Young Environmental Consulting Group, LLC

Technical Memorandum

To:	Linda Loomis, Administrator Lower Minnesota River Watershed District
From:	Della Schall Young, CPESC, PMP Owner/Principal Scientist
Date:	December 9, 2022
Re:	Lower Minnesota River Watershed District—Projects and Programs Workplans

Below and attached are workplans for projects and programs specified in the recently amended Implementation Section of the LMRWD Watershed Management Plan for the 2023 calendar year.

1. Municipal (LGU) and Individual Projects Permit Programs

   Municipal LGU permits: During 2022, the city of Burnsville was conditionally approved for its LGU permit on the condition of reconciliation of outstanding items for Rule D: Stormwater Management and Rule F: Steep Slopes. The plan for 2023 is to coordinate with Savage, Chanhassen, and the Metropolitan Airports Commission (MAC) to get their LGU permits. The District will also complete a Rule A: Administrative and Procedural Requirements specified audit of LGU permit holders that have had their permits for more than a year. This includes Eagan, Mendota Heights, Bloomington, Carver, and Shakopee.

   The District has completed municipal coordination meetings with Chanhassen, Mendota, Eden Prairie, Carver, Savage, and Bloomington. The purpose of these meetings is to continue the established collaboration and information-sharing framework, to review recent and upcoming LMRWD and city projects and programs, and to assess resources and leverage on projects that protect or enhance natural resources. The District will meet with Burnsville, Chaska, Lilydale, MAC, and Shakopee the week of December 12, 2022.

   Individual project permits: As of Friday, December 2, 2022, the District had processed 41 rules review requests. Attached is a table (Table 1) showing a

breakdown of requests (see also the attached illustration, Figure 1). In 2022, for the first time since the adoption of the District's rules in 2020, the District inspected 38 individual permits. The purpose of the inspections was to confirm compliance with the District's rules during and after the construction of permitted projects.

In 2023, the District will continue to permit individual projects in cities without their LGU permits, MnDOT projects, and LGUs that have opted to have the District maintain specific rules. The plan is to continue project inspection activities next summer and refine the permitting data management system to enhance efficiency and access to the permit information.

2. Education and Outreach (E&O) Program

   The 2023 workplan includes continuing management of the citizen advisory committee, social media activities, signage design and placement, school engagement efforts, and partnerships for community outreach and engagement activities. The E&O program's 2022 summary and 2023 workplan allocating $66,250 are attached as separate documents.

3. CIPs are listed below, and workplans are attached.

   a. Area 3 Stabilization Project—The workplan for this project was approved earlier this year and is underway. The 60 percent plan set and preliminary engineer's cost estimate are on target for completion in January 2023, supporting the District's legislative agenda.

   b. Fen Stewardship Plan—The development of stewardship plans for the District's calcareous fens was recommended in the Fens Sustainability Gaps Analysis for Carver, Dakota, and Scott Counties Minnesota 2020 Report. These plans will build on the information generated and develop specific management strategies for continued protection and preservations of these valued resources. The workplan for this project allocates $75,000 to the development of fen stewardship programs for Savage and Gun Club Fens and implementation strategies highlighted in the recently completed Seminary Fen Stewardship Plan.

   c. Dredge Management Site—The workplan for this project is not attached but is consistent with the work on the culvert and road submitted to the state of Minnesota for the appropriation. The culvert assessment has been completed and the replacement recommendation shared with the board and accepted. The next steps to be completed in 2023 include culvert upgrade and road improvements, using the District's engineering pool.

d. Gully Inventory and Condition Assessment—Previously, the District completed gully inventory and condition assessment projects in 2020 and 2021. The goals of the projects were to revisit past sites, identify new erosion sites, and make recommendations for future field work and conditions assessments of high-priority gullies located within the District. In 2023, the District will revisit sites with medium to high erosion potential; continue to coordinate with city partners and other potential stakeholders to review findings; discuss high-priority sites; and strategize ways to stabilize gullies, repair outfalls, and prevent sediment from entering the Minnesota River. The project also includes a feasibility study of the Richard T. Anderson site. The workplan for this project allocates $90,500.

e. Minnesota River Floodplain Modeling Project—The update of the district-wide hydrologic model was recommended in the 2022 Lower Minnesota River Floodplain Model Feasibility Study. The District plans to create revised floodplain mapping to allow for better predictions of flood stages within the LMRWD and evaluate the effects of urban development and climate change on the river's hydrology in partnership with cities within the District. The workplan for this project allocates $85,632.

f. Spring Creek (City of Carver)—The District has completed a Spring Creek Hydrology Review, site assessments of Spring Creek, and gully assessments located within Spring Creek's channel and valley wall. The previous hydrology review consisted of three properties: 112 5th Street West (Site 1), 404 Broadway Street (Site 2), and 116, 4th Street (Site 3). The previous assessments of Spring Creek have led to the workplans described below:

    i. Spring Creek Site 1 and 2 Design and Construction Stabilization Project—The District will work with a consultant from the consulting pool to develop final construction plans for the stabilization of Sites 1 and 2 and vegetation management strategies.

    ii. Spring Creek Site 3 Design Feasibility Study—Site 3 was identified during the Spring Creek Hydrology review and prioritized as a top at-risk site for erosion due to the near vertical bank. However, a stabilization design has not yet been developed. The workplan focuses on completing a feasibility study and conceptual design in partnership with the landowner and the Carver Soil and Water Conservation District to determine the best approach to stabilize the area.

Table 1: LMRWD Permit Program Summary — December 7, 2022

							Board Actions								
Permit No.	Project Name	City	Status	Pre-Permit Meeting	Date Received	Date Applicaton Considered Complete	Information Only	Conditional Approval	Approval	On Hold / Cancelled	Permit Issued	Permit Expiration Date	Renewed	Inspection Date	Date Permit Closed
2020-105	Freeway Landfill Expansion	Burnsville	Pre-Permit	-	8/19/2022		9/21/2022								
2021-022	2021 Safety and Security Center	Fort Snelling	Active Permit	-	5/18/2021	10/29/2021	-	11/17/2021	-	-	3/18/2022	3/18/2023	-	7/20/2022	-
2021-023	106th St Improvements	Bloomington	Active Permit	-	5/25/2021	5/28/2021	-	6/2/2021	-	-	6/17/2022	6/17/2022	4/20/2022	7/28/2022	-
2021-025	TH 13	Savage	Active Permit	-	6/11/2021	6/15/2021	-	2/16/2022	-	-	5/20/2022	5/20/2023	-	7/13/2022	-
2021-030	Building Renovation Park Jeep	Burnsville	Active Permit	-	7/9/2021	7/16/2021	-	9/15/2021		-	6/21/2022	6/21/2023	-	-	-
2021-033	Minnesota MASH & 130th St Extension	Savage	Active Permit	6/23/2021	9/17/2021	-	-	-	6/15/2022	-	6/17/2022	6/17/2023	-	-	-
2021-035	I35W Frontage Trail	Burnsville	Active Permit	-	12/15/2021	12/22/2021	-	1/19/2022	-	-	11/3/2022	11/3/2023	-	-	-
2021-040	Canterbury Independent Senior Living	Shakopee	Active Permit	-	8/11/2021	8/19/2021	-	9/15/2021	9/15/2022	-	8/19/2022	10/1/2023	-	7/26/2022	-
2021-057	Cliff Road Ramp	Burnsville	Active Permit	-	12/14/2021	1/4/2022	-	1/19/2022	-	-	6/8/2022	6/8/2023	-	7/13/2022	-
2021-058	MAC Gate Security Improvements	Fort Snelling	Active Permit	-	12/15/2021	12/16/2021	-	1/19/2022	-	-	4/27/2022	4/27/2023	-	7/28/2022	-
2022-001	Centerpoint Shakopee Pigging	Shakopee	No Permit Required	-	1/12/2022	-	-	-	-	-	-	-	-	-	-
2022-002	2022 MBL Nicollet River Crossing	Bloomington, Burnsville	Active Permit	-	1/18/2022	-	-	3/16/2022	-	-	4/25/2022	4/25/2023	-	-	-
2022-003	Ivy Brook Parking East	Burnsville	Active Permit	-	1/19/2022	2/25/2022	-	3/16/2022	-	-	5/16/2022	5/16/2023	-	-	-
2022-004	CHS Savage Terminal	Savage	Incomplete	-	1/27/2022	-	-	-	-	-	-	-	-	-	-
2022-005	Chaska West Creek Apartments	Chaska	Incomplete	-	2/8/2022	-	-	-	-	-	-	-	-	-	-
2022-006	Quality Forklift	Shakopee	No Permit Required	-	2/10/2022	-	-	-	-	-	-	-	-	-	-
2022-007	Engineered Hillside	Eden Prairie	Active Permit	-	2/15/2022	3/14/2022	-	-	4/20/2022	-	4/21/2022	4/21/2023	-	-	-
2022-008	Ivy Brook Parking West	Burnsville	Active Permit	-	2/16/2022	2/25/2022	-	3/16/2022	-	-	5/31/2022	5/31/2023	-	-	-
2022-010	Quarry Lake Pedestrian Bridge and Trail	Shakopee	Conditional Approval	-	2/24/2022	-	-	4/20/2022	-	-	-	-	-	-	-
2022-011	Biffs Inc.	Burnsville	Active Permit	-	2/28/2022	3/29/2022	-	4/20/2022	-	-	8/16/2022	8/16/2023	-	-	-
2022-012	Quarry Lake Park Improvements - Roadway and Boat Launch	Shakopee	Cancelled by Applicant	-	3/17/2022	-	-	-	-	5/24/2022	-	-	-	-	-
2022-013	Normandale & 98th Intersection Improvements	Bloomington	Active Permit	-	3/22/2022	4/1/2022	-	4/20/2022	-	-	4/22/2022	4/22/2023	-	-	-
2022-014	TH 41/CSAH 61 Improvements	Chaska	Conditional Approval	2/16/2021; 1/6/2022	3/23/2022	5/11/2022	-	5/18/2022	-	-	-	-	-	-	-
2022-015	Xcel Driveway	Shakopee	Incomplete	-	4/20/2022	-	-	-	-	-	-	-	-	-	-
2022-016	Organic Recycling Facility Relocation	Louisville Township	Incomplete	-	4/20/2022	-	-	-	-	-	-	-	-	-	-

