



<b>Title:</b>	Ordering the Morningside Stormwater Improvement Project, Authorizing Funding Agreement, and Amending 2025 Budget
<b>Resolution number:</b>	25-013
<b>Prepared by:</b>	Name: Rebecca Neal Phone: 952-641-4507 rneal@minnehahacreek.org
<b>Reviewed by:</b>	Name/Title: Becky Christopher, Policy Planning Director Name/Title: Charles Holtman, District Legal Counsel
<b>Recommended action:</b>	Formally order the Morningside Stormwater Improvement Project (Project); Authorize Administrator to execute a funding agreement for the Project; Authorize amendment to the 2025 Budget to provide funding for the Project
<b>Schedule:</b>	March 2025: City completes tree removal April 2025: Construction start by City June 2026: Construction completion
<b>Budget considerations:</b>	Fund name and code: Morningside Ravine Stabilization, 3501 Fund budget: \$0 (requires budget amendment and transfer from Capital Finance, 3001) Expenditures to date: \$0 Requested amount of funding: \$200,000
<b>Past Board action:</b>	Res #25-012: Directing Public Hearing to Consider Ordering the Morningside Stormwater Improvement Project Res #23-073: Adoption of the Land & Water Partnership Program Res #23-045: Approval of Agreement with Medina for Watershed-Based Implementation Funding for Morningside Project

## Summary

### Program Background

The Minnehaha Creek Watershed District (MCWD or District) is focused on the protection and improvement of natural resources in ways that support thriving communities. Since what happens on the land is the primary driver of the health of our natural resources, MCWD's Balanced Urban Ecology Policy (BUE Policy) recognizes that the District can deliver the most value to its communities by working in partnership with those who change the landscape.

The [Land and Water Partnership \(LWP\) program](#) is designed to provide technical and financial resources to support partner-led projects that provide significant, regional water resource benefit. MCWD operates the program in a way that supports its principles of focus and flexibility, by maintaining focus on high-impact projects and ensuring the flexibility to develop creative partnerships and respond to partner opportunities.

Unlike a typical cost-share or grant program, the LWP program is designed to promote early coordination and collaborative project development. The program has an orderly process for partners to coordinate during concept development so that prioritized projects can be integrated into MCWD's budgeting process and Capital Improvement Plan (CIP) for funding. This process includes annual deadlines to submit a Notice of Interest to request support at

feasibility and then at the implementation stage. Projects can also be considered outside of the program's annual schedule when an opportunity needs to move forward more quickly. The District provides this option to partners in order to offer flexibility and service based on unique project needs.

### Project Background

The Morningside Stormwater Improvement Project (project) opportunity was identified by the City of Medina (City) in 2022 and includes constructing a regional stormwater pond to treat approximately 76 acres of land and stabilizing three eroding ravines. The project is located within the Painter Creek Subwatershed, and runoff from these 76 acres drains to Lake Katrina, before ultimately discharging to impaired Jennings Bay (See Attachment 1). The landowner of the property where most of the work is planned (1225 Maplewood Dr.) is proposing to subdivide his lot into three parcels and would also like to see the ravine erosion addressed. He has granted an easement to the City for the project.

MCWD serves as the convener for the Board of Water and Soil Resources' (BWSR) Watershed-Based Implementation Funding (WBIF) program and helps coordinate with partners in the watershed to identify project opportunities for funding through this state grant. In late 2022, the City of Medina submitted the project for consideration, and MCWD helped secure \$243,200 in WBIF funding and serves as the grant administrator. In October 2023, the City completed a feasibility study and estimated a project cost of \$423,200, for which the City allocated \$180,000 to cover the remaining costs.

### Notice of Interest Submittal

In July 2024, the City initiated design. As the City worked through the design process, it identified that additional funding would be needed and engaged the District in October to discuss potential for funding support through the LWP program. Since the City's goal is to complete tree removal by March 2025 and begin construction in April 2025, staff have coordinated closely with the City within an expedited timeframe to review and refine the design for MCWD rule conformance as well as LWP funding eligibility.

The revised design includes stabilizing all three ravines as open channels using riprap and incorporates sheet piling to reinforce a series of three check dams in the main channel, a strategy which the City views as important for long-term stability (See Attachment 2). The project is estimated to achieve a total annual phosphorus (TP) load reduction of 36 lbs/yr, including 14.5 lbs from the stormwater pond and 21.5 lbs from the ravine stabilization. The proposed subdivision would utilize the basin to meet the MCWD stormwater rule requirement to provide for 5.3 lbs of TP removal annually, leaving the 30.7 lbs as extra regional treatment eligible for the LWP program. The estimated cost for the updated design is \$629,000, and the City has submitted a Notice of Interest under the LWP Program requesting funding support of \$200,000 to close the funding gap (See Attachment 3).

### Evaluation and Recommendation

Under the LWP program, staff have been evaluating requests for funding using the following four criteria categories, consistent with the [program implementation guidance](#): resource need, project benefits, cost effectiveness, and strength of the partner's coordination. Staff evaluated the City's request by applying these criteria, and then vetted the project through a cross-departmental team to inform the recommendation to the Board of Managers. The District Engineer has reviewed the submittals and verified that the project is feasible, and that the water quality calculations and cost estimates provided by the City are reasonable (See Attachment 4).

MCWD staff have had several meetings with the City to advise and steer the design toward a proposal that meets MCWD rules and can be a potential candidate for LWP funding, and the City has been cooperative and receptive to feedback. Staff see value in this partnership and the project as it provides a significant amount of regional treatment in one of the District's focal geographies, and demonstrates the value of collaboration to develop the best design for the site to achieve multiple goals. The project's cost-benefit for a 25-year lifecycle is estimated to be \$1,049 per pound of TP removed each year and is well within the cost effectiveness range recommended by the District Engineer (\$500-\$2,000 per pound of TP removed annually). In addition, of the 3 projects that MCWD has provided LWP funding for to date, the 30.7 pounds of regional treatment provided by this project would be the largest yet and is similar to treatment provided by District-led projects such as the Arden Park Restoration and the East Auburn Pond Retrofit projects.

Based on staff's evaluation of the project, the Board's feedback, and the City's work to update its design in line with the District's feedback, staff's recommendation is to provide LWP funding support of 40% of the construction cost (estimated at \$512,000), not to exceed \$200,000. The City has committed its own funding for the remainder of Project cost.

#### Requested Actions

The District may not commit levy funds to a project until it has provided for a public hearing; considered the views of the District engineer, staff, and public; and formally ordered the project. A public hearing has been duly noticed for February 13, 2025 and will be held prior to Board's consideration of this request for project ordering.

District staff, legal counsel, and engineer have drafted a funding agreement that sets forth the terms and requirements for funding between MCWD and the City (see Attachment 5). Under this agreement, the City would be responsible for all maintenance of the pond and stabilized channels. In addition, because the City has identified potential interest in utilizing the regional pond to meet stormwater management requirements in the future, the agreement includes terms for reimbursement of District funds to the extent that the City chooses to use, or allow a third-party property owner to use, available treatment capacity in the basin for the purpose of managing runoff from additional development.

