Item I

elm creek
Watershed Management Commission

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Meeting of Technical Advisory Committee
AGENDA
February 14, 2018

I. Approve Agenda.*

II. Approve Minutes of December 13, 2017 TAC meeting.*

III. Rush Creek Subwatershed Assessment.

   A. Meeting attendance.*

   B. South Tributary Refined BMPs.*

   C. Structural BMPs Cost-Benefit.*

IV. Revisions to Commission's Cost Share Policy*

V. Updates to the Commission's CIP.

   A. 2017 CIP with 2018 updates.*

   B. Stone's Throw Wetland – line 21.*

   C. Hickory Pond – line 37.*

VI. Draft manure management model ordinance/policy.

VII. Aquatic Vegetation Management.*

VIII. Other Business.

IX. Next TAC meeting _____.

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Technical Advisory Committee
and
Regular Meeting Minutes
December 13, 2017

I. A meeting of the **Technical Advisory Committee (TAC)** for the Elm Creek Watershed Management Commission was convened at 10:05 a.m., Wednesday, December 13, 2017, in the Mayor's Conference Room, Maple Grove City Hall, 12800 Arbor Lakes Parkway, Maple Grove, MN.

In attendance were: Kevin Mattson, Corcoran; Rick Lestina and Mark Lahtinen, Maple Grove; Kaci Fisher, Hakanson-Anderson, Medina; Ben Scharenbroich, Plymouth; Andrew Simmons, Rogers; James Kujawa, Jason Swenson, and Kirsten Barta, Hennepin County Dept. of Environment and Energy (HCEE); Brian Vlach, Three Rivers Park District (TRPD); Jeff Weiss, Barr Engineering; and Judie Anderson, JASS.

Not represented: Champlin and Dayton.

Also present: Brad Martens, Corcoran; Doug Baines, Dayton; Dusty Finke and Elizabeth Weir, Medina; and Suzanne Jiwanni and Rita Weaver, MnDNR.

II. Elm Creek FEMA Updates.

A. The Federal Emergency Management Agency (FEMA) has awarded the MnDNR a **grant to update the Special Flood Hazard Areas (SFHAs) in the Twin Cities HUC8 watershed.** The scope of the grant depends on individual river reaches, but in most cases includes

1. Updated hydrology, either through modeling or use of statistical methods
2. Updated river hydraulics and/or volume analyses
3. Creating the floodway and floodplain shapefiles and x-section shapefiles
4. Creating depth grids
5. Development of Work Maps
6. A project narrative describing the above activities

B. Pass-through grants can be provided so that watershed organizations can complete some or all of these tasks. FEMA would like to leverage existing data wherever possible so Twin Cities WMOs within the HUC8 watershed are being approached to see if they have any data that can support this effort. Since leveraged data will reduce overall project cost, WMOs that can provide data will be offered remaining funds allotted for that watershed to be used for such activities as flood risk reduction or communication activities.

C. A map* of the FEMA Study Areas in the Elm Creek hydrologic boundary was distributed. It shows which reaches should be studied using approximate or detailed methods.

D. Work can begin as soon as the pass-through grant paperwork with the state is completed. All deliverables must be submitted to the MnDNR by April 2020. The Scoping Document* outlines a suggested intermediate timeline.

E. Total funds for each HUC watershed have been established between FEMA and the DNR. The cost estimates are based on MnDNR staff developing new hydrologic and hydraulic models using HEC-HMS and HEC-RAS,

delineating all floodplains and x-section shapefiles, and developing the depth grids. These cost estimates will not be provided to the WMOs and the amount of the grant will not exceed the FEMA-negotiated costs for each WMO. Any unused funds can be passed through to the WMO to complete other flood risk reduction activities. These activities must be pre-approved by MnDNR staff.

F. Technical Staff will work with the MnDNR to put together a draft scope of work and cost estimate for review by the MnDNR staff. It will be brought back to the Commission at their January meeting for further discussion and a decision. Should it be decided that HCEE staff will do the work, Swenson will be the lead and overflow project review work will be performed by Weiss.

III. Rules and Standards.

In the meeting packet was a copy of a **letter* addressed to the TAC/Commission from the City of Corcoran** dated December 7, 2017, regarding proposed revisions to the Commission's rules and standards.

A. Abstraction Standards. Discussions at previous TAC meetings have resulted in the following considerations: *(proposed changes are shown in parenthesis)*

1. *Increase soil amendment credit from 0.5" to 0.75"* over area amended.

2. Land preservation through additional buffer or undisturbed forest or grassland - *increase credit from 0.5" to 0.75" over area amended.*

3. Disconnecting impervious areas.

4. Capture and reuse – volume per Ramsey-Washington Stormwater Reuse Calculator.

5. Soluble phosphorus filtration media – iron filings, etc.

6. Filtration/biofiltration at 2x abstraction volume. *(2.2" filtered volume, increased from 1:1 ratio (1.1" filtered volume)*

Objective is to prioritize abstractions that truly result in volume decreases offsite, while allowing for device to meet poor soil conditions.

B. The members also discussed Standards that would be used prior to approval of filter basin or would be handled through the city review process. Items discussed included underdrains, observation/cleanouts, utility trace wires, marking stakes and animal guards for daylighted underdrains, use of filter fabric, irrigation requirements, and actual phosphorus removals for the various abstractions.

The TAC recommended that the Commission adopt the soil amendment/preservation and buffer credit increase to 0.75", but that the filtration/biofiltration volume remain at 1.1".

IV. Capital Projects.

The City of Medina has submitted the **Hickory Drive Stormwater Improvement Project** for inclusion on the Commission's CIP. The estimated project cost is $225,000, with the Commission's share being 25%, or $56,250. The members agreed by consensus to move this project forward.

V. Wetland Conservation Act (WCA) LGU.

The Commission currently serves as the local government unit (LGU) for the Wetland Conservation Act (WCA) for the cities of Champlin and Corcoran. Currently these cities are invoiced by the Commission for Staff time to review and service wetland violations within their boundaries.

Champlin has agreed to take over full LGU responsibility for WCA on January 1, 2018. The City of Corcoran has requested that the Commission continue in its role as LGU until January 1, 2019, since a budget to serve in this capacity has not been approved by the City for 2018. Motion by Kujawa, second by Lestina to recommend the Commission approve Corcoran taking over the LGU duties for their jurisdiction in 2019. *Motion carried unanimously.*

VI. The meeting of the Technical Advisory Committee was adjourned at 11:35 a.m.

I. A **regular meeting** of the Elm Creek Watershed Management Commission was called to order at 11:50 a.m., Wednesday, December 13, 2017, in the Mayor's Conference Room, Maple Grove City Hall, 12800 Arbor Lakes Parkway, Maple Grove, MN, by Chairman Doug Baines.

Present were: Sharon Meister, Corcoran; Doug Baines, Dayton; Joe Trainor, Maple Grove; Elizabeth Weir, Medina; Fred Moore, Plymouth; James Kujawa, Jason Swenson and Kirsten Barta, Hennepin County Dept. of Environment and Energy (HCEE); Brian Vlach, Three Rivers Park District (TRPD); Jeff Weiss, Barr Engineering; and Judie Anderson, JASS.

Not represented: Champlin and Rogers.