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2022-017	PLOC Channel Stabilization	Shakopee	Active Permit	-	6/30/2022	7/5/2022	-	-	7/20/2022	-	7/21/2022	7/21/2023	-	-	-
2022-018	Lakota Lane	Chanhassen	Under Review	-	4/19/2022	-	5/18/2022	-	-	-	-	-	-	-	-
2022-019	TH 494 SP 2785-433	Eagan and Bloomington	Conditional Approval	-	4/21/2022	6/24/2022	-	7/20/2022	-	-	-	-	-	-	-
2022-020	New Century School	Bloomington	No Permit Required	-	4/28/2022	-	-	-	-	-	-	-	-	-	-
2022-021	Oak St N (CenterPoint Energy)	Chaska	Active Permit	-	4/29/2022	-	-	-	6/15/2022	-	6/17/2022	6/17/2023	-	-	-
2022-022	Ace Rent A Car	Fort Snelling	Incomplete	-	5/10/2022	-	-	-	-	-	-	-	-	-	-
2022-023	494 Corridors of Commerce	Fort Snelling	Pre-Permit	5/3/2022	5/19/2022	-	7/20/2022	-	-	-	-	-	-	-	-
2022-024	Gedney Pickles Holding Pond Restoration	Chanhassen	Active Permit	6/16/2022	8/10/2022	-	-	9/21/2022	-	-	11/14/022	11/14/2023	-	-	-
2022-025	10561 E Riverview Drive	Eden Prairie	No Permit Required	-	6/22/2022	-	-	-	-	-	-	-	-	-	-
2022-026	10521 Spyglass Drive	Eden Prairie	Active Permit	5/31/2022	7/13/2022	8/8/2022	-	-	7/20/2022	-	8/8/2022	8/8/2023	-	-	-
2022-027	Ivy Brook Parking Northeast	Burnsville	Active Permit	-	7/5/2022	-	-	8/17/2022	-	-	8/31/2022	8/31/2023	-	-	-
2022-028	Quarry Lake Park Restroom	Fort Snelling	Active Permit	-	7/6/2022	7/8/2022	-	7/20/2022	-	-	7/22/2022	7/22/2023	-	-	-
2022-029	Reliakor	Shakopee	Closed	-	7/20/2022	-	-	8/17/2022	-	-	9/19/2022	9/19/2023	-	-	10/28/2022
2022-030	Frenchies Metals	Chaska	Incomplete	-	7/22/2022	-	-	-	-	-	-	-	-	-	-
2022-031	RSI Marine (Great Plains Blvd)	Chanhassen	Pre-Permit	-	7/18/2022	-	8/17/2022	-	-	-	-	-	-	-	-
2022-032	PMP Street Maintenance	Bloomington	No Permit Required	-	8/31/2022	-	-	-	-	-	-	-	-	-	-
2022-033	Dred Scott Fields Area	Bloomington	No Permit Required	-	8/31/2022	-	-	-	-	-	-	-	-	-	-
2022-034	Valleyfair Parking Lot Expansion	Shakopee	Conditional Approval	-	9/26/2022	10/11/2022	-	10/19/2022	-	-	-	-	-	-	-
2022-035	Concourse G Infill Pods 2-3 EAW Review	Fort Snelling	No Permit Required	-	9/30/2022	-	-	-	-	-	-	-	-	-	-
2022-036	Structures, Inc.	Chaska	*Conditional Approval**	-	10/6/2022	12/2/2022	-	*12/14/2022**	-	-	-	-	-	-	-
2022-037	Peterson Wetland Bank	Eden Prairie	Pre-Pemit	-	10/3/2022	-	-	-	-	-	-	-	-	-	-
2022-038	Xcel Energy Line 5516	Chaska	No Permit Required	-	10/14/2022	-	-	-	-	-	-	-	-	-	-
2022-039	Former Knox Site	Burnsville	Under Review	-	11/3/2022	-	-	-	-	-	-	-	-	-	-
2022-040	Burnsville Sanitary Landfill	Burnsville	Under Review	-	11/21/2022	-	-	-	-	-	-	-	-	-	-

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STATUS DEFINITIONS:

Active Permit: Applicant has a valid permit issued by LMRWD

Cancelled by Applicant: Applicant withdrew their application for a LMRWD permit

Closed: Applicant has indicated the project has completed construction and that the permit file may be closed

Conditional Approval: LMRWD managers conditionally approved the permit application, pending receipt of additional information from applicant

Expired: Applicant either obtained conditional approval, approval, and/or was issued a permit and the expiration date has passed

Incomplete: Applicant applied for a permit, but the application is incomplete

No Permit Required: Applicant applied for a permit, but during the completeness review, it was determined that the project did not trigger the regulatory thresholds

On Hold: Applicant requested their application be placed on hold

Pre-Permit: Applicant has requested pre-permit application reviews or meetings, but has not yet applied for a permit from LMRWD

