, restore natural habitats, and sustain and protect property along the west banks of the Mississippi River, in the West Mississippi Watershed within the City of Brooklyn Park. A 5.8-mile shoreline assessment completed in Summer 2020 (Mississippi River Stabilization Project Site Assessment and Summary) comprehensively surveyed erosion issues along the City's river shoreline and identified numerous riverfronts severely eroding into the river, contributing significant sediment and nutrient loads. The report catalogued these properties and identified a set of properties west of Banfill Island as the most critical and cost-effective for restoration. This grant request is to support Phase I of a multi-year project, and will restore approximately 715 linear feet of river shoreline with the most severe erosion. The project scope includes final design, administration, and construction on up to seven non-profit and privately-owned properties, targeting stabilization of both the toe of the slope as well as mid-bank destabilization of groundwater seepages. Design strategies may include hard armoring such as riprap at/below the toe of the slope and/or drain tile to manage groundwater seepages but will emphasize bioengineering practices that enhance aquatic and terrestrial habitats while maintaining long-term environmental sustainability of the practices. The total budget for Phase I of the project is \$884,000 with \$663,000 requested from BWSR and \$221,000 from local sources including the landowners (\$101,000), the city (\$40,000), Hennepin County (\$40,000), and West Mississippi Watershed Management Commission (\$40,000).

Proposed Measurable Outcomes: In 250 characters or less, state the proposed measurable outcomes of the project. (250 characters)

For Phase 1:

- (1) Sediment reduction: 548 tons/yr, 13,688 tons over 25-yr lifespan at \$68.01/ton
- (2) TP reduction: 506 lb-TP/yr, 12,661 lbs over 25-yr lifespan at \$70.28/lb
- (3) Aquatic & terrestrial habitat restoration along critical corridor

Does your organization have any active CWF competitive grants? If so, specify FY and percentage spent. Also, explain your organization's capacity (including available FTEs or contracted resources) to effectively implement additional Clean Water Fund grant dollars.

The West Mississippi WMC has no active CWF competitive grants. The City of Brooklyn Park recently completed a 2020 CWF grant project for stormwater and habitat improvements in the City's River Park.

Water Resource: Identify the water resource the application is targeting for water quality protection or restoration.

Mississippi River (AUID 07010206-805): A 5.8 mile stretch of the west bank of the Mississippi River from 73rd Ave. N. to 109th Ave N. in Brooklyn Park was considered for this project. The scope was narrowed down to the most critical areas on the west side of Banfill Island, as identified in the Site Assessment

Report, approximately 715 linear feet from just north of 89th Ave N to Mattson Brook Ln. Other critical areas on this stretch of river could be addressed with future phases.

Prioritization (Relationship to Plan): Question 1. (17 points): (A) Describe why the water resource was identified in the plan as a priority resource. For the proposed project, identify the specific water management plan reference by plan organization (if different from the applicant), plan title, section, and page number.

The Watershed Management Plan establishes five guiding priorities, the first of which is “Work aggressively toward achieving TMDL lake and stream goals” (p. 4-4). The Plan states “The Third Generation goals for water quality are focused on making progress to improve the lakes and streams in the watersheds” (p. 4-6) and acknowledges that “watersheds in the Upper Mississippi River basin, including Shingle Creek and West Mississippi, will be impacted by the South Metro Mississippi turbidity TMDL” (p. 2-19) Goal F.2 is to “Foster implementation of TMDL ... projects by sharing in their cost and proactively seeking grant funds (p. 4-10). In 2021, the Commission added an annual Partnership Cost Share Program to its CIP. Guidelines state that riverbank projects are eligible if 1) they’ve been systematically assessed and only those moderate or worse are eligible, and 2) there must be a quantifiable load reduction. Both are met through completion of the MSRP Site Assessment and Summary report.