Also present: Brad Martens and Kevin Mattson, Corcoran; Mark Lahtinen, Maple Grove; Ben Scharenbroich, Plymouth; and Andrew Simmons, Rogers.

A. Motion by Weir, second by Moore to approve the **revised agenda**.* *Motion carried unanimously.*

B. Motion by Weir, second by Meister to approve the **minutes*** of the November 8, 2017 regular meeting. *Motion carried unanimously.*

C. Motion by Moore, second by Weir to approve the December **Treasurer's Report and Claims*** totaling $25,874.23. *Motion carried unanimously.*

II. Open Forum.

Martens recapped the Open House held on December 7 to present the Rush Creek Subwatershed Assessment project to local residents. He stated that approximately 60-70 attended the meeting and the information was well received.

III. Action Item.

Motion by Moore, second by Weir to approve **Non-Waiver of Liability Insurance Coverage**.* *Motion carried unanimously.*

IV. Technical Advisory Committee (TAC) Update. *(Also refer to pages 1-2 of these minutes.)*

A. Revisions to the Commission's **rules and standards** were discussed by the TAC members. The TAC recommended that the Commission adopt a soil amendment/preservation and buffer credit increase to 0.75", and that the filtration/biofiltration volume remain at 1.1". Motion by Moore, second by Weir to approve the TAC's recommendations. *Motion carried unanimously.*

B. The Commission serves as the **Wetland Conservation Act (WCA) LGU** for the cities of Champlin and Corcoran. Champlin has agreed to take on the role of WCA LGU for their jurisdiction beginning on January 1, 2018. Motion by Weir, second by Trainor that the Commission relinquish the role of WCA LGU for the City of Corcoran on January 1, 2019. *This motion was withdrawn.*

Motion by Moore, second by Trainor authorizing the Commission to invoice back to the affected city(ies) all costs related to its role as the LGU for the WCA, effective January 1, 2019. *Motion carried unanimously.*

C. Capital Projects. The City of Medina has submitted the Hickory Drive Stormwater Improvement Project for inclusion on the Commission's CIP. The estimated project cost is $225,000, with the Commission's share being 25%, or $56,250. The project includes installation of a stormwater pond for a 8.3-acre drainage area and stabilization of approximately 300 linear feet of gully erosion. Motion by Weir, second by Trainor to add this project to the Commission's CIP. *Motion carried unanimously.*

Item II

V. New Business.

Project Review 2017-050 Ernie Mayer Wetland/Floodplain Violation, Corcoran.* A potential wetland violation has occurred on parcels operated by Ernie Mayer. An initial site inspection confirmed the wetland violation. An access road was constructed from Larkin Road into these parcels and appears to be constructed within MN Wetland Conservation Act jurisdictional wetlands. In addition, this work was done in the Rush Creek floodplain. A Technical Evaluation Panel (TEP) met on-site on December 11. They will help the LGU (the Commission) and DNR determine the extent of the violation. The Hennepin County Soil Conservation District will then develop the restoration order for the DNR Conservation Officer to issue to the landowner for any violation that has occurred on the site. A Cease and Desist Order was issued.

VI. Grant Opportunities and Updates.

A. Internal Phosphorus Loading Control in Fish Lake project.

Vlach gave a PowerPoint presentation of the alum treatment that occurred September 18-21, 2017. Alum was applied to 120 acres of Fish Lake at depths greater than 20 feet. A total of 95,349 gallons of alum (22 alum trucks) was applied to the lake. The applicator, HAB Aquatic Solutions, set up a website (http://fishlakealum.com), providing daily updates of the project and an opportunity for folks to submit their questions about the project.

The Fish Lake Area Residents Association (FLARA) hosted a media event on September 20. Baines attended the event representing the Elm Creek Commission. There were approximately 10-15 homeowners in attendance. There were also presentations by HAB Aquatic Solutions and Three Rivers Park District (TRPD) about the project followed by a boat tour in order to observe the alum application. The CCX news media video is available at: https://www.youtube.com/watch?v=Mt1gYo5lGtw

The next steps include collecting sediment cores to determine the alum dosage calculations in 2018 and continuing to monitor the lake to determine the effectiveness of the first treatment. The second treatment will occur in the spring of 2019. The estimated cost for two treatments is $300,000; the first treatment cost $176,379. Project funding sources include the BWSR Clean Water Fund Grant, the City of Maple Grove, FLARA, TRPD, and the Commission.

B. Rush Creek Headwaters Subwatershed Assessment project. In November, Wenck staff completed the first draft of analysis with ACPF (Agricultural Conservation Planning Framework; model inputs: lidar, soils, land use) and PTMApp (Prioritize resources and issues impacting them, Target specific fields to place BMPs, Measure pollutant reduction and BMPs) tools, reviewed the initial model results at a Core Team meeting, created website content, and prepared for the December open house at the City of Corcoran.

In December, Wenck staff facilitated the Open House and will complete a second round of analysis with ACPF and PTMApp tools to prioritize BMPs. They will also continue to prepare website content.

VII. Education.

A. Included in the packet was the **December WMWA (West Metro Water Alliance) update.***

1. WMWA has switched over its email distribution system for the **WaterLinks** e-newsletter from Hennepin County to MailChimp. In order to keep receiving WaterLinks (or to newly subscribe), go to westmetrowateralliance.org/contact.html to sign up.

2. The Basset Creek WMO and the City of Plymouth both recently hosted **salt applicator workshops,** mostly attended by city staff and only a few private applicators.

3. WMWA is currently discussing options to assist property owners with **rain gardens and native plant conversions**. Two options being considered are 1) funding two hours of on-site technical assistance for owners who take the Metro Blooms Landscaping workshop; and/or 2) providing reimbursement for the cost of purchasing native plants up to a certain amount, say $100. These ideas are still under development.

4. WMWA is also planning to continue facilitating **native plant sales** by linking up native growers with community events such as festivals and farmer's markets. WMWA would pay any booth fees charged for the event and sponsor and advertise the event; the grower would be free to sell plants.

5. Wenck Staff met with Patience Caso (HCEE) and two **Master Water Steward students** who live in Robbinsdale and are interested in learning more about the watersheds and how they can help foster citizen engagement. masterwaterstewards.org/

6. **Website/Social Media.** The website Google Analytics for November 2017 as well as the Facebook insights for the last 28 days for Shingle Creek and WMWA were attached to the update.

7. The next **WMWA meeting** is scheduled for 8:30 a.m., Tuesday, January 16, 2018, at Plymouth City Hall. Commissioners are encouraged to attend.

B. "Road salt is polluting our water. Here's how we can fix it," MPR News.*

C. On November 14, 2017, Baines attended the *Lake Effect: Protecting Water through Innovative Collaboration,** part of the Moos Family Lecture Series sponsored by the Freshwater Society. Speaker Kathy Lake is the Pollution Prevention Manager for the Madison Metropolitan Sewerage District. She discussed her innovative approach to addressing seemingly intractable, watershed-wide pollution issues. Baines praised the presentation, which was co-sponsored by the Elm Creek Commission.

VIII. Communications.

IX. Other Business.

A. Weir inquired as to the status of the **manure management ordinance.** Barta will continue to work to create guidance on this issue.

