

# elm creek Watershed Management Commission

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ADMINISTRATIVE OFFICE  
3235 Fernbrook Lane  
Plymouth, MN 55447  
PH: 763.553.1144  
FAX: 763.553.9326  
email: [judie@jass.biz](mailto:judie@jass.biz)  
[www.elmcreekwatershed.org](http://www.elmcreekwatershed.org)

TECHNICAL OFFICE  
Hennepin County  
Dept. of Environment & Energy  
701 Fourth Ave S Suite 700  
Minneapolis, MN 55415-1600  
PH: 612.348-7338 • FAX: 612.348.8532  
Email: [James.Kujawa@hennepin.us](mailto:James.Kujawa@hennepin.us)

April 3, 2019

Representatives  
Elm Creek Watershed Management  
Commission Hennepin County, MN

*The meeting packets for these meetings may  
be found on the Commission's website:  
<http://www.elmcreekwatershed.org/minutes--meeting-packets.html>*

Dear Representatives:

A **regular meeting** of the Elm Creek Watershed Management Commission will be held on **Wednesday, April 10, 2019, at 11:30 a.m.** in the Mayor's Conference Room at Maple Grove City Hall, 12800 Arbor Lakes Parkway, Maple Grove, MN.

The **Technical Advisory Committee (TAC)** will meet at 10:00 a.m., prior to the regular meeting. TAC meeting materials may also be found on the Commission's website.

Please email me at [judie@jass.biz](mailto:judie@jass.biz) to confirm whether you or your Alternate will be attending the TAC and the regular meetings.

Thank you.

Regards,



Judie A. Anderson

Administrator

JAA:tim

Encls: Meeting Packet

cc:	Alternates	HCEE	Jeff Weiss	BWSR
	TAC Members	TRPD	Diane Spector	DNR
	City Clerks	MPCA	Met Council	Official Newspaper

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## AGENDA Regular Meeting April 10, 2019

1. Call Regular Meeting to Order.
  - a. Approve Agenda.\*
2. Consent Agenda.
  - a. Minutes last Meeting.\*
  - b. Treasurer's Report and Claims.\*
3. Open Forum.
4. Action Items.
  - a. Project Reviews – see Status Report.\*
  - b. 2018 Annual Activity Report.\*
  - c. Recommendations from the TAC.
5. Old Business.
6. New Business.
  - a. Commission Procedures – Guenthner.
7. Communications.
8. Education.
  - a. WMWA Update.\*\*
9. Grant Opportunities and Updates.

*The meeting packet may be found on the Commission's website: <http://elm creek watershed.org/minutes--meeting-packets.html>*

\*in meeting packet  
\*\*available on website

**10. Project Reviews. (See Staff Report.\*)**

a.				AR	2013-046	Woods of Medina, Medina.
b.					2014-015	Rogers Drive Extension, Rogers.
c.					2015-004	Kinghorn Outlet A, Rogers.
d.				AR	2015-030	Kiddiegarten Child Care Center, Maple Grove.
e.				AR	2016-002	The Markets at Rush Creek, Maple Grove.
f.					2016-005W	Ravinia Wetland Bank Plan, Corcoran.
g.					2016-047	Hy-Vee North, Maple Grove.
h.				AR	2017-014	Laurel Creek, Rogers.
i.				AR	2017-017	Mary Queen of Peace Catholic Church, Rogers.
j.				AR	2017-021	Hindu Society of MN Staff Housing, Maple Grove.
k.				AR	2017-029	Brayburn Trails, Dayton.
l.					2017-039	Rush Creek Apartments, Maple Grove.
m.		E			2017-050W	Ernie Mayer Wetland/floodplain violation, Corcoran.
n.				AR	2018-001	Rush Creek Commons, Maple Grove.
o.		E			2018-005	Sundance Greens, Dayton.
p.					2018-014	Refuge at Rush Creek, Corcoran.
q.				AR	2018-018	Summers Edge Phase II, Plymouth.
r.					2018-020	North 101 Storage, Rogers.
s.					2018-021	113th Lane Extension/Brockton/101, Rogers.
t.				AR	2018-026	Windrose, Maple Grove.
u.				AR	2018-028	Tricare Third Addition, Maple Grove.
v.					2018-038	Vincent Woods of Roger.
w.				AR	2018-044	OSI Phase II, Medina.
x.					2018-046	Graco, Rogers
y.				AR	2018-048	Faithbrook Church Phase 2, Dayton.
z.			R		2018-052	Rogers Tennis Center, Rogers.
aa.			R		2018-053	Elm Creek Stream Stabilization, Champlin.
ab.					2019-001	Fernbrook View Apartments, Maple Grove.
ac.					2019-002	Parkside Villas, Champlin.
ad.					2019-003	Rogers High School Tennis Court, Rogers.
ae.					2019-005	UBOL I-94 MnDot project., Maple Grove, Rogers.
af.			R		2019-006	Hickory Pond, Medina.
ag.		E			2019-007	Westin Ridge, Plymouth.
ah.	A	E			2019-008	Residences on elm Creek, Medina.
ai.					2019-009	Beacon Ridge, Plymouth.
aj.					2019-010	Hindu Temple Solar Array, Maple Grove.

= Action item E = Enclosure provided I = Informational update will be provided at meeting RPI - removed pending further information  
R = Will be removed RP= Information will be provided in revised meeting packet..... D = Project is denied AR awaiting recordation

**11. Other Business.**

Z:\Elm Creek\Meetings\Meetings 2019\03 Regular Meeting Agenda.docx

\*in meeting packet  
\*\*available on website

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Email: James.Kujawa@hennepin.us

## Regular Meeting Minutes March 9, 2019

I. A regular meeting of the Elm Creek Watershed Management Commission was called to order at 11:30 a.m., Wednesday, March 9, 2019, in the Mayor's Conference Room, Maple Grove City Hall, 12800 Arbor Lakes Parkway, Maple Grove, MN, by Vice Chairman Elizabeth Weir.

Present were: Bill Walraven, Champlin; Ken Guenther, Corcoran; Joe Trainor, Maple Grove; Elizabeth Weir, Medina; Fred Moore, Plymouth; Kevin Jullie, Rogers; Karen Galles, James Kujawa, Jason Swenson, and Kirsten Barta, Hennepin County Dept. of Environment and Energy (HCEE); Amy Timm, Three Rivers Park District (TRPD); and Judie Anderson, JASS.

Not represented: Dayton.

Also present: Todd Tuominen, Champlin; Kevin Mattson, Corcoran; Sarah Nalven, Wenck Associates, Dayton; Derek Asche and Mark Lahtinen, Maple Grove; Catherine Cesnik and Ben Scharenbroich, Plymouth; Andrew Simmons, Rogers; Mary Newman, WSB; Dave Spatafore and Justine Dauphinais, Fish Lake Area Residents Association (FLARA); and George Schneider, Rice Lake Area Association (RLAA).

A. Motion by Walraven, second by Guenther to approve the **revised agenda\*** Motion *carried unanimously*.

B. Motion by Walraven, second by Moore to approve the **minutes\*** of the February 13, 2019, regular meeting. *Motion carried unanimously*.

Weir noted that, while Kujawa's research indicated the long-term impacts of the use of wetlands for irrigation are unknown, we do know that we have high iron content in our raw aquifer water and that some aquifers are beginning to show measurable salination from our overuse of road and sidewalk deicing. (February TAC minutes, item VI.)

C. Motion by Moore, second by Jullie to approve the March **Treasurer's Report and Claims\*** totaling \$18,575.22. *Motion carried unanimously*.

## II. Open Forum.

Galles was present to speak to the Commissioners regarding the upcoming **role of Hennepin County Dept. of Environment and Energy**. She reported that Kujawa will be retiring at the end of 2019 and HCEE will no longer be involved in the review of the Commission's development/redevelopment and wetland projects. Staff noted that this information should be considered when developing the 2020 operating budget in May.

## III. Action Items.

### A. Fish Lake Carp Assessment and Removal.

Spatafore, Dauphinais, and Schneider were present to continue the discussion regarding the

RULE D - STORMWATER MANAGEMENT  
RULE E - EROSION AND SEDIMENT CONTROL  
RULE F - FLOODPLAIN ALTERATION

RULE G - WETLAND ALTERATION  
RULE H - BRIDGE AND CULVERT CROSSINGS  
RULE I - BUFFERS

CHAMPLIN - CORCORAN - DAYTON - MAPLE GROVE - MEDINA - PLYMOUTH - ROGERS



**elm creek Watershed Management Commission**

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**carp population in Fish Lake.** At the February meeting they provided an overview of Phase II of the proposed project which entails a fish movement study and carp removal. Their March 6, 2019 proposal\* shows the estimated cost to be \$72,108, broken down as follows:

Commission	\$18,027	25% of total project cost
TRPD	\$11,268	32% of non-Commission portion
Maple Grove, FLARA, RLAA	\$23,945	68% of non-Commission portion
In-Kind Labor	\$18,868	

Two items have been added to the proposal presented at the February meeting: 1) one additional open-water seine netting and one additional under-ice seine netting and 2) purchase of one additional radio receiver. The proposal goes on to define the work plan and breaks down the costs associated with each task.

Motion by Walraven, second by Guenther to approve the cost share formula. *Motion carried unanimously.*

Motion by Walraven, second by Jullie to approve the City of Maple Grove as financial administrator of the project. *Motion carried unanimously.*

**B. Subwatershed Assessments (SWAs).\***

Two SWA applications were received by HCEE staff from the communities of Dayton for Diamond Creek\* and from Corcoran for South Fork Rush Creek.\* At the February 13, 2019 Technical Advisory Committee (TAC) meeting, Staff recommended approval of both applications. Staff's recommendation was approved by the TAC and is hereby forwarded to the Commission.

Motion by Guenther, second by Jullie to approve both applications for funding. *Motion carried unanimously.* Corcoran is requesting \$8,820 Commission match; Dayton, \$7,500.

**C. Project Review 2018-052 Rogers Tennis Center, Rogers.\*** This is a 13-acre lot owned by the City just north of Rogers High School. In 2017 Staff approved some initial grading on the site provided future grading and stormwater management are reviewed and approved by the Commission. This is the City's submittal for final grading and stormwater management on the property. The initial plans did not meet the Commission's requirements. *Revised plans were submitted on February 6, 2019.* Motion by Moore, second by Jullie to approve Staff's findings dated March 6, 2019. *Motion carried unanimously.*

**D. Project Review 2019-003 Rogers High School Tennis Courts, Rogers.\*** The project area is just north of the east parking lot on the high school property east of Highway 101 on the north side of CR144. The developed site will include eight tennis courts, a reconstructed bituminous path, concrete sidewalk, and concrete viewing area between the courts. The disturbed area, approximately 2.91 acres in size, is currently occupied by athletic fields. Runoff drains north towards an existing onsite stormwater management pond. New impervious area will be 1.49 acres. Commission standards require reviews for Rules D and E. The original site plans did not meet the Commission's standards for stormwater management. Revised plans were received March 1. Motion by Jullie, second by Walraven to approve Staff's findings dated March 6, 2019 granting approval contingent on receipt of final erosion control approvals by Staff. *Motion carried unanimously.*

**E. Project Review 2019-005 UBOL I-94 MnDOT project.\*** The I-94 UBOL project extends from the I-494/I-694 interchange in Maple Grove to just west of the TH 101 interchange in Rogers. The work will consist of resurfacing via an unbonded concrete overlay (UBOL), 9.6 miles of I-94 in both directions, including the ramps. Staff's review is for

## elm creek Watershed Management Commission

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compliance to Rules D, E and F of the Commission's Rules and Standards. Motion by Walraven, second by Jullie to approve Staff's March 6, 2019 recommendation pending receipt of final SWPPP plans. *Motion carried unanimously.*

**F. Project Review 2019-006 Hickory Pond, Medina.\*** This is a road and utility improvement project on Hickory Lane just north of Hamel Road. As part of the project the City is constructing a stormwater management pond to treat the existing impervious areas. This project was reviewed for Rules D and E. Motion by Jullie, second by Walraven to grant Staff administrative approval authority per their March 13, 2019 findings. *Motion carried unanimously.*

**G.** Hearing no further nominations, motion by Moore, second by Jullie to **elect the current officers** for another one-year term. *Motion carried unanimously.* They are: Doug Baines, Chair; Liz Weir, Vice Chair; Bill Walraven, Secretary; and Fred Moore, Treasurer.

**H** Motion by Moore, second by Walraven to fund sponsorship of the **Freshwater 2019 Water Summit** for \$500, to be taken from the Education budget. *Motion carried unanimously.*

### IV. Watershed Management Plan.

Included in the meeting packet were applications\* for **Capital Improvement Projects** to be considered for addition to the Commission's Capital Improvement Program. Also included was a revised CIP spreadsheet\* showing more details for these new/revised projects. These CIP applications will be reviewed by the Technical Advisory Committee at their April meeting. The TAC's recommendation to the Commission will be made at the April meeting.

- A.** CIP Line 23 Ranchview Wetland Restoration.\*
- B.** CIP Line 46 Brockton Lane Water Quality Improvements.\*
- C.** CIP Line 47 Mill Pond Easement.\*
- D.** CIP Line 48 Meadows Playfield.\*
- E.** CIP Line 49 Enhanced Street Sweeper.\*

It was a consensus that Item C will be discussed at a dedicated TAC meeting.

### V. Old Business.

**A. Local Plans.** Staff received the City of Rogers' draft 2040 Comprehensive Plan for review and comment on January 2, 2019. Staff's review determined that none of the requirements of MS 103B were addressed in the draft plan. The City is making revisions to its plan prior to resubmittal.

**B.** A copy of the finalized **Resolution 2019-01\*** Regarding the Role of the ... Commission as the LGU to Administer the WCA Act of 1991 was included in the meeting packet.

### VI. New Business.

### VII. Water Quality.

**A. FEMA Floodplain Mapping.** Swenson provided an initial summary of hydrology modeling and GIS work on the FEMA project. Initial information appears to suggest that due to changes in design rainfall amounts and intensity, there may be a need to revise the critical design storm for the watershed to rainfall instead of snowmelt. Model refinement continues, with a goal of submitting hydrology for review in April.

**B.** Included in the packet is the February 27, 2019 weekly construction update\* provided by Lucius Jonett, Wenck Associates, on the City of Plymouth's **streambank stabilization project**. All streambank stabilization has been completed.

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RULE D - STORMWATER MANAGEMENT  
 RULE E - EROSION AND SEDIMENT CONTROL  
 RULE F - FLOODPLAIN ALTERATION

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RULE G - WETLAND ALTERATION  
 RULE H - BRIDGE AND CULVERT CROSSINGS  
 RULE I - BUFFERS

**elm creek Watershed Management Commission**

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*[Walraven departed 1:01 p.m.]***VIII. Education and Public Outreach - West Metro Water Alliance (WMWA).**

The **next WMWA meeting** is scheduled for 8:30 a.m., Tuesday, April 9, 2019, at Plymouth City Hall.

**IX. Communications.****X. Other Business.**

**A.** The following **projects** are discussed in the March 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. 2016-005W Ravinia Wetland Bank, Corcoran.
7. 2016-040 Kinghorn 4th Addition, Rogers.
8. 2016-047 Hy-Vee Maple Grove #1, Maple Grove.
9. 2017-014 Laurel Creek, Rogers.
10. 2017-016 Territorial Woods, Maple Grove.
11. 2017-017 Mary Queen of Peace Catholic Church, Rogers
12. 2017-021 Hindu Society of MN Staff Housing, Maple Grove.
13. 2017-029 Brayburn Trails, Dayton.
14. 2017-039 Rush Creek Apartments, Maple Grove.
15. 2017-050W Ernie Mayer Wetland/floodplain violation, Corcoran.
16. 2018-001 Rush Creek Commons, Maple Grove.
17. 2018-004 Rush Creek Restoration Project, Maple Grove.
18. 2018-005 Sundance Greens, Dayton.
19. 2018-014 Refuge at Rush Creek, Corcoran.
20. 2018-018 Summers Edge Phase III, Plymouth.
21. 2018-020 North 101 Storage, Rogers.
22. 2018-021 113th Lane Extension, Brockton Lane/CSAH101 Intersection, Rogers.
23. 2018-026 Windrose, Maple Grove.
24. 2018-028 Tricare Third Addition, Maple Grove.
25. 2018-033 Cloquet Island Estates, Dayton.
26. 2018-038 Vincent Woods, Rogers.
27. 2018-043 Bee Hive Homes, Maple Grove.
28. 2018-044 OSI Phase II, Medina.
29. 2018-046 Graco Expansion, Rogers.
30. 2018-048 Faithbrook Church, Phase 2, Dayton.
31. 2018-056 Rogers Tennis Courts, Rogers.
32. 2018-053 Elm Creek Restoration, Champlin.
33. 2019-001 Fernbrook View Apartments, Maple Grove.

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RULE D - STORMWATER MANAGEMENT  
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**elm creek Watershed Management Commission**

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- 34. 2019-002 Parkside Villas, Champlin.
- 35. 2019-003 Rogers High School Tennis Courts., Rogers.
- 36. 2019-004 Rogers Middle School Chiller Unit Project, Rogers.
- 37. 2019-005 UBOL I-94 MnDOT Project, Maple Grove, Rogers.-
- 38. 2019-006 Hickory Pond, Medina.

**B. Adjournment.** There being no further business, the meeting was adjourned at 1:17 p.m.

Respectfully submitted,



Judie A. Anderson  
Recording Secretary

JAA:tim

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RULE D - STORMWATER MANAGEMENT  
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**CHAMPLIN - CORCORAN - DAYTON - MAPLE GROVE - MEDINA - PLYMOUTH - ROGERS**

## Elm Creek Watershed Management Commission 2019 Treasurer's Report

		2019 Budget	Mar 2019	April 2019	2019 Budget YTD
<b>EXPENSES</b>					
Administrative		90,000	8,660.63	8,849.73	26,335.69
Watershed-wide TMDL Admin		1,500			0.00
Grant Writing		4,000			0.00
Website		5,000	45.00	105.00	244.80
Legal		2,000	46.50	93.00	139.50
Audit		5,000			0.00
Insurance		3,900			2,865.00
Miscellaneous/Contingency		1,000			0.00
Project Reviews	HCEE	97,400			0.00
Project Reviews	Consult	15,000	2,407.00	2,373.50	4,780.50
Project Reviews	Admin	15,000	739.44	804.19	2,258.78
WCA-Technical	HCEE	18,200			0.00
WCA	Legal	500			31.00
WCA	Admin	2,000	88.78	63.67	895.16
Floodplain Mapping	Technical	46,386			0.00
Stream Monitoring USGS		41,000	5,210.00		5,210.00
Stream Monitoring TRPD		6,875			0.00
DO Longitudinal Survey		-			0.00
TMDL Follow-up - TRPD		2,500			0.00
Rain Gauge		250	15.76	16.26	48.52
Rain Gauge Network		100			0.00
Lakes Monitoring - CAMP		760			0.00
Lakes Monitoring - TRPD					
Sentinel Lakes		8,100			0.00
Additional Lake		1,500			0.00
Aquatic Vegetation Surveys		325			0.00
Wetland Monitoring (WHEP)		4,000			0.00
Education 2018					0.00
Education		4,000	15.44	501.00	1,526.64
WMWA General Activities		5,000			3,000.00
WMWA Educators/Watershed Prep		4,500			2,000.00
WMWA Special Projects		2,000			0.00
Rain Garden Workshops		2,000	1,000.00		1,000.00
Education Grants		1,000			0.00
Macroinvertebrate Monitoring-River Watch		3,000			0.00
Projects ineligible for ad valorem		50,000			0.00
Studies / Project ID / SWA		35,000	344.91	381.44	1,129.39
Plan Amendments		2,000			0.00
<i>Transfer to (from) Encumbered Funds (see below)</i>					0.00
<i>Transfer to (from) Capital Projects (see CIP Tr</i>		490,000			0.00
<i>Transfer to (from) Cash Sureties (see below)</i>					0.00
<i>Transfer to (from) Grants (see below)</i>			1.76	-	20.32
<i>To Fund Balance</i>					0.00
<b>TOTAL - Month</b>			<b>18,575.22</b>	<b>13,187.79</b>	<b>51,485.30</b>
<b>TOTAL Paid in 2019, incl late 2018 Expenses</b>		<b>970,796.00</b>	<b>146,127.67</b>	<b>159,315.46</b>	<b>2019 Paid</b>

## Elm Creek Watershed Management Commission 2019 Treasurer's Report

		2019 Budget	Mar 2019	April 2019	2019 Budget YTD
<b>INCOME</b>					
<i>From Fund Balance</i>					
Project Review Fee		80,000	4,650.00		6,939.50
Return Project Fee					0.00
Water Monitoring - TRPD Co-op Agmt		5,000			0.00
WCA Fees		9,000			900.00
Return WCA Fee					0.00
Reimbursement for WCA Expense			654.81		654.81
WCA Escrow Earned					0.00
Member Dues		230,400	23,067.92		230,400.00
Interest/Dividends Earned		3,000	2,568.82		7,224.65
Transfer to (from) Capital Projects (see CIP Tr		490,000			0.00
Transfer to (from) Cash Sureties (see below)					
Transfer to (from) Grants (see below)			-	-	0.00
Misc Income					0.00
<b>Total - Month</b>			<b>30,941.55</b>	<b>0.00</b>	<b>246,118.96</b>
<b>TOTAL Rec'd 2019, incl late 2018 Income</b>		<b>817,400.00</b>	<b>250,258.64</b>	<b>250,258.64</b>	<b>2019 Received</b>
<b>CASH SUMMARY</b>		<b>Balance Fwd</b>			
Checking		0.00			
4M Fund		1,303,038.87	1,407,169.84	1,393,982.05	
<b>Cash on Hand</b>			<b>1,407,169.84</b>	<b>1,393,982.05</b>	
<b>CASH SURETIES HELD</b>		<b>Balance Fwd</b>			<b>Activity 2019</b>
WCA Escrows Received		30,000.00			1,000.00
WCA Escrow Reduced		0.00			0.00
<b>Total Cash Sureties Held</b>		<b>30,000.00</b>	<b>31,000.00</b>	<b>31,000.00</b>	
<b>RESTRICTED / ENCUMBERED FUNDS</b>		<b>Balance Fwd</b>			
Restricted for CIPs		621,135			621,135.00
Enc. Studies / Project Identification / SWA		62,832			62,831.80
<b>Total Restricted / Encumbered Funds</b>		<b>683,967</b>	<b>683,966.80</b>	<b>683,966.80</b>	
			<b>Mar 2019</b>	<b>April 2019</b>	<b>2019 Budget YTD</b>
<b>GRANTS</b>					
<b>Fish Lake CWLA</b>					
Revenue					-
Expense			1.76		20.32
Balance			(1.76)	-	(20.32)
<b>Rush Creek SWA</b>					
Revenue					-
Expense					-
Balance			-	-	-
<b>BWSR Watershed-based Funding</b>					
Revenue					-
Expense					-
Balance			-	-	-
<b>TOTAL GRANTS</b>					
<b>Revenue</b>			-	-	-
<b>Expense</b>			1.76	-	20.32
<b>Balance</b>			(1.76)	-	(20.32)

## Elm Creek Watershed Management Commission 2019 Treasurer's Report

Claims Presented		General Ledger Account No	March	April	TOTAL
Campbell Knutson - Legal		521000		93.00	93.00
Connexus - Rain Gauge		551100		16.26	16.26
Barr Engineering - Proj Rev Consultant		578050			2,373.50
Barr Eng - Consultant Ravinia		578050		259.00	
Barr Eng - Consultant Cloquet Island		578050		2,114.50	
Watershed Partners -2019 Membership		590000		500.00	500.00
JASS					10,205.03
Administration		511000		8,598.48	
TAC Support		511000		251.25	
Annual Report		511000			
Website		581000		105.00	
Project Reviews		578100		804.19	
WCA		579000		63.67	
WCA Admin Reimbursable Mayers		579000			
Plan Amendment		541500			
Education		590000		1.00	
CIPs General		563001		381.44	
CIP 2016-02 Miss Shoreline Repair		563006			
Grant Opportunities		511000			
Grant - Fish Lake CWLA		584001			
Grant - Rush Creek SWA		584002			
Floodplain Mapping Admin		580430			
<b>TOTAL CLAIMS</b>					<b>13,187.79</b>

**CAMPBELL KNUTSON**  
**Professional Association**  
**Attorneys at Law**  
**Federal Tax I.D. #41-1562130**  
**Grand Oak Office Center I**  
**860 Blue Gentian Road, Suite 290**  
**Eagan, Minnesota 55121**  
**(651) 452-5000**

Elm Creek Watershed Management Commission  
c/o Judie A. Anderson, Exec. Secty.  
3235 Fernbrook Lane  
Plymouth MN 55447

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Account # 1448-0000G  
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RE: GENERAL MATTERS  
SERVICES RENDERED TO DATE:

			HOURS	
03/06/2019	JJJ	Emails Judie re: grant application, Champlin request, projects/conservation easements.	0.60	93.00
		AMOUNT DUE	0.60	93.00
		TOTAL CURRENT WORK		93.00
		PREVIOUS BALANCE		\$46.50
03/15/2019		Payment - thank you		-46.50
		TOTAL AMOUNT DUE		<u>\$93.00</u>

Amounts due over 30 days will be subject to a finance charge of  
.5% per month (or an annual rate of 6%). Minimum charge - 50 cents.



**CAMPBELL KNUTSON**  
**Professional Association**  
**Attorneys at Law**  
**Federal Tax I.D. #41-1562130**  
**Grand Oak Office Center I**  
**860 Blue Gentian Road, Suite 290**  
**Eagan, Minnesota 55121**  
**(651) 452-5000**

Elm Creek Watershed Management Commission  
c/o Judie A. Anderson, Exec. Secty.  
3235 Fernbrook Lane  
Plymouth MN 55447

Page: 1  
March 31, 2019  
Account # 1448G

SUMMARY STATEMENT

PREVIOUS BALANCE	FEES	EXPENSES	CREDITS	PAYMENTS	BALANCE
1448-0000 RE: GENERAL MATTERS					
SERVICES RENDERED TO DATE:					
46.50	93.00	0.00	0.00	-46.50	<u>\$93.00</u>

Amounts due over 30 days will be subject to a finance charge of  
.5% per month (or an annual rate of 6%). Minimum charge - 50 cents.



**Account Number:**  
**481113-238425**

**Item 02b**

ELM CREEK WATERSHED MGMT ORG

## Monthly Statement

**Service Address**  
ELM CREEK RD  
DAYTON MN

### Billing Summary

**Billing Date:** Mar 18, 2019

Previous Balance	\$15.76
Payments - Thank You!	\$15.76
<b>Balance Forward</b>	<b>\$0.00</b>
<b>New Charges</b>	<b>\$16.26</b>

**Total Amount Due** **\$16.26**

Payment must be received on or before April 13, 2019

**Total Amount Due**

**\$16.26**

**Due Date**

**April 13, 2019**

### Message Center

#### Watch for your voting packet in the mail

As a member of our cooperative, you have a vote in our annual elections. Your vote determines who serves on the Board of Directors. Voting packets will be mailed in late March. Election results will be announced at the Annual Meeting on April 10.

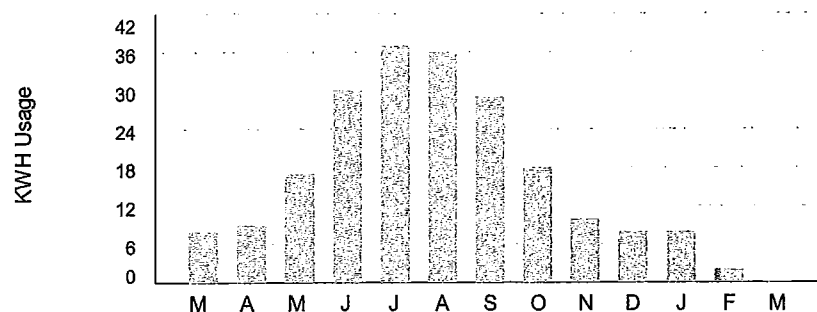
#### Chance to win a Roomba

All members who vote online in the Board of Directors election are automatically entered in a drawing to win an electric Roomba Robot Vacuum.