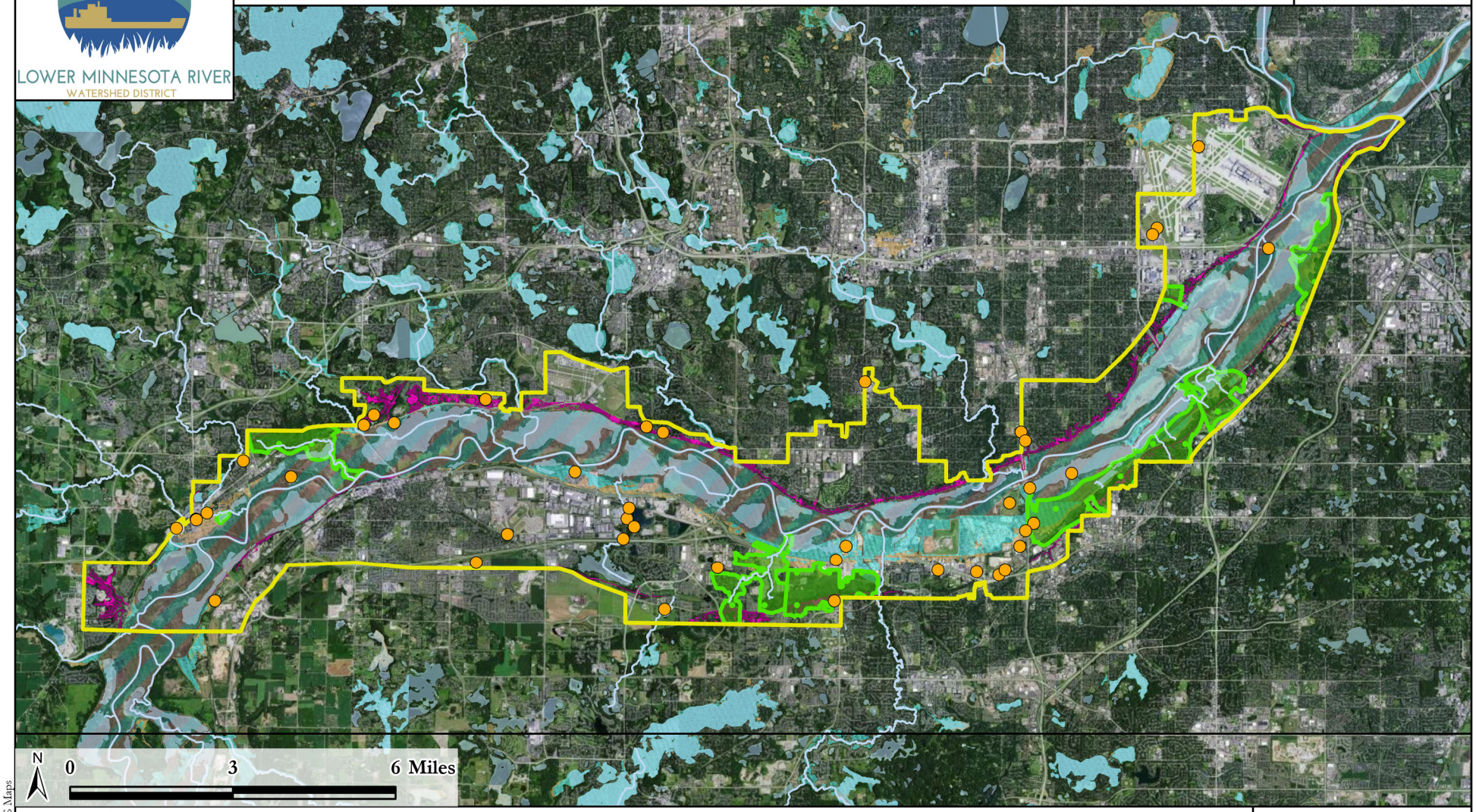
Under Review: Permit application is complete and under review by LMRWD staff

** Staff recommendation only, has not yet been presented to the Board for action*

2022 Permit Reviews

LOWER MINNESOTA RIVER
WATERSHED DISTRICT

Young Environmental
Consulting Group, LLC



Legend

- LMRWD Active Permits
- LMRWD Boundary
- Public Waters
- Public Waterbodies
- High Value Resource Area
- Steep Slope Overlay District
- 100-yr Floodplain
- 500-yr Floodplain
- Floodway
- Levee Floodplain Area

Location Map

Projects\LMRWD\Municipal Oversight\GIS Maps

Young Environmental Consulting Group, LLC

Technical Memorandum

To: Linda Loomis, Administrator
Lower Minnesota River Watershed District

From: Jen Dullum, Education and Outreach Coordinator
Della Schall Young, CPESC, PMP

Date: December 1, 2022

Re: Lower Minnesota River Watershed Education and Outreach—2022 Year-End Activities Summary

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Young Environmental Consulting Group LLC (Young Environmental) continues to administer the Lower Minnesota River Watershed District's (LMRWD's) public education and outreach program. The following presents a summary of project activities undertaken and completed in 2022, as presented in the work plan approved by the LMRWD's managers in August 2021.

Citizen Advisory Committee

Young Environmental continues to support the Citizen Advisory Committee (CAC). Support for the CAC includes preparing meeting agendas and minutes, securing educational presentations, creating educational materials, attending local events, and increasing membership. Below is a list of completed activities.

1) Recruitment Search
    a. March 2022—Young Environmental sent targeted recruitment materials to 11 partner cities and counties.
    b. September 2022—Young Environmental posted recruitment notice to a metro water resource educator message board hosting nearly 300 members.
    c. Young Environmental shared quarterly postings on the LMRWD social media platforms.

Recruitment has proven difficult. Because of this, in 2023, Young Environmental will continue working with local partners and will increase its postings on social media to encourage participation in the CAC. In addition, information about joining the CAC will be brought to local

tabling events, and CAC members will be asked to reach out to interested contacts. Other recruitment methods may be developed throughout 2023.

2) Monthly Membership Meetings

   The CAC held monthly meetings virtually January through April. From May through October, in-person meetings took place at various sites within the LMRWD. Meetings returned to the virtual space in November. Young Environmental drafted agendas and meeting minutes and secured presenters and on-site meeting locations.

Website

As part of the 2022 work plan, Young Environmental has been editing and updating the LMRWD's website per solicited comments received from the CAC and three watershed management organization education and outreach/communications professionals. Edits and updates have been ongoing through 2022. Below is a chronological outline of milestones to date:

1) March 2022—Young Environmental shared the first round of edits with the LMRWD Administrator and completed those edits by April 8, 2022. Edits included grammar, date updates, and formatting changes.

2) September 2022—the *Additional Resources* webpage was changed to *Educational Resources* and developed with Educator Mini-Grants Program. Handouts were developed through the CAC. Links were populated for additional educational learning.

3) November 2022—Young Environmental published the *I Am a Resident* page, containing handouts developed by the CAC and links for additional resources.

Social Media

The social media content is generated quarterly and shared with the managers and administrator. The year-to-date analytics are in Attachment A. Young Environmental continues to manage the LMRWD's social media presence on Facebook, Instagram, and Twitter. Although we will continue with our social media plan, we question the analytics and their ability to describe the true nature of our impact. Young Environmental plans to coordinate with other watershed districts to assess social media outreach and engagement strategies.

LMRWD Signage

Young Environmental continued work on interpretive signs near high-value resource areas and at LMRWD project sites. Signs were developed and installed at two sites: East Chaska Creek and Eagle Creek/Savage Fen. Below is a list of completed activities in chronological order.

1) March 2022—East Chaska Creek and Eagle Creek/Savage Fen interpretive signs finalized and sent to Studio Lola for fabrication

2) Spring 2022—Both signs installed

3) November 2022—Additional interpretive sign locations were investigated. Those locations include Quarry Lake, Courthouse Lake, Black Dog Fen, Gun Club Lake Fen, and Ike's Creek. Based on responses from partners, Black Dog Fen and Gun Club Lake Fen are not viable options. Staff continues to investigate Quarry Lake, Courthouse Lake, and Ike's Creek with partners.

   Flying Cloud Drive/CSAH 61 at Riley Creek remains a potential location. Staff is coordinating with Hennepin County and Riley Purgatory Bluff Creek Watershed District on this effort.

   We also met with Dakota County Parks for potential signage opportunities along the Minnesota River Greenway/Big Rivers Regional Trail. Conversations are ongoing.

Schools and NGO Engagement

Young Environmental continued outreach to local schools and nongovernmental organizations. Below is a chronological outline of progress to date.

<u>Schools</u>

1) Coordination is ongoing with the Dakota County Soil and Water Conservation District (SWCD), LMRWD, and the City of Burnsville about programming at Burnsville High School.

   a. April 2022—Young Environmental, Dakota SWCD, City of Burnsville, and staff from Burnsville Public Schools met to further dial in programming needs.

   b. July 2022—Young Environmental, Dakota SWCD, and City of Burnsville met at Burnsville High School to determine on-site educational opportunities for students because the school is not yet participating in field trips. The group developed a draft learning plan and will share it with school staff.

   c. December 2022—A meeting with Burnsville Public School staff took place to flesh out details has been proposed, including an on-campus stormwater pond monitoring program protocol, equipment needs, and an accompanying classroom curriculum.