B. The following **projects** are discussed in the December Staff Report.* ("W" denotes wetland project.)

1. 2013-046 Woods of Medina, Medina.
2. 2014-015 Rogers Drive Extension, Rogers.
3. 2015-004 Kinghorn Outlet A, Rogers.
4. 2015-030 Kiddiegarten Child Care Center, Maple Grove.
5. 2016-002 The Markets at Rush Creek, Maple Grove.
6. 2016-004 Park Place Storage Site Plans, Corcoran.
7. 2016-005W Ravinia Wetland Bank, Corcoran.
8. 2016-026 Faithbrook Church, Dayton.
9. 2016-040 Kinghorn 4th Addition, Rogers.
10. 2016-047 Hy-Vee Maple Grove #1, Maple Grove.
11. 2016-052 The Woods at Rush Creek, Maple Grove.
12. 2017-002 RDO Site Plan, Dayton.
13. 2017-013W 20417 Larkin Road, Corcoran.
14. 2017-014 Laurel Creek, Rogers.
15. 2017-016 Territorial Woods, Maple Grove.
16. 2017-017 Mary Queen of Peace Catholic Church, Rogers
17. 2017-019 Medina Senior Living Community, Medina.
18. 2017-021 Hindu Society of MN Staff Housing, Maple Grove.
19. 2018-022 CSAH81 and CSAH101 and 13 Intersection Improvements, Rogers.
20. 2017-027W Mill Pond Restoration, Champlin.
21. 2017-028W Fehn Meadows Wetland Bank, Corcoran.
22. 2017-029 Brayburn Trails, Dayton.
23. 2017-030 Brindle Path, Medina.

24. 2017-031 Bass Lake Crossing, Corcoran.
25. 2017-034 Plymouth Memory Care, Plymouth.
26. 2017-035 Weston Woods of Medina PUD.
27. 2017-036 Enclave at Elm Creek, Plymouth.
28. 2017-037 L-80 Lift Station MCES, Corcoran.
29. 2017-038 Bass Lake Estates, Corcoran.
30. 2017-039 Rush Creek Apartments, Maple Grove.
31. 2017-040 Capitol Beverage, Rogers.
32. 2017-044 Reserve at Medina 2nd Addition, Medina.
33. 2017-045 Fish Lake Estates, Maple Grove.
34. 2017-046W Wessell Wetland Delineation, Corcoran.
35. 2017-047W Newman Wetland Delineation, Corcoran.
36. 2017-048W Ebert Parcel Wetland Delineation, Corcoran.
37. 2017-049W Rolling Hills Wetland Delineation, Corcoran.
38. 2017-050W Ernie Mayer Wetland/floodplain violation, Corcoran.*

C. Adjournment. There being no further business, motion by Weir, second by Moore to adjourn the meeting. Motion carried unanimously. The meeting was adjourned at 12:59 p.m.

Respectfully submitted,

Judie A. Anderson, Recording Secretary
JAA:tim

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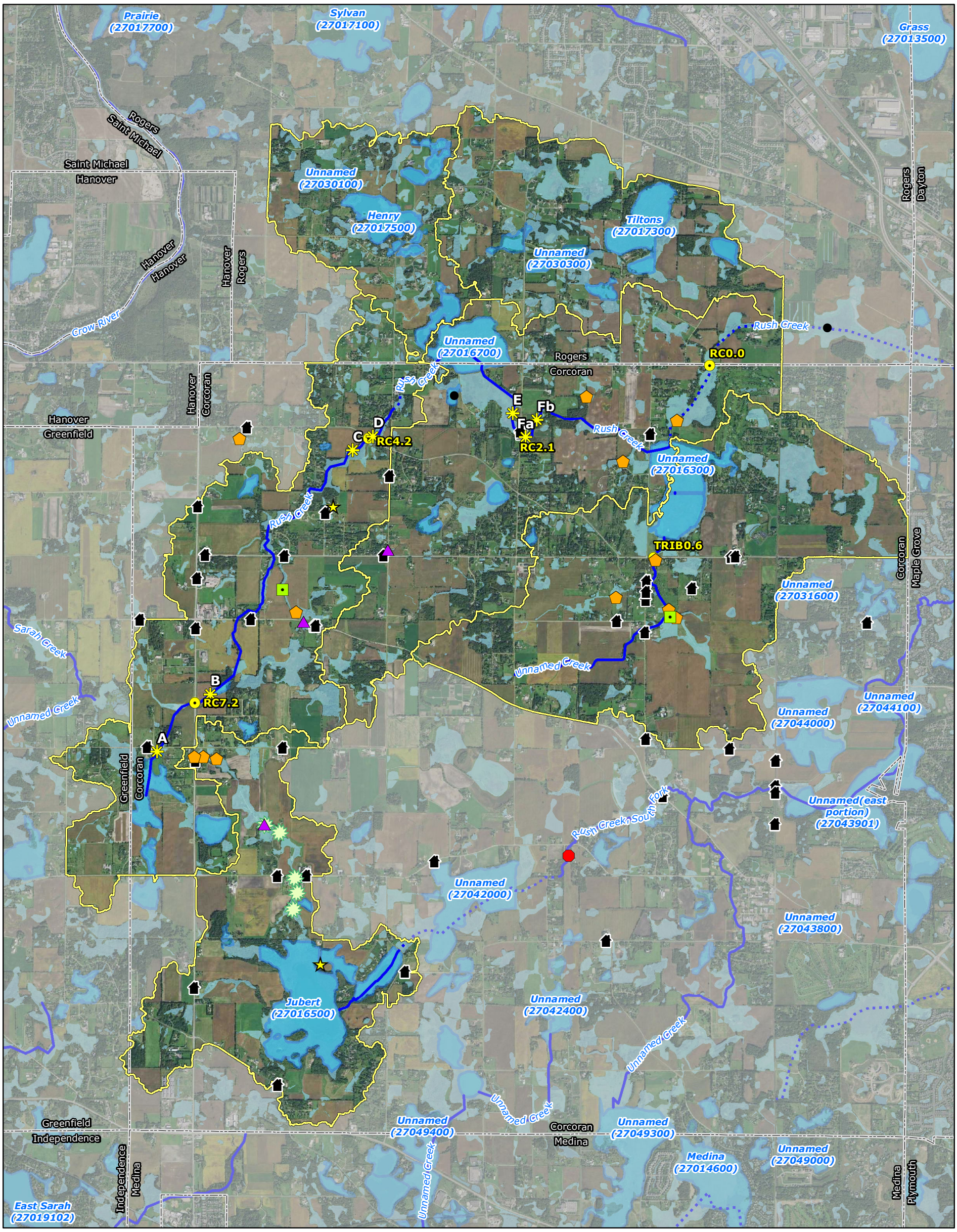

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Meeting Comments

- Buffer
- Culvert
- Drainage/Flooding
- Erosion
- General Note
- Vegetation
- Willing Landowner
- Resident Attendance
- Management Unit
- Water Quality Monitoring Station
- Stream Assessment Location
- Minor Civil Divisions
- Public Water Watercourse
- Public Ditch/Altered Natural Watercourse
- Public Waters Basins
- National Wetland Inventory

ELM CREEK WATERSHED MANAGEMENT COMMISSION	WENCK Responsive partner. Exceptional outcomes.	FEB 2018
Meeting Attendance		Figure X

EXHIBIT A

Item VC

Elm Creek Watershed Management Commission

Capital Improvement Project Submittal

(This submittal will be rated on its completeness and adherence to the goals of the Commission. A second page may be used to provide complete responses.)