This project advances several goals within the City’s 2040 Comprehensive Plan. Specifically this project addresses plan goals in Ch. 10 (pg 538) to improve surface water quality (Goal #3), protect and enhance fish and water related wildlife habitats (#4), and protect and enhance opportunities for water recreation (#5) and in Ch. 12, the Mississippi River Corridor Critical Area Plan (p 647), to work with property owners to introduce vegetation on riverbanks and steep slopes to control erosion (#5) and to enhance shoreline restoration, tree preservation and replacement, water quality management, and erosion control in the river corridor (#7). The project site is within the MRCCA Bluff Impact Zone.

This also meets Hennepin County’s Natural Resources Strategic Plan goals to restore degraded waterbodies not meeting water quality standards (Goals 1.1.2 & 1.1.4, pp 10-11) and to work cooperatively with county partners to address soil erosion (Goals 2.4.1 & 3.1.1, pp 19-20) while leveraging dollars among multiple agencies (Goal 5.1.1 p. 24).

Prioritization (Relationship to Plan): Question 1, continued: (B) In addition to the plan citation, provide a brief narrative description that explains whether this application fully or partially accomplishes the referenced activity.

This project is proposing stabilization of both the toe of the slope as well as mid-bank destabilization caused by groundwater seepages. Design strategies may include hard armoring such as riprap at/below the toe of the slope and/or drain tile to manage groundwater seepages but will emphasize bioengineering practices that enhance aquatic and terrestrial habitats while maintaining long-term environmental sustainability of the practices. Combined, this will accomplish the goals to improve recreation, water quality, and habitat which were called out in the above plans by stabilizing the slope, increasing vegetation, and improving near-shore habitats, thereby reducing both the sediment load to the river by 548 tons/yr and the phosphorus load by 506 lbs/yr.

Brooklyn Park’s TP load as stated on Page 67 in the Lake Pepin TMDL is assumed at 0.50 lb/acre/year. At 17,020 acres, a reduction of 2,553 lb/year of TP is required to meet the waste load allocation of 0.35

lb/acre/year for Brooklyn Park. This project would provide just under 20% of the required waste load allocation.

Prioritization (Relationship to Plan): Question 1, continued: (C) Provide weblinks to all referenced plans.

City 2040 Comprehensive Plan:

https://www.brooklynpark.org/wp-content/uploads/2020/05/2040-Comprehensive-Plan_NoAppendices.pdf

City 2021-2025 CIP:

<https://www.brooklynpark.org/wp-content/uploads/2021/02/2021-2025-Capital-Improvement-Plan.pdf>

WMWMC 3rd Generation Plan:

http://www.shinglecreek.org/uploads/5/7/7/6/57762663/scwm_third_generation_plan_april_2013.pdf

WMWMC CIP and Partnership Cost Share Program:

<http://www.shinglecreek.org/member-city-resources.html>

Hennepin County's Natural Resources Strategic Plan:

<https://www.hennepin.us/-/media/hennepinus/residents/environment/natural-resource-management/natural-resources-strategic-plan.pdf>

Mississippi River Stabilization Project Page:

<https://www.brooklynpark.org/city-projects/mississippi-river-stabilization-project/>

Mississippi River Stabilization Project (MRSP) Site Assessment and Report:

https://www.brooklynpark.org/wp-content/uploads/2020/08/MRSP_Eng_Report_DRAFT1.pdf

Lake Pepin TMDL:

<https://www.pca.state.mn.us/sites/default/files/wq-iw9-22e.pdf>

Prioritization (Relationship to Plan): Question 2. (3 points): (A) Describe how the resource of concern aligns with at least one of the statewide priorities referenced in the Nonpoint Priority Funding Plan (also referenced in the "Projects and Practices" section of the RFP). (B) Describe the public benefits resulting from this proposal from both a local and state perspective.

This stabilization, water quality, and pollution prevention project will protect and restore eroding property along the Mississippi River resulting in the reduction of sediments and pollutants entering the Mississippi River. This project aligns with the 'Restore and protect water resources for public use and public health, including drinking water' state priority.