### Energy Comparison

Previous Months' Usage

Current Month's Usage



### How to contact us

Member Services / Moving - 763-323-2650  
Outages and Emergencies - 763-323-2660  
Hearing/Speech Impaired Call - 711 or 800-627-3529  
Email: [info@connexusenergy.com](mailto:info@connexusenergy.com)  
[www.connexusenergy.com](http://www.connexusenergy.com)  
Gopher State One Call - 811  
14601 Ramsey Boulevard, Ramsey, MN 55303

▼ Please detach at perforation and return this portion with a check or money order made payable to Connexus Energy ▼

TRA3-D-007291/006769 AGWRFP S1-ET-M1-C00002 1



**Account Number:**

**481113-238425**

**Total Amount Due**

**\$16.26**

**Payment Due By**

**April 13, 2019**

007291 1 AB 0.409 003301/007291/006769 028 02 AGWRFP  
ELM CREEK WATERSHED MGMT ORG  
3235 FERNBROOK LN N  
PLYMOUTH MN 55447-5325



**Connexus Energy**  
PO Box 1808  
Minneapolis, MN 55480-1808

00001626 0004811130238425 000000 00000 000000000000 00000000



# INVOICE

**Barr Engineering Co.**  
**4300 MarketPointe Drive, Suite 200**  
**Minneapolis, MN 55435**  
**Phone: 952-832-2600; Fax: 952-832-2601**  
**FEIN #: 41-0905995 Inc: 1966**

Ms. Judie Anderson  
 Elm Creek Watershed Management  
 JASS-Watershed Administrators  
 3235 Fernbrook Lane  
 Plymouth, MN 55447

March 22, 2019  
 Invoice No: 23270F55.03 - 100

<b>Total this Invoice</b>	<b>\$2,114.50</b>
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## Regarding: Development Reviews

This invoice is for professional services related to Elm Creek Watershed Management Commission project reviews, which included the following tasks:

### Task 168 – 2018-033 Cloquet Island Estates

- Communications with the City and developer during project review
- Review of re-submitted materials
- Presenting the project at the February ECWMC meeting
- Project management and invoicing

### Professional Services from January 26, 2019 to February 22, 2019

Job:	JOB3	Project Review
Task:	168	2018-033 Cloquet Island Estates

### Labor Charges

	Hours	Rate	Amount
Engineer / Scientist / Specialist III			
Weiss, Jeffrey	15.10	135.00	2,038.50
Support Personnel II			
Nypan, Nyssa	.80	95.00	76.00
	15.90		2,114.50
<b>Subtotal Labor</b>			<b>2,114.50</b>
		<b>Task Subtotal</b>	<b>\$2,114.50</b>
		<b>Job Subtotal</b>	<b>\$2,114.50</b>
		<b>Total this Invoice</b>	<b>\$2,114.50</b>

Thank you in advance for your prompt processing of this invoice. If you have any questions, please contact your Barr Project Manager, Jeff Weiss Phone: 952-832-2706 or E-Mail: [jweiss@barr.com](mailto:jweiss@barr.com).

PLEASE REMIT TO ABOVE ADDRESS and INCLUDE INVOICE NUMBER ON CHECK.

Terms: Due upon receipt. 1 1/2% per month after 30 days. Please refer to the contract if other terms apply.



# INVOICE

Item 02b

Barr Engineering Co.  
4300 MarketPointe Drive, Suite 200  
Minneapolis, MN 55435  
Phone: 952-832-2600; Fax: 952-832-2601  
FEIN #: 41-0905995 Inc: 1966

Ms. Judie Anderson  
Elm Creek Watershed Management  
JASS-Watershed Administrators  
3235 Fernbrook Lane  
Plymouth, MN 55447

March 22, 2019  
Invoice No: 23270F55.05 - 10

<b>Total this Invoice</b>	<b>\$259.00</b>
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**Regarding: Elm Creek Wetland Mitigation Monitoring**

This invoice is for professional services related to Elm Creek Wetland Mitigation Monitoring project, which included the following tasks:

**Job 001 – Ravinia Wetland Mitigation**

**Task 002 – 2018 Monitoring and Report**

- Continued work on the 2018 monitoring report
- Project management and invoicing

**Professional Services from January 26, 2019 to February 22, 2019**

Job:	001	Ravinia Wetland Mitigation
Task:	002	2018 Monitoring and Report

**Labor Charges**

	Hours	Rate	Amount	
Engineer / Scientist / Specialist III				
Wold, Karen	.60	130.00	78.00	
Engineer / Scientist / Specialist II				
Burgner, Brian	1.00	105.00	105.00	
Support Personnel II				
Nypan, Nyssa	.80	95.00	76.00	
	2.40		259.00	
<b>Subtotal Labor</b>				<b>259.00</b>
		<b>Task Subtotal</b>		<b>\$259.00</b>
		<b>Job Subtotal</b>		<b>\$259.00</b>
		<b>Total this Invoice</b>		<b>\$259.00</b>

	Current	Prior	Total	Received	A/R Balance
<b>Invoiced to Date</b>	<b>259.00</b>	<b>14,245.25</b>	<b>14,504.25</b>	<b>14,245.25</b>	<b>259.00</b>

Thank you in advance for your prompt processing of this invoice. If you have any questions, please contact your Barr Project Manager, Jeff Weiss, Phone: 952-832-2706 or E-Mail: [jweiss@barr.com](mailto:jweiss@barr.com).

PLEASE REMIT TO ABOVE ADDRESS and INCLUDE INVOICE NUMBER ON CHECK.

Terms: Due upon receipt. 1 1/2% per month after 30 days. Please refer to the contract if other terms apply.

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**METRO WATERSHED PARTNERS**


MINNESOTA WATER  
LET'S KEEP IT CLEAN

## INVOICE

651-523-2812  
jlarson25@hamline.edu

Attention: Amy Juntunen  
Elm Creek WMC  
3236 Fernbrook Lane N.  
Plymouth, MN 55448  
Date: 1/2/19

Metro Watershed Partners  
Hamline University  
1536 Hewitt Ave. MS-A1760  
Saint Paul, MN 55104

Project Title: Clean Water Minnesota  
Terms: 30 Days

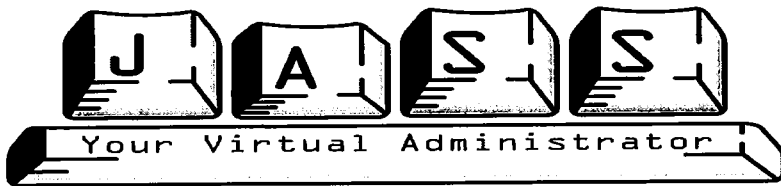
Description	Cost
2019 Membership: Clean Water MN and Adopt-a-Drain	\$500.00
<b>TOTAL</b>	<b>\$500.00</b>

Thanks for your membership in Clean Water MN. Your dollars support:

- Monthly blog posts with timely, consistent messages to encourage behaviors that improve water quality.
- New photographs that feature local residents taking action to protect lakes and rivers.
- Monthly meetings with information on partner activities, presentations by informative speakers, and updates on WSP activities.
- Maintenance of the Watershed Partners listserv.
- Development and implementation of a clean water exhibit at the Minnesota State Fair in the Eco-experience building.
- Site license to use Adopt-a-Drain.
- Recognition as a supporting partner of Adopt-a-Drain for residents in your service area.
- Access to an administrative interface on [Adopt-a-Drain.org](http://Adopt-a-Drain.org) that includes access to reporting and other information useful for MS4 reporting and communications.
- Access to purchase print promotional resources with partner logo.
- Access to purchase mailed packets and yard signs for participants.

Duration of service: January 1 - December 31st, 2019. Unspent funds will rollover to support program activities in 2020.

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3235 Fernbrook Lane  
Plymouth MN 55447

Elm Creek Watershed Management Commission  
3235 Fernbrook Lane  
Plymouth, MN 55447

3-Apr-19

Total by  
Project Area

Administrative	5.09	55.00	279.95	
Administrative	96.19	60.00	5,771.40	
Admin - Offsite	3.95	70.00	276.50	
Office Support	6.00	200.00	1,200.00	
Storage Unit	1.00	140.62	140.62	
Data Processing/File Mgmt		55.00	0.00	
File Management		60.00	0.00	
Archiving		60.00	0.00	
Admin - Reimbursable Expense	930.01	1.00	930.01	8,598.480
Admin - TAC support		55.00	0.00	
Admin - TAC support	3.25	60.00	195.00	
Admin - TAC support offsite		70.00	0.00	
TAC Support - Reimbursable Expense	56.25	1.00	56.25	251.250
Website		55.00	0.00	
Website	1.75	60.00	105.00	
Website - Reimbursable Expense		1.00	0.00	
Web Domain, hosting thru June 2020		1.00	0.00	105.000
Project Reviews - Secre		55.00	0.00	
Project Reviews - Admin	7.19	60.00	431.40	
Project Reviews - Admin offsite		70.00	0.00	
Project Reviews - Admin - File Mgmt	3.08	55.00	169.40	
Project Reviews - Reimbursable Expense	203.39	1.00	203.39	804.190
WCA - Secre		55.00	0.00	
WCA - Admin		60.00	0.00	
WCA - Reimbursable Expense	63.67	1.00	63.67	63.670
Education - Secretarial		55.00	0.00	
Education - Admin		60.00	0.00	
Education - Admin Offsite		70.00	0.00	
Education - Reimbursable Expense	1.00	1.00	1.00	1.000
CIPs - General - Secretarial		55.00	0.00	
CIPs - Administrative	4.85	60.00	291.00	
CIPs- Offsite Admin		70.00	0.00	
CIPs - reimbursables	90.44	1.00	90.44	381.440

Invoice Total

10,205.030

# elm creek

## Watershed Management Commission

ADMINISTRATIVE OFFICE  
3235 Fernbrook Lane  
Plymouth, MN 55447  
PH: 763.553.1144  
FAX: 763.553.9326  
email: judie@jass.biz  
www.elmcreekwatershed.org

TECHNICAL OFFICE  
Hennepin County  
Environment and Energy Dept  
701 Fourth Ave S Suite 700  
Minneapolis, MN 55415-1600  
PH: 612.348-7338 • FAX: 612.348.8532  
Email: James.Kujawa@hennepin.us

### STAFF REPORT

April 3, 2019

**2014-015 Rogers Drive Extension, Rogers.** This project involves improvements along Rogers Drive from Vevea Lane to Brockton Lane. The project is located east of I-94, south of the Cabela development. The total project area is 8.0 acres; proposed impervious surfaces total 5.6 acres. Site plans received July 1, 2014 meet the requirements of the Commission with the exception of the nutrient control. The Commission approved the site plan contingent upon the City deferring 4.6 lbs. of phosphorus for treatment in future ponding opportunities as the easterly corridor of Rogers Drive develops. 2.3 lbs. will be accounted for in the Kinghorn Spec. Building site plan, with 2.3 lbs. still outstanding. This item will remain on the report until the total deferral is accounted for.

**2015-004 Kinghorn Outlot A, Rogers.** This is a 31-acre site located between the Clam and Fed Ex sites on the west side of Brockton Road and I-94. The proposed site will have two warehouse buildings with associated parking and loading facilities. In June 2015 the Commission approved this project with three conditions. Revisions have yet to meet the Commission's approval conditions. This project was extended by the City of Rogers earlier this year. It will remain active on the Staff Report.

**2016-040 Kinghorn 4th Addition, Rogers.** This is a 13.7-acre parcel located in the northwest corner of the intersection of Brockton Lane and Rogers Drive. An industrial warehouse with 8.8 acres of new impervious area is proposed for the site. The plan includes the use of a NURP pond and a biofiltration basin to meet Commission requirements for rates, water quality and abstraction. The adjacent site is likely to be developed in the near future and some of the stormwater features were oversized to accommodate future development. In November 2016 the Commission approved the project conditioned on: 1) approval of only this phase; future phases will need additional review and approval; 2) final modifications to the hydrologic modeling; 3) additional details are provided for a proposed water re-use system; 4) an O&M Plan for the pond and biofiltration basin is completed and recorded on the final plat; 5) modification of the storm sewer system to maximize the area draining to the NURP pond; and 6) receipt and review of wetland-related documentation if wetlands are present. Condition #1 required no action, so has been met. Condition #2 has been met for the current design; however, any future design modifications will require additional review. Conditions #3-6 remain outstanding and are expected to be addressed during final design. Staff has discussed the project with the City and been in contact with the project engineer to receive an update, but no new information has been provided.

**2016-047 Hy-Vee North Maple Grove.** The applicant is proposing to disturb 13 acres of a 20.4-acre site located at the northeast corner of Maple Grove Parkway and 99th Avenue for the purpose of constructing a grocery store, fuel station, convenience store and parking facilities. Staff sent preliminary review comments and requested revisions on December 14. In their findings dated January 10, 2017, Staff recommended approval of this project subject to (1) receipt, approval, and recordation of an Operations and Maintenance Plan for the pond and the iron-enhanced filtration system, (2) revisions for items relating to buffer requirements and erosion and sediment control as enumerated in the findings, and (3) receipt of a signed and

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RULE E - EROSION AND SEDIMENT CONTROL  
RULE F - FLOODPLAIN ALTERATION

RULE G - WETLAND ALTERATION  
RULE H - BRIDGE AND CULVERT CROSSINGS  
RULE I - BUFFERS

*Italics indicates new information*

*indicates enclosure*

dated final plan set. The Commission approved Staff's recommendations at their January 11, 2017 meeting with the additional requirement that the Commission receive and comment on a WCA impact notice. No new information has been received to date.

**2017-039 Rush Creek Apartments, Maple Grove.** This project is located in the southwest quadrant of the intersection of Bass Lake Road (CSAH 10) and Troy Lane (CSAH 101). The project area is 8.2 acres in size and includes two phases of construction. Phase I is 236 apartment units located on 6.0 acres; Phase II is a future 76-unit apartment building located on 2.2 acres in Outlot C of this development. The Commission will review this project for conformance to Rules D, E and I. Findings with no recommendations dated November 15, 2017, were provided to the applicant and the City. The applicant requested and was granted an extension of the deadline per MN statute 15.99 to December 31, 2019. According to the agent for this project, a new layout and project application was submitted to Maple Grove in January 2019 *and the project is still considered active by the City. No new information has been received by Commission staff as of this update.*

**2017-050W Ernie Mayers Wetland/floodplain violation, Corcoran.** The City of Corcoran contacted the Commission in December 2017 concerning drainage complaints on Mayers' property. Multiple violations appear to have occurred on land owned by Mayers. Technical Evaluation Panels (TEPs) were held on December 11, 2017, January 30, 2018, May 22, 2018 and July 20, 2018 to assess the nature and extent of the violations. A restoration order was issued to Mayers giving him until September 15, 2018 to respond or restore the violation areas to their original conditions. A request from Mayers' attorney for an extension to November 1, 2018 was granted by the DNR. *This was extended to November 1, 2019.*

On October 30 an appeal to the restoration order was received by BWSR. BWSR issued an order of abeyance (stay) on the appeal until April 1, 2019. An application for replacement plan was received from Mayers on January 29, 2019. The application addresses the wetland fill (4:1 replacement request) and drain tile (disable existing tile) impacts, but requests additional time to submit an application to address the ditch (WCA jurisdiction) and floodplain (Commission jurisdiction) impacts. A TEP was held on February 28, 2019 to address the replacement plan and provide guidance to the LGU. *The City of Corcoran assumed WCA LGU responsibilities for this project March 1, 2019 Included in the meeting packet are the findings from the TEP. Corcoran and BWSR have extended the decision process until May 31, 2019.*

**2018-005 Sundance Greens, Dayton.** This site consists of seven parcels totaling 310 acres. Approximately half is the Sundance Golf course, the other half is agricultural land. The applicant is proposing a long-term, phased residential development with 665 residential units while maintaining a portion (9 of the 18 holes) of the golf course. Total new impervious area will be 71 acres. This project will be reviewed for Commission Rules D, F, and I. *As part of the submittal for this project, the Sundance West and Sundance 2<sup>nd</sup> Addition phases will be reviewed for Rule E. As the site is phased in, the Commission will review each addition for consistency with Rules D, E, F and I. The most recent review is included in the meeting packet. If available revised plans will be provided to the Commission for their review at their meeting.*

**2018-014 Refuge at Rush Creek (formerly Fehn Meadows 2nd Addition), Corcoran.** The site is currently a 63-acre agricultural property located west of Cain Road on CR 117. The applicant proposes to subdivide the site into 14 residential lots. Public road and trail access will impact two wetland basins, totaling 16,537 SF of type 1 wetland impacts. Replacement at a 2:1 ratio in Bank Service Area (BSA) 7, Major Watershed 20 (Metro Mississippi), is proposed. The wetland replacement plan has been noticed per WCA requirements. The Commission approved this project with conditions at their August meeting: (1) Certification from MN BWSR that 0.7593 acres of wetland banking credits from account #1643 have been transferred for use on

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 RULE I - BUFFERS

*Italics indicates new information*

*indicates enclosure*



this site or an escrow of \$90,000 is received from the applicant, (2) Preservation and buffer areas meet the Commission and City requirements for buffer and preservation, (3) \$4,000 per acre escrow is secured by the Commission for buffer/preservation compliance and 5-year monitoring plan, and (4) operation and maintenance plans for stormwater ponds are approved by the Commission and the City and recorded on the property title. No new information has been received as of this update.

**2018-020 North 101 Storage, Rogers.** This is an existing 3-acre lot in the northwest corner of Highway 101 and CR144. The current land use is a combination of mini-storage units and outdoor storage. The site is proposed for complete demolition and construction of seven new mini-storage buildings. At their July meeting the Commission approved Staff findings dated July 9, 2018, pending four items relating to abstraction requirements and the infiltration system. The applicant requested and was granted an extension to December 31, 2019, provided the review process with the City of Rogers does not expire.

**2018-021 113th Lane Extension/Brockton/101, Rogers.** The City is proposing to extend 113th Lane to provide a second access to the proposed second phase of the Laurel Creek development. The proposed road will extend from Brockton Lane to the development entrance. It will include a 4-lane divided roadway; an off-road trail north of 113th Lane; and construction of an intersection meeting County turn-lane requirements. The project will create 2.13 acres of new impervious surface. The project was conditionally approved at the July Commission meeting. The conditions include submittal of signed final plans and finalization of the wetland mitigation plan. The project has been delayed until 2019, so submittals to meet the conditions have not yet been received.

**2018-038 Vincent Woods, Rogers.** This 19 acre parcel was previously approved for eight apartment buildings by the Commission in 2015. The new site plans propose two apartment buildings with 4.25 acres of impervious areas. The project includes two stormwater ponds to provide water quality treatment and a filtration bench has been proposed in one of the ponds to meet the abstraction requirements which were not in place as of the last project approval. The Commission approved the project at their September 2018 meeting subject to the submittal of minor revisions. Staff is working with the applicant on these items. Staff approval to begin grading prior to final approval was also provided. Staff recently received revised information to review for conformance with the minor revisions requested. Staff is following up on the current status of this project at the time of preparation of this report.

**2018-046 Graco Expansion, Rogers.** This project is the expansion of an existing building. The site is located in an area that has regional ponding provided for rate control purposes, but does need to account for water quality and abstraction requirements on site prior to discharging offsite as part of the improvements. The Commission granted conditional approval at their October meeting. Conditions of approval were to submit a SWPPP plan meeting requirements, clarify maintenance responsibilities for the iron enhanced sand filter, and the City of Rogers to submit a letter stating their intentions to provide the water quality deficit in an upcoming project. *Staff confirmed several minor plan revisions remain in conformance with the original approval.* This item will remain on the Staff report until such time as the water quality deficit has been made up.

**2018-052 Rogers Tennis Courts, Rogers.** This is a 13-acre lot owned by the City of Rogers just north of Rogers High School. In 2017 Staff approved some initial grading on the site provided future grading and stormwater management are reviewed and approved by the Commission. This is the City's submittal for the final grading and stormwater management on the property. The initial plans did not meet the Commission's requirements. Revised plans were submitted on February 6, 2019. *This project was approved by the Commission at their March 2019 meeting and will be removed from the report.*

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RULE D - STORMWATER MANAGEMENT  
 RULE E - EROSION AND SEDIMENT CONTROL  
 RULE F - FLOODPLAIN ALTERATION

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RULE G - WETLAND ALTERATION  
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*Italics indicates new information*

*indicates enclosure*

**2018-053 Elm Creek Restoration, Champlin.** The proposed project is phase 3 of Champlin's improvement projects within the Elm Creek watershed. This project includes 2,580 LF of stream bank restoration of Elm Creek, including approximately 950 LF west of Cartway Trail, 950 LF east of Cartway Trail, and 680 LF of the existing oxbow located at the northwest corner of the Mill Pond. This project was approved at the Commission's February 2019 meeting pending receipt of the project fee in the amount of \$550. *The fee has been received and this project will be removed from the report.*

**2019-001 Fernbrook View Apartments, Maple Grove.** This is a 4.85-acre rural residential lot located at the NE intersection of CSAH 81 at Fernbrook Lane. The applicant proposes to construct a 2-story, 42-unit apartment building. This project was reviewed and approved at the February 2019 Commission meeting with the following conditions: 1) The Commission recommends the applicant pursue utilizing water from the NURP pond for irrigation needs for this property; 2) Long term operation and maintenance on the stormwater basin must be addressed; 3) Mean average pond depth must meet the Commission standard; 4) Pond filter bench details must be provided. No new information has been received as of this update.

**2019-002 Parkside Villas, Champlin.** This is two adjacent rural parcels totaling 13.9 acres that are proposed to be split into 56 single-family residential lots. It is located on the east side of Goose Lake Road just south of its intersection with Elm Road (CR 202). The review is for compliance to the Commission's Rules D and E. At their February 2019 meeting the Commissioners approved Staff's findings dated January 29, 2019, contingent on 1) a long term O&M agreement on the stormwater basin and irrigation system being provided and recorded on the property title and 2) the applicant working with the City and Three Rivers Park District to safely outlet the pond water below the trail system adjacent to the property line. *No new information has been received.*

**2019-003 Rogers High School Tennis Courts., Rogers.** The project area is just north of the east parking lot on the high school property. The developed site will include eight tennis courts, a reconstructed bituminous path, concrete sidewalk, and concrete viewing area between the courts. The disturbed area is approximately 2.91 acres and is currently occupied by athletic fields. Runoff drains north towards an existing onsite stormwater management pond. New impervious area will be 1.49 acres. Commission standards require reviews for Rules D and E. The original site plans did not meet the Commission's standards for stormwater management. *This project was approved by the Commission at their March 2019 meeting contingent upon receipt of final erosion control approvals by Staff.*

**2019-005 UBOL I94 MnDOT project.** The I-94 UBOL project extends from the I-494/I-694 interchange in Maple Grove to just west of the TH 101 interchange in Rogers. The work will consist of resurfacing via an unbonded concrete overlay (UBOL), 9.6 miles of I-94 in both directions, including the ramps. Staff's review is for compliance with Commission Rules D, E and F. *This item was approved by the Commission at their March 2019 meeting contingent upon the final SWPPP being provided to the Commission when it is completed by the project contractor.*

**2019-006 Hickory Pond Medina.** This is a road and utility improvement project on Hickory Lane just north of Hamel Road. As part of the project the City is constructing a stormwater management pond to treat the existing impervious areas. This project was reviewed for stormwater management and erosion controls. If available, it will be provided at the Commission's meeting for review and approval. *This project was approved by the Commission at their March 2019 meeting and will be removed from the report.*

**2019-007 Westin Ridge, Plymouth.** *This project is proposed on four individual parcels that total approximately 75 acres. Located at the SE intersection of CSAH 101 and 47, the entire site flows to a large onsite wetland*

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*indicates enclosure*

*that takes up approximately the southerly 1/3 of the properties. This wetland discharges easterly into a chain of wetlands that run for about a mile before reaching Elm Creek on the east side of Peony Lane. The site will be developed into 122 single family detached residential lots. The Commission's review is for the Commission's Third Generation Plan Rules D, E and I. An initial review by Staff is included in the meeting packet. No recommendations to the Commission were provided in that review. If available, revised plans will be presented for the Commission's decision at their meeting.*

**2019-008 Residences on Elm Creek, Medina.** *The Commission received a request from the landowner and City of Medina to review a proposed driveway access on Hamel Road, adjacent to Elm Creek. The driveway work will disturb approximately 2,650 SF. With the proximity to Elm Creek, impacts to the floodplain/floodway were a concern to Staff. Because of the limited extent and nature of work (driveway access only), Commission staff will only review the floodplain issues at this time. Future development on this parcel will require further review by the Commission, depending on the degree of development. Based upon revised plans dated March 27, 2019, Staff recommends approval of floodplain impacts. They further recommend that the City of Medina implement the erosion controls and culvert recommendations in their findings.*

**2019-009 Beacon Ridge, Plymouth.**

**2019-010 Hindu Temple Solar Array, Maple Grove.** *This project proposes the installation of a Solar Array for electrical power generation located at the Hindu Temple Site. The size of the array is small enough that it would typically not require review by the Commission. However, portions of the array are proposed to be located in the floodplain and floodway of Rush Creek, triggering review by the Commission. Staff is reviewing the hydraulics modeling that was submitted on March 26, and will bring forward a recommendation if available at the Commission's April meeting.*

**FINAL RECORDINGS OR OTHER DOCUMENTATION ARE DUE ON THE FOLLOWING PROJECTS:** *(Staff reached out to the cities for an update on these projects on February 5, 2019.)*

**2013-046 Woods of Medina, Medina.** In January 2015 the Commission approved this project with two conditions. This project remained active throughout this period with the final plat recently approved by the City. No significant changes were made to the original plans. The two conditions were 1) compliance to the WCA requirements and 2) final approval and recording of the O & M plans. The WCA condition has been met with only the O&M plan condition remaining. *On February 5, 2019 Dusty Finke reported that the City is awaiting final plat application for this project.*

**2015-030 Kiddiegarten Child Care Center, Maple Grove.** Approved December 9, 2015. If the City does not take over the operation and maintenance of the underground system and the sump catch basins, an O&M agreement for the underground trench/pond system must be approved by the Commission and the City and recorded with the title. *On February 5, 2019 Derek Asche contacted the owner requesting a copy of the recorded maintenance agreement.*

**2016-002 The Markets at Rush Creek, Maple Grove.** This is a proposal to develop 40 acres of a 123-acre PUD located in the southwest quadrant of the intersection of CSAH 101 and CSAH 10. In 2016 the Commission granted Staff authority to administratively approve the project and report any updates. Updated plans with some minor layout revisions were reviewed by Staff and administratively approved on July 24, 2018, contingent upon the Operation and Maintenance Plan approval and recordings. *On February 5, 2019 Derek Asche contacted the project manager requesting a copy of the recorded maintenance agreement.*

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RULE D - STORMWATER MANAGEMENT  
 RULE E - EROSION AND SEDIMENT CONTROL  
 RULE F - FLOODPLAIN ALTERATION

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RULE G - WETLAND ALTERATION  
 RULE H - BRIDGE AND CULVERT CROSSINGS  
 RULE I - BUFFERS

*Italics indicates new information*

*indicates enclosure*

**2016-005W Ravinia Wetland Replacement Plan, Corcoran.** In December 2016 the Commission approved Staff's recommendations on this wetland replacement plan. Final wetland impacts are 1.22 acres. Wetland credits created on site will be 4.01 acres. Excess credits of 0.75 acres are proposed to be used on Lennar's Laurel Creek development in Rogers (2017-014). All approval contingencies have been met and construction completed.. Vegetation planting and management took place throughout 2017. Barr Engineering is providing monitoring to ensure the replacement meets the performance standards of the approved plans. *Their first annual report was submitted to the US Army Corps of Engineers on February 7, 2019.*

**2017-014 Laurel Creek, Rogers.** In June 2017 the Commission approved this project with four conditions. All contingency items have been provided with the exception of the O&M agreement which is being negotiated by the City as to whether the City or the HOA will be responsible for the operation and maintenance of the stormwater management facility. On August 31, 2017, Andrew Simmons responded that the O&M agreement is still being negotiated.

**2017-017 Mary Queen of Peace Catholic Church, Rogers.** In June 2017 the Commission granted Staff approval authority pending satisfactory compliance with Staff's findings. All items from the findings have been completed with the exception of the O&M agreement for the stormwater facilities. On June 7, 2018 Andrew Simmons reported that the Church is in the process of revising the stormwater management plan for the site to include water reuse instead of biofiltration pond. The Commission should receive a revised application in the near future. There are also underlying utility easement issues with this project that are holding up the final recording of the plat against which to record the maintenance agreement. *On February 5, 2019 Andrew Simmons reported that the final plat has yet to be recorded.*

**2017-021 Hindu Society of MN, Maple Grove.** At their June 14, 2017 meeting, the Commission approved this project per Staff's recommendations. All the recommendations have been met with the exception of the O&M plan agreements. *On February 5, 2019 Derek Asche contacted the project manager requesting a copy of the recorded maintenance agreement.*

**2017-029 Brayburn Trails, Dayton.** At their August 2017 meeting the Commission approved Staff's findings dated August 2, 2017 with five conditions. All of the conditions have been met with the submission of revised plans, with the exception of the final recordings of the O&M agreements and easements. On March 7, 2018, the City reported: final plat approval has not been granted, easements will be recorded as plats are approved. Ponds will be maintained by the City of Dayton. An agreement, and additional easement, will be required for a water re-use system within one of the ponds (between the City and HOA). This system is not part of the first addition – the timing of said improvements/agreement is unknown. Construction was expected to start in 2018.

On February 7, 2019, Jason Quisberg provided the following information: The 1st Addition was scaled back from what was proposed; associated construction activity is significantly completed. Extension of trunk utilities through Sundance Golf Course are complete. The proposed 2nd Addition is under review. Improvements to 117th Avenue (East French Lake Road to Fernbrook Lane) will be part of the work done with the 2nd Addition. Construction is anticipated to start this spring. Pond easements are being recorded with the platting process for each addition (those [that are] part of the 1st Addition are in place). The water re-use system is not part of the 2nd Addition (will be with future addition).