Finally, because construction is proposed to occur in 2025, District support would require a budget amendment. The District's Capital Finance fund (3001) is used to strategically maximize capacity for project implementation by (1) providing flexible and strategic reserves for planned and unplanned opportunities to improve the watershed and (2) minimizing levy volatility by supporting short term cash flow needs. This fund has a current balance of \$14,518,768 in assigned funds. Staff recommends a 2025 budget amendment to add \$200,000 to the budget for the Morningside Ravine Stabilization fund (3501), and to transfer this amount from the Capital Finance fund so there is no impact on the levy.

Therefore, subject to the public hearing on February 13, 2025, staff recommend that the Board formally order the project and, on doing so, authorize the Administrator to execute a funding agreement, and authorize an amendment to the 2025 budget in order to provide funding for the Morningside Stormwater Improvement Project.

#### **Supporting Documents**

Attachment 1: Project Overview Map

Attachment 2: Proposed Site Plan

Attachment 3: Notice of Interest Submittal

Attachment 4: District Engineer's Technical Memo

Attachment 5: Funding Agreement



## RESOLUTION

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**Resolution number:** 25-013

**Title:** Ordering the Morningside Stormwater Improvement Project, Authorizing Funding Agreement, and Amending 2025 Budget

- WHEREAS, the Minnehaha Creek Watershed District (“District”) Watershed Management Plan (WMP), adopted pursuant to Minnesota Statutes §103B.231, outlines its intention to respond to opportunities created through land use change by means including opportunity-based projects, to target reduction of stormwater volume and nutrient loads to District surface waters;
- WHEREAS, to operationalize this commitment, the District developed the Land & Water Partnership (LWP) program, which offers technical and financial resources to partner-led projects based on a set of evaluative criteria and establishes an orderly process for such projects to be integrated into the District’s Capital Improvement Plan (CIP);
- WHEREAS, on November 27, 2023, by Resolution 23-073, the Board of Managers (“Board”) adopted the LWP program and directed that the program commence on January 1, 2024;
- WHEREAS, the City of Medina (“City”) has applied to the program, seeking financial assistance of \$200,000 to support implementation of the Morningside Stormwater Improvement Project (“Project”) to stabilize three eroding ravines and construct a stormwater pond to reduce total phosphorus (TP) loads to Jennings Bay;
- WHEREAS, District staff have evaluated the City’s request using the LWP program evaluation criteria, and propose that the District contribute funding support of 40% of awarded contract price, not to exceed \$200,000;
- WHEREAS, the District Engineer has reviewed the February 6, 2025 LWP – Morningside Stormwater Improvement Project Permit Application and Notice of Interest prepared on behalf of the City, as well as cost estimates provided by the City, and advises that the benefits assessment and cost estimate for the Project are reasonable;
- WHEREAS, on January 23, 2025, the Board concurred that the Morningside Stormwater Improvement Project should be considered for project ordering and directed notice of a public hearing;
- WHEREAS, in accordance with Minnesota Statutes §103B.251, subdivision 3, the District held a duly noticed public hearing on ordering of the Project on February 13, 2025, at which time all interested parties had the opportunity to speak;
- WHEREAS, District staff have developed a proposed funding agreement, providing for District funding support for the Project in an amount of up to \$200,000 and subject to other terms and requirements, and the Board has reviewed the agreement and finds that it fulfills the Board’s direction and is otherwise reasonable;
- WHEREAS, District staff have requested to amend the 2025 budget in order to provide funding for the Project and the Board concurs that an amendment is necessary to authorize funding for the project;
- WHEREAS, the Board of Managers has considered the recommendations of the District staff and District Engineer and the comments of interested parties and finds the Project, implemented consistent with the

proposed funding agreement terms, will be conducive to public health and promote the general welfare, and is in compliance with Minnesota Statutes §§103B.205 to 103B.255 and District's WMP;

WHEREAS, there is \$14,518,768 held assigned within the Capital Finance fund (3001) for the purpose of strategically maximizing capacity for project implementation by providing flexible and strategic reserves for planned and unplanned opportunities to improve water resources within the watershed and minimizing levy volatility by supporting short term cash flow needs;

WHEREAS, staff recommends a 2025 budget amendment to increase the Morningside Ravine Stabilization fund (3001) budget by \$200,000 by drawing from the Capital Finance assigned funds; and

WHEREAS, this amendment would result in a total budget increase of \$200,000 for a total 2025 budget of \$14,620,445 and no change to the 2025 tax levy;

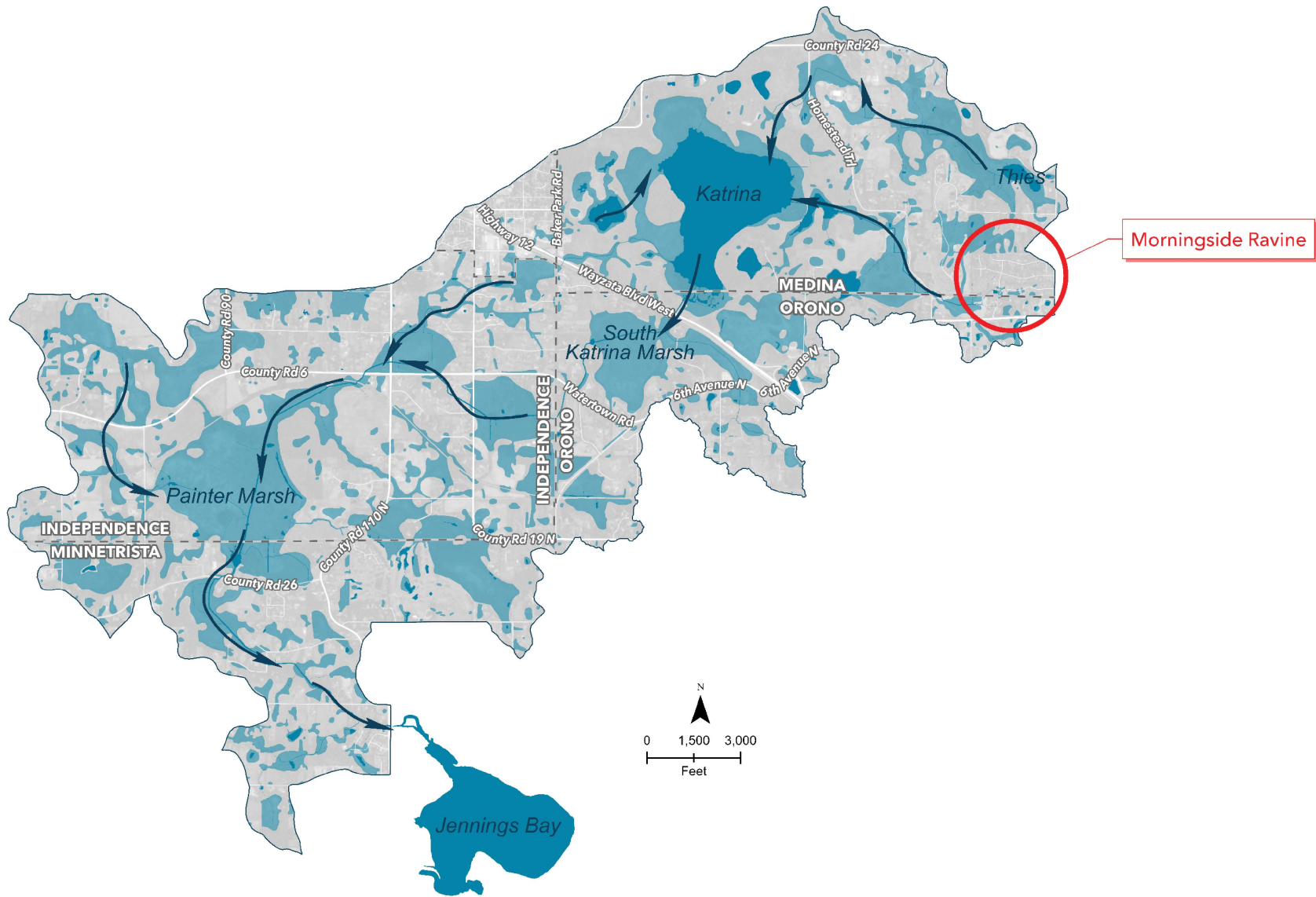
NOW THEREFORE BE IT RESOLVED that pursuant to Minnesota Statutes §103B.251 and the WMP, the Minnehaha Creek Watershed District Board of Managers hereby orders the Morningside Stormwater Improvement Project; and