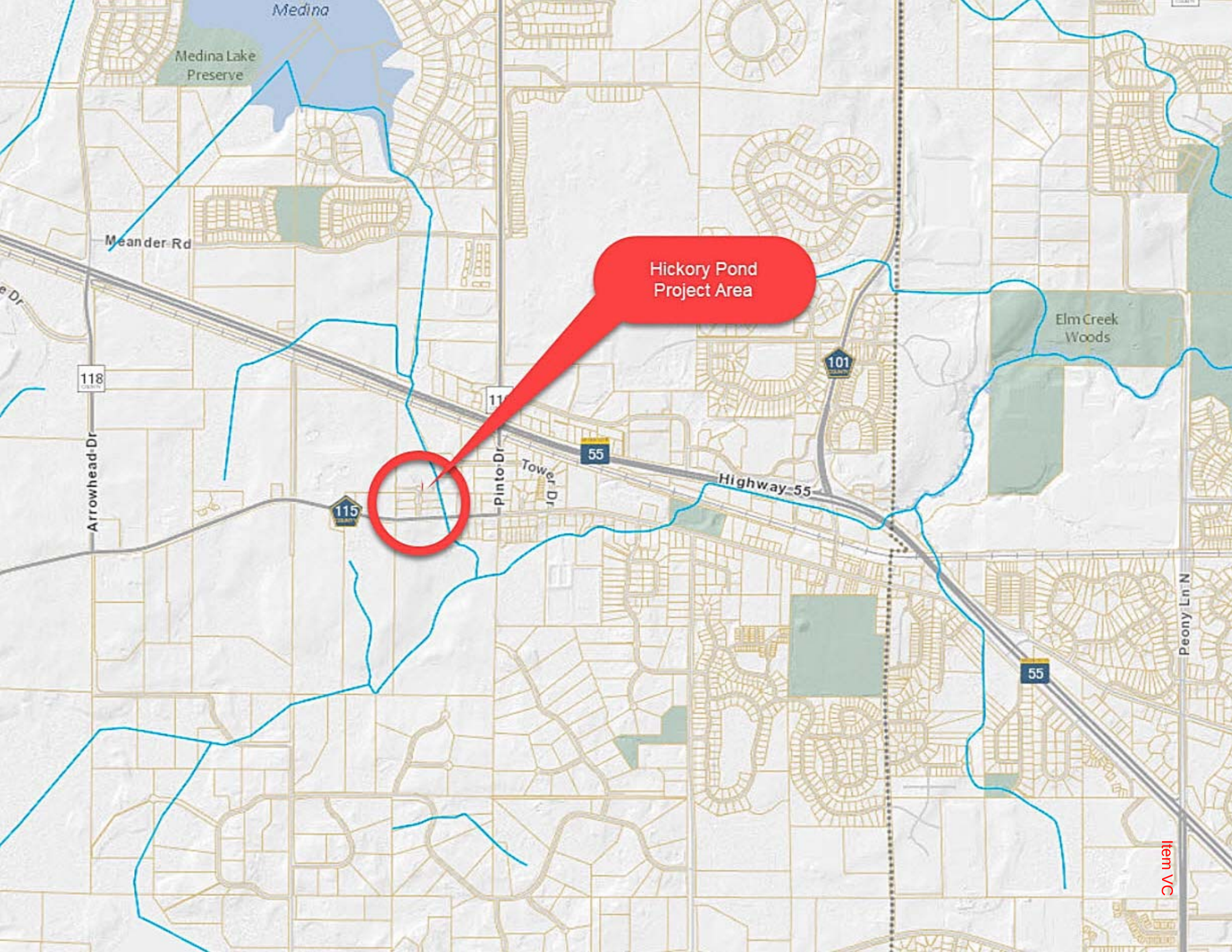
City	City of Medina
Contact Name	Steve Scherer, Public Works Director; Dusty Finke, City Planner
Telephone	763-473-8842; 763-473-8846
Email	Steve.scherer@medinamn.gov; dusty.finke@medinamn.gov
Address	2052 County Road 24; Medina, MN 55340
Project Name	Hickory Drive Stormwater Improvement

	1. Is project in Member's CIP? (X) yes ( ) no	**Proposed CIP Year =** 2019
	2. Has a feasibility study or engineering report (circle one) been done for this project? ( ) yes (X) no	

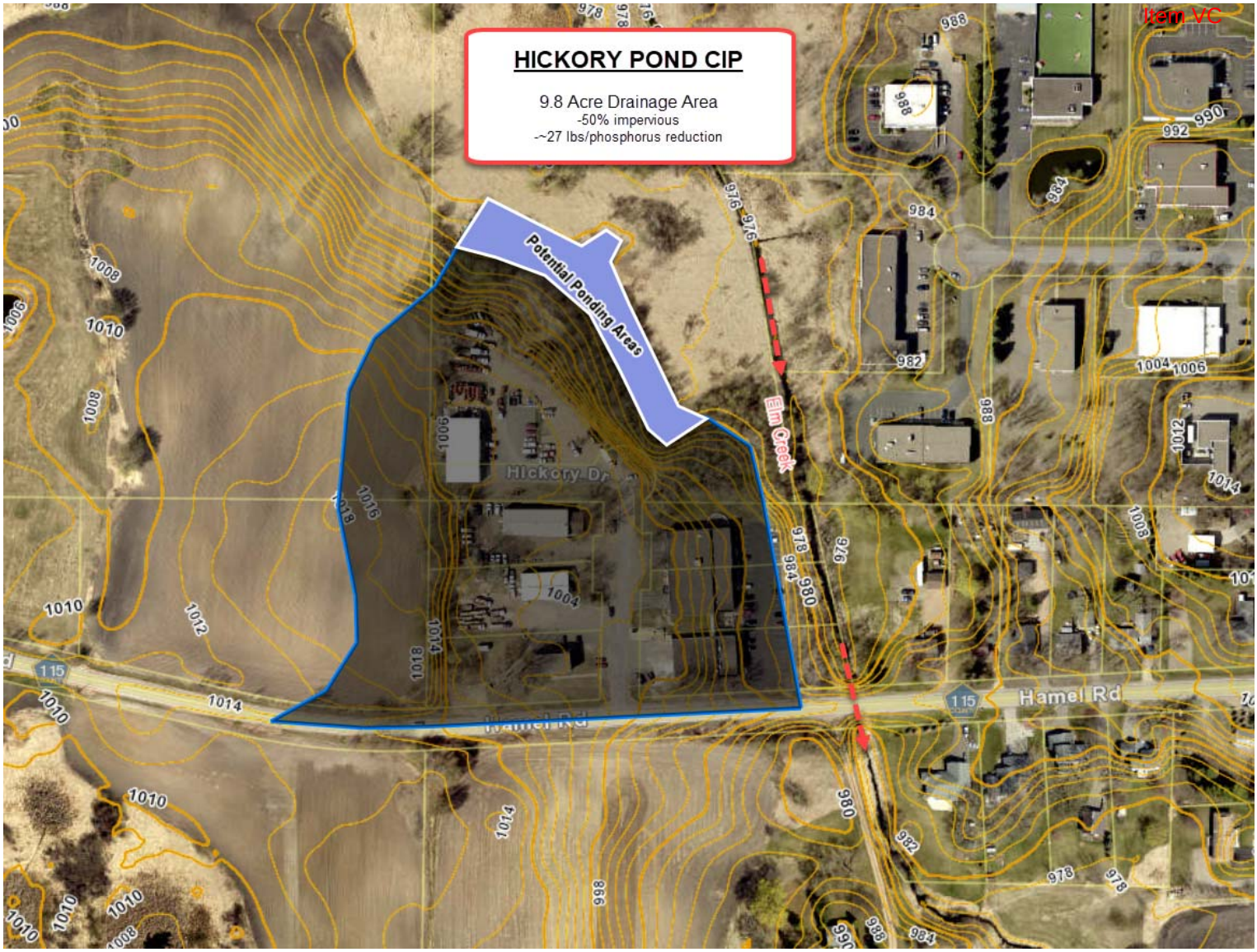
		Amount
	Total Estimated Project Cost	$ 225,000
	Estimated Commission Share (up to 25%, not to exceed $250,000)	$ 56,250
	Other Funding Sources (name them) – City will seek additional grant or clean water funding; City stormwater utility and assessments for remainder	$168,750
		$