**2018-001 Rush Creek Commons, Maple Grove.** Approved at the February 14, 2018 meeting contingent upon meeting the Commission's O&M requirements on the stormwater facilities, i.e., all ponds and biofiltration basins must have drainage and utility easements and operation and maintenance agreements over them. These must be recorded on the property title and a copy of the recordations must be provided to the Commission within 90 days after final plat approval. *On February 5, 2019 Derek Asche contacted the project manager requesting a copy of the recorded maintenance agreement.*

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**2018-018 Summers Edge Phase III, Plymouth.** The Commission approved Staff's recommendations at their June 13, 2018 meeting, subject to receipt of final easements over the wetland buffers within 90 days of final platting in a format acceptable to the Commission. *On February 5, 2019 Ben Scharenbroich provided an unsigned copy of the final plat.*

**2018-026 Windrose, Maple Grove.** The Commission approved Staff's finding and recommendations dated July 20, 2018. Final plan approval is contingent upon verification of the wetland approvals by the City of Maple Grove and the approval and recording of the operation and maintenance plan on the filter basins. *On February 5, 2019 Derek Asche reported that the City will receive the agreement for the filter basins with the grading permit application.*

**2018-028 Tricare Third Addition, Maple Grove** In their findings dated August 7, 2018, Staff recommended approval contingent on approval and recordation of the O&M plan on the filter basins. The Commission further recommended that the City of Maple Grove consider an oil/debris type of separator in the parking lot manhole. *Derek Asche contacted the project manager on February 5, 2019. It is a condition of the grading permit that the maintenance agreement is provided.*

**2018-044 OSI Phase II, Medina.** Staff findings dated October 9, 2018 were approved by Commission at their October meeting contingent upon receipt of an approved stormwater system operation and maintenance plan being recorded on the property title. *On February 5, 2019 Dusty Finke reported that the City is awaiting final plat application for this project.*

**2018-048 Faithbrook Church, Phase 2, Dayton.** This is an application for review of an expansion of an existing church located northeast of the intersection of Fernbrook Lane and Elm Creek Road. The Commission approved this project at their November meeting conditioned upon receipt of a SWPPP meeting NPDES requirements and the City of Dayton accepting maintenance responsibility or recording a modified O&M plan for the stormwater features on the site in a form acceptable to the Commission. On February 7, 2019, Jason Quisberg reported that this project has gone idle; it is believed to be due to funding needs of the applicant. It is expected activity will resume this spring, with potential construction this summer.

### **LOCAL PLANS**

One local plan remains to be approved by the Commission. **Rogers'** 2040 Comprehensive Plan was received by the Commission on January 2, 2019. Staff comments have been provided to the City.

### **FEMA FLOODPLAIN MAPPING**

*Staff continues to work on refining and completing hydrologic modeling and is anticipating a submittal to the Minnesota DNR by the end of April. Staff anticipates providing another update to the Commission at its meeting in May.*

### **RUSH CREEK SWA IMPLEMENTATION**

The Hennepin County Board signed the grant agreement on March 12, and Staff are working on getting the first contracts prepared so that work can begin late spring/early summer. Three projects are ready to be set in motion as soon as contracts can be approved.

### **BUFFER REVIEW**

Buffer review is underway for Corcoran, Rogers, and Medina. Residents with **potential violations** and those residents that are **receiving spot checks** (unrelated to violations) will be notified by US Mail. Those residents who **DO NOT** have any violation or will not be getting a spot check will **NOT** be notified in any way. Hennepin staff will work with those residents needing assistance to get into compliance.

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**DRAFT**

Elm Creek  
Watershed Management Commission

2018 Annual Activity Report



## Elm Creek Watershed Management Commission 2018 Annual Activity Report

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This report was prepared  
for the Elm Creek Watershed Management Commission  
by JASS, Inc.  
For more information about this report, contact [Judie@jass.biz](mailto:Judie@jass.biz)

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Cover photographs:  
*Plymouth Elm Creek Restoration Project*  
Ben Scharenbroich, City of Plymouth





*This annual activity report, prepared by the Elm Creek Watershed Management Commission in accordance with the annual reporting requirements of Minnesota Rules Chapter 8410.0150 Subp. 2-3, summarizes the activities undertaken by the Commission during calendar year 2018.*

## THE COMMISSION

The Elm Creek Watershed Management Commission was established to protect and manage the natural resources of the Elm Creek watershed. A Board of Commissioners comprised of representatives appointed by the member communities was established as the governing body of the Commission. Its members are the cities of Champlin, Corcoran, Dayton, Maple Grove, Medina, Plymouth, and Rogers.

**MEETINGS** The Commission meets monthly on the second Wednesday at 11:30 a.m. at Maple Grove City Hall, 12800 Arbor Lakes Parkway. The meetings are open to the public and visitors are welcome. Meeting notices, agendas and approved minutes are posted on the Commission's website. [www.elmcreekwatershed.org](http://www.elmcreekwatershed.org).

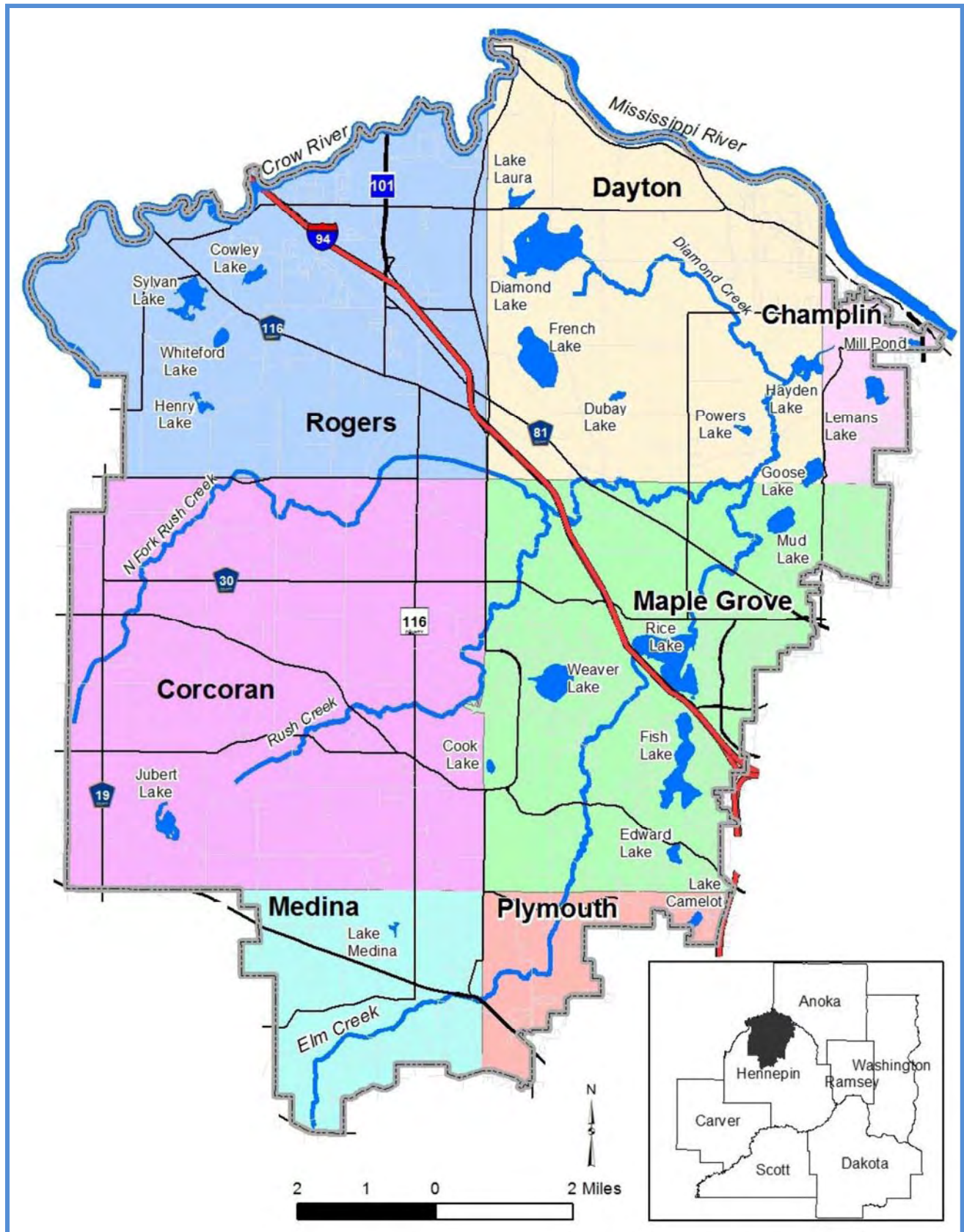
**COMMISSIONERS | TECHNICAL ADVISORY COMMITTEE | STAFF** Appendix 1 includes the names of the Commissioners and their Alternates appointed to serve in 2018. Also listed there are the members of the Commission's Technical Advisory Committee (TAC) along with the individuals/firms serving as the Commission's administrative, legal and technical support staff. The Commission has no employees.

## THE WATERSHED

The Elm Creek watershed covers approximately 130.61 square miles and lies wholly within the north central part of Hennepin County, Minnesota. The Crow and Mississippi Rivers demarcate the northern boundary. Although some areas in the north drain to the Crow and Mississippi Rivers, they are within the legal boundaries of the Elm Creek watershed. Table 1 shows the area share of the member communities in the watershed. A map of the watershed may be viewed on the following page.

**Table 1 - Area of Members within the Elm Creek Watershed**

Local Government Unit	Area (Square Miles)	%age of Watershed
Champlin	3.08	2.36%
Corcoran	36.06	27.61%
Dayton	25.17	19.27%
Maple Grove	26.32	20.15%
Medina	9.34	7.15%
Plymouth	4.44	3.40%
Rogers	26.20	20.06%
Total	130.61	100.0%



## WATERSHED PLAN

The Elm Creek Watershed Management Commission adopted its Third Generation Watershed Management Plan on October 14, 2015. The Third Generation Plan describes how the Commission will manage activities in the Elm Creek watershed in the ten-year period 2015-2024.

The Plan includes information required by Minnesota Administrative Rules Chapter 8410, Local Water Management: 1) an updated land and water resource inventory; 2) goals and policies; 3) an assessment of problems and identification of corrective actions; 4) an implementation program; and 5) a process for amending the Plan. This Plan also incorporates information and actions identified in the Elm Creek Watershed-wide Total Maximum Daily Load study (TMDL) and Watershed Restoration and Protection Strategy study (WRAPS), completed between 2009 and 2016.

A summary of the Plan's issues, priorities, goals, implementation strategies, and Rules and Standards are outlined in *Appendix 2*.

**LOCAL PLANS** Local water management plans adopted by member cities pursuant to Minnesota Statutes, Section 103B.235 shall be consistent with the Commission's Third Generation Watershed Management Plan. Local plans must comply with MN Statutes, Section 103B.235 and MN Rules 8410 regarding local plan content. (*Appendix 2*). At year-end the Commission had reviewed and approved the local surface water plans of the cities of Corcoran, Dayton, Maple Grove, Medina, and Plymouth. The plans for Champlin and Rogers were under review on December 31.

## 2018 WORK PLAN IN REVIEW

The Elm Creek Commission identified the following activities to be undertaken in 2018. Progress toward completing those activities is *italicized*. (Starred [\*\*\*] items denote activities undertaken by the Commission in 2018 that were not included in the 2018 Work Plan.)

### TECHNICAL

- Continue to review local development/redevelopment plans for conformance with the standards outlined in the Commission's Third Generation Watershed Management Plan. Review the current project review fee schedule for fiscal conformity. *Fifty-four projects were reviewed by the Commission in 2018. The Commission does not have a permit program. The current fee schedule was not reviewed in 2018. A detailed description of the projects reviewed in 2018 along with a map showing their locations may be found in Appendix 3.*
- Continue to serve as the local government unit (LGU) for administering the Wetland Conservation Act (WCA) for the City of Corcoran. *The Commission continued to serve as the LGU for Corcoran in 2018. In 2018 Technical staff assisted approximately 50 landowners/agency/developer contacts with wetland-related questions. On behalf of the Commission they reviewed the following types of wetland applications: 47 wetland boundary/type; ten no-loss, three exemptions, three sequencing, and three wetland replacement plans. Wetland impacts totaled 40,240 SF; wetland replacement totaled 78,698 SF. Five WCA violations were investigated and resolved; two others were determined not to be WCA/Commission violations. One violation is on-going. The Commission was involved in 12 Technical Evaluation Panels (TEPs) in the watershed. The Commission does not have a wetland banking program. Project reviews involving wetland review are also included in Appendix 3.*

- Develop a model manure management ordinance/policy regulating the placement of new small nonfood animal operations using the City of Medina ordinance as a reference. *At their September 12, 2018 meeting the Commission adopted a “Recommended Livestock Management Policy.” It was transmitted to the member cities for its adoption or adoption of other ordinances and practices that will accomplish its objectives. The policy is found in Appendix 4.*
- Seek grant funding to assist with the costs associated with projects identified on the Commission’s Capital Improvement Program (CIP). *A call for CIPs went out to the cities in January 2018. Proposed CIPs and CIP updates were reviewed for inclusion on the Commission’s CIP by the Technical Advisory Committee (TAC) and their recommendation forwarded to the Commission. This activity required a Minor Plan Amendment to the Commission’s Third Generation Watershed Management Plan to add eight new projects and shift funding for two existing projects. A public meeting was held on May 9, 2018, to hear the proposed amendment, which was adopted by the Commission on that date. (Appendix 5.)*
- Continue to support City-sponsored projects using the ad valorem funding mechanism. *At a public hearing on September 12, 2018, the Commission approved four projects for ad valorem funding. On November 6, 2018, the Hennepin County Board approved the Commission’s request to fund the following:*

*Project 2018-01: Rush Creek Main Stem Stream Stabilization Phase 3, Maple Grove. Stabilize and restore approx. 11,000 feet of Rush Creek stream bank. Estimated project cost is \$1,650,000, with \$1,575,000 borne by the City of Maple Grove and other sources and \$75,000 by the Commission through the ad valorem process.*

*Project 2018-02: Elm Creek Stream Restoration Reach D, Plymouth. Stabilize and restore 3,850 feet of stream bank. Estimated project cost is \$850,000, with \$637,500 borne by the City of Plymouth and other sources and \$212,500 by the Commission through the ad valorem process.*

*Project 2018-03: Elm Creek Stream Restoration Phase III, Champlin. Restore streambank and aquatic habitat on 2,287 LF of streambank. Estimated project cost is \$400,000, with \$300,000 borne by the City of Champlin and other sources and \$100,000 by the Commission through the ad valorem process.*

*Project 2018-04: Downs Road Trail Rain Gardens, Champlin. Construct rain gardens and other BMPs for areas tributary to the Mill Pond and Elm Creek and include in the Elm Creek Mill Pond Education Program. Estimated project cost is \$300,000, with \$225,000 borne by the City of Champlin and other sources and \$75,000 by the Commission through the ad valorem process.*

*In conjunction with this effort, the Commission adopted two resolutions in 2018. Resolution 2018-01 adopted a Minor Amendment to the Third Generation Watershed Management Plan to add eight projects to the Commission’s CIP and shift the timing of funding of two projects currently listed on the Commission’s CIP. Resolution 2018-03 ordered the four projects certified above, designated the members responsible for construction, and designated the Commission cost-share funding. (Appendix 6)*



## MONITORING

- Enter into a new five-year cooperative agreement with Three Rivers Park District (TRPD) to share in the costs of conducting lake and stream monitoring in the watershed. *A new five-year cooperative agreement was approved at the Commission's March 14, 2018 meeting. Under the agreement TRPD will be responsible for monitoring three of twelve sampling stations every year for continuous flow measurements. The Commission may request the collection of water quality nutrient data at the continuous flow monitoring stations under the agreement. Water quality nutrient analysis requested for the flow measurement sites will be analyzed for Total Phosphorus, Soluble Reactive Phosphorus, Total Nitrogen, and Total Suspended Solids.*

*TRPD will also be responsible for monitoring four of fifteen lakes in the Elm Creek watershed annually plus other specific lakes for which the Commission may request monitoring. The four Category I "sentinel" lakes will be monitored every year; the eight Category II lakes that have had data collected within the last ten years will be monitored occasionally; and the three Category III lakes that currently have insufficient data for an assessment determination of trophic conditions will be monitored within the next five-year cycle. The water quality constituents that will be analyzed for surface samples on all lakes (classified as deep or shallow) will include total phosphorus, soluble reactive phosphorus, total nitrogen, and chlorophyll-a. Those lakes that are classified as deep lakes will also have water quality samples collected at the top of the hypolimnion and 1-m from the bottom, and will be analyzed for total phosphorus and soluble reactive phosphorus.*

*In addition, under the agreement, the Commission and the Park District will provide financial support to assist the monitoring efforts of the USGS stream gauging station on Elm Creek within the Elm Creek Park Reserve.*

- Conduct lake and stream monitoring programs to track water quality and quantity conditions. *The Commission undertook stream monitoring for continuous flow at monitoring sites DC on Diamond Creek, RT on Rush Creek main stem, and EC77 on Elm Creek above Rice Lake. In 2018, there were no water quality samples collected for analysis of nutrients requested under the Commission's contract. However, continuous flow and water quality nutrient data was collected for a separate contract agreement with the City of Plymouth at three sampling sites within the Elm Creek watershed. A total of 74 water quality samples (27 composite storm event and 47 grab samples) were collected for the analysis of nutrients from these three sampling sites in 2018. In addition, a dissolved oxygen (DO) longitudinal survey was conducted on Diamond Creek. See Appendix 7 for a more complete reporting of the stream monitoring that occurred in 2018.*

*The Commission monitored the four sentinel lakes (Fish, Weaver, Diamond, and Rice Lake-main basin) on a bi-weekly basis for water quality. There was a total of 78 water quality samples collected and analyzed for water quality nutrients in the four lakes monitored in 2018. A point-intercept aquatic vegetation survey was also completed on Diamond Lake in the spring and fall. All monitoring outlined in this section was conducted in cooperation with Three Rivers Park District. The "lake report cards" found in Appendix 8 detail the lake monitoring performed by TRPD.*

- Fund the monitoring of two lakes through Metropolitan Council's Citizen Assisted Monitoring Program (CAMP). *One lake, Lake Jubert, was selected to be monitored through the CAMP*

*program in 2018. However, Lake Jubert was only monitored one time during the year. The data collected proved to be insufficient for analysis. The Commission's lake monitoring history is included in Appendix 8.*

- Continue to operate the monitoring station in Champlin in cooperation with the United States Geological Survey (USGS). *Discharge measurements were made to define changes to the stage-discharge relation over the range of flows that occurred in order to compute an accurate record of streamflow. Twelve manual samples were collected monthly to represent the variations in hydrologic conditions that occur during the year. A refrigerated automatic sampler was used to collect eight composited samples of runoff events. Composite samples were collected during increasing or peak streamflow when many selected concentrations are expected to be greatest. Samples are analyzed for Total Phosphorus, Dissolved Phosphorus, Total Ammonia plus Organic Nitrogen, Dissolved Ammonia Nitrogen, Dissolved Nitrite plus Nitrate Nitrogen, Total Suspended Solids, Volatile Suspended Solids, \* Oxygen Demand, Dissolved Chloride, Water Temperature, \* Specific Conductance, pH, and Dissolved Oxygen. \* Appendix 9 contains a detailed report of the monitoring that occurred at the USGS monitoring station in 2018.*  
*(\*Denotes not auto-sampled.)*
- Participate in the MN Wetland Health Evaluation Program (WHEP) with four wetlands in 2018. *Five sites were monitored as part of the WHEP program in 2018. They are (EC-1) Blundell Restoration, (EC-2) Bulduc Restoration, and (EC-3) Bulduc wetland, all in the City of Rogers; (EC-4) Cedar Hollow, Plymouth; and (EC-5) Northwest Greenway, also in Plymouth. View the 2018 WHEP report at <http://www.elmcreekwatershed.org/wetlands.html>*

## PROJECTS

- Continue with the next phase of the Internal Phosphorus Loading Control Project on Fish Lake. *This project spans the years 2017-2019. An initial alum treatment occurred in September 2017. In 2018 TRPD collected sediment cores to determine the effectiveness of the first alum treatment by analyzing the Al:P binding capacity, determined the alum dosage calculations, and monitored the in-lake water quality. A report was completed for the sediment analysis study in 2018. At year-end the Commission sought bids to conduct a second alum treatment, which will occur in spring 2019. A synopsis of the 2018 Annual Progress Report is included in Appendix 10.*
- Undertake the Rush Creek Headwaters Subwatershed Assessment (SWA) Project. *In December 2017 an Open House was held for property owners living in the Corcoran portion of the SWA Study Area where they shared information about known problems, issues, and observations about conditions in their area. Wenck Associates and the Core Team reviewed this information as they moved forward with the assessment. The final report, found on the Commission's website at <http://www.elmcreekwatershed.org/rush-creek-swa.html>, was published in July 2018 and identified high priority projects, along with their cost-benefit, across the Study Area.*

*On December 19, 2018 the Board of Water and Soil Resources (BWSR) Board approved their staff recommendations to fund an application from Hennepin County for implementation of the Rush Creek SWA, which will be managed by Hennepin County. The application was funded in the full amount requested - \$142,110.00, with a required match of 25%.*

- **\*\*\*Update the Special Flood Hazard Areas in the Elm Creek watershed.** *The Federal Emergency Management Agency (FEMA) awarded the Minnesota Dept. of Natural Resources (MnDNR) a grant to update the Special Flood Hazard Areas in the Twin Cities HUC8 watershed. Pass-through grants were provided so that watershed management organizations (WMOs) can complete some or all of this work. Deliverables are due by April 2020. Cost estimates were 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.*

*The Commission's Technical Staff, working with MnDNR, put together a scope of work and cost estimate. Hennepin County staff have the capacity and will do the work. The total budget for this project is \$92,772.45 and does not require a local match. A contract agreement in the foregoing amount was approved and executed by the Commission at their May 9, 2018 meeting.*

- Continue to meet with representatives from the Board of Water and Soil Resources (BWSR), other water management organizations, counties, and cities regarding a possible move from a competitive funding model towards a more systematic Clean Water Funding model for local water management authorities on a watershed basis. *On May 16, 2018 Hennepin County convened a formal meeting of eligible participants in BWSR's Watershed-Based Funding Pilot Program. Prior to the convening meeting a working group of representatives of the 11 watersheds in the county met informally to identify potential funding options for the \$1,018,000 allocated to Hennepin County watersheds for state fiscal years 2018 and 2019. The working group identified three potential options for allocating those funds: (1) Set aside a funding amount for chloride management, allocate the balance on either (2) or (3); (2) Allocate the full amount to basins based 50% land area/50% tax base; basin WMOs would then allocate based on their own strategies; and (3) Allocate the full amount to WMOs based 50% land area/50% tax base. For this pilot program it was a consensus to proceed with Options (1) and (3).*

*The Elm Creek Stream Restoration Project Phase IV in Champlin was selected for funding through the pilot program. Watershed-based funding for this project totals \$134,486.*

- **\*\*\*Complete Subwatershed Assessments to identify priority projects.** *The City of Maple Grove requested funding assistance from the Commission to complete a subwatershed assessment for Fish Lake. The SWA will consist of hydrologic and water quality models to verify existing watershed conditions for the lake. The City's consultant estimates the cost to complete the SWA to be \$35,000. The City's request was approved at the Commission's October meeting.*

*The Commission also considered requests from the City of Dayton to undertake a subwatershed assessment (SWA) of the Diamond Lake watershed and from the City of Corcoran seeking grant funding for a South Fork Rush Creek Subwatershed Assessment.*

- **\*\*\*Create a system for making application to the Commission for SWA funding assistance.** *In response to the increasing number of SWA requests from member cities, Staff implemented a system for bringing applications before the Commission for funding consideration, better aligning them with application due dates for BWSR accelerated implementation grants. In addition to creating a more structured timeline, priorities and criteria for selection were agreed upon by the Commission to aid in the selection of the applications to be funded. As a first step, the Commission revised its Cost Share Policy to include language pertaining to SWAs. (Appendix 11.)*



*Next, an application form and criteria for identifying and scoring applications were developed. These are also shown in Appendix 11. The first round of applications is due January 15, 2019.*

- **\*\*\*Adopt a Closed Project Account.** *On November 14, 2018, the Commission adopted a Capital Improvement Program Closed Project account policy. In addition to creating a closed project account, the policy also addresses the issue of insufficient tax settlements received from the County, and will be in place beginning with the 2019 levy (payable 2020). (Appendix 12.)*
- **Work with the Hennepin County Rural Conservation Specialist.** *The Rural Conservation Specialist assisted cities as they worked to incorporate the Commission's Recommended Livestock Management Policy into their own ordinances/policies. She also assisted landowners to identify BMPs for implementation as part of the Rush Creek Subwatershed Assessment and in other areas of the watershed.*

## EDUCATION

- **Continue as a member of the West Metro Water Alliance (WMWA).** *Continued to support the WMWA Educator Program and contributed to its e-newsletter Water Links. Promoted the Watershed PREP program to reach every 4th grade science class in the watershed. Participated in the Planting for Clean Water project. Conducted native plant sales at various city events around the watershed. Commission Chairman Doug Baines (Dayton) and Plymouth Alternate Commissioner Catherine Cesnik attended the monthly WMWA meetings to represent the Commission. WMWA's 2018 Annual Report can be found at <http://www.westmetrowateralliance.org/>*
- **Co-sponsor Rain Garden Workshops in conjunction with WMWA as part of the Commission's Education and Public Outreach Program.** *WMWA sponsored four Resilient Yard workshops and two Turf Alternative workshops presented by Metro Blooms in 2018. In the Elm Creek watershed Resilient Yard workshops were held in Champlin on April 4 and in Plymouth on April 17. A flyer promoting these workshops is included in Appendix 13.*
- **Continue as a member of Blue Thumb and WaterShed Partners and as a partner in the NEMO (Nonpoint Education for Municipal Officials) program.** *These memberships were renewed in 2018 with Staff regularly attending the Blue Thumb and WaterShed Partner meetings.*
- **Work in partnership with the University of Minnesota's agriculture specialist to help build relationships with the agricultural community in the watershed in order to encourage TMDL implementation.** *This is an ongoing activity.*
- **\*\*\*Partner with others to create a healthier environment.** *Contributed \$500 from the Education Budget for the 15th Annual Crow-River Clean-up Day on September 15, 2018. Donations are used to provide food, beverages and T-shirts with donor logos for every volunteer in the event. In the past 14 years nearly 3400 volunteers from 30 communities have donated their time to remove 67 tons of garbage and debris from 503 miles of shoreline of the Crow River and its tributaries.*
- **Promote river stewardship through Hennepin County's RiverWatch program with three sites in 2018.** *Seven sites were monitored through RiverWatch in 2018 – Crow River at St. Michael Water Treatment Plant (CR-2) by students from St. Michael-Albertville High School; Rush Creek on west side of 101st Lane, Maple Grove (RC-1b) by Minnetonka High School students; Rush Creek on the*

*east side of 101st Lane, Maple Grove (RC-1a) by Kaleidoscope Charter School; Elm Creek at Peony Lane behind Wayzata High School in Plymouth (EC-2) by WHS students; Elm Creek downstream from Rice Lake in Maple Grove (EC-4) by students from West Lutheran High School; Elm Creek at the Maple Grove Arboretum in Maple Grove (EC-6) by Osseo High School students; and Rush Creek at the Elm Creek Park Reserve in Maple Grove (RC-3) by students from Minnetonka High School. County staffers also hosted a streamside survey with a group of 4th graders on Elm Creek. Excerpts from the 2018 RiverWatch report are found in Appendix 13. The complete report can be viewed at <https://www.hennepin.us/business/work-with-henn-co/riverwatch>*

- Continue to populate and maintain the Commission's website [www.elmcreekwatershed.org](http://www.elmcreekwatershed.org) to provide news to residents, students, developers and other individuals interested in the water resources of the watershed. *Using the tool Weebly, continued to update and enhance the website, adding links to other websites as well as to other useful information. Google analytics for 2018 are recapped in Appendix 13.*
- \*\*\*Continue to award Water Quality Education Grants. *Grant funds are used to increase awareness and knowledge of water resources issues within the Elm Creek watershed. No applications have been received in recent years. This program will be promoted more aggressively in future years.*

#### ADMINISTRATION

- Adopt a 2019 operating budget. *At its June 13, 2018 regular meeting, the Elm Creek Watershed Management Commission approved a 2019 operating budget totaling \$943,296. The budget is based in part on the projected costs found in the Implementation section of the Commission's Third Generation Watershed Management Plan and includes Capital Improvement Projects totaling \$462,500. To fund the 2019 operating budget the Commission approved an increase in member assessments to \$230,400, a 2.40% increase over the 2018 assessments. Financial activities undertaken by the Commission are found in Appendix 14.*
- Conduct the biennial solicitation of interest proposals for administrative, legal, technical and wetland consultants. *This task was not required in 2018. Solicitations for 2019-2020 will be published in the January 14, 2019 edition of the State Register.*
- Publish an annual activities report summarizing the Commission's yearly activities and financial reporting. *The 2017 Annual Activity Report was available on the Commission's website by the April 30, 2018 statutory deadline.*

#### FINANCIAL REPORTING

*Appendix 14 includes the Commission's approved budget for 2018. The Commission's Joint Powers Agreement provides that each member community contributes toward the annual operating budget based on its share of the total market value of all property within the watershed. The 2018 assessments to the members are also shown in Appendix 14.*

Of the \$466,831 operating budget for 2018 approved by the Elm Creek Watershed Management Commission on May 10, 2017 revenue of \$90,000 was projected as proceeds from application fees, \$6,500 from partnership revenue, and \$1,000 from interest income, resulting in assessments to

the members totaling \$225,000. \$97,945 was projected as coming from reserves.