2) Young Environmental received communication from Normandale Hills Elementary Schools regarding programming opportunities. Nine Mile Creek Watershed District (Nine Mile), the local watershed district of the school, was brought into this conversation.

   a. March 2022—Young Environmental and Nine Mile met to determine partnership opportunities and roles.

   b. April 2022—Young Environmental, Nine Mile, and staff from Bloomington Public Schools and Normandale Hills Elementary met to discuss potential educational opportunities for the 5th grade. Young Environmental supported Nine Mile Creek

in three 30-minute sessions on April 19 in three science classes at Normandale Hills. The presentations and activities centered around the water cycle and watersheds.

3) May 2022—Young Environmental received communication from Jefferson High School regarding programming opportunities. The teacher, Jon Leverenz, is interested in the River Watch program, and we put him in contact with the River Watch program.

4) May 2022—Young Environmental contacted 18 schools not supported by other watershed management organizations to discuss potential needs, which may include in-school speakers, field trips, science equipment, and classroom books. The schools contacted are attached. These conversations inspired the creation of the Educator Mini-Grant Program.

5) Summer-Fall 2022—Young Environmental developed the Educator Mini-Grant Program. This program is designed to assist local educators and to further the LMRWD's mission and goals of water quality restoration, groundwater conservation, and wildlife connectivity while increasing public awareness of the Minnesota River and its unique natural resources with mini-grants of up to $500. The program, with a budget of $5,000, was considered and approved in September by the Board of Managers. Over 100 schools and other educators and organizations providing education were contacted by Young Environmental about this program. Two local educators applied for the grant.

6) November 2022—The first round of Educator Mini-Grants Program awards was approved by the Board of Managers. Seventh grade science teacher Shannon Lee from Black Hawk Middle School was awarded $500 for wetland monitoring equipment and identification books, and high school biology teacher Jon Leverenz from Jefferson High School was awarded $300 for transportation and equipment costs associated with the River Watch Program.

<u>Community Outreach Engagement</u>

1) March 2022—Young Environmental developed criteria for tabling at local events.

2) May 2022—Young Environmental sent email correspondence to nine nature centers/nonprofit organizations asking to meet to discuss partnership opportunities. Several partners responded, including the Minnesota Valley National Wildlife Refuge, the Izaak Walton League, Dakota County, and Carver County, to discuss partnership opportunities. These entities are open to future partnerships.

3) Young Environmental continues to enhance LMRWD materials for tabling events, including by doing the following:

    a. Young Environmental developed a trifold poster board to bring to local events describing the LMRWD cost–share program along with information on rain gardens, native plants, rain barrels, and winter salt use.

b. Young Environmental also worked with a local vendor on a table skirt for future events.

c. Young Environmental has coordinated with neighboring watershed districts and watershed management organizations on borrowing protocol for tabletop displays for outreach events.

4) Tabling Events

Members of the CAC attended local events this year, including the Dakota County Fair, Carver County Fair, and Scott County Outdoor Education Days.

5) Other

The Minnesota Pollution Control Agency (MPCA) reached out to partners asking for assistance to find venues to host its Salt Dilemma Display and We Are Water Exhibit. In an attempt to help, Young Environmental reached out to eight partner cities (Bloomington, Burnsville, Chanhassen, Chaska, Eagan, Eden Prairie, Savage, and Shakopee) and two counties (Carver and Scott). We did not identify a location but will continue to assist when requested to support the MPCA in this effort.

Recommendations

Based on 2022 activities, Young Environmental's recommendations are reflected in the proposed 2023 workplan.

Facebook

96 followers | 70 pages like our page

Q1	Avg Reach	Avg Likes	Avg Comments
	57	2	0
Q2	Avg Reach	Avg Likes	Avg Comments
	36	1	0
Q3	Avg Reach	Avg Likes	Avg Comments
	41	1	0
Q4*	Avg Reach	Avg Likes	Avg Comments
	28	1	0

*as of December 1, 2022

Reach: the number of people who saw any content from your Page or about your Page. This metric is estimated.

Best Performing Facebook Posts 2022

	Reach	**Likes**	**Comments**
Adopt A Drain*	383	15	0
National Invasive Species Week*	470	4	3
Rain Barrels*	199	7	0
Explore Scavenger Hunt*	127	1	0
Summer Solstice*	224	3	0
Steep Slopes*	202	1	0
Lawn Mowing*	132	1	0
Sweep Up Grass Clippings*	276	4	0
First Day of Fall*	227	5	0

*shared by others

Instagram

165 followers

Q1	Avg Reach	Avg Likes	Avg Comments
	36	4	0
Q2	Avg Reach	Avg Likes	Avg Comments
	20	3	0
Q3	Avg Reach	Avg Likes	Avg Comments
	18	2	0
Q4*	Avg Reach	Avg Likes	Avg Comments
	22	2	0

*as of December 1, 2022

Reach: the number of people who saw any content from your Page or about your Page. This metric is estimated.

Best Performing Instagram Posts 2022

	Reach	**Likes**	**Comments**
Trash on Ice*	70	9	0
Snow and Ice Removal*	57	8	1
Chloride*	54	5	0
National Invasive Species Week*	51	3	0
Stream Trout Fishing Opener	37	3	3
Savage Interpretive Sign	40	7	0
Rain Barrel	41	3	0
Adopt-A Drain	32	5	0
East Chaska Creek Interpretive Sign	57	6	0

*shared by others

Twitter

76 followers

Q1	Impressions	Engagements	Likes	Link Clicks	Retweets
	80	5	2	1	0
Q2	Impressions	Engagements	Likes	Link Clicks	Retweets
	82	4	2	1	1
Q3	Impressions	Engagements	Likes	Link Clicks	Retweets
	66	9	6	2	6
Q4*	Impressions	Engagements	Likes	Link Clicks	Retweets
	19	1	0	0	0

*as of December 1, 2022

Impressions: how many total times a Tweet has been seen.
Engagements: Total number of times a user interacted with a Tweet. Clicks anywhere on the Tweet, including retweets, replies, follows, likes, links, hashtags, etc.

Best Performing Tweets 2022

	Impressions	**Engagements**	**Likes**	**Link Clicks**	**Retweets**
Snow and Ice Removal	158	12	2	1	3
Chloride	160	14	6	2	1
Fix a Leak Week	221	2	1	0	0
Fishing Opener	179	3	2	1	
Rain Barrels*	361	12	2	2	2
Storm Drains	195	6	5	1	
Turf Grass	139	6	4		
National Water Quality Month	380	45	34	2	9
AIS*	228	15	4		2

*profile click

Schools and NGO Engagement

4) School contacted without other supporting watershed district/watershed management organization

School	Watershed District	School District	County
Black Hawk Middle School	Gun Club Lake	196	Dakota
Burnsville Alternative High School	Gun Club Lake	191	Dakota
Dakota Hills Middle School	Gun Club Lake	196	Dakota
Deerwood Elementary School	Gun Club Lake	196	Dakota
Eagan High School	Gun Club Lake	196	Dakota
Glacier Hills Elementary School	Gun Club Lake	196	Dakota
Northview Elementary School	Gun Club Lake	196	Dakota
Oak Ridge Elementary School	Gun Club Lake	196	Dakota
Pilot Knob STEM Magnet	Gun Club Lake	197	Dakota
Pinewood Elementary School	Gun Club Lake	196	Dakota
Rahn Elementary School	Gun Club Lake	191	Dakota
Red Pine Elementary School	Gun Club Lake	196	Dakota
Thomas Lake Elementary School	Gun Club Lake	196	Dakota
Woodland Elementary School	Gun Club Lake	196	Dakota
Friendly Hills Middle School	Lower Mississippi River	197	Dakota
Mendota Elementary School	Lower Mississippi River	197	Dakota
Somerset Elementary School	Lower Mississippi River	197	Dakota
Two Rivers High School	Lower Mississippi River	197	Dakota

LOWER MINNESOTA RIVER WATERSHED DISTRICT

2023 Public Education and Outreach Plan

Workplan—December 1, 2022

Summary

Outcome:	2023 Public Education and Outreach Plan
Project Partners:	City partners, residents, and businesses of the District; US Fish and Wildlife Service; and nongovernmental organizations (NGOs); public and private schools
Timeline for Completion of Project:	January–December 2023
Total Project Budget:	2023: $66,250

Objective 1. Citizen Advisory Committee (CAC)

Task 1.1: Maintain a CAC of five members or more. Young Environmental will continue to search for CAC members using the LMRWD website and increased social media presence as well as through outreach at local tabling events. Current CAC members, municipal partners, and other groups within the District will also be asked to provide assistance in reaching interested members of the community.