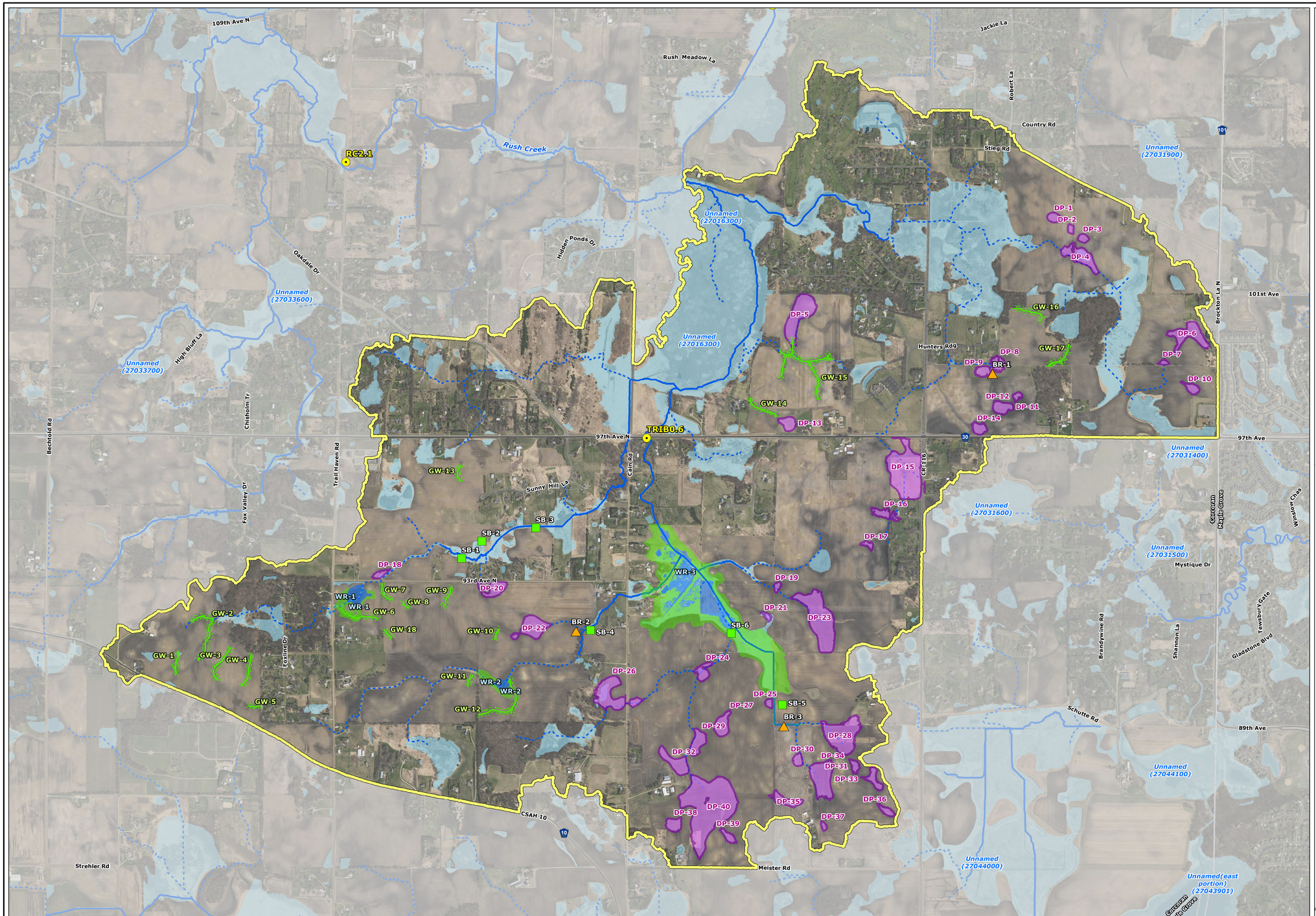
	3. What is the scope of the project? Install stormwater pond for 8.3 acre drainage area (50% impervious). Stabilize approximately 300 linear feet of gully erosion. Install approximately 700 feet of curb and 600 feet of storm sewer to capture and direct stormwater to improvements.
	4. What is the purpose of the project? What water resource(s) will be impacted by the project? The purpose of the project is to reduce nutrient loading to Elm Creek, which is adjacent to the project area. Drainage to Elm Creek is currently not treated.
	5. What is the anticipated improvement that would result from the project? (Include size of area treated and projected nutrient reduction.) Jim Kujawa has estimated the phosphorus removal would be approximately 26.6 lbs/year. This removal is estimated to consist of an estimated 16 lbs/year for the pond plus 10.6 lbs/year phosphorus reduction for the gully/erosion improvements.
	6. How does the project contribute to achieving the goals and programs of the Commission? The proposed project will reduce nutrient loading to Elm Creek, reduce runoff rate to Elm Creek, address implementation of the Elm Creek Watershed TMDL, and reduce erosion of the gully draining to Elm Creek.
0/10	**7. Does the project result from a regulatory mandate?** ( ) yes (X) no **How?** The stormwater improvement is not triggered by a permit requirement, but is consistent with TMDL implementation.
0/10/20	**8. Does the project address one or more TMDL requirements?** (X) yes ( ) no **Which?** Elm Creek Watershed TMDL
0/10/20	**9. Does the project have an educational component?** (X) yes ( ) no **Describe.** Information related to the benefits of the project will be included in newsletters and public meetings related to the project. The anticipated location of the pond does not lend itself well to educational signage, but the City will search for options.
0/10	**10. Do all the LGUs responsible for sharing in the cost of the project agree to go forward with this project?** (X) yes ( ) no **Identify the LGUs.** City of Medina
10/20	**11. Is the project in all the LGUs' CIPs?** (X) yes ( ) no