Minneapolis' Water Treatment and Distribution Facility is located on the Mississippi River 5 miles downstream, and this project is located within the Minneapolis Priority A Drinking Water Supply Management Area, Streambank erosion is identified as a high priority known contaminant. The restoration will use both hard armoring and biological techniques. In addition, This project is within the Mississippi River Corridor Critical Area (MRCCA). The MRCCA program promotes protecting and

preserving the natural, biological, ecological, cultural, and historic values of the Mississippi River to benefit the health and welfare of the citizens of the state, region, and nation.

The Mississippi River is impaired for nutrients not only at this stretch of the River (AUID 07010206-805) but for all downstream stretches downstream to and including Lake Pepin. People downstream live with the benefits and consequences of their upstream river neighbors. Removing a source of sediment and pollutants along this stretch of the River aids downstream communities by reducing the pollutant loads in the River for all stretches downstream. Reduced nutrient loads help decrease the risk of eutrophication, algal blooms, and low oxygen levels in the Mississippi River and Gulf of Mexico. In addition, there are TSS impairments for AUIDs 07010206-814 and 07040001-531 for the River upstream of Lake Pepin.

Targeting: Question 3. (15 points): Describe the methods used to identify, inventory, and target the root cause (most critical pollution source(s) or threat(s)). Describe any related additional targeting efforts that will be completed prior to installing the projects or practices identified in this proposal.

For years, property owners along the Mississippi River have asked for the City's support to partner on a more comprehensive and coordinated approach to address significant erosion issues along the river, including shoreline and tree loss due to high water, seeps, and ice damage; each resulting in sediments and other pollutants directly entering the river from adjacent riverfronts. High water in the decade preceding 2021 had laterally eroded multiple feet of shoreline, threatening houses and other structures. In June 2020, the City and County engaged over 55 property owners along the riverbank. The City received nearly 50 Letters of Intent granting permission for a site assessment and providing a good faith commitment to cost share work completed on their property.

Following the public meeting, site visits were conducted on these properties spanning the 5.8-mile riverfront in Brooklyn Park. The site visits were conducted by County staff to survey and assess existing erosion features, estimate the extent to which erosion has increased sediment and nutrient loading to the river, and understand the sources for this erosion. The MRSP Site Assessment and Summary document resulting from this field work classified and prioritized each property based on erosion severity and identified the properties west of Banfill Island as those exhibiting the most severe erosion which could most cost-effectively be addressed through a single restoration project. Erosion was most severe in this area due to a combination of flow-induced forces and destabilization in the banks from groundwater seepages. Without restoration, these banks would continue to erode at nearly a half-foot per year rate, further endangering buildings and properties, degrading habitat, and increasing sediment and nutrient load to the river.

Following an unsuccessful CWF grant application in 2020, additional public meetings and site visits have occurred in 2021 to identify and catalog additional erosion sites.

Targeting: Question 4. (10 points): How does this proposal fit with complementary work that you and your partners are implementing to achieve the goal(s) for the priority water resource(s) of concern? Describe the comprehensive management approach to this water resource(s) with examples such as: other financial assistance or incentive programs, easements, regulatory enforcement, or community engagement activities that are directly or indirectly related to this proposal.

From the beginning, this effort has been community led, with riverfront neighbors banding together to engage the City concerning the degradation to riverbanks and its impact on the river over the years.

More recently, the City and Hennepin County worked together to expand this effort to consider erosion issues more comprehensively across properties throughout the City's riverfront. This effort culminated in the MSRP Site Assessment and Summary report which identified the Banfill Island properties as the group most critically in need of assistance. Other neighborhood groups and individual properties in need of restoration assistance will be considered for implementation in the future when additional dollars are available.