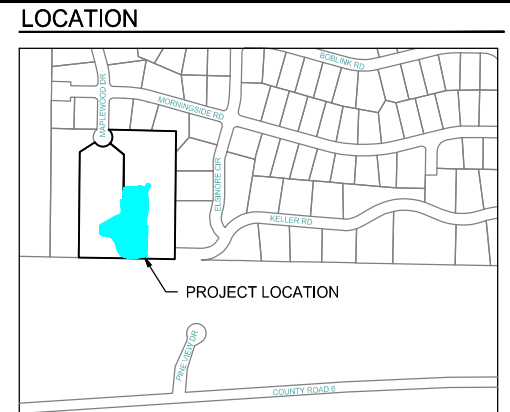
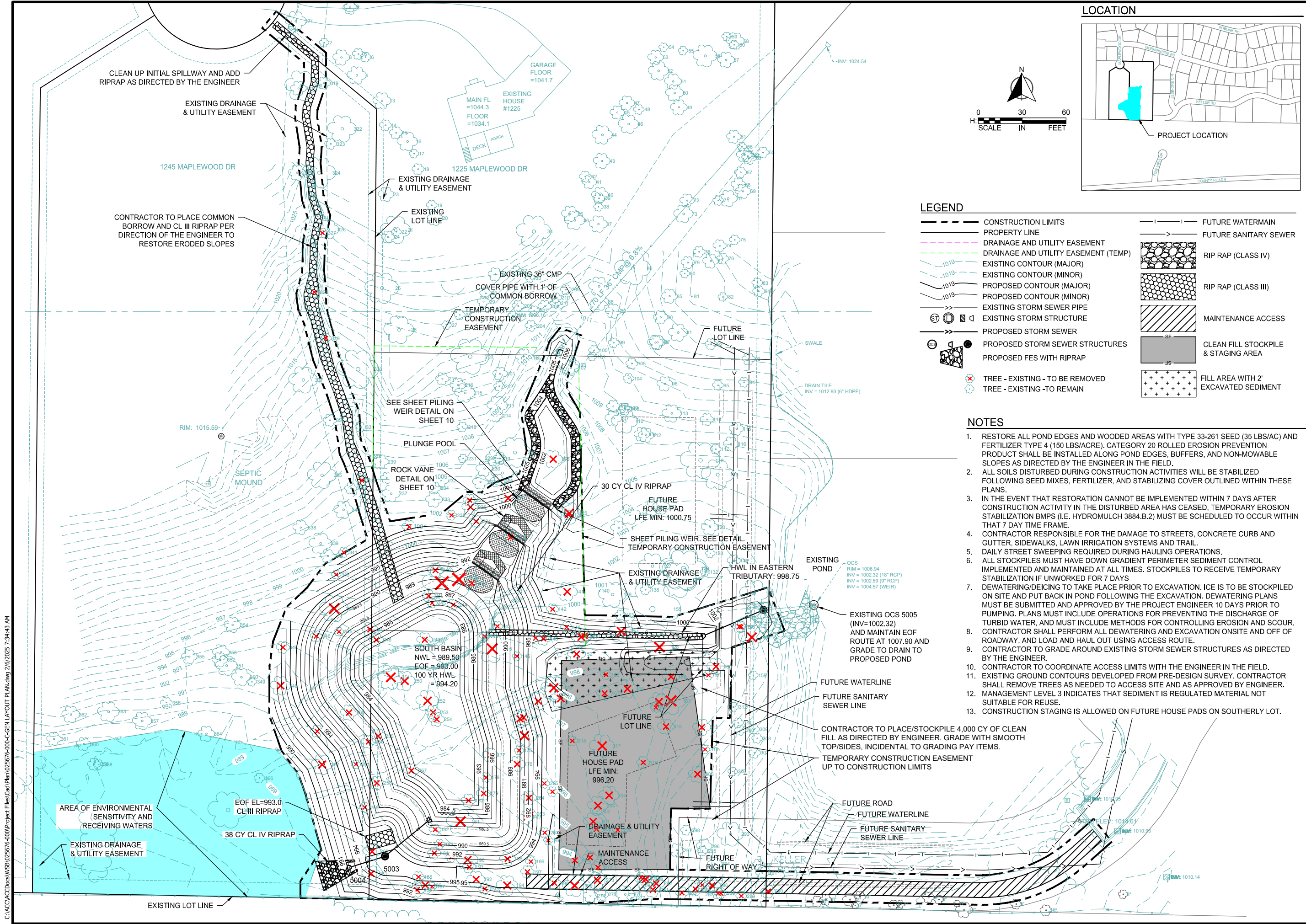
BE IT FURTHER RESOLVED that Minnehaha Creek Watershed District Board of Managers hereby authorizes the District Administrator to execute the Project Funding Agreement, with non-material changes and on advice of counsel; and

BE IT FINALLY RESOLVED that the Minnehaha Creek Watershed District Board of Managers hereby amends the 2025 budget as recommended by staff for a total 2025 budget of \$14,620,445.