1-34	*(For TAC use)*	
	12. Does project improve water quality? (0-10)	15. Promote groundwater recharge? (0-3)
	13. Prevent or correct erosion? (0-10)	16. Protect and enhance fish and wildlife habitat? (0-3)
	14. Prevent flooding? (0-5)	17. Improve or create water recreation facilities? (0-3)
TOTAL (poss 114)		Adopted April 11, 2012


Medina
Medina Lake Preserve
Meander Rd
Hickory Pond Project Area
Elm Creek Woods
118
101
55
115
Arrowhead Dr
Pinto Dr
Tower Dr
Highway 55
Peony Ln N

Item VC


Item VC
HICKORY POND CIP
9.8 Acre Drainage Area
-50% impervious
-~27 lbs/phosphorus reduction
Potential Ponding Areas
Elm Creek
Hickory Dr
Hamel Rd
Hamel Rd
115
115



Legend

- Water Quality Monitoring Station
- Management Unit
- Minor Civil Divisions
- Intermittent Stream
- Perennial Stream
- National Wetland Inventory
- Stream Assessment Locations

Best Management Practices

- Bioreactor
- Saturated Buffer
- Grassed_Waterway
- Depressional Storage

Nutrient Removal Wetlands

- Wetland (Dead Pool)
- Buffer

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ELM CREEK WATERSHED MANAGEMENT COMMISSION	WENCK Responsive partner. Exceptional outcomes.	FEB 2018
South Tributary Refined BMPs		Figure X

Structural BMP cost-benefit analysis for South Tributary Management Unit

BMP ID	BMP Type	Estimated Reductions			Construction Cost	20-Year Life Cycle Cost	Life Cycle Cost Benefit		
		Storage (acre-ft)	TSS (tons/yr)	TP (lbs/yr)			Flow ($/acre-ft)	TSS ($/ton)	TP ($/ton)
GW-2	Grassed Waterways	--	20.4	34.1	$12,732	$18,732	--	$54	$32
GW-15		--	22.4	37.5	$11,636	$17,636	--	$60	$36
GW-6		--	7.4	12.4	$11,692	$17,692	--	$134	$80
GW-14		--	6.7	11.2	$15,903	$21,903	--	$144	$86
GW-9		--	4.2	7.1	$12,019	$18,019	--	$216	$129
GW-12		--	4.5	7.5	$13,318	$19,318	--	$244	$146
GW-17		--	3.9	6.5	$21,042	$27,042	--	$252	$150
GW-4		--	3.8	6.4	$13,266	$19,266	--	$254	$151
GW-1		--	3.5	5.9	$13,577	$19,577	--	$266	$159
GW-3		--	3.6	6.0	$11,555	$17,555	--	$275	$164
GW-13		--	3.0	5.0	$15,839	$21,839	--	$304	$182
GW-16		--	3.1	5.2	$13,562	$19,562	--	$312	$186
GW-5		--	2.0	3.3	$13,222	$19,222	--	$442	$264
GW-7		--	1.8	3.0	$11,627	$17,627	--	$508	$303
GW-10		--	1.5	2.6	$13,768	$19,768	--	$571	$341
GW-11		--	1.5	2.5	$12,350	$18,350	--	$588	$351
GW-18		--	1.4	2.4	$11,451	$17,451	--	$607	$362
GW-8		--	1.0	1.7	$12,321	$18,321	--	$870	$519
SB-5	Saturated Buffers	--	10.1	12.3	$31,000	$55,000	--	$271	$223
SB-4		--	5.9	7.1	$27,000	$47,000	--	$400	$329
SB-3		--	5.4	6.5	$31,000	$55,000	--	$512	$422
SB-2		--	4.8	5.8	$31,000	$55,000	--	$579	$476
SB-6		--	3.7	4.5	$27,000	$47,000	--	$629	$517
SB-1		--	2.5	3.0	$27,000	$47,000	--	$950	$782
WR-1	Wetland Restorations	17.8	11.6	16.6	$37,000	$47,000	$132	$203	$141
WR-3		195.9	128.2	161.4	$466,000	$476,000	$122	$186	$148
WR-2		2.3	9.0	11.7	$32,000	$42,000	$933	$234	$179
DP-40	Wetland Restoration	52.2	20.8	48.9	$123,215	$133,215	$128	$320	$136

BMP ID	BMP Type	Estimated Reductions			Construction Cost	20-Year Life Cycle Cost	Life Cycle Cost Benefit		
		Storage (acre-ft)	TSS (tons/yr)	TP (lbs/yr)			Flow ($/acre-ft)	TSS ($/ton)	TP ($/ton)
DP-40	ATIs	--	10.4	17.1	$12,100	$16,100	--	$77	$47
DP-23	Wetland Restoration	32.1	12.8	30.0	$62,995	$72,995	$114	$285	$122
DP-23	ATIs	--	6.4	10.5	$7,700	$11,700	--	$91	$56
DP-15	Wetland Restoration	23.7	9.5	22.2	$72,735	$82,735	$174	$437	$186
DP-15	ATIs	--	4.7	7.8	$5,500	$9,500	--	$100	$61
DP-26	Wetland Restoration	21.8	8.7	20.4	$36,234	$46,234	$106	$266	$113
DP-26	ATIs	--	4.4	7.2	$5,500	$9,500	--	$109	$66
DP-5	Wetland Restoration	18.1	7.2	17.0	$38,842	$48,842	$135	$338	$144
DP-5	ATIs	--	3.6	5.9	$4,400	$8,400	--	$116	$71

Note: only top 5 depressions (for wetland restorations and ATI practices) in terms of annual TP load are shown in Table. There are 35 other depressions not shown

Elm Creek Watershed Management Commission

Cost Share Policy

To facilitate implementation of improvement projects within the watershed, the Elm Creek Watershed Management Commission's Joint Powers Agreement (JPA) and Section V of its Second Generation Watershed Management Plan provide for a Capital Improvement Program (CIP). The JPA also describes how the costs of capital projects shall be allocated.

The Management Plan proposes to share the cost of high-priority watershed capital improvements and demonstration projects through the CIP. High-priority watershed capital improvements are those activities that go above and beyond general city management activities and are intended to provide a significant improvement to the water resources in the watershed. To be considered for inclusion in the CIP, projects must be identified in a Commission-adopted management plan, approved TMDL, or member local stormwater plan or CIP.

In order to identify projects for inclusion on its Capital Improvement Program, the Elm Creek Watershed Management Commission will accept city proposals for cost-share projects until March 15 of every year. Following that date, the Commission's Technical Advisory Committee will review and score the submittals and make a recommendation regarding additions and revisions to the Commission's existing CIP at their regular May meeting.

The Commission has developed a set of criteria by which proposed projects will be scored, with those projects scoring a certain minimum number of points on the submittal form screening questions advancing to a prioritization stage. (Refer to the Commission's Capital Improvement Program Standards and Guidelines.)

Prior to consideration for funding, a feasibility study or engineering report must be written for the proposed project. The city acting as the lead agency for a proposed project will be responsible for the development of and the costs associated with the feasibility study/engineering report.

The Commission has elected to fund capital projects through an ad valorem tax levy. Under the authority provided by MN Stat 103B.251, Subd. 5, the Commission has the authority to certify for payment by the county all or part of the cost of an approved capital improvement. The Commission will pay up to 25 percent of the cost of qualifying projects. This amount will be shared by all taxpayers in the watershed, with the balance of the project cost being shared by the local government(s) participating in or benefiting from the improvement.

a. The Commission's maximum annual share of an approved project is up to $250,000.