\$140,750 was projected as project review-related expense; \$48,795 for water monitoring; \$21,500 for education; and \$85,000 for special projects, studies and subwatershed assessments. \$124,400 was budgeted for administration, planning, and general operating expenses. The Commission also designated \$462,500 as its share of four CIP Projects. A Hennepin County ad valorem levy will be used to fund the Commission's share of these projects having a cumulative cost of \$3,200,000.

The Commission maintains a checking account at US Bank for current expenses and rolls uncommitted monies to its account in the 4M Fund, the Minnesota Municipal Money Market Fund.

An amendment of Minnesota Rules, Chapter 8410 became effective on July 13, 2015. One of the revisions to the Rules extends the annual audit due date to 180 days after the end of the fiscal year, in the case of the Elm Creek Commission, to June 30, 2019. The 2018 Audit Report, which is being prepared by Johnson & Company, Ltd., Certified Public Accountants, will be included in the Commission's *2019 Annual Activity Report*. Since the 2017 Audit was included in the *2017 Annual Activity Report*, no audit report will be included in this report.

The Commission follows Rule 54 of the Government Accounting Standard Board (GASB) to report Fund Balances. The fund balance classifications include:

- > *Nonspendable* – amounts that are not in a spendable form. The Commission does not have any items that fit this category.
- > *Restricted* – amounts constrained to specific purposes by their providers. One example would be ad valorem levy funds received from the County for capital improvement projects. The unused portion of these funds must be set aside in a restricted account for similar projects. Another example would be BWSR Legacy Grant proceeds where the funds are received prior to the onset of a project and where any unused portion must be returned to the grantor.
- > *Committed* – amounts constrained to specific purposes by the Commission itself. An example would be residual funds carried over from one year to the next for Studies, Project Identification and Subwatershed Assessments.
- > *Assigned* – amounts the Commission intends to use for specific purposes. Most line items in the Commission's Operating Budget fall under this category.
- > *Unassigned* – amounts that are available for any purpose. These amounts are reported only in the general fund.

Amounts paid by the Commission per the 2018 Audit will be categorized as General Engineering, General Administration, Education, Programs, Projects, or Capital Projects.

## **PROJECTED 2019 WORK PLAN**

Minnesota Rule 8410.0150 requires the Commission to submit to the Board of Water and Soil Resources a financial report, activity report and audit report for the preceding fiscal year. 8410.0150 Subp. 3 outlines the required content of the annual activity report. It includes an assessment of the previous year's annual work plan and development of a projected work plan for the following year.

The Commission's Third Generation Watershed Management Plan identifies issues, priorities and goals for the ten-year period 2015-2024.

- Continue to review local development/redevelopment plans for conformance with the standards outlined in the Commission's Third Generation Plan. Review the current project review fee schedule for fiscal conformity.
- Transition the City of Corcoran Wetland Conservation Act (WCA) local government unit (LGU) administration from the Commission to the City. The Commission will still serve in the capacity as the LGU for the Ravinia wetland replacement plan monitoring. Costs incurring with this project have been previously escrowed with the Commission.
- Continue to partner with the Three Rivers Park District (TRPD) to share in the costs of conducting lake and stream monitoring in the watershed under the five-year cooperative agreement approved in 2018.
- Fund the monitoring of one lake through Metropolitan Council's Citizen Assisted Monitoring Program (CAMP).
- Continue to operate the monitoring station in Champlin in cooperation with the United States Geological Survey (USGS).
- Promote river stewardship through Hennepin County's RiverWatch program with three sites in 2019.
- Participate in the MN Wetland Health Evaluation Program (WHEP) with four wetlands in 2019.
- Complete the review of member communities' local water management plans. Under Rule 8410.0160, subp. 6, local plans were to be approved by the Commission by December 31, 2018. At 2018 year-end the plans for Champlin and Rogers were still under review by Commission staff.
- Conduct the biennial solicitation of interest proposals for administrative, legal, technical and wetland consultants.
- Continue as a member of the West Metro Water Alliance (WMWA).
- Co-sponsor Rain Garden Workshops in conjunction with WMWA as part of the Commission's Education and Public Outreach Program.
- Continue as a member of Blue Thumb and WaterShed Partners and as a partner in the NEMO (Nonpoint Education for Municipal Officials) program.
- Continue to work in partnership with the University of Minnesota's agriculture specialist to help build relationships with the agricultural community in the watershed in order to achieve TMDL load reductions.
- Work with the Hennepin County Rural Conservation Specialist. Assist landowners in identifying BMPs for implementation throughout the watershed.
- Seek grant funding to assist with the costs associated with projects identified on the Commission's Capital Improvement Program (CIP). Adopt Minor Plan Amendment to support proposed CIPs and CIP updates.

- Conduct a second alum treatment as part of the Internal Phosphorus Loading Control Project on Fish Lake.
  - Undertake high priority projects identified in the Rush Creek Headwaters Subwatershed Assessment.
  - Continue to support City-sponsored projects using the ad valorem funding mechanism. Conduct public hearing for identified projects.
  - Work to identify projects eligible for the Board of Water and Soil Resources (BWSR) Watershed-Based funding. BWSR is meeting with a group comprised of representatives of each of the stakeholder groups to reach a consensus recommendation on how to fund future projects under this program.
  - Continue to update the Special Flood Hazard Areas on the FEMA Floodplain maps located within the watershed into current modeling packages. The term of the contract with the DNR extends into the year 2020.
  - Support the City of Maple Grove as it undertakes a subwatershed assessment for that portion of Fish Lake within the Elm Creek watershed.
  - Prioritize subwatershed assessment applications received in the first round of the Commission's SWA Cost Share Program.
-

## APPENDIX



## 2018 Commissioners

Commissioners and Alternate Commissioners are appointed by the communities they represent and serve at will. Officers are elected annually at the first regular meeting during the month of March and assume office on April 1.

REPRESENTING	NAME/POSITION	ADDRESS	TELEPHONE/EMAIL
Champlin	Bill Walraven Secretary	216 Lowell Road Champlin, MN 55316	763.421.3206 traderstec@aol.com
	Gerry Butcher Alternate	11467 Preserve Lane N Champlin, MN 55316	763.557.1451 gerrybutcher671@yahoo.com
Corcoran	Sharon Meister Commissioner	8540 Cain Road Corcoran, MN 55430	612.280.4036 sharonmeister1@gmail.com
	Ken Guenther Commissioner	6315 Butterworth Lane Corcoran, MN 55430	612.710.0734 kenguentner@gmail.com
	Tom Anderson Alternate	22385 Rush Creek Drive Rogers, MN 55374	651.216.8125 tompand@yahoo.com
Dayton	Doug Baines Chair	13000 Overlook Road Dayton, MN 55327	763.323.9506 dougabaines@aol.com
	Tim McNeil Alternate	12260 S. Diamond Lake Road Dayton, MN 55327	612.730.9312 tim@timmcneil.com
Maple Grove	Joe Trainor Commissioner	16075 Territorial Road Maple Grove, MN 55369-	763.420.4645 joe.trainor@meritain.com
	Vacant Alternate		
Medina	Elizabeth Weir Vice Chair	1262 Hunter Drive Wayzata, MN 55391	763.473.3226 lizvweir@gmail.com
	Vacant Alternate		
Plymouth	Fred Moore Treasurer	1820 Ives Lane Plymouth, MN 55441	612.269.2088 fred@emailmoore.net
	Catherine Cesnik Alternate		cesnik@gmail.com
Rogers	Kevin Jullie Commissioner	13315 Oakwood Drive Rogers, MN 55374	763.428.9160 kjullie@srfconsulting.com
	Vacant Alternate		



## 2018 Technical Advisory Committee

Members of the Technical Advisory Committee (TAC) are appointed by the member communities they represent. The purpose of the TAC is to review guidelines, standards and policies used to evaluate plans, plans and proposals of the members and make recommendations to the full Commission. The TAC meets at the direction of the Commission.

REPRESENTING	NAME	ADDRESS	TELEPHONE/EMAIL
Champlin	Todd Tuominen	City of Champlin 11955 Champlin Drive Champlin, MN 55316	763.923.7120 ttuominen@ci.champlin.mn.us
Corcoran	Kevin Mattson	City of Corcoran 8200 County Road 116 Corcoran, MN 55340	763.400-7028 kmattson@ci.corcoran.mn.us
Dayton	Jason Quisberg	Wenck Associates 7500 Highway 55 Ste 300 Golden Valley, MN 55427	763.252.6873 jquisberg@wenck.com
Maple Grove	Derek Asche	City of Maple Grove 12800 Arbor Lakes Parkway Maple Grove, MN 55313	763.494.6354 dasche@maplegrovmn.gov
Medina	Kaci Fisher	Hakanson-Anderson 3601 Thurston Avenue Anoka, MN 55303	763.852.0496 KaciF@HAA-inc.com
Plymouth	Ben Scharenbroich	City of Plymouth 3400 Plymouth Boulevard Plymouth, MN 55447	763.509.5527 bscharenbroich@plymouthmn.gov
Rogers	Jennifer Edison	WSB Associates 701 Xenia Avenue S. Suite 300 Minneapolis, MN 55416	763.287.7182 jedison@wsbeng.com
Hennepin County Dept. of Energy and Environment	James Kujawa  Jason Swenson  Kirsten Barta	  701 Fourth Avenue S. Suite 700 Minneapolis, MN 55415-1600	612.348.7338 James.Kujawa@hennepin.us 612.596.1171 jason.swenson@hennepin.us 612.543.3373 Kirsten.barta@hennepin.us
Three Rivers Park District	Brian Vlach	12615 County Road 9 Plymouth, MN 55441	763.694.7846 BVlach@threeriversparkdistrict.org
Barr Engineering	Jeff Weiss	4300 MarketPointe Drive #200 Minneapolis, MN 55435	952.832.2706 JWeiss@barr.com

## 2017 Staff and Consultants

The required biennial solicitation for interest proposals for administrative, legal, technical and wetland consulting services was published in the January 17, 2017 edition of the State Register. At their February 8, 2017 meeting the Commission voted to retain the following consultants for 2017-2018. The Commission has no employees.

	NAME/POSITION	ADDRESS	TELEPHONE/EMAIL
<b>Technical Services</b>	James Kujawa	Hennepin County Energy and Environment 701 Fourth Avenue S. Suite 700	612.348.7338 James.Kujawa@hennepin.us
	Jason Swenson	Minneapolis, MN 55415	612.596.1171 jason.swenson@hennepin.us
	Kirsten Barta		612.543.3373 Kirsten.barta@hennepin.us
	Jeff Weiss	Barr Engineering 4700 West 77th Street Minneapolis, MN 55435	952.832.2706 jweiss@barr.com
<b>Legal Services</b>	Joel Jamnik	Campbell Knutson Grand Oak Office Center I 860 Blue Gentian Road #290 Eagan, MN 55121	651.645.5000 jjamnik@ck-law.com
<b>Administrative Services</b>	Judie Anderson	JASS 3235 Fernbrook Lane	763.553.1144 judie@jass.biz
	Amy Juntunen	Plymouth, MN 55447	amy@jass.biz



## Third Generation Watershed Management Plan

The Elm Creek Watershed Management Commission's Third Generation Watershed Management Plan includes information required in the Minnesota Administrative Rules Chapter 8410, Local Water Management: 1) an updated land and water resource inventory; 2) goals and policies; 3) an assessment of problems and identification of corrective actions; 4) an implementation program; and 5) a process for amending the Plan. This Plan also incorporates information and actions identified in the Elm Creek Watershed-wide Total Maximum Daily Load study (TMDL) and Watershed Restoration and Protection Strategy study (WRAPS), completed between 2009 and 2016.

### Issues

The Commission, along with the Citizen and Technical Advisory Committees (CAC and TAC), identified the following issues during the planning process:

- **Water quality**—numerous lake and stream impairments, impact of land use changes, stream stability
- **Agricultural impacts on water quality**—increase agricultural BMPs, develop effective mechanisms to encourage voluntary adoption, more effective outreach
- **Funding**—maintaining a sustainable funding level; funding capital projects
- **Other issues**—lack of information and knowledge of water quality issues and actions by multiple stakeholders; need to be realistic and prioritize actions; increase member city involvement; foster collaboration with other agencies

### Priorities

Through the identification of these issues, the Commission developed the following priorities to guide water resources planning and management functions:

- **Implement priority projects**, providing cost-share to member cities to undertake projects to help achieve WRAPS lake and stream goals
- **Use results of WRAPS study to establish priority areas**, complete subwatershed assessments to identify specific BMPs that feasibly and cost-effectively reduce nutrient and sediment loading to impaired water resources
- **Develop model manure management ordinance** to regulate placement of new small non-food animal operations; require member cities to adopt that or other ordinances and practices to accomplish its objectives
- **Partner with other organizations to complete pilot project** for targeted fertilizer application, increase and focus outreach to agricultural operators
- **Continue participating in joint education and outreach activities** with WMWA and other partners

## Goals

### Water Quantity

- [Maintain post-development 2-year, 10-year, and 100-year peak rate of runoff](#) at pre-development level for the critical duration precipitation event.
- [Maintain post-development annual run-off volume](#) at pre-development volume.
- [Prevent loss of floodplain storage](#) below the established 100-year elevation.
- [Reduce peak flow rates](#) in Elm, Diamond, and Rush Creeks and tributary streams to the Crow and Mississippi and preserve conveyance capacity.

### Water Quality

- [Improve Total Phosphorus concentration in the impaired lakes](#) by 10% over the 2004-2013 average by 2024.
- [Maintain or improve water quality in the lakes and streams](#) with no identified impairments.
- [Conduct a TMDL/WRAPS progress review](#) every five years following approval of the TMDLs and WRAPS studies.
- [Use information in the WRAPS to identify high priority areas](#) where the Commission will partner with cities and other agencies to provide technical and financial assistance.

### Groundwater

#### [Promote groundwater recharge](#)

- By requiring abstraction/infiltration of runoff from new development/redevelopment.
- [Protect groundwater quality](#) by incorporating wellhead protection study results into development and redevelopment Rules and Standards.

### Wetlands

- [Preserve the existing functions and values of wetlands](#) within the watershed.
- Promote the enhancement or restoration of wetlands in the watershed.

### Drainage Systems

- [Continue current Hennepin County jurisdiction over county ditches](#) in the watershed.

### Operations and Programming

- [Identify and operate within a sustainable funding level](#) that is reasonable to member cities.
- [Foster implementation of priority TMDL and other implementation projects](#) by sharing in their cost and proactively seeking grant funds.

- **Operate a public education and outreach program** to supplement NPDES Phase II education requirements for member cities.
- **Operate a monitoring program** sufficient to characterize water quantity, water quality, and biotic integrity in the watersheds and to evaluate progress toward meeting goals.
- **Maintain rules and standards** for development and redevelopment consistent with local and regional TMDLs, federal guidelines, source water and wellhead protection requirements, nondegradation, and ecosystem management goals.
- **Serve as a technical resource** for member cities.

### *Implementation*

The Third Generation Watershed Management Plan continues a number of activities that have been successful in the past and introduces some new activities, including modified development rules and standards and an enhanced monitoring program.

#### Rules and Standards

The Commission updated policies from their Second Generation Plan and developed new standards based on the 2013 Minnesota NPDES General Permit for Municipal Separate Storm Sewer Systems (MS4s), the 2013 Minnesota NPDES Construction Stormwater General Permit, and the MPCA's Minimal Impact Design Standards and State Stormwater Manual. These were compiled and codified into a Rules and Standards document and were adopted in advance of the Third Generation Plan, effective January 1, 2015.

In general, the new Rules and Standards apply to all development and redevelopment that are

- one acre or more in size;
- require at a minimum no increase in pollutant loading or stormwater volume;
- require no increase in the peak rate of runoff from the property;
- require the abstraction/ infiltration of 1.1 inches of runoff from impervious surfaces; and
- clarify the wetland buffer requirements.

The Plan also provides a method by which member cities can take on review responsibilities for smaller projects, reducing the regulatory burden for small developers.

#### Monitoring Program

The monitoring program continues the partnership with the USGS for routine flow and water quality monitoring on Elm Creek, with periodic monitoring on additional Elm Creek sites, and on Rush, North Fork Rush, and Diamond Creeks on a rotating or as-needed basis. Four lakes – Weaver, Fish, Rice, and

Diamond Lakes – have been classified as “Sentinel Lakes,” and will be monitored every year. Other lakes will be monitored on a rotating basis.

#### Education and Outreach

The Citizens Advisory Committee (CAC) developed a recommended Education and Outreach program that identifies stakeholder groups and key education messages. This Plan expands education and outreach activities to key stakeholders and continues collaborative partnerships such as the West Metro Water Alliance (WMWA), NEMO (Nonpoint Education for Municipal Officials), and WaterShed Partners.

#### Other Activities

The Implementation Plan includes funding for BMP assessments and special studies such as feasibility studies and special monitoring that will identify the most cost-effective practices and projects.

#### WRAPS Implementation

The Plan includes key findings and actions identified in the Elm Creek Watershed Restoration and Protection Strategies (WRAPS) study, which includes Total Maximum Daily Loads (TMDLs) for the impaired waters and improvement and protection strategies and activities for all waters.

### **Local Water Management Plan Requirements**

Local water management plans adopted by member cities pursuant to Minnesota Statutes, Section 103B.235 shall be consistent with the Commission's Third Generation Watershed Management Plan. Local plans must comply with MN Statutes, Section 103B.235 and MN Rules 8410 regarding local plan content.

- Update the existing and proposed physical environment and land use. Information from previous plans that has not changed may be referenced and summarized but does not have to be repeated. Local plans may adopt sections of the Commission's Plan's Inventory and Condition Assessment by reference unless the city has more recent information, such as revised figures and data.
- Explain how the goals and policies, and rules and standards in the Commission's Plan will be implemented at the local level, including any necessary modifications of local ordinances, policies, and practices and specifically addressing adoption and enforcement of a manure management ordinance.
- Show how the member city will take action to achieve the load reductions and other actions identified in and agreed to in TMDL Implementation Plans and the WRAPS study, including identifying known upcoming projects including street or highway reconstruction projects that will provide opportunities to include load and volume reduction BMPs.
- Show how the member city will, through an executed and recorded maintenance and inspection agreement, inspect or cause to be inspected and documented at least every five years privately owned permanent BMPs installed to meet the goals and policies and rules and standards of the Commission's Plan, and the actions the member city will take to assure that the BMPs are maintained and operated as designed.
- Update existing or potential water resource related problems and identify nonstructural, programmatic, and structural solutions, including those program elements detailed in MN Rules 8410.0100, Subp. 1-6.
- Summarize the estimated cost of implementation and analyze the member city's ability to finance the recommended actions.
- Set forth an implementation program including a description of adoption or amendment of official controls and local policies necessary to implement the Rules and Standards; programs; policies; and a capital improvement plan.



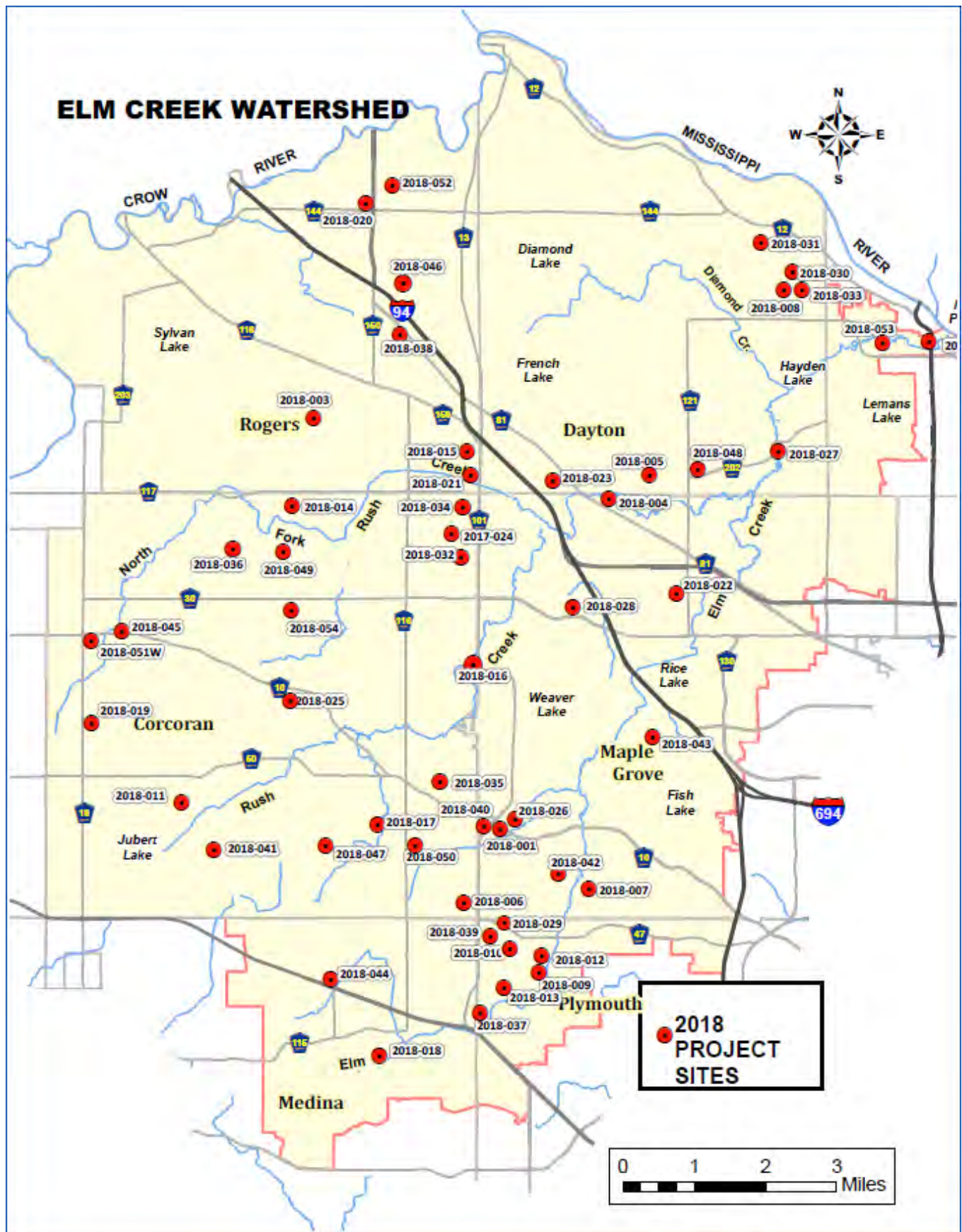


## 2018 Project Reviews

				Reviewed for						Rate Control (cfs) (pre- and post-development)			Net Change Nutrient Control (lbs./yr) (pre- and post-development)		Net change			
		City	Rule D Stormwater	Rule E Erosion Control	Rule F Floodplain	Rule G Wetland	Rule H Bridge/Culvert Crossing	Rule I Buffers	2-yr Pre   Post	10-yr Pre   Post	100-yr Pre   Post	TP load #/yr reduction	TSS load #/yr reduction	Runoff Volume (af / yr)	Abstraction (c.f.)	Filtration/biofiltration (c.f.)	Comments/ notes	
Project No.	Project Name																	
2018-001	Rush Creek Commons	MG	•	•				•	3.9/2.7	6.2/4.7	9.9/9.6	0	46			-19,303		
2018-002	Mill Pond Pedestrian Trail and Bridge	Champlin		•	•				N/A									
2018-003	Rathburn Driveway	Rogers		•	•			•	N/A									
2018-004	Rush Creek Restoration	MG		•	•				N/A									
2018-005	Sundance Greens	Dayton	•	•	•			•				126	182213			-12474		
2018-006W	6270 Hunter Road	Corcoran				•			N/A									
2018-007	Copper Creek of Nottingham	MG							withdrawn									
2018-008	Hayden Hills Golf Course	Dayton	•	•	•			•	23/1	24/4	24/9	0.4	2959		90,641			
2018-009	Plymouth NW Greenway Trail Phase IV	Plymouth		•	•	•	•	•	N/A									
2018-010	Greenway West	Plymouth	•	•	•			•	64/39	137/40	306/250	0	0					
2018-011	Rush Creek Run	Corcoran	•		•	•		•	48/37	101/85	226/206	33	1580					
2018-012	The Meadows Neighborhood Park	Plymouth		•					N/A									
2018-013	New Wayzata Elementary School	Plymouth	•	•	•			•	53/36	126/78	294/205	0.3	2777		10,593	36,598		
2018-014	Refuge at Rush Creek	Corcoran	•	•	•	•		•	81/50	148/108	298/243	31.2	2655				19,197 cons.est	
2018-015	Laurel Creek 2nd Addition	Rogers		•					N/A	regional swmp prior approval								
2018-016W	Krueger Wetland Delineation	Corcoran							N/A									
2018-017W	20801 Larkin Road Wetland Delineation	Corcoran							N/A									
2018-018	Summers Edge Phase III	Plymouth	•	•				•	22/8	38/18	72/45	10.3	1895			23,370		
2018-019W	Fuss Wetland Delineation	Corcoran				•			N/A									
2018-020	North 101 Storage	Rogers	•	•					5/4	10/7	19/18	1.8	322		11,532.00			
2018-021	113th Ln Extension & Brockton Ln/CSAH 101 Intersection	Rogers	•	•	•				169 / 69	293 / 123	631 / 266	11.8 / 7.0	1077 / 703		290,981	Site drains to 3 outfalls, 2 of which include addl storage associated w/planned adjacent developments.Total flows include assumed development conditions from those developments		
2018-022	Fernbrook Athletic Fields	MG	•	•		•		•	20/6	31/20	54/51	7	507			25,796		
2018-023	King Solutions Distribution Center Addn	Dayton		•													regional swmp	
2018-024W	Schober Parcel Wetland Delineation	Corcoran				•			N/A									
2018-025W	Watten Wetland Delineation/Replacement Plan	Corcoran				•			N/A									
2018-026	Windrose	MG	•	•					6/5	14/11	43/39	1.3	245			30,555		
2018-027	CR 202 Elm Creek Bridge Replacement	Dayton		•	•	•	•		N/A									
2018-028	Tricare Third Addition	MG	•	•				•	5/3	8/4	15/11	0.1	14			6673		
2018-029	McConn	Plymouth	•	•		•		•	5/4	11/11	28/27	1.0	165			5600		
2018-030	Pine Meadows - includes variance	Dayton	•	•		•		•	0/4	0/6	0/9	0.2	171		8206	333,543		
2018-031	North Dayton Development, Draft AUAR	Dayton							N/A									

## 2018 Project Reviews

Project No.	Project Name	City	Reviewed for						Rate Control (cfs) (pre- and post-development)			Net Change Nutrient Control (lbs./yr) (pre- and post-development)		Net change			
			Rule D Stormwater	Rule E Erosion Control	Rule F Floodplain	Rule G Wetland	Rule H Bridge/Culvert Crossing	Rule I Buffers	2-yr Pre   Post	10-yr Pre   Post	100-yr Pre   Post	TP load #/yr reduction	TSS load #/yr reduction	Runoff Volume (af / yr)	Abstraction (c.f.)	Filtration/biofiltration (c.f.)	Comments/ notes
2018-032	Encore	Corcoran	•	•	•	•		•	76/42	151/73	317/139	3,7	7,745		374616		irrigation
2018-032W	Encore	Corcoran				•			N/A								
2018-033	Cloquet Island Estates	Dayton	•	•				*	89/50	207/92	454/276	4.5	3439		97429		
2018-034W	Corcoran NE Trunk Sanitary Sewer	Corcoran				•			N/A								
2018-035	Edgewater East	MG							incomplete application								
2018-036W	Dale Johnson Pond Excavation	Corcoran				•			N/A								
2018-037	Elm Creek Stream Restoration Reach D	Plymouth	•	•	•			•	N/A						stream restoration		
2018-038	Vincent Woods of Rogers	Rogers	•	•		•		•	2/2	8/4	24/7	6.7	433			34,440	
2018-039	Greenway North	Plymouth	•	•	•			•	123/122	261/202	598/274	1.3	1336			57,333	
2018-040	Rush Creek Commons Phase 2	MG	•	•												3485	
2018-041W	21801 Homestead Trail Wetland Delineation	Corcoran				•			N/A								
2018-042	Ostrom Hills Third Addition	MG							withdrawn								
2018-043	BeeHive Homes	MG	•	•					4/1	8/5	16/11	0	192			10,638	
2018-044	OSI Bldg 2	Medina	•	•	•			•	20/17	38/35	74/71	0	380			31,600	
2018-045W	Weinand Ditch Cleaning	Corcoran				•			N/A								
2018-046	Graco Koch Center Expansion	Rogers	•	•								-3.6	-163	City Deferral		33400, Regional SWM	
2018-047W	Old Settlers Road Site Wetland Delineation	Corcoran				•			N/A								
2018-048	Faithbrook Church	Rogers	•	•					20/14	38/27	79/57	8.2	377		5525	irrigation	
2018-049W	Pheasant Ridge Second Addition Wetland Delineation	Corcoran				•			N/A								
2018-050	Janice Little Bridge Culvert	Corcoran					•		N/A								
2018-051W	Corcoran Land Holdings LLC (23405 CR 10) Wetland Delineation	Corcoran				•			N/A								
2018-052	Rogers Tennis Center	Rogers	•	•					0	0		0	0	no pre or post discharge from the site.			
2018-053	Elm Creek Restoration	Champlin		•	•	•			N/A						stream restoration		
2018-054W	Trail Haven CDO	Corcoran				•			N/A								
2017-050W	Ernie Mayers access drive (Wetland Violation)	Corcoran				•			N/A								





## Elm Creek Watershed Management Commission Recommended Livestock Management Policy

1. The primary goal of this policy is to improve water quality by reducing phosphorus runoff from livestock-associated facilities.
2. This policy applies to new facilities or the expansion of existing facilities based on the City's Conditional Use Permit (CUP) provisions for livestock.
3. Feedlots and manure storage areas are prohibited within the shoreland of any lake, perennial stream, intermittent stream, or protected wetland without a CUP or in areas like ditches that drain directly to wetlands, lakes or streams.
  - a. In the case of feedlots and manure storage areas for which a CUP is required, the CUP shall only be issued if a Nutrient and Management Plan (NMP) specific to that operation, and which has been prepared and implemented within the timeframe specified by the City, is in place.
  - b. The NMP must meet the standards of the University of Minnesota Extension Service or the United States Department of Agriculture Natural Resources and Conservation Services (NRCS).
4. **Definitions.**
  - a. **Animal Density.** Allowable animal density shall be based on the net area of the parcel that can be grazed in its entirety. This area excludes wetlands, woodland, farmsteads, feedlots, parking lots, and other areas where grazing cannot or should not occur.
  - b. **Animal Feedlot.** A lot or building or combination of lots and buildings intended for the confined feeding, breeding, raising or holding of animals and specifically designed as a confinement area in which manure may accumulate, or where the concentration of animals is such that a vegetative cover cannot be maintained within the enclosure. Open lots used for the feeding and rearing of poultry (poultry ranges) shall be considered to be animal feedlots. Manure storage areas off the site of the feedlot are considered as feedlots.
  - c. **Animal Unit.** The definition of "animal unit" shall be determined by the City. The City may also refer to Minnesota Rules part 7020.0300.
  - d. **Conditional use.** Land use or development as defined by ordinance that would not be appropriate generally but may be allowed with appropriate restrictions as provided by official controls upon a finding that certain conditions as detailed in the zoning ordinance exist, the use or development conforms to the comprehensive land use plan of the community, and the use is compatible with the existing neighborhood.
  - e. **Manure storage facility.** Any site or area specifically designed and/or constructed for the purpose of storage or holding of animal waste and manure. This includes any storage facility previously designed and installed meeting the NRCS Technical Guidelines current at the time of installation, any commercial-prefabricated storage facility, concrete slabs, earthen dugouts, dikes or any other area intended for the storage of animal manure, no matter how small that accumulation may be or how long the manure may be stored.
  - f. **Pasture** - Areas where grass or other growing plants are used for grazing and where the concentration of animals is such that a vegetative cover is maintained during the growing season except in the immediate vicinity of temporary supplemental feeding or watering devices. Those areas of supplemental feeding or watering devices within a pasture do not constitute a feedlot.
  - g. **Shoreland.** Land located within 1,000 feet from the ordinary high water level of a lake, pond, or flowage; 300 feet from a river or stream; or the landward extent of a floodplain designated by ordinance on a river or stream, whichever is greater.
5. **Exhibits.**

The following documents are attached and may be reviewed for content.