Resolution Number 25-013 was moved by Manager \_\_\_\_\_, seconded by Manager \_\_\_\_\_. Motion to adopt the resolution \_\_\_ ayes, \_\_\_ nays, \_\_\_ abstentions. Date: 2/13/2025

\_\_\_\_\_  
Secretary Date: \_\_\_\_\_





### LEGEND

	CONSTRUCTION LIMITS		FUTURE WATERMAIN
	PROPERTY LINE		FUTURE SANITARY SEWER
	DRAINAGE AND UTILITY EASEMENT		RIP RAP (CLASS IV)
	DRAINAGE AND UTILITY EASEMENT (TEMP)		RIP RAP (CLASS III)
	EXISTING CONTOUR (MAJOR)		MAINTENANCE ACCESS
	EXISTING CONTOUR (MINOR)		CLEAN FILL STOCKPILE & STAGING AREA
	PROPOSED CONTOUR (MAJOR)		FILL AREA WITH 2' EXCAVATED SEDIMENT
	PROPOSED CONTOUR (MINOR)		
	EXISTING STORM SEWER PIPE		
	EXISTING STORM STRUCTURE		
	PROPOSED STORM SEWER		
	PROPOSED STORM SEWER STRUCTURES		
	PROPOSED FES WITH RIPRAP		
	TREE - EXISTING - TO BE REMOVED		
	TREE - EXISTING - TO REMAIN		

- ### NOTES
- RESTORE ALL POND EDGES AND WOODED AREAS WITH TYPE 33-261 SEED (35 LBS/AC) AND FERTILIZER TYPE 4 (150 LBS/ACRE), CATEGORY 20 ROLLED EROSION PREVENTION PRODUCT SHALL BE INSTALLED ALONG POND EDGES, BUFFERS, AND NON-MOWABLE SLOPES AS DIRECTED BY THE ENGINEER IN THE FIELD.
  - ALL SOILS DISTURBED DURING CONSTRUCTION ACTIVITIES WILL BE STABILIZED FOLLOWING SEED MIXES, FERTILIZER, AND STABILIZING COVER OUTLINED WITHIN THESE PLANS.
  - IN THE EVENT THAT RESTORATION CANNOT BE IMPLEMENTED WITHIN 7 DAYS AFTER CONSTRUCTION ACTIVITY IN THE DISTURBED AREA HAS CEASED, TEMPORARY EROSION STABILIZATION BMPs (I.E. HYDROMULCH 3884.B.2) MUST BE SCHEDULED TO OCCUR WITHIN THAT 7 DAY TIME FRAME.
  - CONTRACTOR RESPONSIBLE FOR THE DAMAGE TO STREETS, CONCRETE CURB AND GUTTER, SIDEWALKS, LAWN IRRIGATION SYSTEMS AND TRAIL.
  - DAILY STREET SWEEPING REQUIRED DURING HAULING OPERATIONS.
  - ALL STOCKPILES MUST HAVE DOWN GRADIENT PERIMETER SEDIMENT CONTROL IMPLEMENTED AND MAINTAINED AT ALL TIMES. STOCKPILES TO RECEIVE TEMPORARY STABILIZATION IF UNWORKED FOR 7 DAYS
  - DEWATERING/DEICING TO TAKE PLACE PRIOR TO EXCAVATION. ICE IS TO BE STOCKPILED ON SITE AND PUT BACK IN POND FOLLOWING THE EXCAVATION. DEWATERING PLANS MUST BE SUBMITTED AND APPROVED BY THE PROJECT ENGINEER 10 DAYS PRIOR TO PUMPING. PLANS MUST INCLUDE OPERATIONS FOR PREVENTING THE DISCHARGE OF TURBID WATER, AND MUST INCLUDE METHODS FOR CONTROLLING EROSION AND SCOUR.
  - CONTRACTOR SHALL PERFORM ALL DEWATERING AND EXCAVATION ONSITE AND OFF OF ROADWAY, AND LOAD AND HAUL OUT USING ACCESS ROUTE.
  - CONTRACTOR TO GRADE AROUND EXISTING STORM SEWER STRUCTURES AS DIRECTED BY THE ENGINEER.
  - CONTRACTOR TO COORDINATE ACCESS LIMITS WITH THE ENGINEER IN THE FIELD.
  - EXISTING GROUND CONTOURS DEVELOPED FROM PRE-DESIGN SURVEY. CONTRACTOR SHALL REMOVE TREES AS NEEDED TO ACCESS SITE AND AS APPROVED BY ENGINEER.
  - MANAGEMENT LEVEL 3 INDICATES THAT SEDIMENT IS REGULATED MATERIAL NOT SUITABLE FOR REUSE.
  - CONSTRUCTION STAGING IS ALLOWED ON FUTURE HOUSE PADS ON SOUTHERLY LOT.

SCALE: AS SHOWN  
 PLAN BY: CKJ

DESIGN BY: SMR  
 CHECK BY: KF

NO.	DATE	DESCRIPTION

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

*Jacob H. Newhall*  
 JACOB H. NEWHALL, P.E.  
 DATE: 02/06/2025 LIC. NO.: 49170

## GRADING PLAN

## 2025 MORNINGSIDE RAVINE STABILIZATION AND STORMWATER IMPROVEMENTS

CITY OF MEDINA

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## Memorandum

To: Minnehaha Creek Watershed District

From: Jake Newhall, PE, WSB  
Kendra Fallon, PE, WSB

CC: Jim Stremel, PE, WSB  
Dusty Finke, City of Medina

Date: February 06, 2024

Re: Morningside Ravine MCWD LWP Funding Notice of Interest  
WSB Project No. 025676-000

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The City of Medina is requesting **\$200,000** of Land & Water Partnership funding from Minnehaha Creek Watershed District for the Morningside Ravine Stabilization and Stormwater Improvements Project.

In 2023, MCWD was awarded Clean Water Fund Watershed Based Implementation Funding Program funds, of which \$243,200 was allocated for this project. The City had budgeted approximately \$180,000 in stormwater utility funds in the Capital Improvement Plan. The estimated project cost has increased from \$430,000 to \$629,000 (including contingencies and indirect costs), so the City is looking for opportunities to close the funding gap.

The Morningside ravine primarily spans 1225 and 1245 Maplewood Drive, just south of Morningside Road and just north of the boundary with the City of Orono (see plans included for location). The main ravine starts just south of Morningside Road where existing storm sewer from the neighborhood outlets into a small, depressed area. A 36" culvert drains the depressed area and outlets water further south on the 1225 Maplewood Drive property, where the existing channel shows signs of heavy erosion and downcutting (see photos below). There are two tributary channels which also outlet into the main channel, one from the east, which is downstream of an existing stormwater pond, and one from the northwest which takes drainage primarily from the Maplewood Drive cul de sac and 1245 Maplewood Drive. The eastern tributary also showed areas of erosion, but to a lesser extent than the main ravine.

Stormwater improvements for the project include the construction of a new stormwater pond, stabilization of the ravine through hard and soft armoring, and sheet piling with plunge pools to reduce the risk of future erosion in the area. 1225 Maplewood Drive is proposed to be split into three properties, one existing and two proposed. The project is proposed to provide stormwater treatment within the new basin.. This will provide treatment for the proposed homes and access road. The project is designed to be in compliance with MCWD rules.