Task 1.2: Plan and facilitate CAC meetings. Young Environmental will develop monthly meeting agendas with input from the District and the CAC. As part of agenda development, Young Environmental may also organize speakers and visits to projects and high-value resource sites at the request of the CAC.

Task 1.3: Monitor and assist the CAC. Young Environmental will draft a meeting summary or notes with the secretary, provide technical information, and support and host the virtual and in-person meetings.

Task 1.4: Develop educational materials as directed by the CAC. Over the course of the year, the CAC may need to have materials developed to convey the work of the LMRWD or to address recurring questions it has encountered. Young Environmental will draft up to four educational items as directed by the CAC and LMRWD administrator.

Deliverables: CAC membership roster, meeting agendas, summaries, CAC-guided educational materials

Estimated Budget: $14,250

Objective 2. Social Media

Task 2.1: Maintain social media sites. District Facebook, Instagram, and Twitter accounts were established in 2021. Young Environmental will continue to build a following on the District's social media channels, create quarterly content calendars, and post content. Young Environmental will continue to gather and take photos of District resources for posting.

Deliverables: quarterly content calendar, weekly posting to social media accounts, monitoring and maintenance of accounts, image gathering

Estimated Budget: $12,500

Objective 3. District Signage

Task 3.1: Signage. Young Environmental will continue to identify sites for District project and District resource signage and will make recommendations for proposed interpretive sign locations. Young Environmental will continue to work with local partners on locations and messaging and with the current signage contractor for design and fabrication. The Board of Managers will receive estimates for the cost of up to five signs.

Deliverables: recommendations for District sign locations, design and fabrication cost memorandum

Estimated Budget: $9,000 (design and fabrication cost not included)

Objective 4. Schools Engagement

Task 4.1: Partnerships. Young Environmental will continue to explore education opportunities for students within our partner cities. Young Environmental will develop an education plan for interested partners for the 2023–24 academic year.

Task 4.2: Grant program. In 2022, Young Environmental developed the Educator Mini-Grant Program, providing schools, nonprofits, educators, and students with funding opportunities. As part of this program, Young Environmental will assist in evaluating proposals, awarding grants, and compiling reports and reimbursement requests. Young Environmental will also develop enhanced program promotion in 2023.

Deliverables: education plans, mini-grant promotion, website updates

Estimated Budget: $11,000

Objective 5. Community Outreach and Engagement

Task 5.1: Partnership. Young Environmental will continue to evaluate existing and established education and/or sustainability program partnerships with local cities, counties, nonprofits, and NGOs in 2023.

Task 5.2: Local events. In 2022, Young Environmental developed criteria to help determine participation in events and programming. Young Environmental presented to the CAC a list of potential events and programs based on these criteria. Young Environmental will coordinate participation in events and programs as directed and will support the CAC in the events that meet those criteria.

Task 5.3: Tabling materials. Over the past two years, Young Environmental developed several handouts that may be brought to community tabling events. Based on guidance from the CAC, Young Environmental will continue to develop additional handouts and/or other materials and investigate the purchase of interactive displays and present cost findings to the board.

Deliverables: local event participation, handout development, interactive display memorandum

Estimated Budget: $10,500

Objective 6. Website Assistance

Task 6.1: Website updates. In 2022, Young Environmental began populating water resource data for District water bodies on the District website. Young Environmental also made updates to the resident and education pages. Functionality updates are ongoing. Over the course of 2023, Young Environmental will continue to populate water resource data on the District's website along with updating the developer page and assisting the District with content management.

Deliverables: Develop website pages, update, and maintain website content

Estimated Budget: $9,000

LOWER MINNESOTA RIVER WATERSHED DISTRICT

Gully Inventory and Assessment Program

Workplan—December 1, 2022

The District performs routine gully inventories to provide information to municipalities within the watershed district on the current conditions of gullies and pipe outfalls; it also identifies new locations that may be contributing sediment into the Minnesota River. Once each gully inventory is complete, the District will coordinate collaboration sessions with city partners and other potential stakeholders to review findings; discuss high-priority sites; and strategize ways to stabilize gullies, repair outfalls, and prevent sediment from entering the Minnesota River.

Summary

Outcome:	Identify and make recommendations for future field work and condition assessments of high-priority gullies located in the cities of Bloomington, Burnsville, Carver, Chanhassen, Chaska, Eagan, Eden Prairie, Mendota, Mendota Heights, Savage, and Shakopee within the Lower Minnesota River Watershed District
Project Partners:	Minnesota Department of Natural Resources (MnDNR), US Fish and Wildlife Service (USFWS), Trout Unlimited, Cities of Bloomington, Burnsville, Carver, Chanhassen, Chaska, Eagan, Eden Prairie, Mendota, Mendota Heights, Savage, and Shakopee, and Dakota County and Scott County
Timeline for Completion:	January 2023–December 2023
Total Project Budget:	$90,500

Objective 1. Project Management

Task 1-1: Project plan development and project management. Finalize the workplan; assign project tasks, determine whether additional resources are needed; set dates for deliverables; generate and maintain project schedule; perform monthly invoicing.

Timeline for Completion: six to12 months

Deliverables: project approach and schedule, invoices, project updates

Estimated Budget: $3,600

Objective 2. Database Organization

Task 2-1: Database development and organization. GIS data from previous gully assessments requires organization to effectively structure relationships between the existing data and data that will be collected in the future. This task includes data mapping, database development, and data migration to transition existing data into a new geodatabase that will comprehensively organize

past information and streamline data management for the gully inventory and assessment program.

Task 2-2: Survey 123 development. The existing electronic inspection form will be refined to collect and record field data in the new geodatabase.

Timeline for Completion: three months

Deliverables: completed geodatabase, Survey 123 application for field documentation

Estimated Budget: $3,500

Objective 3. Data Collection and Review

Task 3-1: Review of background information. Young Environmental will review the high- and medium-priority sites identified in the *2020 and 2021 Gully Inventory and Condition Assessments* and will extract information for sites to be revisited during the 2023 field season.

Task 3-2: Coordination with project partners. The compiled information from Task 3-1 will be reviewed, and municipalities within this study area may be contacted for additional information and to determine new areas of concern, proposed projects, and completed projects that may affect future field work and surveys. In addition, this task will include coordination with the USFWS and the Minnesota Department of Natural Resources to gain permission to perform field work on their land, as needed.

Timeline for Completion: four to six weeks

Deliverables: maps, meetings, summary notes

Estimated Budget: $6,700

Objective 4. Field Work

Task 4-1: Conduct field condition assessments. Conduct site visits to reinspect each of the identified gullies from Objective 3. As before, Young Environmental interns will collect photographs, waypoint locations, and notes detailing the condition of each of the gullies using the ArcGIS Survey 123 electronic inspection form that will be refined in Objective 2. In addition, a drone survey may be considered for critical site(s), pending available budget. Young Environmental will have local drone experts assess the final list of high- and medium-priority sites to determine if a drone survey is feasible.

Task 4-2: Gully ranking. Based on the updated field condition assessments, Young Environmental will review and update the ranking of the identified and assessed gullies in the LMRWD. Criteria to be used will include the potential for sediment loading into the Minnesota River, proximity to HVRA or 303-listed impaired waterbody, and interest by project partners.