  - a. **Exhibit A.** 80.10 Manure Management Policy, City of Medina
  - b. **Exhibit B.** Manure Management-Related Ordinances, City of Medina.
  - c. **Exhibit C.** Ordinance 2016-02 Amending City Code Section 152.071(G) as it pertains to livestock and domestic farm animals, City of Greenfield.





Legal Notice  
NOTICE OF PUBLIC MEETING  
**Elm Creek Watershed Management Commission**

TO WHOM IT MAY CONCERN:

Notice is hereby given that the Elm Creek Watershed Management Commission will meet at Maple Grove City Hall, 12800 Arbor Lakes Parkway, Maple Grove, MN, on Wednesday, May 9, 2018, at 11:30 a.m., or as soon thereafter as the matter may be heard, for a public meeting on a proposed management plan amendment.

The Commission proposes to amend its *Third Generation Watershed Management Plan* to adopt revisions to its 2018 Capital Improvement Program (CIP).

The following projects would be added:

Hickory Drive Stormwater Improvement, Medina, est cost \$225,000, Comm share in 2019 \$56,250  
SE Corcoran Wetland Restoration, Corcoran, est cost \$400,000, Comm share in 2019 \$100,000  
Downtown Regional Stormwater Pond, Corcoran, est cost \$50,000, Comm share in 2019 \$10,000  
Elm Creek Stream Restoration Ph III, Champlin, est cost \$400,000, Comm share in 2018 \$100,000  
Downs Road Trail Raingarden, Champlin, est cost \$300,000, Comm share in 2018 \$75,000  
Elm Creek Stream Restoration Ph IV, Champlin, est cost \$600,000, Comm share in 2019 \$150,000  
Lowell Road Raingarden, Champlin, est cost \$400,000, Comm share in 2019 \$100,000  
Rush Creek Headwaters SWA BMP Implementation, Corcoran/Rogers, est cost \$200,000, Comm share in 2020 \$50,000

Funding for the following project would be shifted:

Stone's Throw Wetland, Corcoran, est cost \$450,000, shift \$112,500 from 2018 to 2019

The remaining projects on the CIP are unchanged.

The Elm Creek watershed includes parts of the cities of Champlin, Corcoran, Dayton, Maple Grove, Medina, Plymouth and Rogers.

Persons who desire to be heard with reference to the proposed amendment will be heard at this meeting. Written comments may be submitted to Doug Baines, chair of the Elm Creek Commission, c/o JASS, 3235 Fernbrook Lane, Plymouth, MN 55447, or emailed to [judie@jass.biz](mailto:judie@jass.biz). Auxiliary aids for persons with handicaps are available upon request at least seven days in advance. Please contact Judie Anderson at 763-553-1144 to make arrangements.

---

/s/ Doug Baines, Chair  
Elm Creek Watershed Management Commission  
By order of the Elm Creek Watershed Management Commission

###



ELM CREEK WATERSHED MANAGEMENT COMMISSION  
STATE OF MINNESOTA

**RESOLUTION NO. 2018-01**  
**ADOPTING A MINOR AMENDMENT TO THE THIRD GENERATION PLAN**

**WHEREAS**, on October 14, 2015, the Elm Creek Watershed Management Commission (Commission) adopted the *Elm Creek Watershed Management Commission Third Generation Watershed Management Plan*, (hereinafter, "Plan"); and

**WHEREAS**, the Plan includes a Capital Improvement Program (CIP); and

**WHEREAS**, the Commission has proposed a Minor Plan Amendment that would add eight projects to the CIP;  
and

**WHEREAS**, the Commission has also proposed that the Minor Plan Amendment would shift the timing of funding of ~~one project~~ two projects currently listed on the CIP; and

**WHEREAS**, Table 4.5 of the Capital Improvement Program will be revised to reflect these changes; and

**WHEREAS**, the proposed Minor Plan Amendment has been reviewed in accordance with the requirements of Minnesota Statutes, Section 103B.231; and

**WHEREAS**, the Minnesota Board of Water and Soil Resources did approve proceeding to adoption by a Minor Plan Amendment; and

**WHEREAS**, on May 9, 2018, after legal and written notice duly given, the Commission held a public informational meeting to explain the proposed revisions; and

**WHEREAS**, the Commission has determined that it would be reasonable and appropriate and in the public interest to adopt the Minor Plan Amendment;

**NOW, THEREFORE, BE IT RESOLVED**, by the Board of Commissioners of the Elm Creek Watershed Management Commission that:

1. The Minor Plan Amendment is approved and adopted contingent upon approval by the Hennepin County Board of Commissioners, said approval anticipated forthwith.
2. Commission staff is directed to notify appropriate parties of the Amendment to the Plan.

Adopted by the Board of Commissioners of the Elm Creek Watershed Management Commission this ninth day of May, 2018.

\_\_\_\_\_  
Doug Baines, Chair

ATTEST:

\_\_\_\_\_  
Judie Anderson, Recording Secretary

**STATE OF MINNESOTA**  
**COUNTY OF HENNEPIN**

I, Judie A. Anderson, do hereby certify that I am the custodian of the minutes of all proceedings had and held by the Board of the Elm Creek Watershed Management Commission, that I have compared the above resolution with the original passed and adopted by the Board of said Commission at a regular meeting thereof held on the ninth day of May, 2018, at 11:30 a.m., that the above constitutes a true and correct copy thereof, that the same has not been amended or rescinded and is in full force and effect.

IN WITNESS WHEREOF, I have hereunto placed my hand and signature this ninth day of May, 2018.

(NO SEAL)

\_\_\_\_\_  
Judie A. Anderson  
Recording Secretary



ELM CREEK WATERSHED MANAGEMENT COMMISSION  
STATE OF MINNESOTA

**RESOLUTION NO. 2018-03**  
**ORDERING 2018 IMPROVEMENT PROJECTS, DESIGNATING**  
**MEMBERS RESPONSIBLE FOR CONSTRUCTION, AND MAKING**  
**FINDINGS AND DESIGNATING COMMISSION COST-SHARE FUNDING**

**WHEREAS**, on October 14, 2015, the Elm Creek Watershed Management Commission (Commission) adopted the *Elm Creek Watershed Management Commission Third Generation Watershed Management Plan*, (hereinafter, “Plan”); and

**WHEREAS**, the Plan includes a Capital Improvement Program (CIP); and

**WHEREAS**, on May 10, 2017, the Commission adopted a Minor Plan amendment that added two projects to the CIP, removed one project from the CIP, and shifted the timing of funding of four projects currently listed on the CIP; and

**WHEREAS**, on May 9, 2018, the Commission adopted a Minor Plan amendment that added eight projects to the CIP and shifted the timing of funding of one project currently listed on the CIP; and

**WHEREAS**, the Commission’s Cost Share Policy, adopted April 11, 2012, specifies a county tax levy under Minn. Stat. § 103B.251 as a source of the Commission’s share of funding for projects proposed in the Commission’s CIP; and

**WHEREAS**, on April 11, 2018, the Commission received Feasibility Studies on Project 2018-01: Rush Creek Main Stem Stream Stabilization Phase 3, Maple Grove; Project 2018-02: Elm Creek Stream Restoration Reach D, Plymouth; Project 2018-03: Elm Creek Stream Restoration Phase III, Champlin; and Project 2018-04: Downs Road Trail Rain Gardens, Champlin, (the “Projects”); and

**WHEREAS**, on September 12, 2018, following published and mailed notice in accordance with the Commission’s Joint Powers Agreement and Minnesota Statutes Section 103B.251, the Commission conducted a public hearing on the Projects.

**NOW, THEREFORE, BE IT RESOLVED** by the Board of Commissioners of the Elm Creek Watershed Management Commission as follows:

1. The Projects will be conducive to the public health and promote the general welfare and is in compliance with Minnesota Statutes Sections 103B.205 to 103B.255 (the “Act”) and with the Commission’s surface water management plan as adopted and amended in accordance with the Act.
2. The cost of the Projects is estimated to be \$3,200,000.
3. The Commission receives, accepts and approves the feasibility reports for the Projects, which Projects are hereby ordered.
4. Twenty-five percent of the final cost of the Projects, but not more than \$462,500, will be paid by the Commission from proceeds received from Hennepin County pursuant to Minnesota Statutes, Section 103B.251, Subd. 6, and the Commission’s Joint Powers Agreement. Additional costs will be paid by the respective cities wherein the projects reside, but no costs will be charged to other members of the Commission. The Commission understands that the County may pay such costs with taxes levied in 2018 and paid in 2019. The Administrator is directed to transmit a certified copy of this resolution to Hennepin County prior to October 1, 2018.
5. The cities wherein the projects reside are designated as the members responsible for contracting for the construction of Projects. Contracts for construction shall be let in accordance with the requirements of law applicable to said cities. The Cooperative Agreements for the Projects between the Commission and the cities of Champlin and Rogers are approved and the Chair and Administrator are authorized and directed to execute the agreements.

Adopted by the Commissioners of the Elm Creek Watershed Management Commission the twelfth day of September, 2018.

\_\_\_\_\_  
Doug Baines, Chair

ATTEST:

(NO SEAL)

\_\_\_\_\_  
Judie A. Anderson, Administrator

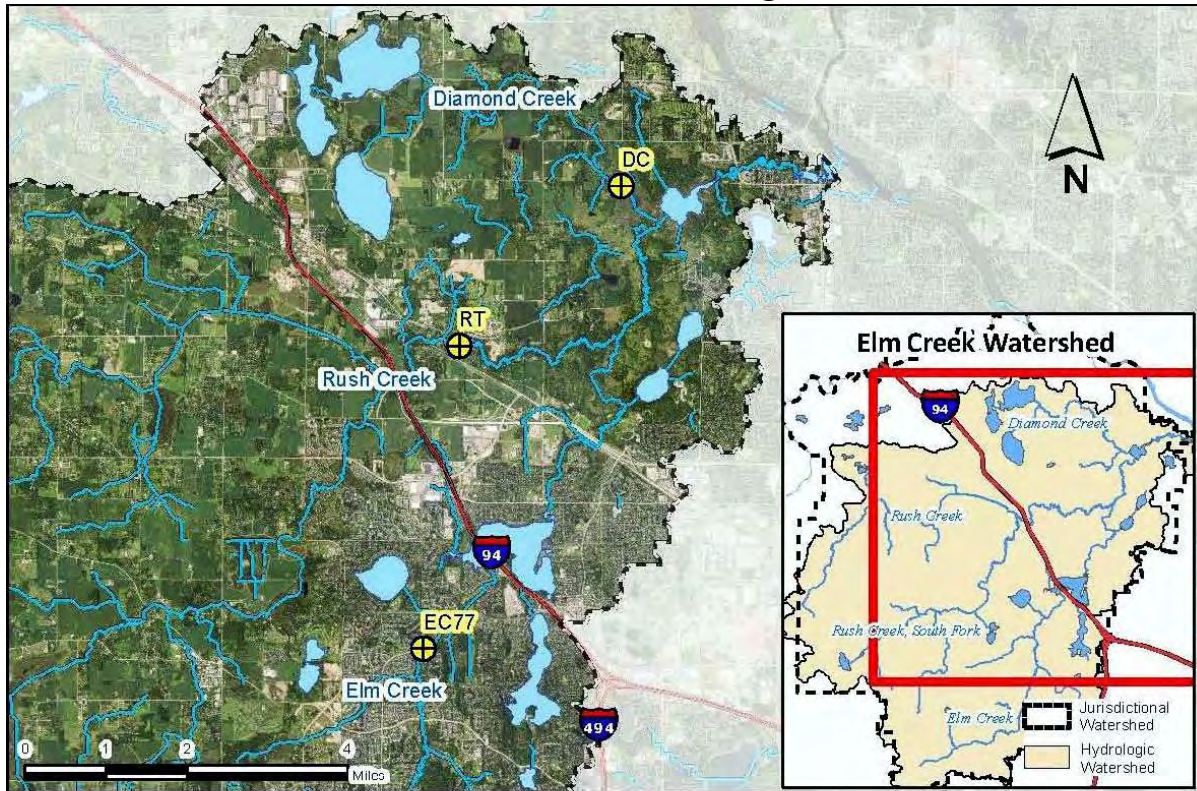
**STATE OF MINNESOTA  
COUNTY OF HENNEPIN**

I, Judie A. Anderson, do hereby certify that I am the custodian of the minutes of all proceedings had and held by the Board of the Elm Creek Watershed Management Commission, that I have compared the above resolution with the original passed and adopted by the Board of said Commission at a regular meeting thereof held on the twelfth day of September, 2018, at 11:30 a.m., that the above constitutes a true and correct copy thereof, that the same has not been amended or rescinded and is in full force and effect.

IN WITNESS WHEREOF, I have hereunto placed my hand and signature this twelfth day of September, 2018.

(NO SEAL)

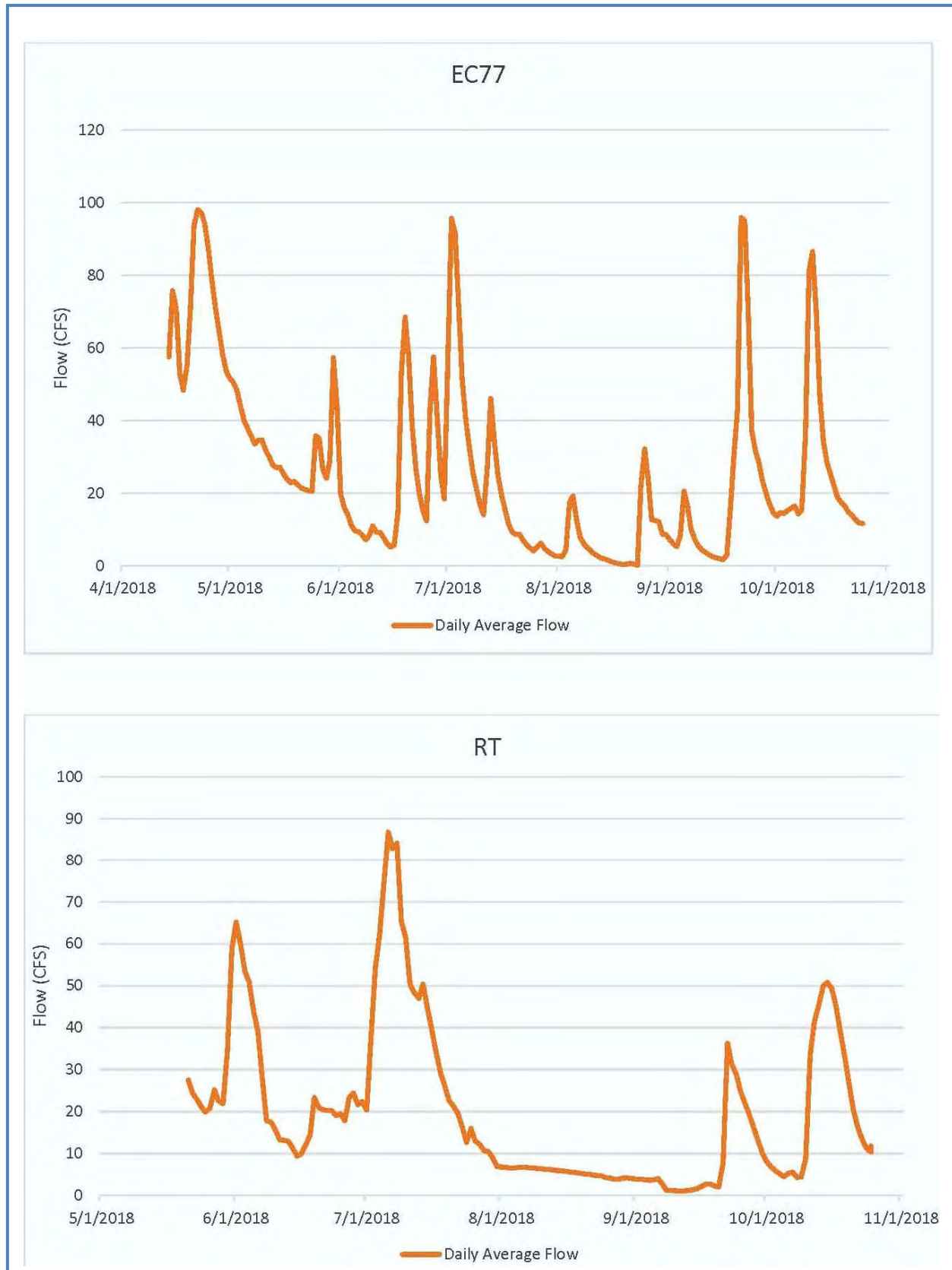
\_\_\_\_\_  
Judie A. Anderson  
Recording Secretary

**Elm Creek Stream Monitoring – 2018**

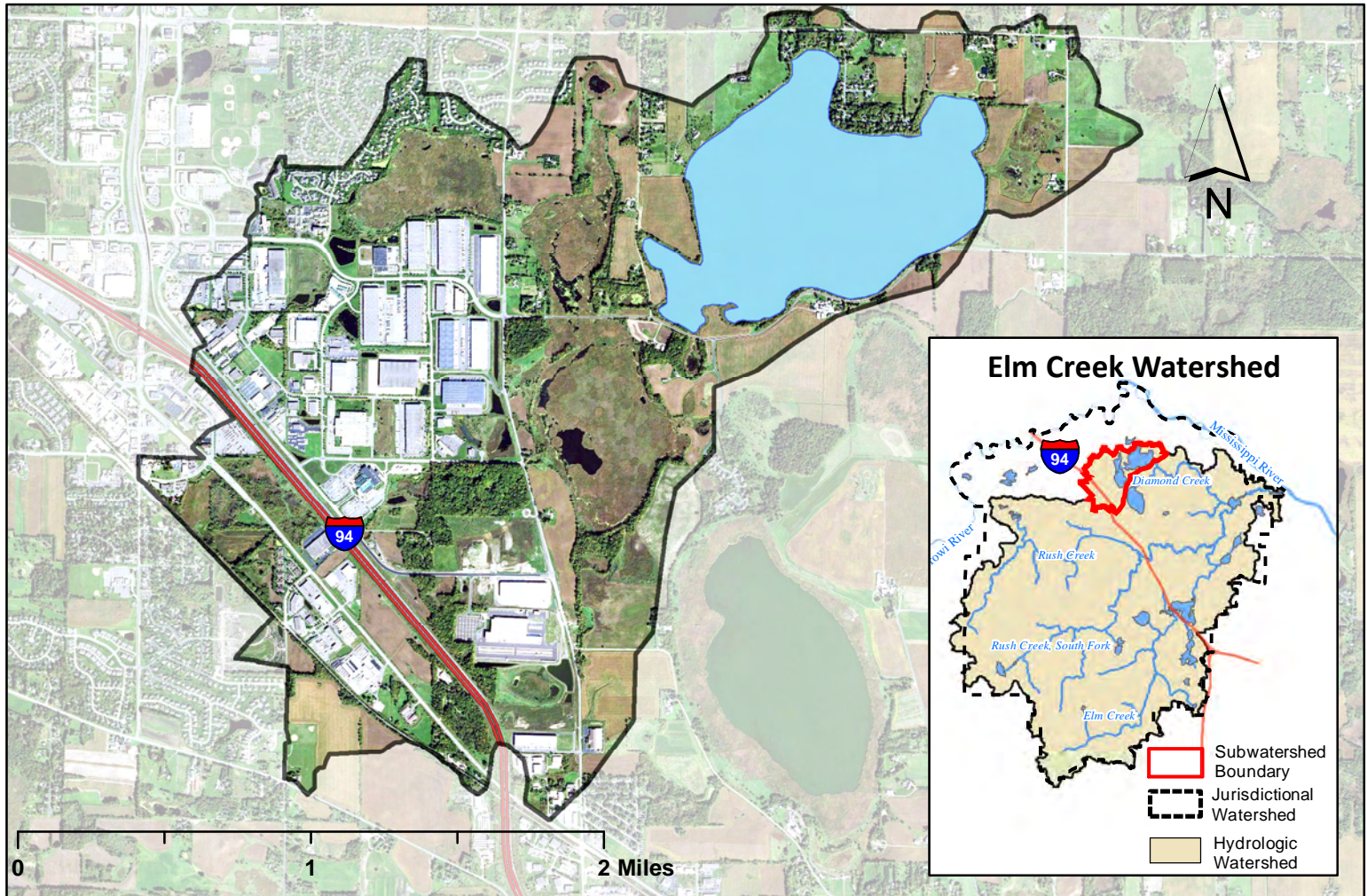
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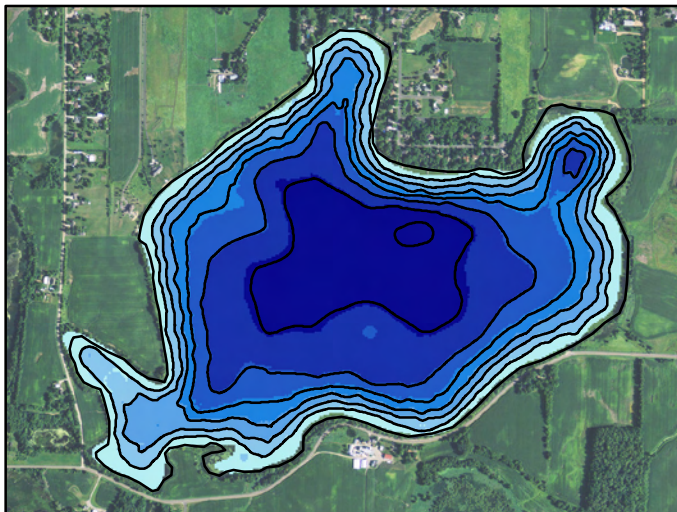




# Diamond Lake Watershed Map



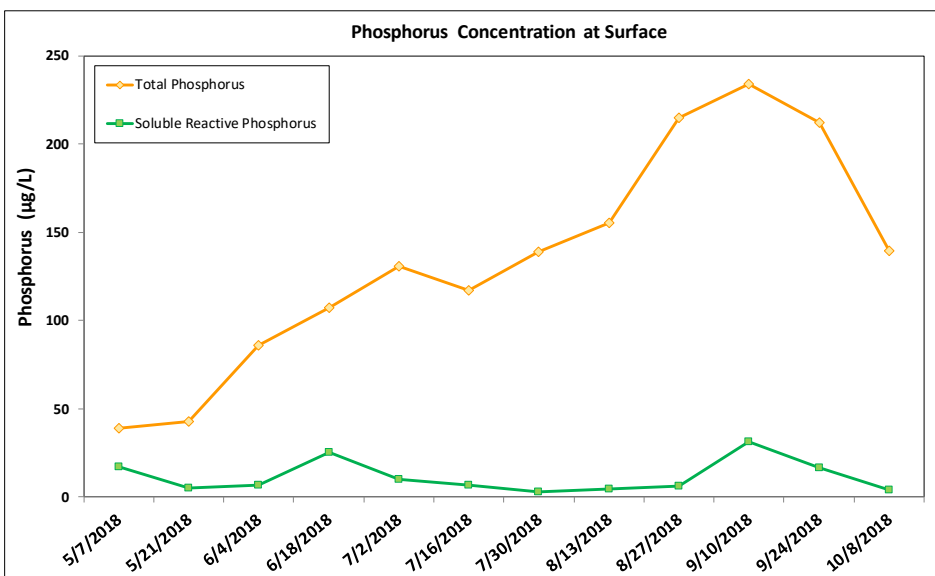
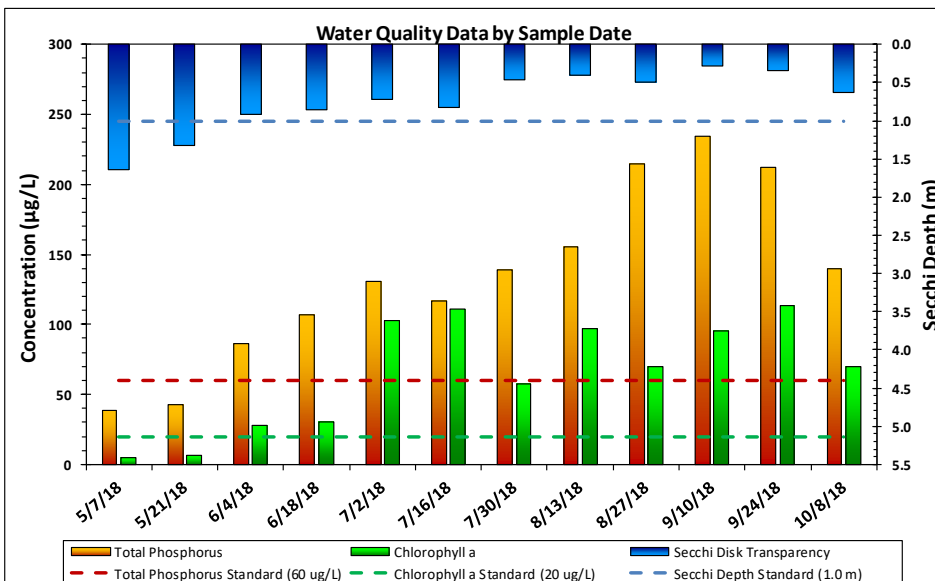
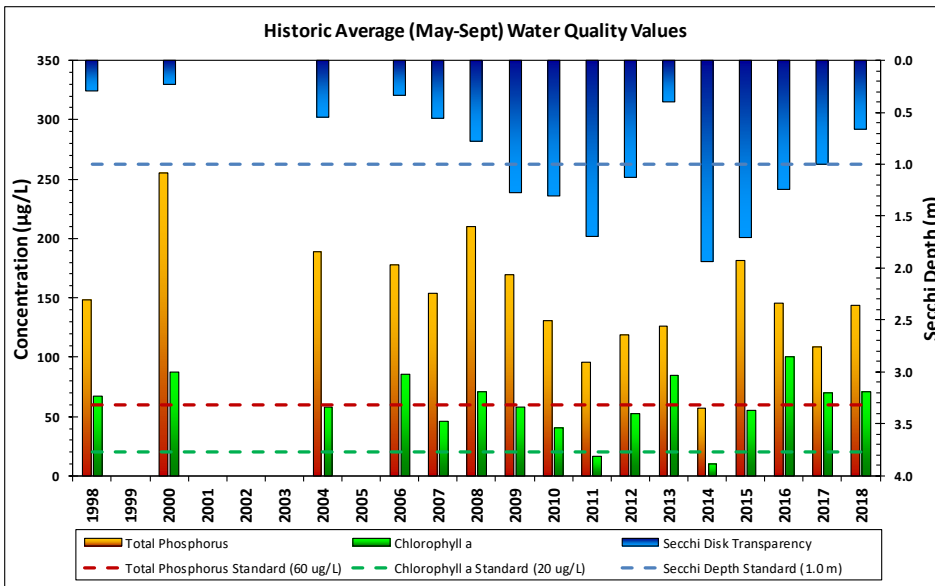
## Diamond Lake Bathymetry