There were multiple alternative designs explored to create the stormwater pond system. Pipe extensions were proposed in a previous design but were decided against to not alter the current storm sewer on site and maintain the existing water flow. A two-celled system was explored but resulted in a much larger footprint. This would have had a large impact area requiring additional mature trees to be cleared onsite and was more expensive than the piped design given the additional tree removal, grading, and earthwork and restoration. In order to preserve as many healthy, mature trees onsite as possible, the design was modified to contain one main pond and



check dams with plunge pools to achieve the grade difference from the north side of the site to the south side and stay within the easements. The check dam weirs are needed to stabilize the pools and rocks and provide a reinforced flow path for water to travel that is more resistant to erosion. This option achieves the open channel design which is the minimal impact solution compared to the proposed pipe design and two-tiered pond system.

	Construction cost (w/o contingency)	Other Considerations
Proposed Option: Open Channel Stabilization	\$471,000	Additional future maintenance of open channel and plunge pools to reduce risk of erosion
Alternative 1: Two-Tiered Pond System	\$401,400	More difficult access at the upper pond for future maintenance, accumulated sediment removal, and maintenance of open channel, additional mature trees requiring removal. Not considered the minimal impact design.
Alternative 2: Piped Channel for both Eastern and Main Channels	\$392,700 (apparent low bid)	Loss of open channel flow feature. Altering existing water flow

The addition of an iron enhanced filtration bench to the pond was proposed by MCWD staff for consideration; however, given the additional construction costs, additional long term maintenance costs, and difficult access given the steep slopes onsite an iron enhanced filtration bench was not pursued.

The northwest tributary is proposed to be stabilized through hard and soft armoring. Riprap is proposed to be placed on the bottom of the channel and on the toe of the slope with the top of the slope stabilized with erosion control blanket and native seed mixes. Live stakes will be strategically placed in the tributary channel where directed by the Engineer in the field once the other stabilization measures have been constructed. The intent will be to grade the side slopes to a 2:1 to 3:1 slope wherever possible; however, portions of the channel may be steeper in specific locations in order to save mature high value trees onsite. Where a steeper side slope is required, additional riprap will be placed along the side slope to help stabilize. In the preliminary design onsite trees required to be cleared for the project were proposed to be anchored into the toe of slope for stabilization as a sustainable practice. However, due to conversations with the homeowners and their preference, this was removed from the project and replaced with riprap stabilization. The project was designed to limit the tree clearing as much as possible. The City may consider tree plantings however there are limited options to plant trees within the project limits that isn't on the pond or channel side slope/berm, or within a future access route and could cause future maintenance issues.

The overflow from the existing pond from the east is proposed to be graded to stay within the existing easement. This overflow will be stabilized with riprap to prevent erosion through the flow path.

Pretreatment for the pond is provided by an existing sump structure prior to the outfall from Morningside Road (see included as-built) and the existing depressed area between the outfall from Morningside Road and the existing 36" culvert (see photo below) for the drainage from Morningside Road. Pretreatment is provided by the existing stormwater pond for the drainage area from the east. Impervious area which drains to the northwest tributary is primarily disconnected impervious and sheet flows over a vegetated area acting as a filter strip before draining into the tributary prior to the pond.



*Examples of existing erosion along the Morningside main ravine. Photos taken in July 2023.*



*Existing depressed area south of Morningside Rd providing pretreatment. Photos taken in July 2023.*

The following table outlines the water quality removals proposed through the stormwater and stabilization improvements of the project, in total removing 36 pounds of TP and over 55,000 pounds of TSS on an annual basis.

	TP (lbs/yr)	TSS (lbs/yr)
NW Tributary & Main Ravine Stabilization	21.5	47,160
Stormwater Pond	14.5	7,629
<b>Project Total</b>	<b>36.0</b>	<b>54,789</b>
Treatment required by subdivision	5.3	N/A
Additional regional treatment	30.7	N/A

**Cost Analysis**

Capital Costs (see included OPC)	Project Lifespan O&M Costs*	Total Project Costs	Pounds of Phosphorus Removed over 25 Year Lifespan	\$/lb of TP Removed
\$629,000	\$175,000	\$804,000	766.3	\$1,045 per lb

\*Assumes a 25-year life span and 2.3% annual inflation

The table on the following page outlines the notice of interest submittal requirements and where to find the requested information.

1	Statement of Intent	This memo serves as the statement of intent.
2	Site Description	See project plans included with the notice of interest
3	Drainage Map	See drainage area map included with the previously submitted MCWD permit application memo.
4	Identification of Proposed Water Resources Improvements	Water Resources improvements proposed include construction of a stormwater pond, ravine stabilization through hard and soft armoring, and sheet piling with plunge pools to reduce the risk of erosion. See project plans included with the notice of interest. Hard armoring in the form of riprap and soft armoring in the form of native seed mixes with erosion control blanket and strategically placed live stakes will be used to stabilize the ravine.
5	O&M Statement	The City of Medina staff is responsible for the long-term maintenance and operation of the permanent stormwater system and improvements. Drainage and utility easement was obtained to cover the proposed improvements for future maintenance.
6	H&H Modeling	See H&H modeling included with the previously submitted MCWD permit application memo.
7	Water Quality Modeling	See water quality modeling included with the previously submitted MCWD permit application memo.
8	Quantification of Volume Abstraction	NA: D soils were present onsite so no volume abstraction is proposed
9	Soils Information	Wetland proximity, City staff experience and web soil survey used to determine existing soils information onsite.
10	Wetland Identification	See wetland delineation report included with previously submitted MCWD permit application memo.
11	Project Schedule	Project Award: February 2025 Project Start Construction: April 2025 Project Substantial Completion: September 30, 2025 Project Final Completion: June 2026
12	Permitting Requirements and Status	MCWD Permitting: Ongoing MPCA NPDES Permit: To be obtained once contract has been awarded
13	O&M Needs and Costs	The pond will be added to the City's pond inventory and inspected per MS4 requirements, which will be covered by City of Medina staff. Accumulated sediments are anticipated to need to be cleaned out once every 25 years at an assumed cost of \$175,000.