Timeline for Completion: three to six months, dependent on weather

Deliverables: maps, photographs, field notes, field inspection reports

Estimated Budget: $35,250

Objective 5. Richard T. Anderson Conservation Area Gully Feasibility Study

Task 5-1: Drone survey. Perform a drone survey to assess the gullies in the Richard T. Anderson Conservation Area. During the 2020 Gully Inventory, extensive erosion was observed, but access was prohibited because of steep slopes and other safety concerns. Results from the drone survey will be used to inform potential stabilization measures in Task 5-2.

Task 5-2: Conceptual engineering design. Prepare concept drawings with proposed stabilization measures for the high- and medium-priority gullies in the Richard T. Anderson Conservation Area. Young Environmental will provide technical review of the design. This task includes coordination and meetings to develop and review conceptual designs.

Task 5-3: Documentation. Develop a draft technical memorandum that will document the data collected, results from the analysis, and recommendations for stabilization based on the concept drawings. The draft memo will be submitted to the District and project partners for consideration and written feedback. Pending feedback received, a final technical memorandum and findings will be developed, incorporating the written feedback, and submitted to the District and project partners.

Timeline for Completion: three to four months

Deliverables: maps, photographs, concept design drawings, draft technical memorandum, final technical memorandum

Estimated Budget: $30,200

Objective 6. Documentation

Task 6-1: Development of the draft 2023 Gully Inventory and Condition Assessment Report. Prepare the draft 2023 Gully Inventory and Condition Assessment Report. The draft report will be provided to the District and partners for comment.

Task 6-2: Finalization of the 2023 Gully Inventory and Condition Assessment Report. Finalize the assessment report, and submit the final report to the District and project partners.

Timeline for Completion: four weeks

Deliverables: Draft 2023 Gully Inventory and Condition Assessment Report, final 2023 Gully Inventory Condition Assessment Report

Estimated Budget: $11,250

LOWER MINNESOTA RIVER WATERSHED DISTRICT

Fen Stewardship Program

Workplan—December 1, 2022

The District, in partnership with the Minnesota Department of Natural Resources (MNDNR), will develop a fen stewardship program for the District's fens. The effort will review historical data, assess current conditions, and develop a road map for restoration, preservation, and protection of the District's fens. Stewardship plans or sustainability reports will be developed for all fens to effectively manage and protect these groundwater-dependent resources.

Summary

Outcome:	The Fen Stewardship Plans for the Savage, Nicols, and Gun Club Fens will be developed in 2023. A portion of the funds from the Fen Stewardship Program will be reserved for implementation of the actions that are defined in the completed stewardship plans.
Project Partners:	MNDNR, Metropolitan Council, City of Savage, City of Eagan, City of Mendota Heights
Timeline for Completion:	January 2023–December 2023
Total Project Budget:	$75,000

Objective 1. Project Management

Task 1-1: Project Plan Development and Project Management. Finalize the workplan, assign project tasks, and determine whether additional resources are needed; set dates for deliverables; and generate and maintain project schedule.

Timeline for Completion: 6–12 months

Deliverables: Invoices and project updates

Estimated Budget: $2,500

Objective 2. Savage Fen Stewardship Plan Development

Task 2-1: Stakeholder Engagement and Outreach. Young Environmental will coordinate two meetings with Savage Fen stakeholders in the development of the Savage Fen Stewardship Plan. The first meeting will be held to communicate the purpose of the stewardship plan and obtain data to inform the plan's development. A second meeting will be organized after the draft plan has been prepared to obtain feedback, which can include identifying opportunities for partnership and funding, and to finalize the plan's development.

Task 2-2: Complete the Fen Stewardship Plan. A stewardship plan will be developed for the Savage Fen. The outline for the stewardship plan will follow the same format as the previously developed Seminary Fen Stewardship Plan. The stewardship plan includes the validation of

existing data to further understand historical data and assess current conditions. It also includes the design of operational and future-oriented plans for protecting and restoring the fen.

Task 2-3: Story Map Development. A story map will be developed using ArcGIS to combine text, interactive maps and figures, and other multimedia content to educate various audiences on the history of the Savage Fen and current conditions. The final story map will be shared on the District's website.

Task 2-4: Board Presentation and Recommendations. The final stewardship plan will be presented to the board of managers, and recommendations for future actions will be discussed.

Timeline for Completion: 3–6 months

Deliverables: Agendas and meeting summaries, draft and final stewardship plans, and ArcGIS story map

Estimated Budget: $20,000

Objective 3. Nicols Fen Stewardship Plan Development

Task 3-1: Stakeholder Engagement and Outreach. Young Environmental will coordinate two meetings with Nicols Fen stakeholders in the development of the Nicols Fen Stewardship Plan. The first meeting will be held to communicate the purpose of the stewardship plan and obtain data to inform the plan's development. A second meeting will be organized after the draft plan has been prepared to obtain feedback, which can include identifying opportunities for partnership and funding, and to finalize the plan's development.

Task 3-2: Complete the Fen Stewardship Plan. A stewardship plan will be developed for the Nicols Fen. The outline for the stewardship plan will follow the same format as the previously developed Seminary Fen Stewardship Plan. The stewardship plan includes the validation of existing data to further understand historical data and assess current conditions. It also includes the design of operational and future-oriented plans for protecting and restoring the fen.

Task 3-3: Story Map Development. A story map will be developed using ArcGIS to combine text, interactive maps and figures, and other multimedia content to educate various audiences on the history of the Nicols Fen and current conditions. The final story map will be shared on the District's website.

Task 3-4: Board Presentation and Recommendations. The final stewardship plan will be presented to the board of managers, and recommendations for future actions will be discussed.

Timeline for Completion: 3–6 months

Deliverables: Agendas and meeting summaries, draft and final stewardship plans, and ArcGIS story map

Estimated Budget: $20,000

Objective 4. Gun Club Lake Stewardship Plan Development

Task 4-1: Stakeholder Engagement and Outreach. Young Environmental will coordinate two meetings with Gun Club Lake Fen stakeholders in the development of the Gun Club Lake Fen Stewardship Plan. The first meeting will be held to communicate the purpose of the stewardship plan and obtain data to inform the plan's development. A second meeting will be organized after the draft plan has been prepared to obtain feedback, which can include identifying opportunities for partnership and funding, and to finalize the plan's development.

Task 4-2: Complete the Fen Stewardship Plan. A stewardship plan will be developed for the Gun Club Lake Fen. The outline for the stewardship plan will follow the same format as the previously developed Seminary Fen Stewardship Plan. The stewardship plan includes the validation of existing data to further understand historical data and assess current conditions. It also includes the design of operational and future-oriented plans for protecting and restoring the fen.

Task 4-3: Story Map Development. A story map will be developed using ArcGIS to combine text, interactive maps and figures, and other multimedia content to educate various audiences on the history of the Gun Club Fen and current conditions. The final story map will be shared on the District's website.

Task 4-4: Board Presentation and Recommendations. The final stewardship plan will be presented to the board of managers, and recommendations for future actions will be discussed.

Timeline for Completion: 3–6 months

Deliverables: Agendas and meeting summaries, draft and final stewardship plans, and ArcGIS story map

Estimated Budget: $20,000

Objective 5. Implementation of the Fen Stewardship Plan

Task 5-1: Coordination with the MNDNR. The potential land acquisition activity identified in the completed Seminary Fen Stewardship Plan will be initiated. This includes coordination with the MNDNR to map and assess the value of private properties adjacent to the Seminary Fen and to begin the process of acquisition. Young Environmental will organize two meetings with the MNDNR. The first meeting will be held to reaffirm or modify the scope of the work and review data needs, and the second meeting will include discussing findings and recommendations with MNDNR staff.

Task 5-2: Develop a Draft Technical Memorandum. The private property northeast of the scenic and natural area where Fen Site E was identified is a notably valuable resource and will be the emphasis of a land acquisition study. Young Environmental will investigate historical and current conditions, provide information on potential properties for acquisition, and prepare a draft technical memorandum to summarize the findings from this review to share with the MNDNR.

Task 5-3: Final Technical Memorandum. Submit the final technical memorandum to the District and the MNDNR, incorporating the written feedback from Task 4-1.