   1) The Commission's share will be funded through the ad valorem tax levy – spread across all taxpayers within the watershed.
   2) The Commission will use a maximum annual levy of $500,000 as a working guideline.

b. The cities' share will be a minimum of 75% of the cost of the project. The basis of this apportionment will likely be unique to each project. The 75% share will be apportioned to the cities in the following manner or in some other manner acceptable to them. For example,

   1) The area directly benefiting from the project will be apportioned 25% of the cost of the project. This will be apportioned to cities based on the proportion of lake or stream frontage.
   2) 50% of the cost of the project will be apportioned based on contributing/benefiting area.

c. The cities will each decide the funding mechanism that is best suited to them for payment of their share, for example through special assessments, storm drainage utility, general tax levy, or watershed management taxing district.

d. Funding from grant sources may also be used to help pay the costs of the capital projects.

Item VA

Table 4.5. Elm Creek Third Generation Plan Capital Improvement Program -**following April 12 2017 meeting**

Description	Location	Priority	Est Proj Cost	Partners	Funding Source(s)	Estimated Commission Cost 2015	2016	2017	2018	2019	2020-2024
Special Studies											
TMDL implementation special study	Watershed	H	225,000	Cities, HCEED	Operating budget	0	25,000	25,000	25,000	25,000	125,000
Stream segment prioritization	Watershed	H	20,000	Cities, HCEED, TRPD	Operating budget	10,000	0	0	0	10,000	0
High Priority Stream Restoration Projects				Cities, TRPD	Cities, TRPD, county levy, grants						
Elm Cr Reach E	Plymouth	H	1,086,000	Commission, Plymouth	County Levy - levied in 2015	250,000					
CIP-2016-RO-01 Fox Cr, Creekview	Rogers	H	321,250	Commission, Rogers	County Levy - levied in 2016	0	80,312	0	0	0	0
Mississippi Point Park Riverbank Repair	Champlin	M	300,000		County Levy - levied in 2016	0	75,000	0	0	0	0
Elm Creek Dam	Champlin	H	7,001,220		County Levy - levied in 2016	0	187,500	0	0	0	0
Tree Thinning and Bank Stabilization Project	Watershed	H	50,000			0		~~50,000~~	50,000	50,000	~~50,000~~ 300,000
Fox Cr, Hyacinth	Rogers	M	360,000		County Levy - levied in 2017	0	0	~~90,000~~ 112,500	0	0	0
Fox Cr, South Pointe, Rogers	Rogers	M	90,000			0	0	~~22,500~~	0	22,500	0
Other High Priority Stream Project	Watershed	H	500,000			0	0	0	125,000	125,000	250,000
CIP-2016-MG-02 Rush Creek Main	Maple Grove		1,650,000		County Levy - levied in 2016		75,000	75,000	75,000	25,000	
CIP-2016-MG-03 Rush Creek South	Maple Grove		675,000						168,750		
CIP-2017-PL-01 EC Stream Restoration Reach D	Plymouth		850,000	City, County, Comm	City, County, Comm				212,500		
High Priority Wetland Improvements				Cities	Cities, Commission						
DNR #27-0437	Maple Grove	L	75,000			0	0	0	0	0	18,750
Stone's Throw Wetland	Corcoran	M	450,000			0	0	~~112,500~~	~~112,500~~	112,500	0
Other High Priority Wetland Projects	Watershed	L	100,000			0	0	0	0	0	25,000
CIP-2016-MG-01 Ranchview Wetland Restoration	Maple Grove		2,000,000					~~250,000~~	250,000		
Lake TMDL Implementation Projects				Cities, lake assns.	Cities, Comm, grants, owners						
Mill Pond Fishery and Habitat Restoration	Champlin	H	5,000,000		County Levy - levied in 2017	0	0	250,000	0	0	0
Other Priority Lake Internal Load Projects	Watershed	M	100,000			0	0	0	0	0	25,000
	Maple Grove	H	300,000	City, TPRD, Comm, lake assn	County Levy - levied in 2016		75,000				
~~Stonebridge~~	~~Maple Grove~~	~~M~~	~~200,000~~		retrofit of some addl stormsewer treatment systems will not occur during street reconstruction project	~~0~~		~~50,000~~	~~0~~	~~0~~	~~0~~
Rain Garden at Independence Avenue	Champlin	L	300,000		County Levy - levied in 2017	0		75,000	0	0	0
CIP-2016-CH-01 Mill Pond Rain Gardens	Champlin	M	400,000			0	0		100,000	0	0
Other Priority Urban BMP Projects	Watershed	L	200,000			0	0	0	0	0	50,000
Other											
Livestock Exclus, Buffer & Stabilized Access	Watershed	M	50,000	ities, owners, U Extension, NRC	Cities, owners, Comm, NRCS	0	0	0	50,000	0	50,000
Agricultural BMPs Cost Share	Watershed	H	50,000	ities, owners, U Extension, NRC	Cities, owners, Comm, NRCS	0		~~50,000~~	50,000	50,000	~~00,000~~ 150,000
~~CIP-2016-RO-04~~ CIP-2017-RO-1 ~~Ag BMPs~~ Cowley-Sylvan Connections BMPs	Rogers		300,000	City, Comm	City, Comm, BWSR				75,000		
CIP-2016-RO-03 Downtown Pond Exp & Reuse	Rogers		406,000						101,500		
Hickory Drive Stormwater Improvement	Medina		225,000	City. Comm, Grants						56,250	
Hydrologic & Hydraulic Modeling	Watershed	L	25,000	HCEE	Commission	0	0	0	25,000	0	0
Fourth Generation Plan	Watershed	L	70,000		Commission	0	0	0	0	0	$70,000
TOTAL STUDIES			245,000		**COMM SHARE TOTAL STUDIES**	**10,000**	**25,000**	**25,000**	**25,000**	**35,000**	**125,000**
TOTAL CIPS			~~21,984,470~~		**COMM SHARE TOTAL CIPS**	**$ 250,000**	**$ 492,812**	**~~$ 935,000~~**	**$ 1,395,250**	**$ 441,250**	**$ 938,750**
			22,934,470					**$ 437,500**			

Projects levied in prior years | Projects added/revised in 2017 | Projects levied in 2017, payable 2018 | Projects added/revised in 2018

EXHIBIT A

Item VB

Elm Creek Watershed Management Commission

Capital Improvement Project Submittal

(This submittal will be rated on its completeness and adherence to the goals of the Commission. A second page may be used to provide complete responses.)