### Lake and Watershed Characteristics

DNR #	27012500
Watershed Area	2,367 Acres
Lake Area	382 Acres
Percent Littoral Area	100%
Average Depth	3.97 ft.
Maximum Depth	7.37 ft.
Watershed Area:Lake Area	6.2:1
Impairment Classification	Excess Nutrients 2006
Classification	Shallow Lake





Diamond Lake Water Quality Report Card				
Year	TP	Chl-a	Secchi	Avg Grade
1998	D	D	F	D-
1999				
2000	F	F	F	F
2001				
2002				
2003				
2004	F	D	F	F
2005				
2006	F	F	F	F
2007	F	C	F	D-
2008	F	D	D	D-
2009	F	D	C	D
2010	D	C	C	C-
2011	D	B	C	C
2012	D	D	D	D
2013	D	F	F	F
2014	C	B	C	C+
2015	F	D	C	D
2016	D	F	C	D
2017	D	D	D	D
2018	D	D	F	D-
MPCA Standard	C	C	D	C

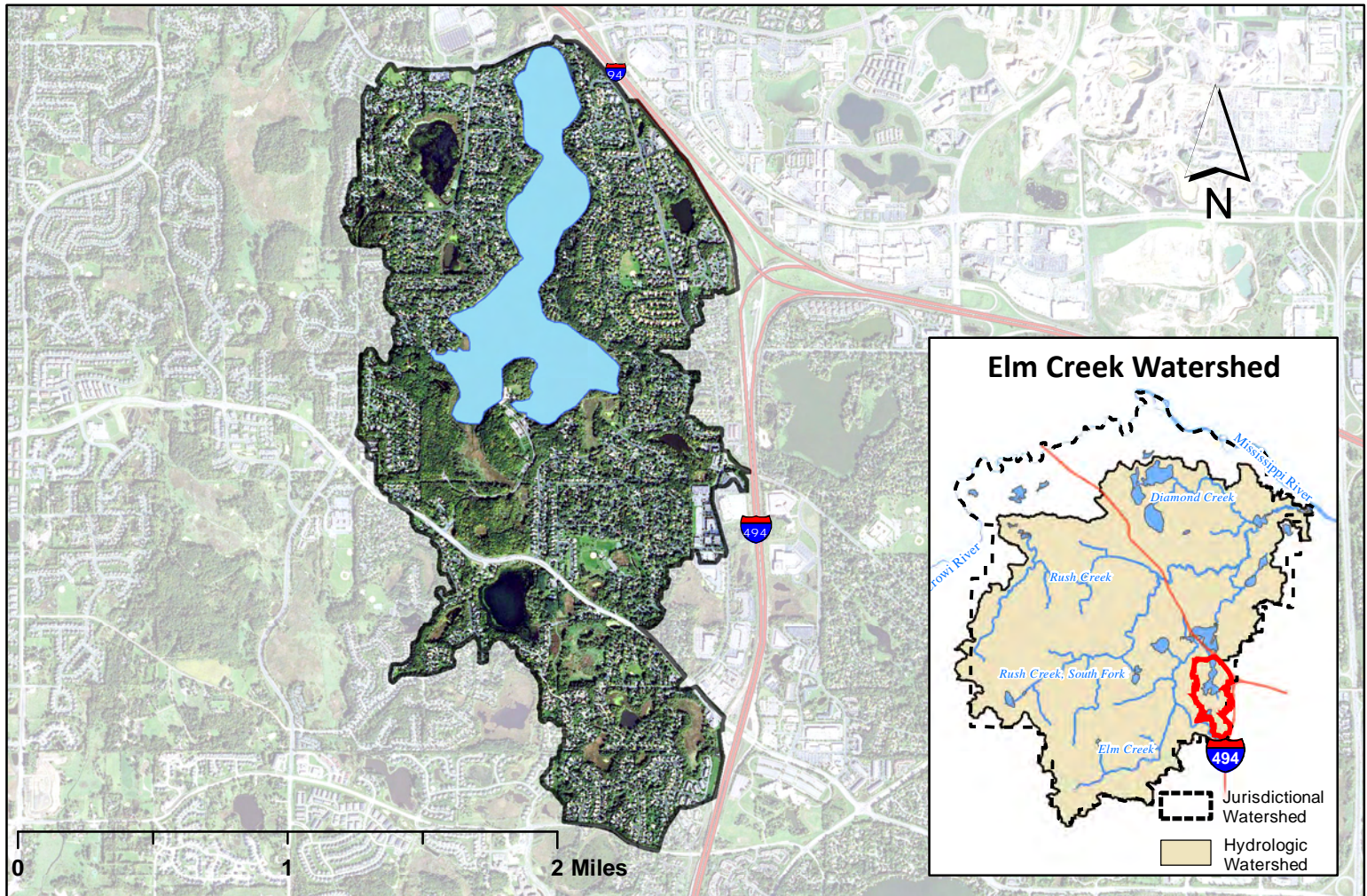
*Met Council Grading System for Lake Water Quality*



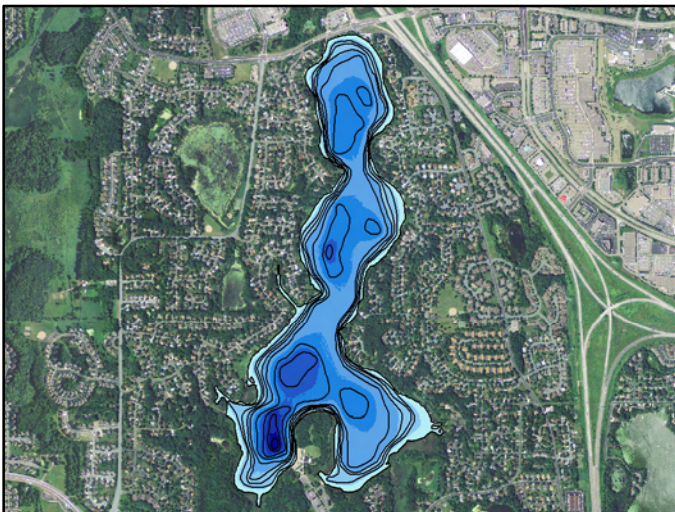
*Division of Water Resources*

*December 2018*

# Fish Lake Watershed Map



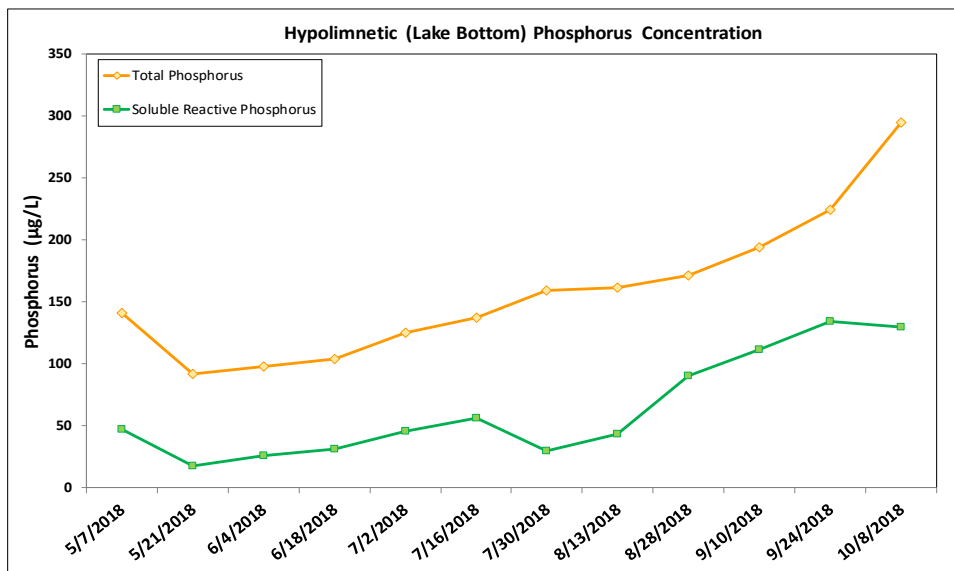
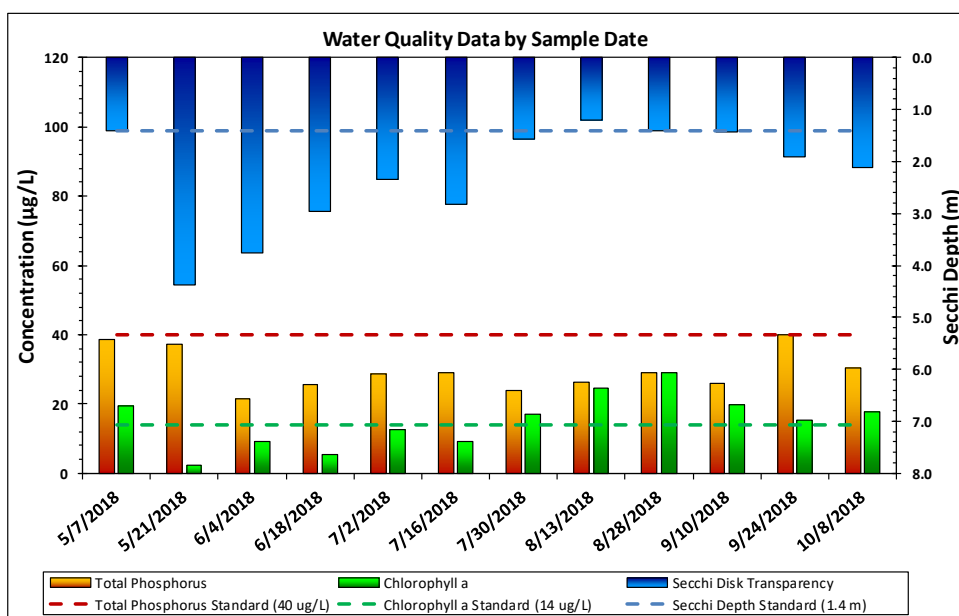
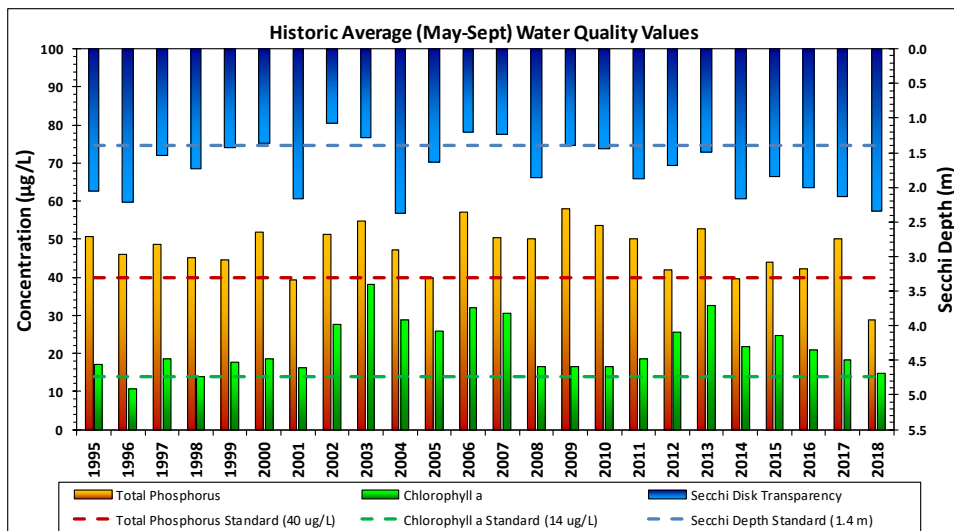
## Fish Lake Bathymetry



### Lake and Watershed Characteristics

DNR #	27011800
Watershed Area	1,611 Acres
Lake Area	232 Acres
Percent Littoral Area	32%
Average Depth	20.5 ft.
Maximum Depth	62 ft.
Watershed Area:Lake Area	6.9:1
Impairment Classification	Excess Nutrients 2008
Classification	Deep Lake





Fish Lake Water Quality Report Card				
Year	TP	Chl-a	Secchi	Avg Grade
1995	C	B	C	C+
1996	C	B	B	B-
1997	C	B	C	C+
1998	C	B	C	C+
1999	C	B	C	C+
2000	C	B	C	C+
2001	C	B	C	C+
2002	C	C	D	C-
2003	C	C	C	C
2004	C	C	B	C+
2005	C	C	C	C
2006	C	C	C	C
2007	C	C	C	C
2008	C	B	C	C+
2009	C	B	C	C+
2010	C	B	C	C+
2011	C	B	C	C+
2012	C	C	C	C
2013	C	C	C	C
2014	C	C	C	C
2015	C	C	C	C
2016	C	C	C	C
2017	C	B	C	C+
2018	B	B	B	B
<b>MPCA Standard</b>	C	B	C	C+

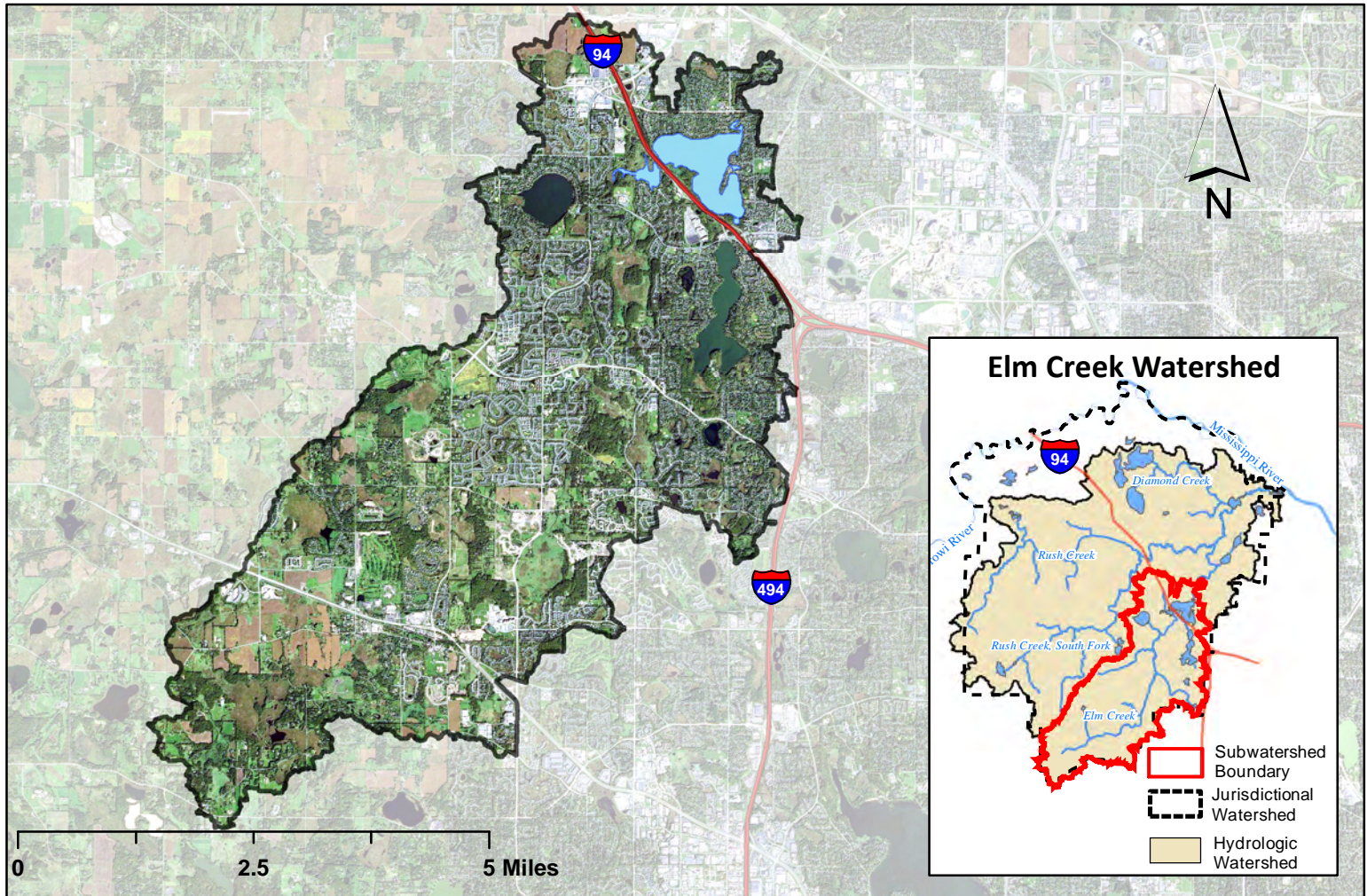
*Met Council Grading System for Lake Water Quality*



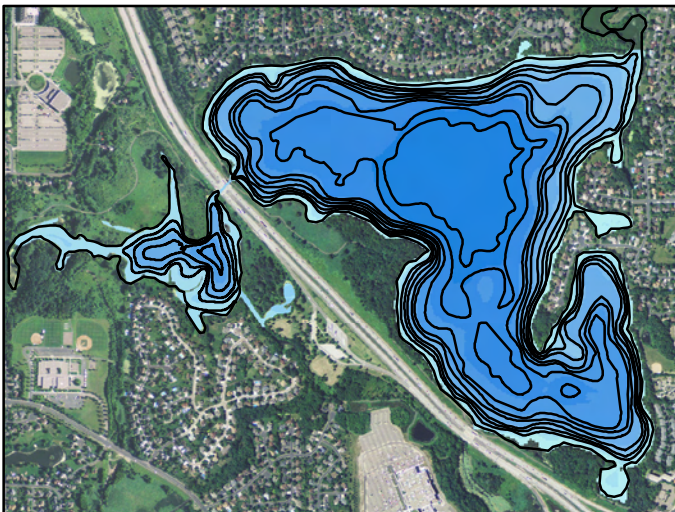
*Division of Water Resources*

*December 2018*

# Rice Lake Watershed Map



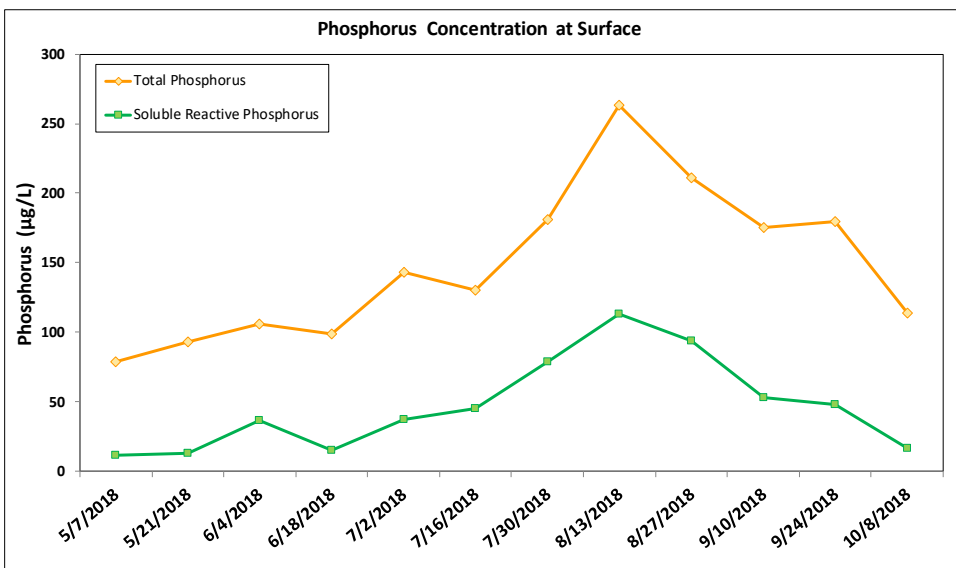
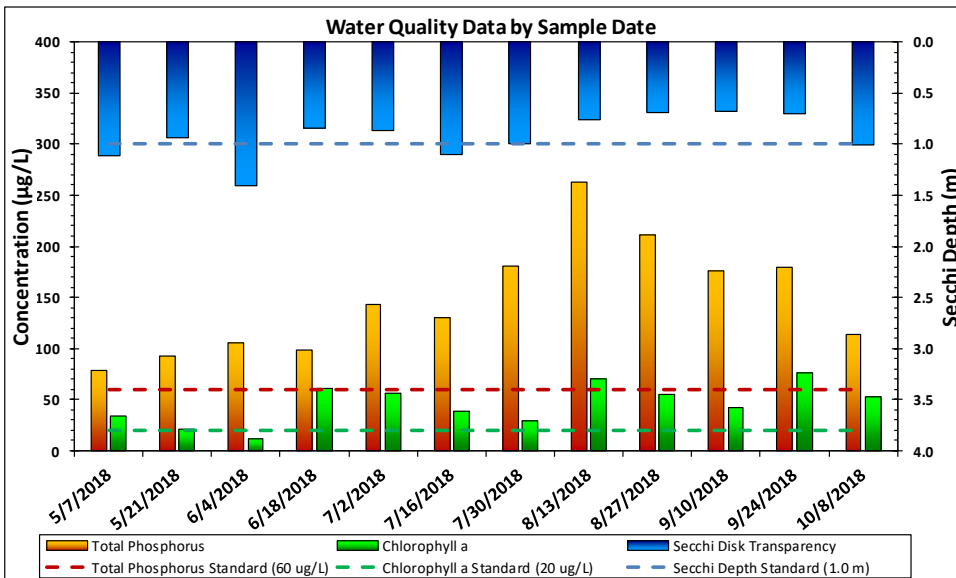
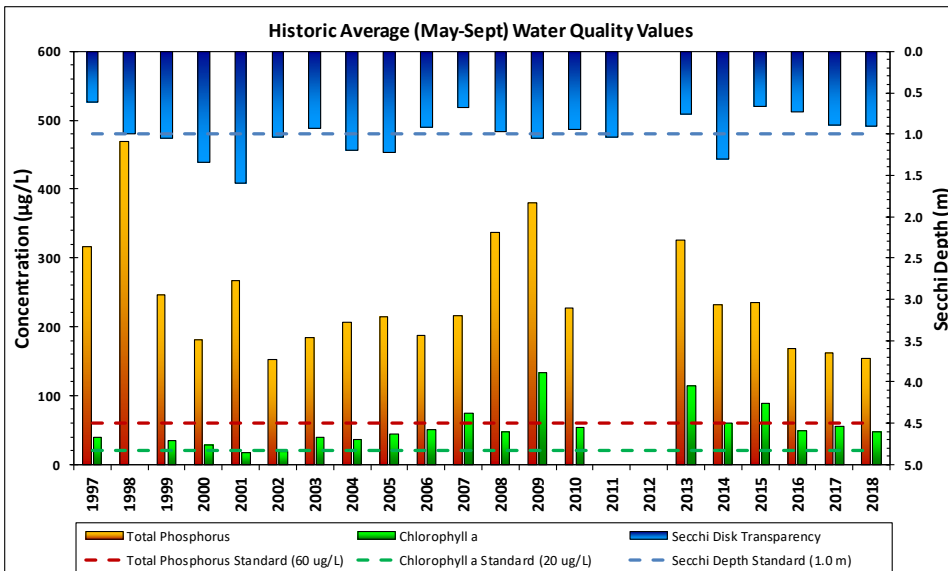
## Rice Lake Bathymetry



### Lake and Watershed Characteristics

DNR #	27011601
Watershed Area	16,092 Acres
Lake Area	307 Acres
Percent Littoral Area	100%
Average Depth	7.02 ft.
Maximum Depth	10.14 ft.
Watershed Area:Lake Area	52.4:1
Impairment Classification	Excess Nutrients 2010
Classification	Shallow Lake





Rice Lake - Main Basin Water Quality Report Card				
Year	TP	Chl-a	Secchi	Avg Grade
1997	F	C	F	D-
1998	F	A	D	C-
1999	F	C	D	D
2000	F	C	C	D+
2001	F	B	C	C-
2002	D	B	D	C-
2003	F	C	D	D
2004	F	C	D	D
2005	F	C	C	D+
2006	F	D	D	D-
2007	F	D	F	F
2008	F	C	D	D
2009	F	F	D	F
2010	F	D	D	D-
2011			D	F
2012				
2013	F	F	D	F
2014	F	D	C	D
2015	F	F	F	F
2016	F	D	D	D-
2017	F	D	D	D-
2018	F	C	D	D
MPCA Standard	C	C	D	C

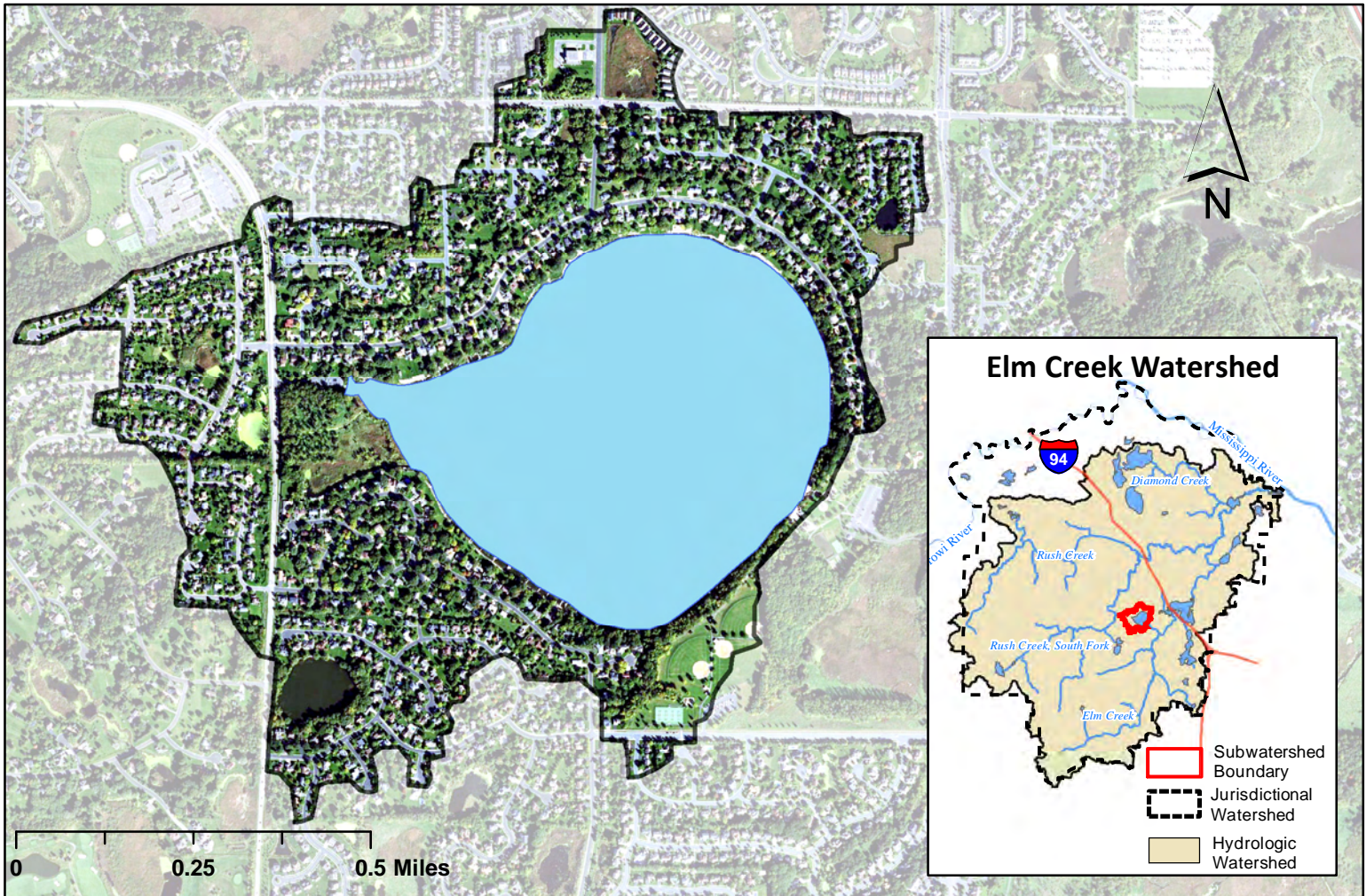
Met Council Grading System for Lake Water Quality