Timeline for Completion: 6–12 months

Deliverables: Agendas and meeting summaries, draft technical memorandum, and final technical memorandum

Estimated Budget: $12,500

LOWER MINNESOTA RIVER WATERSHED DISTRICT

Lower Minnesota River Floodplain Modeling

Workplan—December 1, 2022

The District will coordinate with project partners to collect recent urban development information and survey data that can be incorporated into USACE's 2004 HEC-RAS model of the Lower Minnesota River to create revised floodplain mapping to allow for better predictions of flood stages within the LMRWD and evaluate the effects of urban development and climate change on the river's hydrology.

Summary

Outcome:	Updated Lower Minnesota River HEC-RAS model
Project partners:	Minnesota Department of Natural Resources (MnDNR), US Army Corps of Engineers (USACE), Minnesota Department of Transportation (MnDOT), Dakota County, Carver County, Scott County, Hennepin County, and the fourteen LMRWD Partner Cities
Timeline for completion:	January 2023 to September 2023
Total project budget:	$85,632

Objective 1. Project Management

Task 1-1: *Project plan development and project management*. Finalize the workplan, assign project tasks, determine whether additional resources are needed, set dates for deliverables, and generate and maintain project schedule and monthly invoices.

Task 1-2: Project Kickoff Meeting. Young Environmental will host a project kickoff meeting with the MnDNR, USACE, and LMRWD to introduce the project team, share the project schedule and objectives, and review the preliminary data needs. Project partners can share projects that are underway that may complement the floodplain modeling effort, and Young Environmental will modify the scope of work as necessary. Young Environmental also will develop the meeting agenda and summary.

Deliverables: Project approach and schedule, meeting agendas and summaries, and invoices

Estimated budget: $3,794

Objective 2. Data Collection and Review

Task 2-1: Gather LiDAR. Review available LiDAR data, download DEM data for the Lower Minnesota River, and convert to .tif file for use in the HEC-RAS model.

Task 2-2: Gather Development Information. Identify the date of the most recent LiDAR and collect development information after that date through coordination (email and phone correspondence) with LMRWD counties and municipalities. The relevant developments will be based on information provided in the Lower Minnesota River Floodplain Model Feasibility Study and include approximately 38 developments identified through LMRWD project reviews and 16 developments identified through FEMA LOMCs. Request as-built survey information for each development. If as-builts are unavailable, municipalities will be contacted to determine if a collecting survey is required, but a collecting survey is not part of this scope. This task includes reviewing the collected development information for accuracy and deciding what is necessary for inclusion in the model.

Task 2-3: Gather Bridge Information. This task includes gathering MnDOT bridge data to verify the 2004 HEC-RAS model has updated bridge information. Additionally, Young Environmental will coordinate with cities,

counties, and/or private landowners to collect the most recent bridge information for the remaining bridges that cross the Minnesota River. Bridge data includes bridge deck elevation, abutment shape and elevation, and pier shape and location as well as any other flow obstructions associated with the bridges. This task includes reviewing the collected bridge data for accuracy and deciding what is necessary for inclusion in the model.

Timeline for completion: February to March 2023

Deliverables: DEM, floodplain development as-builts and survey data, and bridge data

Estimated budget: $14,212

Objective 3. Update Hydrology

Task 3-1: Statistical Analysis. Review the USGS Jordan gage and complete a statistical analysis using HEC-SSP to include the most recent peak flow data from 2001 to present to quantify updated flows for inclusion in the 2004 model.

Task 3-2: Future Conditions Analysis. Conduct a literature review to determine an appropriate method for estimating future conditions based on the USGS Jordan gage data. Determine future conditions peak discharges to estimate impacts of climate change.

Task 3-3: Coordination with Project Partners. Young Environmental will host and facilitate a coordination meeting with project partners to communicate project progress, discuss the hydrologic modeling approach and issues encountered, and develop potential solutions. This task includes developing the meeting agenda and summary.

Timeline for completion: March to April 2023

Deliverables: Lower Minnesota River existing and future peak discharges

Estimated budget: $9,411

Objective 4. Update Hydraulic Model

Task 4-1: Update Hydraulic Model Geometry. Using information collected as part of Objective 2, Young Environmental will update the 2004 HEC-RAS model that is currently being used by the District and other entities to evaluate floodplain impacts. Updates include incorporating new development survey elevations, DEM elevations based on more recent LiDAR, and latest bridge data. The update also will include converting the current model to the most recent and appropriate version of HEC-RAS.

Task 4-2: Update Hydraulic Model Flow File. Using the hydrologic modeling and analysis from Objective 3, Young Environmental will update the HEC-RAS flow file to represent the most recent peak flow data. Based on the hydrologic analysis, the flow file will include present day flows as well as future conditions flows.

Task 4-3: Coordination with Project Partners. Young Environmental will host and facilitate a coordination meeting with project partners to communicate project progress, discuss the hydraulic modeling approach and issues encountered, and develop potential solutions. This task includes developing the meeting agenda and summary.

Timeline for completion: April to June 2023

Deliverables: Lower Minnesota River hydraulic model (HEC-RAS model)

Estimated budget: $22,473

Objective 5. Documentation and Review

Task 5-1: *Draft technical memorandum.* Develop a draft technical memorandum to document methods, assumptions, procedures, results, and recommendations. Submit draft report to the District for written feedback.

Task 5-2: Model Quality Control Review. Young Environmental will provide the updated HEC-RAS model and draft technical memorandum to an engineering firm from the LMRWD pool for review and written feedback. This task includes preparing the HEC-RAS model for sharing, coordination with project reviewer on questions, and updating the HEC-RAS model as deemed necessary by Young Environmental based on the quality control feedback.

Task 5-3: Model Review with Project Partners. Young Environmental will host and facilitate a meeting with project partners to discuss the floodplain model development process and results, including data sharing methods for tracking future floodplain development. The meeting will provide a collaborative space for project partners to provide feedback, address modeling concerns, and develop a path forward. This task includes responding to all participant comments by either incorporating comments into the final floodplain model or tabling comments for future discussion and resolution.

Task 5-4: Finalize the report. Finalize the technical memorandum by incorporating written feedback from project partners, district administrator, and managers.

Timeline for completion: June to August 2023

Deliverables: Draft technical memorandum and final technical memorandum

Estimated budget: $35,742

LOWER MINNESOTA RIVER WATERSHED DISTRICT

Spring Creek Site 3 Design Feasibility Study

Workplan—December 1, 2022

Site 3 on Spring Creek was identified during the Spring Creek Hydrology Review and is prioritized as a top at-risk site for erosion due to the near vertical bank; however, a stabilization design has not been developed. The Lower Minnesota River Watershed District (LMRWD) will work with the landowner and the Carver Soil and Water Conservation District (SWCD) to conduct a feasibility study and conceptual design to determine the best approach to stabilize the area.

Summary

Outcome:	Complete a feasibility study to inform the design and stabilization measures for Site 3 on Spring Creek.
Project Partners:	Site 3 Landowner; Carver Soil and Water Conservation District
Timeline for Completion:	January 2023–December 2023
Total Fees:	$33,704
Total Expenses:	$21,000
Total Project Budget:	$54,704

Objective 1. Project Management

Task 1-1: Project plan development and project management. Finalize the workplan; assign project tasks, determine whether additional resources are needed; set dates for deliverables; generate and maintain project schedule; conduct monthly invoicing.

Task 1-2: Project kickoff meeting. Young Environmental will host a project kickoff meeting with the Carver SWCD and LMRWD to introduce the project team, reaffirm or modify the scope of work and schedule, and review the preliminary data needs. This task includes developing a meeting agenda and summary.

Task 1-3: Coordination with project partners. Young Environmental will host and facilitate monthly meetings with the Carver SWCD to communicate project progress, discuss issues encountered, develop potential solutions, and share any new information. This task includes developing meeting agendas and summaries.

Task 1-4: Board updates. Young Environmental will provide two update memos to the LMRWD board summarizing project progress and recommendations as necessary.