This effort aligns well with other City, County, and Watershed Management Commission goals and priorities, including those identified within the Watershed Management Plan, the City's Comprehensive Plan and Stormwater Management Plan. Among other initiatives, the Watershed, City, County, and State have recently contributed over \$2,400,000 toward restoration of River Park that includes an integrated stormwater pond and an enhanced natural space with rain gardens. The BMPs will now provide water quality to a previously untreated 250-acre subwatershed, removing over 50 pounds of TP and 31,260 pounds of sediment from water discharging to the Mississippi River.

Additionally, the City is working with Three Rivers on the redevelopment of the Mississippi Gateway Regional Park. This project would include riverbank stabilization to an area just north of this proposed grant location.

Measurable Outcomes and Project Impact: Question 5. (10 points): (A) What is the primary pollutant(s) this application specifically addresses? (B) Has a pollutant reduction goal been set (via TMDL or other study) in relation to the pollutant(s) or the water resource that is the subject of this application? If so, please state that goal (as both an annual pollution reduction AND overall percentage reduction, not as an in-stream or in-lake concentration number). (C) If no pollutant reduction goal has been set, describe the water quality trends or risks associated with the water resource or other management goals that have been established. (D) For protection projects, indicate measurable outputs such as acres of protected land, number of potential contaminant sources removed or managed, etc.

Riverbank restorations proposed in this application will directly address water quality impairments in the Mississippi River as any erosion from these banks discharge directly to the river. Once completed, this project is estimated to annually keep 548 tons of sediment and 506 lbs of TP from eroding into the River. Over the anticipated 25-year lifetime of the practices, that amounts to 13,688 tons of sediment and 12,661 lbs-TP at a cost-effectiveness (including maintenance) of \$65.01/ton of sediment and \$70.28/lb-TP. In addition, anticipated secondary benefits include restored and enhanced near-channel habitats and improved access to the river for homeowners and the public (via the Izaak Walton League).

The sediment and nutrients currently eroding into the river are exacerbating downstream water quality issues, including sedimentation which inhibits fish spawning and healthy benthic habits and eutrophication from increased nutrient loads. This reach of the Mississippi River (AUID 07010206-805) is impaired for nutrients and had a pollutant load reduction goal established in the recently completed Lake Pepin TMDL. The plan calls for a 20% reduction in TP loads in the Twin Cities Metro upstream of Lock & Dam #1 in St. Paul. For sediment, the South Metro Mississippi River similarly proposed a 20% reduction from non-point sources in the Mississippi River basin. This project is also consistent with the goals set forth in the Sediment Reduction Strategy, which calls for a 25% reduction in sediment loading by 2020 and a 50% reduction by 2030. That report, along with the Lake Pepin TMDL, directly call out

river and stream bank erosion as significant contributors to both sediment and nutrient impairments downstream. This project can cost-effectively help in addressing all of these goals.

Measurable Outcomes and Project Impact: Question 6. (10 points): (A) What portion of the water quality goal will be achieved through this application? Where applicable, identify the annual reduction in pollutant(s) that will be achieved or avoided for the water resource if this project is completed. (B) Describe the effects this application will have on the root cause of the issue it will address (most critical pollution source(s) or threat(s)).

As previously noted, this project will stabilize and restore severely eroded riverbanks along the Mississippi River and annually reduce erosion to the river by 548 tons of sediment and 506 lbs of TP. Over the 25-year lifetime of the practices, that amounts to 13,688 tons of sediment and 12,661 lbs-TP at a cost-effectiveness (including maintenance) of \$65.01/ton of sediment and \$70.28/lb-TP. This project will help to address the most immediate nutrient impairment along the Mississippi River (AUID 07010206-805), as stated in the answer to Question 5.