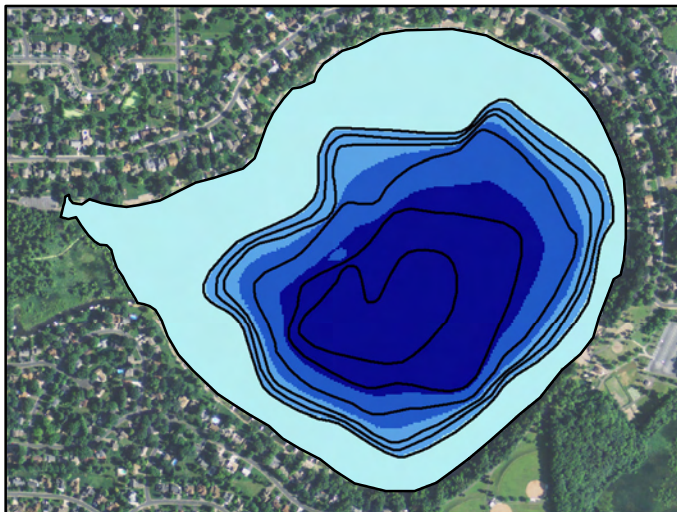
Division of Water Resources

December 2018

# Weaver Lake Watershed Map



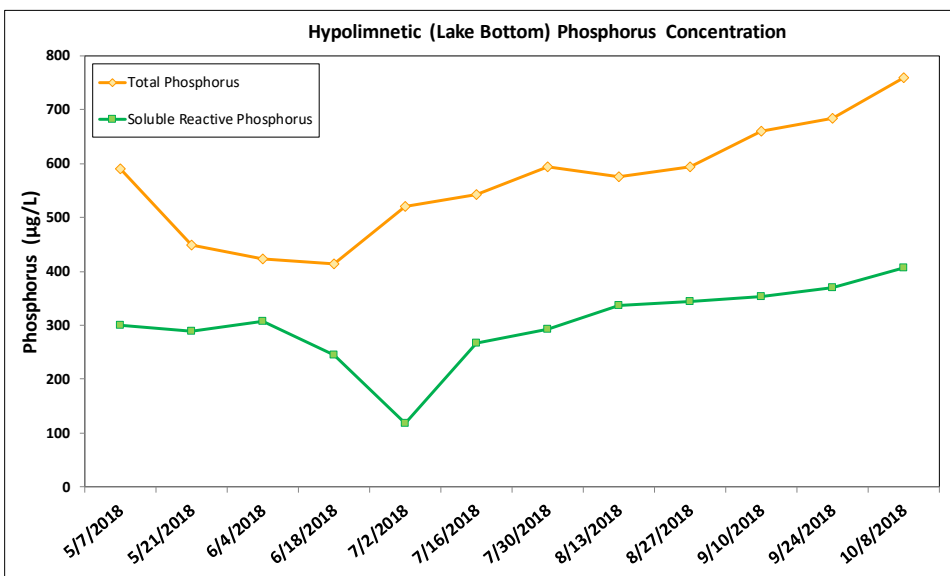
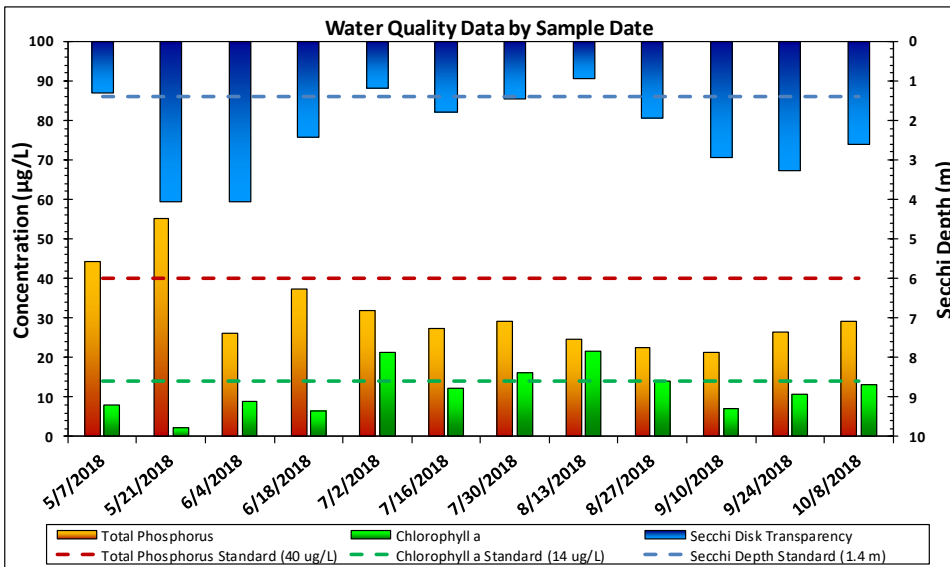
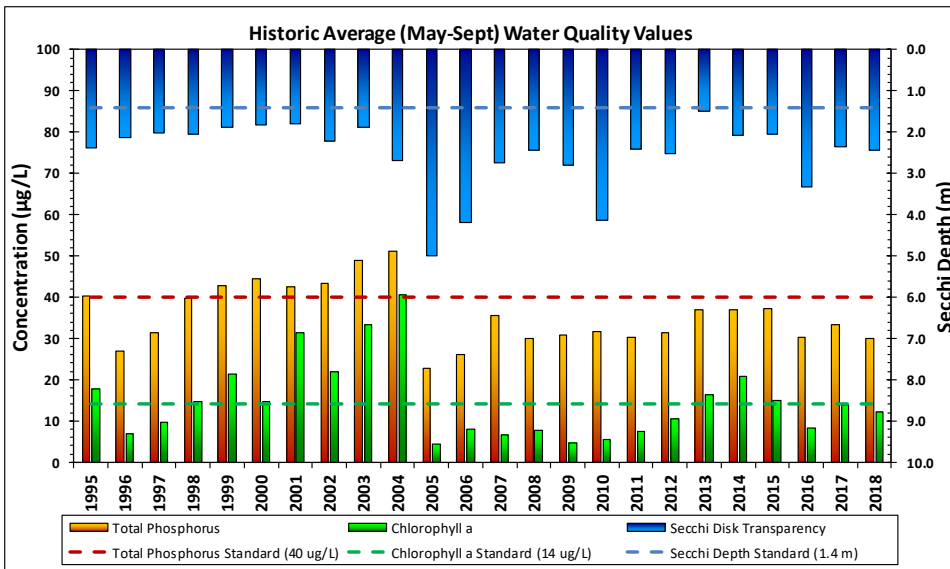
## Weaver Lake Bathymetry



### Lake and Watershed Characteristics

DNR #	27011700
Watershed Area	187 Acres
Lake Area	150 Acres
Percent Littoral Area	47%
Average Depth	21.1 ft.
Maximum Depth	52 ft.
Watershed Area:Lake Area	1.3:1
Impairment Classification	None
Classification	Deep Lake





Weaver Lake Water Quality Report Card				
Year	TP	Chl-a	Secchi	Avg Grade
1995	C	B	B	B-
1996	B	A	C	B
1997	B	A	C	B
1998	C	B	C	C+
1999	C	C	C	C
2000	C	B	C	C+
2001	C	C	C	C
2002	C	C	B	C+
2003	C	C	C	C
2004	C	C	B	C+
2005	A	A	A	A
2006	B	A	A	A-
2007	C	A	B	B
2008	B	A	B	B+
2009	B	A	B	B+
2010	B	A	A	A-
2011	B	A	B	B+
2012	B	B	B	B
2013	C	B	C	C+
2014	C	C	C	C
2015	C	B	C	C+
2016	B	A	A	A-
2017	C	B	B	B-
2018	B	B	B	B
<b>MPCA Standard</b>	C	B	C	C+

Met Council Grading System for Lake Water Quality



Division of Water Resources

December 2018

### Lake Monitoring History

	<i>Cook</i>	<i>Cowley</i>	<i>Diamond</i>	<i>Dubay</i>	<i>Fish</i>	<i>French</i>	<i>Henry</i>	<i>Jubert</i>	<i>Laura</i>	<i>Medina</i>	<i>Mill Pond</i>	<i>Mud</i>	<i>Rice</i>	<i>Sylvan</i>	<i>Weaver</i>
2018			T		T			C					T		T
2017			T		T			C					T		T
2016		C	T		T			C					T		T
2015			T		T			C	C				T		T
2014			T	C	T				C		T		T	C	T
2013			T	C		T			C		T		T	C	T
2012			T	C	T	T				C	T			C	T
2011			T	C	T	T	C				T		C		T
2010		C	T		T	T	C				T	T	C/T		T
2009		C	T		T	T	C				T		C		T
2008			T		T		C						C	C	T
2007		C	T		T		C						C		T
2006		C			T	T	C								T
2005					T	T	C								T
2004			T		T	T									T
2003															
2002					T	C					T				T
2001	T				T	C									T
2000					T			C							T
1999					T						T				T
1998			T		T										T
1997					T									T	T
1996					T										T
1995					T		C								T
1994			C		T										T
1993					T										T
1992	T		T		T										T
1991					T			T			T				T
1990	T				T	T									T
1989			T	T	T			T							T
1988	T				T						T				T
1987					T			T							T
1986	T		T	T	T							T			T
	T = monitored by Three Rivers Park District										C = monitored through CAMP program				



### 2018 Stream Monitoring

There are three hydrologic watersheds within the administrative boundaries of the Elm Creek Watershed Management Commission – Elm Creek, Crow River and Mississippi River. The Elm Creek watershed contains several large depressions and drainageways. Stormwater within Elm Creek watershed is generally directed from the south and west to northeast via four main drainage ways – Rush Creek, North Fork Rush Creek, Diamond Creek, and Elm Creek. These drainage ways converge in the Elm Creek Park Reserve and enter Hayden Lake. Water is eventually discharged to the Mississippi River near the Mill Pond in Champlin.

Northwest areas of Rogers drain to Crow River. Within this area, Fox Creek is the main drainage way that collects stormwater along the I-94 corridor and the area between I-94, Territorial Road and Fletcher Lane. Areas north of I-94 and along the Highway 101 corridor drain north to the Crow River, mostly along the corridor. The northern quarter of Dayton flows north into the Mississippi River with a small area on the northwest side of Dayton draining to the Crow River. There are no major drainageways in these areas.

Elm Creek has been monitored since 1976 by a station located in Champlin. The monitoring station for Elm Creek is located at Elm Creek Road crossing in the Elm Creek Park Reserve and is operated in cooperation with the United States Geological Survey (USGS). The exact location is: latitude 45°09'48", longitude 93°26'11" referenced to North American Datum of 1927, in NE ¼ NW ¼ Sec.35, T.120 N., R.22 W., Hennepin County, MN, Hydrologic Unit 07010206, on left bank, 33 feet downstream from bridge on Elm Creek Road, 2.5 mi southwest of Champlin. Datum of the gage is 850.70 ft above sea level (NGVD of 1929). The Commission shares the costs of operating the station, which collects continuous flow data and periodic event and base water quality data. The watershed area above the gauging station is 86 square miles, or 81% of the hydrologic watershed.

Both grab samples and storm runoff samples are collected and analyzed for various parameters. Analyses of the streamflow and water quality monitoring data for Elm Creek and its tributaries are summarized below. Real time data from the monitoring station in Champlin may be viewed on the Internet at

[http://waterdata.usgs.gov/mn/nwis/uv/?site\\_no=05287890&PARAMeter\\_cd=00065,00060](http://waterdata.usgs.gov/mn/nwis/uv/?site_no=05287890&PARAMeter_cd=00065,00060).

#### Flow Monitoring

Storm event samples are collected using an automatic sampler. Routine manual sampling occurs approximately monthly. The average daily discharge for the 2018 WY (October 1, 2017 through September 30, 2018) was 49.1 cubic feet per second (cfs) or 7.75 inches. During the same period, the minimum and maximum observed average daily discharge values were 3.45 cfs and 214 cfs, respectively. The long-term average daily discharge at the station is 42.1 cfs or 6.65 inches (years 1979-2017). A spreadsheet of the data received in 2018 water year (WY), including daily discharge and summary information, long-term flow volumes (calendar and water years), and the daily mean flow hydrograph follow.

Elm Creek Annual Instantaneous Peak Discharge Rates							
Date	Peak Flow (cfs)	Date	Peak Flow (cfs)	Date	Peak Flow (cfs)	Date	Peak Flow (cfs)
4/4/79	307	3/31/89	159	5/15/99	538*	3/27/09	119
3/25/80	199	8/1/90	225	7/13/00	112	3/17/10	369
6/15/81	44	6/1/91	371	4/25/01	875	3/24/11	803
4/3/82	471*	3/8/92	380	5/11/02	554	5/29/12	568
3/9/83	408	6/22/93	315	6/28/03	695	6/26/13	389
2/25/84	341	4/30/94	669*	6/03/04	350	5/1/14	803
3/18/85	579*	3/17/95	237	10/30/04	118	7/19/15	127
3/27/86	812*	3/19/96	407	10/09/05	295	9/24/16	1,220**
8/1/87	185	4/1/97	511*	3/17/07	223	5/23/17	482
3/27/88	39	4/5/98	306	5/4/08	205	2018	Unavailable***

\*These values have been revised based on the 2001 rating curve.

\*\*All-time instantaneous peak discharge. The estimated 100-year flood discharge at this site is 2,290 cfs.

\*\*\*Instantaneous Peak Flow Data for WY 2018 was unavailable at the time of the preparation of this report

## 05287890 ELM CREEK NEAR CHAMPLIN, MN

USGS Water-Year Summary 2018

LOCATION - Lat 45°09'48", Long 93°26'11" North American Datum of 1927, in NE 1/4 NW 1/4 sec.35, T.120 N., R.22 W., Hennepin County, MN.

DISCHARGE, CUBIC FEET PER SECOND. YEAR 2017-10-01 to 2018-09-30. DAILY MEAN VALUES.

DRAINAGE AREA - 86 mi<sup>2</sup>. [E, Value has been estimated.]

Complete data can be downloaded from:

[https://waterdata.usgs.gov/nwis/wys\\_rpt?dv\\_ts\\_ids=73213&wys\\_water\\_yr=2018&site\\_no=05287890&agency\\_cd=USGS&adr\\_water\\_years=2006%2C2007%2C2008%2C2009%2C2010%2C2011%2C2012%2C2013%2C2014%2C2015%2C2016%2C2017&referred\\_module=](https://waterdata.usgs.gov/nwis/wys_rpt?dv_ts_ids=73213&wys_water_yr=2018&site_no=05287890&agency_cd=USGS&adr_water_years=2006%2C2007%2C2008%2C2009%2C2010%2C2011%2C2012%2C2013%2C2014%2C2015%2C2016%2C2017&referred_module=)

Day	Oct 2016	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	Jun 2017	Jul 2017	Aug 2017	Sep 2017
1	22.3	31.3	19.7	E6.74	E3.81	4.14	135	214	68.8	74	8.28	18.4
2	26.2	28.4	21.9	E6.03	E3.8	4.31	145	185	64.1	115	7.39	15.3
3	52	26.9	22	E5.46	E3.8	4.37	141	163	60.1	140	7.2	13
4	84.2	27.4	24.4	E5.09	E3.8	4.91	129	144	53.9	173	10.1	14.1
5	101	28.8	25.3	E4.75	E3.78	5.55	124	128	47.3	197	12.3	22.8
6	130	28.1	24.6	E4.59	E3.76	5.33	109	114	42.1	195	11.8	23.6
7	155	25.8	23.3	E4.55	E3.74	E5.36	107	100	37.3	179	12.1	22.6
8	156	24.1	23	E4.56	E3.74	E5.5	93.7	89	32.1	159	11.8	20.7
9	141	22.4	21.3	E4.64	E3.68	5.4	84	82.5	28.7	136	10.4	17.4
10	121	27.6	19.5	E4.64	E3.69	5.2 6	79.1	76	27.3	115	8.64	12.9
11	102	20.7	19	E4.57	E3.71	4.8 4	76.5	69.8	25.5	99.1	7.09	9.99
12	87.8	16.3	22.8	E4.39	E3.72	4.7 8	89.4	64.9	24.9	98.6	6.19	8.41
13	74.3	14	15.4	E4.23	E3.73	5.14	109	60.2	23.2	119	5.99	6.43
14	63.8	12.8	21.2	E4.21	E3.76	5.64	109	56	20.9	115	5.38	6.35
15	63.3	13.3	18.7	E4.3	E3.76	6.76	158	53.7	18.5	109	5.42	6.19
16	59.7	16.5	20.3	E4.34	E3.76	E7.68	122	50.6	18.8	97.5	4.87	6.08
17	56.8	17.6	20.7	E4.44	E3.76	8.19	129	46.1	25.7	82.7	5.55	7.28
18	54.6	18.1	20.9	E4.48	E3.83	13	131	40.9	45.5	70.1	5.32	9.89
19	52.7	16.3	21.9	E4.48	E3.87	25	128	39.2	52.5	61.2	4.87	10.5
20	48.9	17.6	21.2	E4.47	E3.84	27.5	159	34	56.8	54.1	5.47	20.3
21	47.9	16.8	23.7	E4.45	E3.78	E29.1	205	31.1	61.7	47.2	5.62	75.3
22	48.7	16.4	21.9	E4.19	E3.61	29.2	265	28.7	65.2	39.8	4.97	86.7
23	49.4	15.4	20.8	E3.95	E3.51	39.6	333	26.9	64.6	33.8	5.07	100
24	48.2	16.6	18.7	E3.86	E3.48	49.9	382	25	59.7	28.3	10.4	117
25	44.3	17.1	17.2	E3.88	E3.45	58.7	400	36.7	52.8	23.7	17.4	121
26	41.5	17.3	E14.8	E3.89	E3.9	72	394	44.1	54.6	20.2	16.8	111
27	41.1	16.7	E12.4	E3.89	3.96	87	370	39.7	59.1	17.2	19	93.7
28	40.6	19.1	E10.4	E3.89	4.01	102	335	36.4	58.9	14.1	22.8	76.9
29	38.8	19.4	E9.1	E3.88		112	289	45.3	59.6	11.9	23.9	63.1
30	36.4	19.1	E8.47	E3.86		122	248	62.3	58.2	10.4	22.3	51.8
31	33.9		E7.58	E3.85		144		69.3		9.17	21.4	
<b>STATISTICS FOR WATER YEAR OCTOBER 2017 TO SEPTEMBER 2018</b>												
Total	2,123	608	592	139	105	1,004	5,579	2,257	1,368	2,645	326	1,169
Mean	68.5	20.3	19.1	4.47	3.75	32.4	186	72.8	45.6	85.3	10.5	39.0
Max	156	31.3	25.3	6.74	4.01	144	400	214	68.8	197	23.9	121
Min	22.3	12.8	7.58	3.85	3.45	4.14	76.5	25	18.5	9.17	4.87	6.08
Ac-ft	4,212	1,206	1,175	275	208	1,992	11,065	4,476	2,714	5,246	646	2,318

05287890 ELM CREEK NEAR CHAMPLIN, MN

USGS Water-Year Summary 2018

LOCATION - Lat 45°09'48", Long 93°26'11" North American Datum of 1927, in NE 1/4 NW 1/4 sec.35, T.120 N., R.22 W., Hennepin County, MN.

DISCHARGE, CUBIC FEET PER SECOND. YEAR 2017-10-01 to 2018-09-30. DAILY MEAN VALUES.

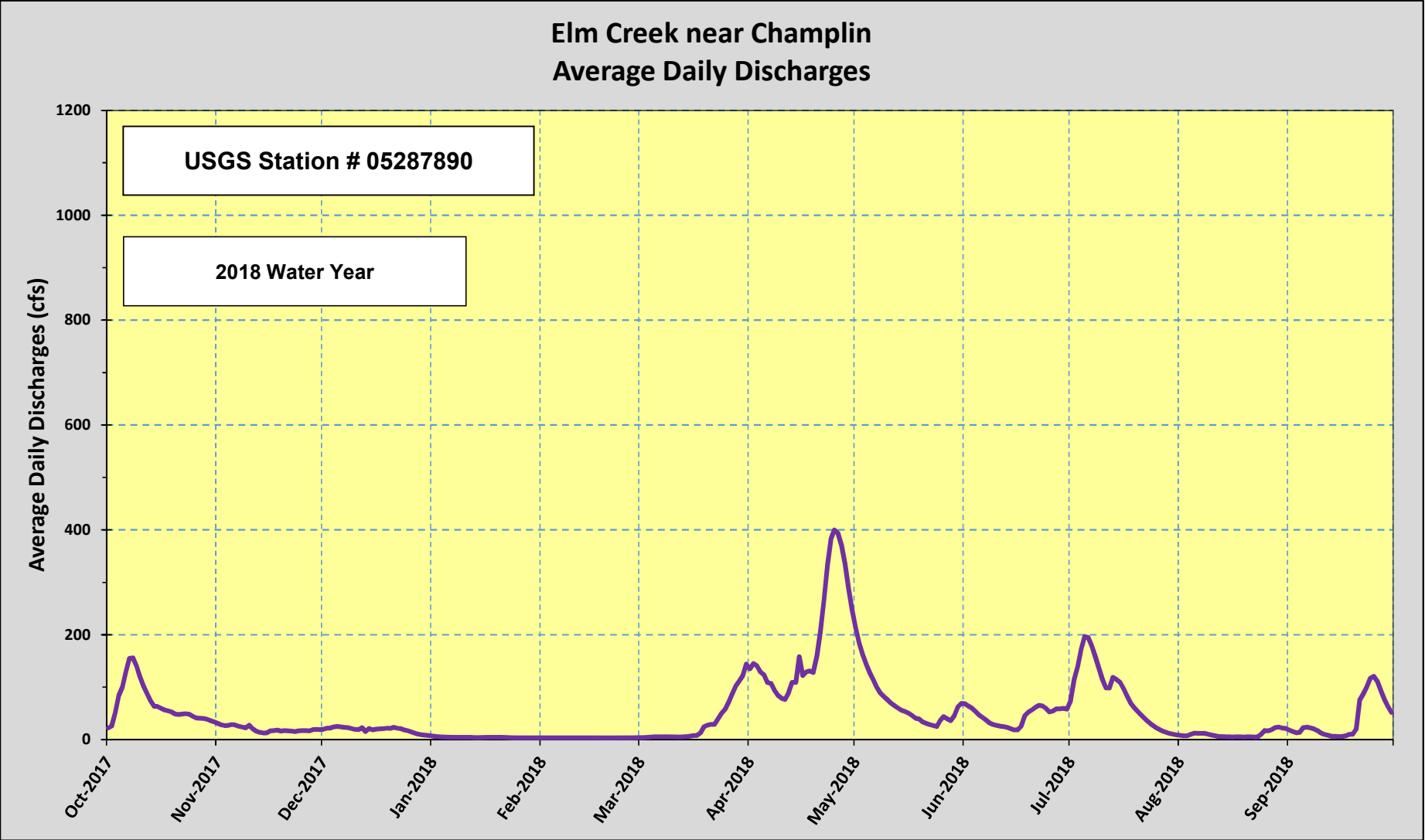
DRAINAGE AREA - 86 mi<sup>2</sup>. [E, Value has been estimated.]

Complete data can be downloaded from:

[https://waterdata.usgs.gov/nwis/wvs\\_rpt?dv ts ids=73213&wvs water vr=2018&site no=05287890&agency cd=USGS&adr water years=2006%2C2007%2C2008%2C2009%2C2010%2C2011%2C2012%2C2013%2C2014%2C2015%2C2016%2C2017&referred\\_module=](https://waterdata.usgs.gov/nwis/wvs_rpt?dv ts ids=73213&wvs water vr=2018&site no=05287890&agency cd=USGS&adr water years=2006%2C2007%2C2008%2C2009%2C2010%2C2011%2C2012%2C2013%2C2014%2C2015%2C2016%2C2017&referred_module=)

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2017, BY WATER YEAR (WY)												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	34.8	23.7	12.3	6.14	9.99	58.8	100	87.9	64.5	41.7	31.0	33.4
Max	240	120	67.2	30.4	99.1	189	414	355	391	157	163	356
(WY)	(1986)	(2016)	(2017)	(2017)	(1984)	(2011)	(2001)	(2014)	(2014)	(1993)	(2016)	(2016)
Min	1.13	1.03	.92	.74	.85	3.48	5.31	3.54	1.34	.76	1.36	1.03
(WY)	(1990)	(1990)	(1990)	(1991)	(2014)	(2014)	(1987)	(2000)	(1988)	(1988)	(2008)	(2013)

SUMMARY STATISTICS	WATER YEAR 2018		WATER YEARS 1979 - 2017	
Annual total	17,914			
Annual mean	49.1		42.1	
Highest annual mean			90.0	
Lowest annual mean			4.54	
Highest daily mean	214	May 1	1,160	Sep 24, 2016
Lowest daily mean	3.45	Feb 25	0.310	Jun 30, 1988
Annual 7-day minimum	3.67	Feb 25	0.347	Jun 26, 1988
Maximum peak flow	NA	Unavailable	1,220	Sep 24, 2016
Maximum peak stage	NA	Unavailable	10.25	Sep 24, 2016
Annual runoff (cfs)	0.571		0.490	
Annual runoff (inches)	7.75		6.65	
10 percent exceeds	125.6		116.0	
50 percent exceeds	23.0		12.7	
90 percent exceeds	3.99		1.54	





\* Automatic Event Samples

U.S. Geological Survey  
Elm Creek near Champlin, Station Number 5287890  
Water-Quality Data for Water Year 2018

[illegible]

U.S. Geological Survey  
Elm Creek near Champlin, Station Number 5287890  
Water-Quality Data for Water Year 2018

[illegible]

U.S. Geological Survey  
Elm Creek near Champlin, Station Number 5287890  
Water-Quality Data for Water Year 2018

[illegible]

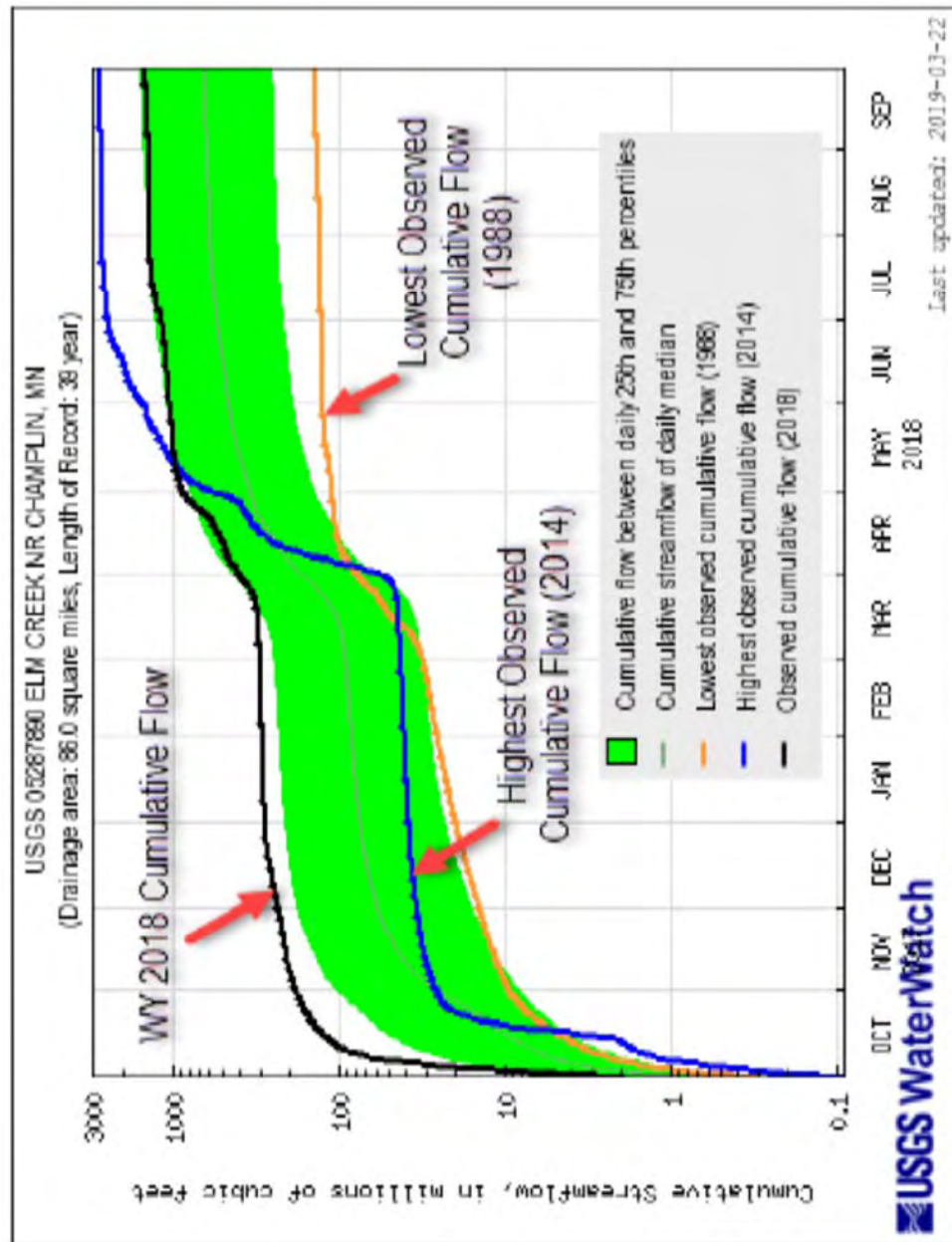
U.S. Geological Survey  
Elm Creek near Champlin, Station Number 5287890  
Water-Quality Data for Water Year 2018