City	Corcoran and Rogers
Contact Name	Kent Torve, Corcoran City Engineer; John Seifert, Rogers Public Works Supt.
Telephone	Kent Torve: 763-479-4209; John Seifert: 763-428-8580
Email	ktorve@wenck.com; jseifert@rogersmn.gov
Address	City of Corcoran, 8200 County Road 116, Corcoran, MN 55340 City of Rogers Public Works, 22350 South Diamond Lake Road, Rogers, MN 55374
Project Name	Stone's Throw Wetland Restoration (Name will change)

	1. Is project in Member's CIP? ( ) yes (x) no	Proposed CIP Year = 2019
	2. Has a feasibility study or an engineering report (circle one) been done for this project? ( ) yes (x) no	

		Amount
	Total Estimated Project Cost	$450,000
	Estimated Commission Share (up to 25%, not to exceed $250,000)	$112,500
	Other Funding Sources (name them): grants, municipal budgets	$337,500
		$450,000

	3. What is the scope of the project? Details TBD, but this multi-city effort would address the impairments in Rush Creek.
	4. What is the purpose of the project? What water resource(s) will be impacted by the project? The purpose is to address the impairments (bacteria, dissolved oxygen, fish bioassessment) in Rush Creek.
	5. What is the anticipated improvement that would result from the project? (Include size of area treated and projected nutrient reduction.) The project would improve Rush Creek by decreasing bacteria, increasing dissolved oxygen, and/or improving conditions to support fish. Size of area treated TBD. (To be updated.)
	6. How does the project contribute to achieving the goals and programs of the Commission? This project would improve water quality in Rush Creek.
0/10	7. Does the project result from a regulatory mandate? (x) yes ( ) no How? The project results from a regulatory mandate to implement TMDL projects and report on their progress through municipal MS4 programs.
0/10/20	8. Does the project address one or more TMDL requirements? (x) yes ( ) no Which? The Elm Creek Watershed-Wide WRAPS, expected to be approved by the EPA in 2017, lists this project as a protective strategy for Rush Creek.
0/10/20	9. Does the project have an educational component? ( ) yes (x) no Describe. \ An educational opportunity may arise when the Regional Trail is installed. Educational signage could explain wetland functions, Elm Creek watershed, identification of vegetation. Would involve partnership with Three Rivers Park District.
0/10	10. Do all the LGUs responsible for sharing in the cost of the project agree to go forward with this project? (x) yes ( ) no Identify the LGUs. The City of Rogers contracts with Kjolhaug Environmental for LGU services; Elm Creek Watershed Management Commission (ECWMC) is the LGU for Corcoran.
10/20	11. Is the project in all the LGUs' CIPs? (x) yes (x) no The project is on ECWMC's CIP, but not on Rogers' CIP. (To be updated.)
1-34	*(For TAC use)* 12. Does project improve water quality? (0-10) 13. Prevent or correct erosion? (0-10) 14. Prevent flooding? (0-5) 15. Promote groundwater recharge? (0-3) 16. Protect and enhance fish and wildlife habitat? (0-3) 17. Improve or create water recreation facilities? (0-3)
TOTAL (poss 114)	Adopted April 11, 2012

Item VII-1

Technical Memo

WENCK ASSOCIATES

Responsive partner.
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To: Shingle Creek/West Mississippi WMC Commissioners

From: Ed Matthiesen, P.E.
Diane Spector

Date: February 2, 2018

Subject: Draft Aquatic Vegetation Management Policy

In light of ongoing discussions on the Twin Lake Carp and Bass and Pomerleau Lake Alum Treatment projects, we have drafted a formal Commission policy on Aquatic Vegetation Management. This policy specifies that the Commission will participate in Submersed Aquatic Vegetation (SAV) management needed as part of an internal load reduction project, but only to control AIS such as curlyleaf pondweed and Eurasian water milfoil. Individual lakeshore property owners may undertake SAV management in accordance with DNR permit requirements at their own expense for recreation and access. The TAC had an initial discussion about this policy at its February 1, 2018 meeting.

The intent is to draft a policy that is clearly limited to AIS, and is clearly limited to protecting water quality and ecologic integrity. The draft policy sets forth both short-term and long-term management policies. In the short term, the policy would allow the Commission to undertake SAV management in association with internal load projects undertaken by the Commission that improve water quality and clarity. In the long term, the Commission would periodically update aquatic vegetation surveys, and perform treatment as necessary to minimize the negative impacts of the AIS. The intent is NOT to get into the business of doing a lot of SAV management, not to be involved with providing treatment for and at the request of individual property owners. The Commission does not currently have the budget to add this as an ongoing activity, and the JPA assessment cap limits the ability to increase the budget. Taking on longer-term SAV management would require a deeper discussion with the nine member cities.

Attached is the draft policy for your initial review and comment. It will likely take at least a few months to discuss this and come to an agreement amongst the cities. In the meantime, also attached is a short memo showing the short-term timeline for SAV management for Upper Twin/Twin chain.

Wenck Associates, Inc. | 7500 Olson Memorial Highway | Suite 300 | Plymouth, MN 55427
Toll Free 800-472-2232 Main 763-252-6800 Email wenckmp@wenck.com Web wenck.com

Shingle Creek Watershed Management Commission

3235 Fernbrook Lane N • Plymouth, MN 55447
Phone (763) 553-1144 • Fax (763) 553-9326

www.shinglecreek.org

Submersed Aquatic Vegetation (SAV) Management Policy
xxxxxxxxxxxxxx, 2018
D R A F T

The Shingle Creek Watershed Management Commission works in partnership with its member cities, Hennepin County, MnDOT, and other parties to protect and improve lakes, wetlands, and streams in the watershed. The Commisson's goal is to meet State of Minnesota water quality standards and to promote a healthy and diverse community of native aquatic organisms and vegetation. To achieve that goal the Commission may periodically partner with one or more member cities to undertake lake internal load management projects for water quality, such as alum treatments or rough fish management. As lake water clarity improves in response to that project, native and non-native submersed aquatic vegetation (SAV), including aquatic invasive species (AIS) such as curly-leaf pondweed or Eurasian water milfoil, may become more abundant and negatively impact water quality. This policy sets forth the standards and actions the Commission will take to assist in managing AIS.

1. Prior to undertaking any internal load improvement projects, the Commission will obtain spring and late summer SAV surveys, and compile all known information about SAV and SAV management for the previous five years.
2. Commission staff will review SAV data with the DNR to determine likely SAV response to internal load reductions and SAV management options.
3. On lakes with an existing infestation of non-native invasive SAV such as curly-leaf pond weed and/or Eurasian water milfoil, the Commission will undertake chemical or mechanical treatment for three growing seasons following the internal load project or as necessary to address the non-native AIS infestation. The Commission will incur all costs of this treatment, including vegetation surveys, treatment delineations, vegetation management plans, and permits and variances.
4. On lakes with no or minimal infestation of non-native invasive SAV such as curly-leaf pond weed and/or Eurasian water milfoil, the Commission may provide spot treatment to prevent spread of the invasive species for up to three years or as necessary to minimize the ecological and water quality impacts of the infestation. The Commission will incur all costs of this treatment, including vegetation surveys, treatment delineations, and permits.
5. The Commission will continue to undertake routine SAV surveys on its regular, published schedule and may provide spot treatment of AIS as nessesary to keep the AIS in check.
6. Lakeshore property owners may at any time undertake shoreline SAV management in accordance with DNR regulations at their own expense. The Commission will not participate financially in the cost of SAV management performed for recreation and access purposes.
7. At the request of a majority of lakeshore owners, and at their expense, the Commission may act as fiscal and contracting agent to provide SAV management for recreation and access purposes. If the lakeshore owners or lake association wishes to form a Lake Improvement District, the Commission may provide technical assistance and liaison with Hennepin County and the DNR.