Timeline for Completion: August–December 2023

Deliverables: Project approach and schedule, meeting agendas and summaries, invoices, board updates

Estimated Budget: $11,044

Objective 2. Data Collection and Review

Task 2-1: Data collection and review. Use available background resource information and modeling developed as part of the Spring Creek Hydrology Review in January 2022. This task also includes reviewing and verifying the data used in the original study and updating data where needed. Young Environmental will contact public resources such as the City of Carver, the Minnesota Department of Natural Resources, the US Army Corps of Engineers, and the Carver SWCD to collect additional background information if necessary. The data used will be summarized in a data matrix.

Timeline for Completion: August 2023

Deliverables: Data matrix

Estimated Budget: $2,984

Objective 3. Field Work

Task 3-1: Field condition assessment. Following the same methodology developed for Site 1 and Site 2, conduct a site visit at Site 3. Young Environmental will collect photographs, waypoint locations, and notes detailing the conditions of the area using field collection sheets. During the site visit, locate and stake important geomorphic characteristics, including bank-full elevation, pool and riffle cross sections, and low banks so the SWCD can collect topographic survey at the applicable locations. Conduct a pebble count at the riffle and reach-wide.

Task 3-2: Topographic survey. Complete a topographic survey of the project reach to aid in the concept design of the project. Collect geomorphic characteristics of the river, including longitudinal profile as well as riffle and pool cross sections.

Timeline for Completion: September–October 2023

Deliverables: maps, photographs, field notes and collection sheets, survey staking, survey data, topographic map

Estimated Budget: $1,752

Objective 4. Engineering Design

Task 4-1: Conceptual engineering design. Prepare concept drawings with proposed stabilization measures for Site 3. Young Environmental will provide technical review of the design. This task includes coordination and meetings to develop and review conceptual designs.

Timeline for Completion: October–November 2023

Deliverables: proposed stabilization measures, concept design drawings

Estimated Budget: $4,202

Objective 5. Documentation

Task 5-1: Draft technical memorandum. Develop a draft technical memorandum that will document the data collected, methods and software used, results from the analysis, and recommendations for stabilization based on the concept drawings. The draft memo will be submitted to the District and project partners for consideration and written feedback.

Task 5-2: Final technical memorandum. Submit the final technical memorandum and findings to the District and project partners incorporating the written feedback from Task 5-1.

Timeline for Completion: October–December 2023

Deliverables: draft technical memorandum, final technical memorandum

Estimated Budget: $13,722

LOWER MINNESOTA RIVER WATERSHED DISTRICT

Spring Creek Sites 1 and 2 Design and Construction Stabilization Project

Workplan—December 1, 2022

Spring Creek Sites 1 and 2 Design and Construction Stabilization Project is located in the City of Carver. Previous studies recommend channel erosion countermeasures, including riprap, Bio-D block, native plantings, removal of failing concrete walls, cross vanes, and reconnection to the floodplain. Site 1 is located at 112 5th Street West, and Site 2 is located at 404 Broadway. The Lower Minnesota River Watershed District (LMRWD) will work with a consultant from the consultant pool to develop final construction plans for the stabilization of Sites 1 and 2. A vegetation assessment will also be performed to inventory existing vegetation and inform the stabilization plans for Sites 1 and 2.

Summary

Outcome:	Final design and construction of bank stabilization measures at Spring Creek Sites 1 and 2
Project Partners:	Sites 1 and 2 landowners; Carver Soil and Water Conservation District; Engineering consultant
Timeline for Completion:	March 2023–September 2024
Total Fees:	$29,078
Total Expenses:	$112,000
Total Project Budget:	$141,078

Objective 1. Project Management

Task 1-1: Project plan development and project management. Finalize the workplan, assign project tasks, determine whether additional resources are needed, set dates for deliverables, generate and maintain project schedule, and conduct monthly invoicing. Young Environmental will develop a request for design and construction for the LMRWD consultant pool, review proposals, and recommend the best consultant to move forward with. Young Environmental will execute the consultant contract, including specific deliverables.

Task 1-2: Project kickoff meeting. After a consultant is chosen for design, Young Environmental will host a project kickoff meeting with the Carver Soil and Water Conservation District (SWCD), the LMRWD, and the consultant to introduce the project team, reaffirm or modify the scope of work and schedule, and review the preliminary data needs. This task includes developing a meeting agenda and summary.

Task 1-3: Board updates. Young Environmental will provide two update memos to the LMRWD board summarizing project progress and recommendations as necessary.

Timeline for Completion: August 2023–September 2024

Deliverables: project approach and schedule, executed contract with engineering consultant, meeting agendas and summaries, invoices, board updates

Young Environmental Budget: $5,044

Objective 2. Data Collection and Field Work

Task 2-1: Data collection. Use available background resource information and modeling developed as part of the Spring Creek Hydrology Review in January 2022. This task also includes reviewing and verifying the data used in the original study and updating data where needed.

Task 2-2: Vegetation assessment. Perform an inventory of the existing vegetation within Sites 1 and 2. Both desirable and invasive species will be inventoried to determine existing vegetation that will be preserved and areas where removal of terrestrial invasive species is required. The vegetation information collected during the assessment will inform the stabilization and site restoration plans that will be developed in Task 3-1.

Task 2-3: Topographic survey. Complete a topographic survey near Sites 1 and 2 to support detailed design development and hydraulic updates if necessary. Bathymetric data may be necessary to characterize the channel.

Timeline for Completion: June–October 2023

Deliverables: data matrix, survey data, maps, photographs

Young Environmental Budget: $0

Consultant Budget: $44,000

Objective 3. Final Engineering Design

Task 3-1: Engineering design. This task includes using the vegetation assessment and new topographic and bathymetric data to support the development of final design plans for stabilization measures at Sites 1 and 2, final specifications, preparation of a technical design memorandum, and engineers' opinion of probable construction costs (EOPCC). An engineering consultant will be chosen from the LMRWD pool and will be expected to submit 60 percent, 90 percent, and final plans to the LMRWD for review and concurrence.

Task 3-2: Hydraulic analysis. This task includes updating the hydraulic model with new topographic and bathymetric data as necessary and developing a proposed hydraulic model based on the proposed stabilization measures.

Task 3-3: Permitting. Young Environmental will develop a permit matrix to identify specific permit requirements, prepare and submit applicable permit applications based on the final design plans, and review and share agency comments with the appropriate project partners for resolution. This task includes coordination with identified agencies to present the project and confirm permit requirements and timelines.

Task 3-4: Design review. Young Environmental will review the design, hydraulic model, and construction plans and provide comments and feedback for incorporation. Reviews will be completed at 60 percent, 90 percent and final submittal. Young Environmental will work closely with the consultant to ensure that LMRWD scope and goals are being met.

Task 3-5: Coordination with project team. Young Environmental will host and facilitate three meetings with the consultant (60 percent, 90 percent, and final submittal) to communicate project progress, discuss issues encountered, develop potential solutions, and share any new information. This task includes developing meeting agendas and summaries.

Timeline for Completion: October 2023–February 2024

Deliverables: final construction plans, hydraulic modeling, EOPCC, specifications, technical design memorandum, permit matrix, permit applications

Young Environmental Budget: $15,038

Consultant Budget: $25,000

Objective 4. Construction Administration

Task 4-1: Preparation of bid package. This task includes preparing the bid package for advertisement. The bid package will include all relevant specifications, contract documents, and final signed construction plans.

Task 4-2: Bid opening. This task includes facilitating the bid opening and award and execution of the construction contract.

Task 4-3: Construction administration. This task includes receiving and responding to contractor questions throughout the entire bidding process as well as during construction and at closeout; providing project inspection during construction; providing weekly summary reports during construction; and providing construction closeout documents after the successful completion of all activities.

Task 4-4: Construction management. Young Environmental will facilitate construction coordination activities to ensure the LMRWD scope and goals are being met. This task includes attending the bid opening, recommending the best contractor for the project, facilitating document signatures, and answering contractor and consultant questions when necessary.

Timeline for Completion: March–September 2024

Deliverables: bid package, construction summary reports, closeout documents

Young Environmental Budget: $4,588

Consultant Budget: $43,000