14	Cost Analysis	See included OPC for project capital costs and summary of the cost analysis included in this memo.
15	100-year HWL and OHW	See elevations as noted on the plans and included in the previously submitted MCWD permit application memo.
16	Identification of utilities proposed to contact the bed or bank of a waterbody	See project plans included with the notice of interest for proposed storm sewer locations.
17	Anticipated change in peak runoff rates in the 2-, 10-, and 100-year	See rate control information as included in the previously submitted MCWD permit application memo.
18	Identification of site size, % of site to be disturbed, disturbance area, existing and proposed impervious area	Site Size: 7.37 acres (1225 and 1245 Maplewood Drive) % of Site Being Disturbed: 23% Disturbance Area: 1.73 acres Existing Impervious: 0.145 acres Proposed Impervious: 0.62 acres
19	Identification of if project will dredge in public water	NA: the project is not proposing to dredge a public water
20	Identification of desired path forward through WCA	NA: No WCA Permitting required

Attachments

- Morningside Ravine Stabilization and Stormwater Improvements Project Plans
- MCWD Permit Application Memo (dated 02/06/24)
- Opinion of Cost Table (dated 02/05/24)
- Morningside Road Storm Sewer As-Built



To: Becca Neal

From: Sylvia Doerr  
Chris Meehan

Project/File: MCWD #: 02-2008 – 4340

Date: February 7<sup>th</sup>, 2025

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**Reference: Technical Review | Medina, Morningside Stormwater Improvement Project | Land and Water Partnership (LWP) Program’s Notice of Interest Submittals**

**Introduction and Project Understanding**

The Morningside Stormwater Improvement Project opportunity was identified by the City of Medina (City) in 2022 and includes construction of a regional stormwater facility to treat approximately 76 acres of land and stabilization of three eroding ravines. The project is located within the Painter Creek subwatershed and drains to Lake Katrina before ultimately discharging to impaired Jennings Bay.

The City of Medina completed a feasibility report for the project in October of 2023, with project components including ravine stabilization and the construction of a new stormwater pond. Both project components are anticipated to limit total phosphorus (TP) discharge downstream. The project requires work on privately owned land, with work proposed on two parcels (1245 Maplewood Drive and 1225 Maplewood Drive). 1225 Maplewood Drive is slated for subdivision into three parcels and the future construction of two additional single family homes. The subdivision and subsequent construction of single family homes on 1225 Maplewood Drive, along with the construction of additional public roadways for access to the newly created parcels, would trigger regulatory requirements for stormwater treatment and waterbody crossings and structures; this is discussed further in later sections of this memorandum.

The City and its engineer developed concept plans, water quality calculations, and cost estimates at the feasibility level in October 2023. The design has since advanced and the updated plans from January 2025 include a settling basin and step pools at the end of the existing 36-inch pipe along the main ravine, a swale and outlet pipe extension for the existing wet pond along the eastern tributary, stabilization of the northwest tributary, and the proposed wet pond. A plan set and updated water quality calculations have been developed. Updated costs are higher than originally anticipated, and the City is therefore seeking cost- share funding from MCWD to allow the project to proceed.

MCWD requested that Stantec complete a technical review of the materials submitted by the City of Medina, to inform evaluation by the MCWD Policy Planning team for applicability to Land and Water Partnership (LWP) program. Findings of the technical review are documented in this memorandum.

**Reference: Technical Review | Medina, Morningside Ravine Project | Land and Water Partnership (LWP) Program's Notice of Interest Submittals**

**Reviewed Materials**

- “Morningside Ravine MCWD LWP Funding Notice of Interest;” dated February 6<sup>th</sup>, 2025; by WSB
- “Morningside Ravine Stabilization – Response to Comments;” dated February 6<sup>th</sup>, 2025; by WSB
- “Morningside Ravine Stabilization – Permit Application Memo;” dated February 6<sup>th</sup>, 2025; by WSB
- “Morningside Ravine Stabilization – Opinion of Probable Cost;” dated February 5<sup>th</sup>, 2025; by WSB
- “Morningside Ravine Stabilization and Stormwater Improvements Plan Set;” dated February 6<sup>th</sup>, 2025; by WSB

**LWP Program Considerations**

*Project Cost-Benefit*

Feasibility level water quality calculations indicated that the project could remove up to 41.5 lb TP/yr. Updated water quality calculations indicate that the project could remove 36.0 lb TP/yr. 5.3 lb TP/yr are required under MCWD rules as a part of the subdivision, leaving 30.7 lb TP/yr as extra regional treatment. An updated Opinion of Probable Cost has been provided to reflect the most recent proposed design as of January 2025.

Based on the most recent Opinion of Probable Cost, the construction cost is estimated to be \$465,000 and the total cost, including 10% contingency and 23% in indirect costs, is estimated to be \$629,000. The O&M costs over the 25-year lifecycle of the project are estimated to be \$175,000. Therefore, the estimated lifecycle cost of project is \$804,000 and the cost benefit for the 30.7 lb TP/yr of regional treatment is \$1,049 lb/yr of TP removal.

*Drainage Area & Regional Impact Potential*

The submittal indicates that the proposed stormwater pond will receive runoff from a 76.2-acre residential drainage area. The submittal indicates that of the 76.2-acre drainage area, approximately 17.8 acres are impervious. Of the 17.8 acres of impervious area, 0.765 acres (0.145 acres of existing impervious and 0.620 acres of proposed future impervious) are directly associated with the proposed subdivision of 1225 Maplewood Drive and related future subdivision access roads. The majority of runoff from the contributing drainage area is untreated except for the approximately 24.8 acres (5.6 acres of impervious surface) already routed to the existing wet pond, located along the eastern tributary. The site drains to an unnamed Manage 1 wetland which drains to Katrina Lake. Katrina Lake discharges to Painter Creek which ultimately drains to Jennings's Bay of Lake Minnetonka.

The system relies on a combination of existing surface drainage, existing pipe drainage, new pipe drainage, and proposed step pools to direct water to the proposed pond.

**Reference: Technical Review | Medina, Morningside Ravine Project | Land and Water Partnership (LWP) Program's Notice of Interest Submittals**

*Drivers of Cost*

Per the updated Opinion of Probable Cost prepared by the City's engineer for the January 2025 design, the most significant driver of cost is excavation associated with the construction of the stormwater pond, followed by streambank stabilization components (slope protection and riprap), followed by the sheet pile(s).

*Project Longevity*

The pond will be added to the City's inventory and will be inspected by City Staff per MS4 requirements. It is anticipated that sediment accumulation will need to be removed every 25 years.

Per the project plans, it appears that the channel stabilization, construction of the step pools, and construction of the stormwater pond will occur within existing drainage and utility easements, except for portions of upland grading, construction of the western section of the swale, and construction of the eastern edge of the settling basin, which will occur within temporary construction easements. The plans indicate that long term maintenance access for the proposed pond has been included in the design. It appears the access road associated with the proposed subdivision will be utilized for maintenance access to the proposed step pools. However, the plans do not clearly indicate the maintenance access from the proposed access road to the proposed step pools.

**Design Considerations**

It is recommended that the following items be incorporated and/or considered:

- Consider the use of non-limestone angular riprap for channel restoration and step pools to increase project longevity.

**Regulatory Considerations**

This section outlines current understanding of MCWD Rule triggers and provides high-level commentary based on the most recent submittals.

The regional water quality project is located on two parcels (Hennepin County PID 2811823130042 and 2811823130041). The regulatory review includes the following scope of project components: streambank stabilization, construction of a regional wet pond, and subdivision of PID 2811823130042 into three parcels (and associated impervious surface improvements consisting of two additional single-family homes and access roads). This regulatory screening is based on the MCWD rules adopted April 11, 2024 and effective April 29, 2024 and is organized by rule.