Based on evidence gathered during field work, riverbank erosion sources in this area include a combination of (1) toe erosion caused by high shear stress from increased flow velocities, (2) wave action from recreational boats during high flows, and (3) bank seepage which destabilizes the bank. This project will not be able to address the combined impacts of a wetter climate and land use decisions which have led to higher and more frequent intense flood events, but bank stabilization strategies will consider this “new normal” to ensure the restoration practices remain viable through the practice lifetime. Similarly, this project cannot address the choices river recreators make when operating vehicles on the river but will protect the banks from the impacts of wave action. Separately, the City, the Department of Natural Resources, and the Hennepin County Sheriff have been working diligently to better ensure boaters are aware of no wake warnings during times of high flows. Stabilization strategies will seek to manage and more safely convey bank seepages so that they do not continue to destabilize and erode the riverbanks.

Measurable Outcomes and Project Impact: Question 7. (5 points): If the project will have secondary benefits, specifically describe, (quantify if possible), those benefits. Examples: hydrologic benefits, climate resiliency, enhancement of aquatic and terrestrial wildlife species, groundwater protection, enhancement of pollinator populations, or protection of rare and/or native species.

This project's primary benefit is to reduce bank erosion and thereby reduce sediment and nutrient loading to the river. However, it is also an opportunity to restore aquatic and terrestrial habitats along a critical area of the river. The strategies used for installation will consider preferred habitat environments for bird, fish, frog, snake, and turtle species, along with other invertebrate and medium to large vertebrate species. Where possible, softer bioengineered strategies such as root wads and live stakes will be used in lieu of hard armoring (e.g. riprap) to better support positive habitat and wildlife outcomes. These strategies are discussed further in the MRSP Site Assessment and Summary report.

Native plantings will also be included further upland along the banks. These plantings will incorporate pollinator-friendly native grasses, forbs, trees, and shrubs within an area deemed critical (Priority 1) for pollinator habitat re-establishment in the State of Minnesota's Lawns to Legumes program. These projects will be contiguous across over a half-dozen properties, allowing for establishment of a large buffer of native vegetation currently either unvegetated or over-grown with invasive species (predominantly buckthorn). Native vegetation species and planting plans will be consistent with

recommendations in BWSR's Native Vegetation Establishment and Enhancement Guidelines, as well as other scientific best practices.

Lastly, there will also be public benefit through the restoration and improvement of the Izaak Walton League property. Currently, the riverfront is inaccessible to most visitors. Restoration of the riverfront will reconnect this area to the property and give visitors access to the riverfront.

Measurable Outcomes and Project Impact: Question 8. (15 points): (A) Describe why the proposed project(s) in this application are considered to be the most cost effective and feasible means to attain water quality improvement or protection benefits to achieve or maintain water quality goals. Has any analysis been conducted to help substantiate this determination? Discuss why alternative practices were not selected. Factors to consider include, but are not limited to: BMP effectiveness, timing, site feasibility, practicality, and public acceptance. (B) If your application is proposing to use incentives above and beyond payments for practice costs, please describe rates, duration of payments and the rationale for the incentives' cost effectiveness.

Following public engagement activities, County staff conducted site visits on over 50 riverfront properties. The MRSP Site Assessment and Summary report was drafted to summarize the findings of the survey, the extent to which erosional features were found, the erosion severity, likely sources of erosion, the water quality impact of the erosion, and the strategies and cost to address erosion and stabilize the banks on each property. This analysis found the properties west of Banfill Island had the most severe damage and were most critically in need of repair. In addition, these were also deemed to be the most cost-effective to restore, largely due to the high erosion rate (therefore loading to the river) and the ability to restore them as a group and achieve some economy-of-scale savings. The report recommended restoration activities that utilized hard armoring only when absolutely necessary and advocated for bioengineered practices wherever feasible.

The estimated cost-effectiveness of these practices was \$65.01/ton of sediment and \$70.28/lb-TP, which are well below the typical cost-effectiveness for other urban BMPs. These cost-effectiveness estimates considered the full life cycle of the practice, including design, implementation, and maintenance (estimated at 15% construction costs) as well as the benefit realized over the 25-year lifetime of the practices.