**Reference: Technical Review | Medina, Morningside Ravine Project | Land and Water Partnership (LWP) Program's Notice of Interest Submittals**

*Stormwater Management*

The Stormwater Management Rule is triggered by the proposed subdivision of PID 2811823130042 into three parcels. As a result, MCWD staff have advised that PID 2811823130042 is considered the "site" for review of the Stormwater Management Rule. This project involves a site greater than 1 acre, proposes less than 1 acre of new and fully reconstructed impervious surface, and proposes less than 40% site disturbance. Current submittals indicate that there is approximately 0.145 acres of impervious surface on the parcel, and that an additional 0.620 acres will be added in the proposed condition. Therefore, the total amount of impervious surface on the site in the proposed condition will be 0.77 acres. This represents an impervious surface change of more than 50 percent on the site. MCWD rules require that volume control from the entire site's impervious surface and rate control be provided.

The City's intent is for the proposed stormwater pond to provide the volume control and rate control required by the subdivision's impervious surface. Water quality modeling was required to demonstrate the portion of TP removals achieved by proposed pond that will be utilized to meet regulatory requirements for the subdivision (i.e. equivalent TP removals to infiltration of 1-inch over the impervious surface contained within the parcel to be subdivided). 14.5 lbs/yr of TP will be removed by the proposed stormwater pond. 5.3 lbs/yr of TP removal is required to meet the regulatory requirements. The remaining 9.2 lbs/yr of TP removal will be utilized for regional stormwater treatment benefits.

Hydrologic and hydraulic (H&H) modeling was provided for the swale conveying outflows from the existing stormwater pond to the proposed stormwater pond. The 100-year high-water level within the swale was determined to be 998.75 ft with an average depth of 1.25 ft. The 100-year high-water level within the swale is used to demonstrate sufficient flood separation and/or hydraulic disconnection is provided between the existing stormwater pond and the proposed homes.

To provide the required flood separation (2 ft of vertical separation) between the northern lot and the 100-year high-water level within the swale, the proposed minimum low floor elevation of the northern lot is 1000.75 ft. To provide the required flood separation for the southern lot, a berm is proposed along the south side of the swale and 2 ft of vertical separation will be provided between the top of the berm and the 100-year high-water level of the swale.

Stantec has been advised by MCWD that private landowner support for the project is contingent on the City providing stormwater treatment systems that are adequate to satisfy regulatory requirements for the subdivision and associated impervious surface.

*Waterbody Crossings & Structures*

The Waterbody Crossings & Structures Rule is triggered by the proposal to extend the piped outlet of the existing stormwater pond. The outlet pipe extension will be placed along the eastern tributary. The provided plans and H&H modeling indicate adequate hydraulic capacity will be retained. No increase in the upstream or downstream flood stage of the watercourse is proposed. The applicant has provided 2 alternatives to the proposed solution and demonstrated why the proposed solution represents the minimal impact solution.

**Reference: Technical Review | Medina, Morningside Ravine Project | Land and Water Partnership (LWP) Program's Notice of Interest Submittals**

*Shoreline & Streambank Stabilization*

The Shoreline & Streambank Stabilization Rule is triggered by the proposal to stabilize eroded ravines. The MCWD rule promotes the use of vegetative and bio-engineering solutions, where feasible. The plans have been updated to satisfy rule requirements and bioengineering methods, such as native seed mixes along the top of the slopes and live stakes, have been incorporated into the design. Furthermore, the pipe extension along the ravine has been replaced with a step pool design which includes rock vanes and riprap check dams enforced with sheet pile.

*Erosion Control*

Compliance with the Erosion Control Rule will need to be demonstrated via erosion and sediment control plans. Compliance with this rule is typically determined by MCWD staff.

*Other Rules*

A Manage 1 wetland is located immediately downstream of the site. Based on review of project plans, it is not expected that the MCWD Floodplain Alteration or Dredging Rules will apply. The proposed drainage directs the impervious surface to the proposed pond and not directly to the wetland. Therefore, the Wetland Protection Rule is not triggered and wetland buffers are not required.

Procedural requirements will apply to the project, but financial assurances will not be required if the project is advanced by the City, as public entities are exempt from financial assurances and fees.

**Conclusion**

Based on available data and the submittals provided, implementation of the proposed streambank stabilization and construction of the proposed stormwater pond is feasible. We have reviewed the anticipated costs and estimated benefits and find them to be reasonable. We agree with the basis provided for these estimated costs and TP removals. We have reviewed the updated design along the main ravine and find the proposed design, with the reduced amount of sheet pile, to be reasonable. We support funding the proposed sheet pile to construct the project. As system design and construction progress, it is recommended that the following be incorporated to increase project success:

- Implement agreements for system operations and maintenance expectations.
- Consider the use of non-limestone angular riprap for channel restoration and step pools to increase project longevity.

It is recommended a cost share be considered in which the City provides funding for the portion of the project that will provide stormwater treatment to meet regulatory requirements. It is also recommended freeboard concerns related to the future homes be addressed because MCWD has advised that private landowner support for the project is contingent upon the City providing stormwater treatment systems that are adequate to satisfy regulatory requirements for the subdivision and associated impervious surface.

**FUNDING AGREEMENT  
MINNEHAHA CREEK WATERSHED DISTRICT and the CITY of MEDINA**

**Morningside Ravine Stabilization and Stormwater Improvement Project**

A. THIS FUNDING AGREEMENT (“Agreement”) is entered into by and between the Minnehaha Creek Watershed District, a special purpose unit of local government under Minnesota Statutes Chapters 103B and 103D (MCWD), and the City of Medina, a statutory city of the State of Minnesota (“City”).

B. The MCWD's 2017 Watershed Management Plan outlines the District's intention to remain responsive to opportunities created through land use change and includes in its capital improvement program opportunity-based projects that reduce stormwater volume and nutrient loads to impaired waters;

C. On November 27, 2023, the MCWD Board of Managers (“Board”) approved the District’s Land and Water Partnership (LWP) program and adopted program implementation guidance setting forth procedures to receive and evaluate applications for program funding, and criteria by which the MCWD will evaluate applications;

D. The Morningside Ravine Stabilization and Stormwater Improvement Project (“Project”) includes stabilization of three eroding ravines and construction of a regional stormwater facility to treat approximately 76 acres of land. The Project is located within the Painter Creek Subwatershed, and drains to Lake Katrina, ultimately discharging to impaired Jennings Bay. The City’s engineering assessment indicates that the Project will reduce total phosphorus load by 36 pounds per year, including 21.5 pounds per year for the ravine stabilization and 14.5 pounds per year for the stormwater pond.

E. The City has secured other Project funding in the amount of \$243,200 in state watershed-based implementation funding (WBIF). On February 13, 2025, the MCWD Board approved LWP funding of 40% percent of the construction contract price as awarded, up to a cap of \$200,000. The City has committed its own funding for the remainder of Project cost.