Public and City Council engagement were recently completed and each group has shown a strong willingness to participate in the project. Grant award in early 2023 would also allow for design in spring and implementation in early fall when water levels are low. Lastly, the City Council also approved a resolution allowing landowners to assess their contributions to the project, including installation and maintenance, easing some immediate cost burden that often derails work on private property.

Question 9. (8 points): What steps have been taken or are expected to ensure that project implementation can begin soon after the grant award? Describe general environmental review and permitting needs required by the project (list if needed). Also, describe any discussions with landowners, status of agreements/contracts, contingency plans, and other elements essential to project implementation.

In 2020, the City, in partnership with Hennepin County, West Mississippi Watershed Management Commission (WMWMC) and Brooklyn Park riverfront homeowners, conducted a shoreline assessment to determine the severity of the erosion damage along the 5.8 mile stretch on the west bank of the

Mississippi River (73rd Ave. N. to 109th Ave N.) in Brooklyn Park, MN. The MRSP Site Assessment and Summary is being used to help define the priority properties and focus for this project. City of Brooklyn Park staff and Council members, along with Hennepin County staff, have met with nearly 60 riverfront property owners to discuss the process, scope, and homeowner's partnership and commitment to the riverbank stabilization project. There was overwhelming support for the City and County to advance this project, with over 50 Letters of Intent providing support for a site visit and a good faith commitment to financially support the project through cost sharing. Property owners highly encouraged the City to submit the grant application. City Council approved the City's contribution to this project, and, if awarded, approved financing the neighborhood contribution and assessing back to the homeowners over a 10-year period.

Partnering agencies will meet with all permitting agencies for pre-permit discussion to garner feedback on proposed design strategies and, later, for permit review. Expected permits include West Mississippi Watershed Management Commission rules related to stormwater management, erosion and sediment control, floodplain alteration, and wetland alteration; MRCCA regulations; MNDNR Public Water permits, and any necessary permissions from the Army Corps of Engineers and National Park Service.

If awarded, the City of Brooklyn Park would work with a contracted engineering firm in the spring and summer of 2023 to produce design documents. Construction would occur in either late 2023 or 2024 when water levels are low.

Question 10. (2 points): What activities, if any proposed, will accompany your project(s) that will communicate the need, benefits, and long-term impacts to your local community? This should go above and beyond the standard newsletters, signs and press releases.

While the scope for this grant is limited to the most critical properties along the River, the collaboration and outreach taken to work with a majority of the 128 non-public properties along the 5.8 mile stretch of shoreline within the City, has resulted in increased awareness and understanding of how important the impact of activities and issues on private lands have on surface water runoff and erosion and to the overall health of the River system. Ultimately, this also impacts the recreational value of the river and the quality of its use as drinking water for a large segment of the state population.

This project has also increased the awareness of the shoreline erosion issues with City, Hennepin County, and the West Mississippi Watershed Management Commission (WMWMC) policymakers, whereby increasing the potential for on-going commitment to support future funding and action, and to continue to partner with homeowners to advance implementation well into the future. The City and property owners will work together to share the progress of this project, if awarded, through its newsletters (Izaak Walton League), City social media, City newsletters, the City website, a separate project-specific website, and signage along the river. Hennepin County and WMWMC will also promote activities on their respective social media platforms and newsletters.

Stream Restoration Projects Only: The Legacy Fund Restoration Evaluation Report recommends early coordination and comprehensive planning for stream projects. Describe the expertise of your team (i.e. geomorphology, hydrology, plant and animal ecology, construction site management, and engineering) and early coordination efforts you have been part of to ensure project success.

The following staff will be on the project team overseeing execution of project tasks:

City of Brooklyn Park

Mitch Robinson (Water Resources Engineer): Mitch will serve as the grant administrator, fiscal agent and lead project management activities with Kris Guentzel. Mitch brings a background in civil engineering, with both project inspection and management. He was a part of three previous streambank stabilization project along Shingle Creek and Bass Creek.