THEREFORE, based on the foregoing recitals, which are incorporated into this Agreement, the MCWD and the City agree as follows, intending to be legally bound:

**DESIGN**

1. The City, through its consulting engineer, has prepared 90 percent Project design plans, labeled Morningside Ravine Plan Set (February 6, 2025). The City has supplied the plans to the MCWD, which concurs in them. The City will prepare a final design that conforms to the 90 percent design. MCWD concurrence is for its own funding purposes only and does not constitute a professional representation as to the design.

**CONSTRUCTION**

2. The City will prepare solicitation documents, procure a contractor and construct the Project in accordance with the design in which the MCWD has concurred, and with all applicable laws, permits and approvals.

3. The City must obtain MCWD consent to any work change that could reduce the Project's stability, longevity or pollutant removal performance. The MCWD will review any such request promptly and will not withhold consent unless it finds that stability, longevity or performance may be materially reduced. The MCWD may not direct the contractor.

4. With respect to the ravine stabilization, the City will give the MCWD 48 hours' written notice before beginning construction. The City will give the MCWD 5 days written notice before Project substantial completion and 5 days written notice prior to project closeout to confirm vegetation has been reestablished after site restoration. The MCWD may inspect the Project at all reasonable times, during construction and thereafter.

5. The City's engineer must certify the Project as substantially complete by September 30, 2025. The City will confirm completion and transmit as-built drawings to the MCWD by July 30, 2026. If the Project is delayed, causing a need to extend the substantial completion or completion date, the City will request an extension in writing at least 30 days before the deadline. The MCWD will review the request promptly and will not unreasonably withhold an extension.

#### **ACCESS RIGHT/MAINTENANCE**

6. Attachment A to this Agreement, incorporated herein, is a drainage and utility easement in favor of the City that provides the City the right to enter to construct the Project and to maintain it in perpetuity. The City will not alter its rights under the easement in any respect that renders it unable to construct or maintain the Project in accordance with the terms of this Agreement.

7. After Project completion, the City will maintain the ravine stabilization and stormwater management basin and appurtenances as follows:

- (a) Inspect the ravines at least annually for the first 3 years following project completion, then every 5 years thereafter. The ravines must be maintained in their as-designed condition.
- (b) Inspect the treatment basin at least annually to determine if the basin's retention and treatment characteristics are adequate and continue to perform per design. Inspect culvert and outfall structures at least annually and keep them clear of obstructions and sediment accumulation. Sediment accumulation must be measured by a method accurate to within one vertical foot. The basin requires sediment cleanout if sediment has decreased the wet storage volume by 50 percent of its original design volume. Based on this inspection, if the stormwater basin is identified for cleanout, restore the basin to its original design contours, and restore vegetation in disturbed areas, within one year of the inspection date.

The City will provide a brief maintenance report to the MCWD annually, stating dates of inspections, observations and actions taken.

#### **FUNDING/COST RESPONSIBILITY**

8. The MCWD will contribute to Project funding in an amount of 40 percent of the construction contract price as awarded, not to exceed \$200,000. All remaining Project costs are the responsibility of the City, except that the MCWD will bear its own staff and related internal costs to fulfill its obligations under this Agreement.

9. The MCWD will disburse 90 percent of the funded amount when it has confirmed that the Project has been substantially completed, and the City has submitted invoices for qualifying construction contract costs. It will disburse the remaining 10 percent when the Project has been completed, as-builts have been submitted, site vegetation has been reestablished, and the City has submitted final construction invoices.

10. The MCWD contribution is conditioned on Project construction in accordance with the terms of this Agreement. In addition to any other remedy to which it is entitled for a violation of this Agreement, the MCWD has a remedy of return of funds if the Project is not constructed in accordance with the design plans in which the MCWD has concurred, by the deadline stated herein (including any extensions approved by MWCD, as provided above).

### **USE OF STORMWATER FACILITY CAPACITY FOR REGULATORY COMPLIANCE**

12. As between the MCWD and the City, the City will own all capacity of the stormwater management basin. The City will not use, or permit a third party to use, the capacity, or a part thereof, for regulatory compliance purposes, except as follows:

- (a) it has obtained written MCWD concurrence in the as-built capacity;
- (b) it has contracted for Project construction in a manner that allows the MCWD to determine the amount of cost allocated to construction of the basin and appurtenances; and
- (c) it has reimbursed the MCWD in the same proportion of MCWD funding under this Agreement as the amount of capacity used bears to the as-built capacity and pro-rated by the year remaining in the Project's lifecycle.

Notwithstanding the foregoing, residential development within Lot 3, Block 1, Beasley Bluffs, Hennepin County, Minnesota may use up to 5.3 lbs of total phosphorous treatment annually for stormwater regulatory compliance purposes without triggering the reimbursement requirement of this section.

### **GENERAL TERMS**

13. The City will defend MCWD, its board members, employees and agents, indemnify them, and hold them harmless, from any and all actions, costs, damages and liabilities of any nature arising from the Project, except to the extent due to a negligent or willful act or omission of the MCWD, or its board member, employee or agent. Nothing in this Agreement creates a right in any third party against the MCWD or the City, or waives an immunity, defense or liability limit of the MCWD or City with respect to any third party. Remedies to either party for a failure by the other to conform to this Agreement lie in breach of contract only.

14. This Agreement is not a joint powers agreement under Minnesota Statutes §471.59. Nothing herein constitutes one party's agreement to be responsible for the acts or omissions of the other party pursuant to subdivision 1a of that statute.

15. The parties will comply with all applicable laws and regulations in performing their obligations under this Agreement. The Agreement will be construed and enforced according to the laws of Minnesota.

16. The following will be used for any communication under this Agreement:

City: City of Medina  
2052 County Road 24  
Medina, MN 55340  
ATTN: City Administrator  
[city@medinamn.gov](mailto:city@medinamn.gov)

MCWD: Minnehaha Creek Watershed District  
15320 Minnetonka Boulevard  
Minnetonka, MN 55345  
ATTN: Rebecca Neal  
[rneal@minnehahacreek.org](mailto:rneal@minnehahacreek.org)

or at such other address of which a party may, from time to time, notify the other party in writing.

17. This Agreement, including the Project design plans cited in paragraph 1 above and Attachment A, constitutes the entire agreement among the parties relating to the subject matter addressed herein. An amendment to this Agreement is valid only when reduced to writing and duly signed by the parties.

18. This Agreement is effective on execution by the parties. This Agreement has a term of 25 years, which is considered the Project lifecycle for the purpose of this Agreement, and is the required maintenance period and the period to be used to calculate any reimbursement under paragraph 12(c).

Intending to be legally bound:

**CITY OF MEDINA**

By: \_\_\_\_\_  
Todd Albers, Mayor

Date:

By: \_\_\_\_\_  
Erin Barnhart, City Administrator

Date:

Approved for form and execution

\_\_\_\_\_  
MCWD Counsel

**MINNEHAHA CREEK WATERSHED DISTRICT**

By: \_\_\_\_\_  
James Wisker, District Administrator

Date:

DRAFT