Jesse Struve (City Engineer): Jesse will provide overall direction and assistance for staff and coordinate with City staff leadership and Council.

Hennepin County

Kris Guentzel (Senior Water Resources Specialist) - Kris has been a project manager for engineering and planning projects spanning from the local to state level across several public and private organizations. Kris was the chief author of the MRSP Site Assessment and Summary report and will be the main point of contact with landowners.

Kristine Maurer (Senior Conservation & Natural Resource Ecologist): Kristine is an aquatic and terrestrial habitat specialist and will be providing design recommendations to ensure that restoration techniques remain true to the habitat systems they're being implemented in.

The City will engage a well-qualified engineering firm to assist with development of design documents and with the selection of a licensed contractor for practice installation.

Early coordination efforts include the field work conducted in 2020 and 2021 to survey nearly 60 properties, outreach before and after field work to meet with neighborhood groups and individual landowners to garner signed Letters of Intent, and public meetings to discuss project goals and benefits with citizens at large.

Stream Restoration Projects Only: Describe how your organization will provide financial assurance that operations and maintenance funds are available if needed.

The City will work with the property owners participating in the project to develop a maintenance agreement for the proposed work. This agreement will have the property owners submit an annual inspection to the City to ensure proper maintenance is being performed. There will be language in the agreement that will allow the City to enter the property and perform any necessary maintenance if the property owner has neglected the proposed BMPs. Any costs for the maintenance by the City would then be assessed back to the property owner. The agreement will be recorded with Hennepin County for each parcel impacted, ensuring future owners of the property would be responsible for maintenance as well over the design life of the practices.

The Constitutional Amendment requires that Amendment funding must not substitute traditional state funding. Briefly describe how this project will provide water quality benefits to the State of Minnesota without substituting existing funding.

Riverbank restoration projects are one of the more costly water quality improvement projects per linear foot. In this area of the Mississippi River, this is especially true as banks show evidence of instability throughout the bank height, often approaching 40 feet. The MRSP Site Assessment and Summary report estimated the cost to restore banks on properties viewed during Summer 2020 at over \$3,920,000, not

including maintenance costs. This estimate is a fraction of the expected cost as only 38% of privately-owned Mississippi Riverfront properties in Brooklyn Park were surveyed. Even when pooling other resources from local government units including Hennepin County and the West Mississippi Watershed Management Commission, as well as riverfront landowners, the cost is too high for solely local implementation dollars. Thus, the local partnership felt it most practical to pool significant funding from multiple local sources and to leverage those dollars for state assistance through the Clean Water Fund.



SHINGLE CREEK / WEST MISSISSIPPI WATERSHED MANAGEMENT COMMISSION
MONTHLY COMMUNICATION LOG
July 2022

Date	From	To	SC	WM	Description
7/19/22	Todd Richards, HR Green	Todd Shoemaker	X		Discuss stormwater management requirements for expanded drive thru at Maple Grove Chik-Fil-A. Referred him to Derek Asche since site and disturbed area would be below Commission review requirements.
7/20/22	Salam Murtada, DNR	Erik Megow	X	X	Report that the Shingle Creek boundary analysis and West Mississippi maps are still going through internal QA/QC in-house
7/22/22	Brian Field, Anderson Engineering	Todd Shoemaker	X		Discuss stormwater management requirements for expansion at Providence Academy. Referred him to Ben Scharenbroich since disturbed area would be below Commission review requirements.
7/22/22	Jeff Weiss, DNR	Erik M		X	Clarification that the West Miss modeling update being performed by the DNR is limited to the previously-studied area, it is not a watershed-wide model.
7/25/22	MnDNR MPARS	SC WMC	X		DNR Request for Comments on proposed work in public waters permit for Pike Creek Stabilization, City of Plymouth