[illegible]

U.S. Geological Survey  
 Elm Creek near Champlin, Station Number 5287890  
 Water-Quality Data for Water Year 2018

site no	sample date	sample time	sample end date	sample end time	p99172	p99173	p99206	p99234
5287890*	10/3/2017	12:26	10/6/2017	9:26		20218	10048	
5287890*	10/6/2017	13:44	10/9/2017	10:44		20218	10048	
5287890	10/19/2017	11:00			20261	20259	10048	
5287890	11/14/2017	10:00			20261	20259	10052	
5287890	12/12/2017	10:00			20261	20259	10052	
5287890	1/31/2018	10:00			20261	20241	10048	
5287890	2/14/2018	10:00			20261	20241	10052	
5287890	3/27/2018	10:30			20261	20241	10052	
5287890	4/24/2018	9:30			20261	20241	10052	
5287890	5/21/2018	10:30			20311	20241	10052	
5287890*	5/29/2018	10:15	5/31/2018	7:15			10052	16
5287890*	6/16/2018	10:52	6/17/2018	11:47			10052	24
5287890	6/20/2018	9:30			20311	20289	10052	
5287890*	6/26/2018	5:22	6/27/2018	4:07			10052	23
5287890*	7/3/2018	12:27	7/5/2018	11:37			10052	24
5287890*	7/12/2018	6:27	7/15/2018	11:37			10052	
5287890	7/17/2018	10:00			20311	20289	10052	
5287890*	8/4/2018	1:40	8/6/2018	9:35			10052	12
5287890*	8/24/2018	14:31	8/27/2018	8:36			10052	14
5287890	8/28/2018	10:00			20311	20329	10052	
5287890	9/6/2018	9:30			20311	20330	10055	
* Automatic Event Samples								









U.S. Geological Survey Water Quality data  
Explanation of codes for 05287890 Elm Creek near Champlin, MN

site_no .....	Station number
sample_dt .....	Begin date
sample_tm .....	Begin time
sample_end_dt .....	End date
sample_end_tm .....	End time
sample_start_time_datum_cd ...	Time datum
tm_datum_rlbty_cd .....	Time datum reliability code
coll_ent_cd .....	Agency Collecting Sample Code
medium_cd .....	Medium code
P00004 .....	Stream width, feet
P00010 .....	Temperature, water, degrees Celsius
P00025 .....	Barometric pressure, millimeters of mercury
P00041 .....	Weather, World Meteorological Organization code
P00063 .....	Number of sampling points, count
P00065 .....	Gage height, feet
P00095 .....	Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius
P00191 .....	Hydrogen ion, water, unfiltered, calculated, milligrams per liter
P00300 .....	Dissolved oxygen, water, unfiltered, milligrams per liter
P00301 .....	Dissolved oxygen, water, unfiltered, percent of saturation
P00340 .....	Chemical oxygen demand, high level, water, unfiltered, milligrams per liter
P00400 .....	pH, water, unfiltered, field, standard units
P00530 .....	Suspended solids, water, unfiltered, milligrams per liter
P00535 .....	Loss on ignition of suspended solids, water, unfiltered, milligrams per liter
P00540 .....	Suspended solids remaining after ignition, water, unfiltered, milligrams per liter
P00600 .....	Total nitrogen [nitrate + nitrite + ammonia + organic-N], water, unfiltered, milligrams per liter
P00605 .....	Organic nitrogen, water, unfiltered, milligrams per liter as nitrogen
P00608 .....	Ammonia, water, filtered, milligrams per liter as nitrogen
P00610 .....	Ammonia, water, unfiltered, milligrams per liter as nitrogen
P00613 .....	Nitrite, water, filtered, milligrams per liter as nitrogen
P00618 .....	Nitrate, water, filtered, milligrams per liter as nitrogen
P00625 .....	Ammonia plus organic nitrogen, water, unfiltered, milligrams per liter as
P00631 .....	Nitrate plus nitrite, water, filtered, milligrams per liter as nitrogen
P00665 .....	Phosphorus, water, unfiltered, milligrams per liter as phosphorus
P00666 .....	Phosphorus, water, filtered, milligrams per liter as phosphorus
P00940 .....	Chloride, water, filtered, milligrams per liter
P30207 .....	Gage height, above datum, meters
P50280 .....	Site visit purpose, code

U.S. Geological Survey Water Quality data  
Explanation of codes for 05287890 Elm Creek near Champlin, MN

P62856 .....	Discharge, for storm event, cubic feet per second
P71845 .....	Ammonia, water, unfiltered, milligrams per liter as NH <sub>4</sub>
P71846 .....	Ammonia, water, filtered, milligrams per liter as NH <sub>4</sub>
P71851 .....	Nitrate, water, filtered, milligrams per liter as nitrate
P71856 .....	Nitrite, water, filtered, milligrams per liter as nitrite
P71999 .....	Sample purpose, code
P72101 .....	Remark Code for P72101
P72105 .....	Sample location, distance upstream, feet
P72123 .....	Discharge, Mean for Storm Event, Cubic Feet Per Second
P82398 .....	Sampling method, code
P84164 .....	Sampler type, code
P84171 .....	Sample splitter type, field, code
P84182 .....	Bottle or bag sampler material (construction), code
P90095 .....	Specific Conductance, water, unfiltered, laboratory, microsiemens per ..... centimeter at 25 degrees Celcius
P99111 .....	Type of quality assurance data associated with sample, code
P99156 .....	Sulfuric acid NWIS lot number, 4.5 N (1:7), 1 mL, National Field Supply Service ..... (NFSS) stock number Q438FLD
P99162 .....	Conductance standard NWIS lot number, 250 uS/cm KCl, National Field Supply ..... Service (NFSS) stock number Q44FLD
P99163 .....	Conductance standard NWIS lot number, 500 uS/cm KCl, National Field Supply ..... Service (NFSS) stock number Q45FLD
P99165 .....	Conductance standard NWIS lot number, 1000 uS/cm KCl, National Field Supply ..... Service (NFSS) stock number Q47FLD
P99171 .....	pH 10 Buffer solution, NWIS lot number, National Field Supply Service (NFSS) ..... stock numbers Q122FLD, Q123FLD
P99172 .....	pH 4 Buffer solution, NWIS lot number, National Field Supply Service (NFSS) ..... stock numbers Q124FLD, Q125FLD
P99173 .....	pH 7 Buffer solution, NWIS lot number, National Field Supply Service (NFSS) ..... stock numbers Q126FLD, Q127FLD
P99206 .....	NWIS lot number, capsule filter, 0.45 micron
P99234 .....	Count of Samples from Autosampler, number

Description of sample\_start\_time\_datum\_cd:    CST .....Central Standard Time;  
    CDT .....Central Daylight Time

Description of tm\_datum\_rlby\_cd:                    K .....Known

Description of coll\_ent\_cd:                            USGSMNWC .....USGS    Minnesota Water Science Center

Description of medium\_cd:                            WS .....Surface water

Description of tu\_id:                                    <https://www.itis.gov/>

Description of remark\_cd:                            < .....less than

### **Fish Lake Alum Treatment Annual Progress Report 2018**

Fish Lake is located in the City of Maple Grove. The lake area is 238 acres in surface area and has a maximum depth of 61 feet and a percent littoral area (water depth of < 15 feet) representing 38% of the lake area. The lake is included on the MPCA's 303(d) list as impaired for aquatic recreation due to excessive nutrients in 2008. Fish Lake was included in the watershed restoration and protection strategies (WRAPS) and the total daily maximum load (TMDL) studies that were completed by the Elm Creek Watershed Management Commission in partnership with MPCA in 2017.

As part of preparation of the TMDL for Fish Lake, sediment cores were collected and analyzed in 2012 by William James at the University of Wisconsin-Stout. The sediment cores were used to measure aerobic and anaerobic sediment phosphorus release rates for the estimation of internal phosphorus loading to support the development of the Fish Lake TMDL. The WRAPS/TMDL studies identified internal loading as comprising about 70% of the total phosphorus load affecting surface water quality and included a recommendation to treat the lake with alum to achieve the MPCA water quality standards. The sediment cores were used to develop the alum dosing options to address the internal phosphorus load. Based on the sediment core analysis, it was recommended to treat the lake with alum to achieve a sediment delivery rate of 80 grams of Al/m<sup>2</sup> in areas of the lake 20 feet or deeper, which translated to a liquid alum application rate of 1,583 gallons/acre of commercial grade alum over 120 acres of the lake surface.

An adaptive management approach was used for implementation of the alum treatment. The current scientific literature indicates that multiple smaller doses spread out over a period of years improve the effectiveness of an alum treatment compared to administering the alum in one large dose at a single point in time. It has also been documented that phosphorus binding efficiency and capacity on the alum floc depends to a large extent on the rapidity of exposure to phosphorus after the alum application. Thus, the application of alum during late summer peak in hypolimnetic phosphorus accumulation can promote immediate exposure of the settling alum floc to soluble phosphorus for rapid binding and maintenance of a much higher phosphorus adsorption capacity after deposition onto the sediment surface.

It was recommended by William James to conduct two separate alum treatments during periods of peak anoxia with high hypolimnetic phosphorus concentrations at a delivery rate of 40 grams Al/m<sup>2</sup> over a three-year time period. This would allow the opportunity to monitor changes in water quality and conduct a comprehensive study to measure alum effectiveness at controlling internal loading. Based on the outcome of the study, the second alum treatment could then be adjusted accordingly in order to maximize potential treatment effectiveness.

HAB Aquatic Solutions was awarded the contract and completed the first alum application in mid-September 2017. The treatment barge computer was pre-programmed with bathymetry data that adjusted the target alum dosage rate of 40 grams/m<sup>2</sup> based on water depth and travel speed. 95,349 gallons of alum were applied to 120 acres of Fish Lake at depths greater than 20 feet.

Three Rivers Park District (TRPD) and UW -Stout conducted a two-phased study to determine the effectiveness of the alum application in controlling internal phosphorus load. Phase 1 of the study involved the deployment of sediment traps above the sediment surface in two different locations of Fish Lake prior to the alum application to determine the Al:P binding capacity ratio immediately after the first alum treatment.

Phase 2 of the study involved collection of sediment cores in the same locations as the sediment traps to measure phosphorus sediment flux and the Al:P binding capacity ratio the following summer in 2018. TRPD also monitored the change in water quality in response to the fall alum treatment performed in 2017. Water samples were collected bi-weekly at the surface from May - September in 2018. Surface water samples were analyzed for total phosphorus, soluble reactive phosphorus, total nitrogen, and chlorophyll-a. The water clarity/transparency was also measured with a secchi disk. The surface water quality constituents were compared to the MPCA state water quality standards. Water samples were also collected at the top of the hypolimnion and 1-m from the bottom to estimate the change in hypolimnetic phosphorus due to sediment release during anoxic conditions in 2018.

The sediment traps were collected one week after the alum application to allow for the complete settling of the alum floc in 2017. The samples were analyzed for dry mass, total aluminum, aluminum-bound phosphorus, and the Al:P binding ratio. The sediment trap analysis was compared to the changes in the phosphorus vertical profile before and

after the alum application. The results indicate that the alum application was effective at removing phosphorus as the alum floc settled throughout the water column. A summary of the findings from Phase 1 are below.

- There were significant decreases in hypolimnetic phosphorus, and it was estimated that 33% to 41% of the total phosphorus (TP) and 29% to 44% of the soluble reactive phosphorus (SRP) was bound by the alum floc during deposition through the hypolimnion.
- Aluminum bound phosphorus in the sediment traps accounted for most of the hypolimnetic TP (60% to 80%) and SRP (79% to 88%).
- The Al:P binding ratios in the sediment traps was approximately 20:1 for both stations.

Sediment samples were collected from the two sediment trap locations the following summer of 2018. The phosphorus flux from the sediments was measured under anerobic conditions in the laboratory. The sediments were further analyzed for phosphorus fractionation and total aluminum to determine Al:P binding ratios. The results indicated that there was continual binding of phosphorus on the alum floc layer between the first alum treatment in September 2017 and August 2018. A summary of the findings from Phase 2 are below.

- The rates of diffusive phosphorus flux under anaerobic conditions were extremely low after the late summer 2017 alum treatment.
- The total aluminum was greatest at the surface of the sediments suggesting that the alum floc layer was located primarily on top of the original sediment surface. This alum concentration was similar to the concentration measured in the sediment traps during Phase 1 of the study.
- There was considerable phosphorus bound to the Aluminum on the alum floc over time.
- The Al:P ratio declined from 19:1 to 16:1 at station 1 and from 21:1 to 18:1 at station 2 in approximately 1 year. Declining Al:P ratios suggested that binding sites were continuing to be efficiently filled via phosphorus diffusing from underlying sediments.

The study results suggest the application of alum during the late summer stratified period and floc deposition through the phosphorus-rich hypolimnion lead to considerable binding of internal phosphorus loads, a relatively low Al:P ratio, and suppression of hypolimnetic phosphorus accumulation. The goal with the Fish Lake alum treatment was to maintain high phosphorus binding efficiency of the alum floc by exposing it to high concentrations of hypolimnetic phosphorus immediately after application. The decrease in the hypolimnetic phosphorus concentrations suggest that alum application has significantly reduce the internal loading within Fish Lake. Based on the results of the study, William James recommends completing the second alum treatment during a period of summer anoxia when the hypolimnetic phosphorus is at its highest to achieve optimal binding capacity. The second alum treatment for Fish Lake is planned for the summer of 2019.

The success of the alum treatment was further confirmed through the in-lake water quality monitoring efforts in 2018. The Fish Lake water quality report card shows the annual changes in water quality. The in-lake water quality conditions achieved the phosphorus state water quality standards throughout the entire season of 2018. The hypolimnetic phosphorus concentrations were also the lowest recorded since monitoring has occurred. Despite the lake meeting phosphorus water quality standards in 2018, there was an algal bloom in August 2018 that resulted in chlorophyll-a concentrations exceeding the state water quality standard. This algal bloom occurrence has been observed the first year in other lakes that have recently had alum treatments. William James has observed rare algal blooms the first year after the alum treatments for two lakes in Wisconsin, and speculated that the algal species temporarily exploits a niche and dominates the first year after treatment. The rare algal specie appears to be a one-time occurrence that disappears the following year. TRPD will continue to monitor the water quality in-lake response to the second alum treatment that is planned for the summer of 2019.

## 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.

The Elm Creek Watershed Management Commission may consider Commission- or City-generated requests to undertake subwatershed assessments (SWAs). Primarily, SWAs will be completed in rural areas suspected of being high-nutrient loading and will be specific enough to identify potential load-reducing projects. SWAs will be

- a. Identified in areas outside of the Municipal Urban Service Area (MUSA).
- b. Supported by the City in which the SWA is located.
- c. Undertaken at the discretion of the Commission.
- d. Funded by a \$15,000 maximum cap (grant or Commission funding) and a 20% match by the City requesting the SWA.

ADOPTED APRIL 11, 2012

REVISED OCTOBER 12, 2016

## HENNEPIN COUNTY

### MINNESOTA

#### SWA Cost Share application:

- Please fill out the provided form or use your own containing the same information.
- Hennepin County staff can help with preparing the document upon request, but the cities should have a good idea about the cost and what type of implementation support they are willing to provide first
- Application should be returned as a PDF. Attachments can either be incorporated into application PDF or separate
- Hennepin technical staff will review all applications based on the criteria below and bring their recommendations to the February TAC meeting:
  - a. Subwatershed is identified in the MPCA WRAPS or TMDL report as a priority
  - b. Sponsor city shows active staff and financial support for implementation of projects identified within the SWA
  - c. Sponsor city has the ability to leverage outside funding for implementation
  - d. 2015 Elm Creek Plan references

Completed applications should be emailed to Kirsten Barta ([Kirsten.barta@hennepin.us](mailto:Kirsten.barta@hennepin.us)) no later than **January 15, 2019**.

If you have questions or need assistance, feel free to call 612-543-3373 (office) or 612-382-3956 (cell) or email the above address.



## **Elm Creek Watershed Management Commission**

### **Subwatershed Assessment Cost Share Application**

Date:

Waterbody to be assessed:

Sponsor City:

Total cost estimate:

Anticipated City Contribution:

Anticipated Commission Contribution:

Firm(s) solicited:

#### **Background information**

Why is the sponsoring city interested in this SWA?

Other supporting documents showing water quality issues? Ex: TMDL, Stressor ID report, etc. Please provide web links

Any additional local knowledge of issues?

#### **Implementation**

What implementation support will the sponsoring city provide? Ex: funding, staff time, outreach, submitting a Clean Water Fund app, etc

Does the sponsoring city presently have plans to incorporate the SWA information into their planning or other work? Please explain.

#### **Other information**

Is there anything else the Commission should know about the proposed SWA?

#### **Attachments**

Please attach a map of the proposed project area as well as any cost estimates solicited

## ELM CREEK WATERSHED MANAGEMENT COMMISSION CAPITAL IMPROVEMENT PROGRAM CLOSED PROJECT ACCOUNT POLICY

### I. PURPOSE

The Commission's Capital Improvement Program (CIP) includes projects that are proposed to be funded by a County ad valorem tax levy on property in the watershed pursuant to Minn. Stat. §103B.251. Tax settlements from Hennepin County to the Commission for these projects are deposited in a construction account established for each such project. There will be times when tax settlements to the Commission exceed the costs incurred for CIP projects. The purpose of this policy is to establish procedures and guidelines for collection, accounting and use of these excess funds.

### II. ESTABLISHMENT OF ACCOUNT

The Commission hereby establishes the CIP Closed Project Account (the "Account"). Upon completion of CIP projects funded in whole or in part by a County tax levy, reimbursement of Commission expenses and administrative charges, and final payment to the City with responsibility for construction of the project, the construction account for that project will be closed and remaining funds will be transferred to the Account. Interest earned on money in the Account will be credited to the Account.

### III. USE OF THE CIP CLOSED PROJECT ACCOUNT

As a general guiding principle, the Account will be used for expenses incurred for other projects in the Commission's CIP that are proposed to be funded with a County tax levy. Such expenses include:

- A. The administrative and construction costs of CIP projects. Monies from the Account may be used to reduce or eliminate a tax levy for capital projects in the CIP by transferring monies to the construction accounts for those projects.
- B. Reimbursement to the Commission's General Fund of expenses or administrative fees incurred in connection with a project if the tax settlement for that project is not sufficient to cover such expenses.
- C. Reimbursement to cities that construct projects for administrative or construction costs if tax settlements received from the County are not sufficient to cover such costs. These costs might include cost overruns on projects, change orders, corrective follow-up work or repairs, or other unforeseen project costs.
- D. In order to minimize the occurrence of insufficient tax settlements received from the County, beginning with the 2019 levy (payable 2020):
  1. Five percent (5%) will be added to the project cost for Commission administrative and other expenses. (Example: \$100,000 project x 105.0% = \$105,000)
  2. The Commission will certify 101 percent (101%) of the total project cost to cover levy short falls. (Example: \$105,000 project x 101.0% = \$106,050)

IV. PROCEDURE FOR USE OF ACCOUNTS

The Account may be used for any lawful purpose upon a majority vote of the Commissioners present at any meeting at which a quorum of the Commission is present.

V. TARGET ACCOUNT BALANCE

The Commission does not intend to accumulate unreasonable balances in the Account. Because the Account could be used to fund projects in advance of receipt of tax settlement from the County, and because projects in the CIP could reasonably be expected to have total costs, or annual project costs, of approximately \$100,000, the Commission finds that an accumulation of up to \$100,000 is reasonable. Money will not be accumulated to an amount in excess of \$100,000 unless a specific use for such funds has been identified. The Account balances may be kept within this amount by expending funds for any of the purposes identified in this policy.

VI. PERIODIC REVIEW

Each year the Commission will consider the status of the Account prior to certification to Hennepin County of requests for tax levies for capital projects.

ADOPTED NOVEMBER 14, 2018



## Media Alert

For Immediate Release

Contact: John Bly, [john@metroblooms.org](mailto:john@metroblooms.org), 651-699-2426

**Learn How to Create a Resilient Yard**

2018 Blue Thumb workshops hosted by Metro Blooms

What?	<p>Unseasonably warm weather, long periods of drought, and flooding rains are the new normal in Minnesota. Metro Blooms is offering two types of resilient yard presentations this year: <i>Resilient Yard Workshops</i> and <i>Turf Alternative workshops</i>.</p> <ul style="list-style-type: none"> <li>• <i>Resilient Yard Workshops (2.5 hours)</i>: Provide a framework to understand the importance of resilience and how it can be fostered in your yard through a variety of practices, including how to install your own raingarden. Following presentation, attendees receive one-on-one design assistance from Blue Thumb Landscape Designers, Hennepin County Master Gardeners, and Master Water Stewards to create a plan for your own yard.</li> <li>• <i>Turf Alternative Workshops (1.5 hours)</i>: Your guide to a low-maintenance lawn. This 1-hour presentation overviews the benefits and options before providing step-by-step instructions to establishing water- and pollinator-friendly perennial ground covers. Suggested turf alternatives minimize the need for irrigation and chemical inputs while maintaining a useable lawn. The presentation is followed by a group discussion to identify and overcome common obstacles faced by homeowners.</li> </ul> <p>All workshops attendees receive information about installation cost share programs and Blue Thumb resources to help get a project in the ground.</p>
When?	March-June 2018
Where?	11 Twin Cities metro locations + 1 workshop in Prescott, Wisconsin
How to Register?	<p>Visit <a href="http://metroblooms.org">metroblooms.org</a> or call 651-699-2426 Cost: \$15 per household unless otherwise noted. Register soon, some locations fill up fast. You can also mail your registration to Workshop Registration, P.O. Box 17099, Minneapolis, MN 55417. Enclose a check payable to Metro Blooms, and include the workshop location, your name, address, phone number and email address.</p>
Why?	<p>Increasingly severe changes in Minnesota's weather patterns are impacting all of us, but these changes are felt most strongly in our cities. Impermeable surfaces (roads, roofs, parking lots, and unhealthy compacted soils) excel at soaking up and retaining heat from the sun, and also contribute to huge amounts of runoff, carrying pollution into our waters. Resilient yards do the opposite: shed and shade the sun's heat, but soak up and infiltrate stormwater, cleaning and using it to help cool the surrounding landscape. A resilient yard not only survives extreme weather—it also helps us thrive in spite of it.</p>
	<p>Workshops presented by Metro Blooms, sponsored by the Cities of Minneapolis, Plymouth, Robbinsdale, Crystal, Brooklyn Park, Brooklyn Center, New Hope, St. Louis Park, and Edina, Hennepin County Master Gardeners, Minnehaha Creek Watershed District, Nine Mile Creek Watershed District, Shingle Creek and West Mississippi Watershed Management Commission, Rice Creek Watershed District, Elm Creek Watershed Management Commission, Bassett Creek Watershed Management Commission, and Friends of Freedom Park.</p> <p>Metro Blooms, a local non-profit organization, works to strengthen communities by promoting environmentally-sound landscaping that beautifies neighborhoods and protects our environment. Metro Blooms coordinates the Blue Thumb partnership – a network of public and private partners working towards planting for clean water.</p>

Register now. Some locations fill up fast. The \$15 workshops are offered March - June:



*Cover image: Benilde St. Margaret School sampling Minnehaha Creek in Utley Park Edina.  
Photo taken by John Porisch. All other photos by Katie Farber.*

*This appendix contains excerpts from the 2018 River Watch Report pertinent to the Elm Creek watershed.  
The full report may be viewed at <https://www.hennepin.us/business/work-with-henn-co/riverwatch>*

## **River Watch 2018**



## Introduction

The River Watch Program has provided hands-on environmental education to students throughout Hennepin County since 1995. Every spring and fall, students and teachers venture into streams with waders securely fastened and dip nets in hand to collect aquatic macroinvertebrates, or bottom-dwelling, spineless organisms such as mayflies, stoneflies, snails and beetles. Macroinvertebrates are influenced by physical and chemical properties of streams, so monitoring these organisms helps assess water quality. River Watch is an eye-opening experience for all participants, and the resulting data helps us understand the health of our streams.

## 2018 highlights

In 2018, 16 stream stretches were monitored in the spring and/or fall. Data was gathered by more than 900 students from 26 classes and 16 schools. Students, teachers and chaperones donated more than 2,500 hours.



## Data Analysis

The grading scale used in River Watch is based on the Hilsenhoff Family Biotic Index, one of the most common metrics used for data analysis in citizen stream monitoring programs. The Family Biotic Index measures the overall community of invertebrates and their tolerance to pollution levels. The scale ranges from 0 to 10 with the lower values indicating high sensitivity to pollution and good water quality.

**Hilsenhoff Family Biotic Index**

Family Biotic Index	Water Quality	Degree of Organic Pollution
0-3.50	Excellent	No apparent organic pollution
3.51-4.50	Very Good	Possible slight organic pollution
4.51-5.50	Good	Some organic pollution probable
5.51-6.50	Fair	Fairly significant organic pollution likely
6.51-7.50	Fairly Poor	Substantial pollution likely
7.51-8.50	Poor	Very substantial pollution likely
8.51-10.0	Very Poor	Severe organic pollution likely

In 2018 a new component was added to River Watch where students directed projects based upon a research question. A fabulous group of seniors from Minnetonka High School in the Vantage Program focused their efforts in the Elm Creek watershed to determine the frequency of stoneflies. We met throughout the spring of 2018 to develop a research project based on Rush Creek in

Hennepin County. The students chose this particular area because of the stoneflies found in 2017, which was unique to Hennepin County. They wanted to know how prevalent stoneflies are in Rush Creek, so they sampled two locations.

The first sampling was done immediately east of 101st Lane where the stoneflies were found last year. The index result was a 5.47 or “Good.” This site didn’t produce any stoneflies but this group did find them at the Minnetonka High School site at Rush Creek in the Elm Creek Park Preserve. It’s the second year in a row that Rush Creek has been home to stoneflies.

Students presented their data to their class and to Hennepin County staff at completion of the project.



Above: Kaleidoscope Charter School  
Right: Wayzata High School



### Historic data

Historic data for the monitored sites is available on the River Watch interactive map. The map also includes site photos, information about watersheds and land cover data to help investigate how land use may impact water quality. The map is available at [www.hennepin.us/riverwatch](http://www.hennepin.us/riverwatch).

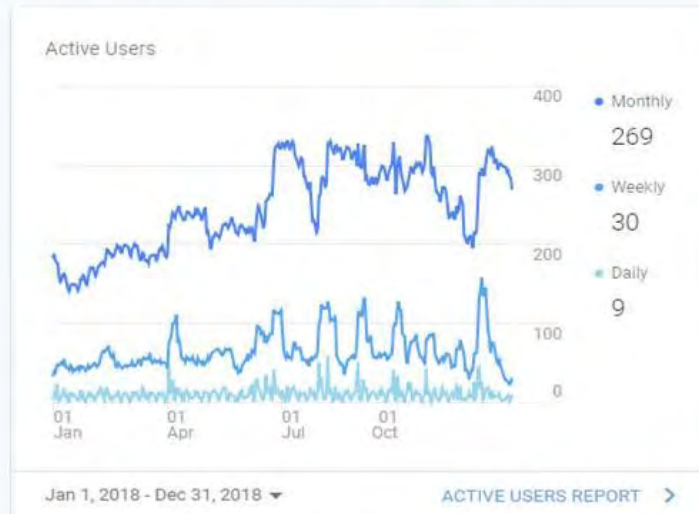
The 2018 monitoring groups and results are shown below.

Elm Creek Watershed					
Site	School	Teacher	2017 score	2018 score	Years
Crow River at St. Michael Water Treatment Plant	St. Michael-Albertville High School	Kay Nowell	3.80 Very Good	3.75 Very Good	15
Rush Creek, western side of 101 <sup>st</sup> Lane, Maple Grove <i>*Perlidae found</i>	Kaleidoscope Charter School, Otsego	Carrie Lynch	4.75 Good	5.12 Good	13
Rush Creek, eastern side of 101 <sup>st</sup> , Maple Grove	Vantage Group Minnetonka High school	Dawn Norton		5.47 Good	New 2018
Elm Creek at Peony Lane	Wayzata High School	Susie Newman	8.10 Poor	7.3 Fairly Poor	21
Elm Creek downstream from Rice Lake	West Lutheran High School, Plymouth	Steve Merten	6.15 Fair	6.13 Fair	2
Elm Creek at Maple Grove Arboretum	Osseo High School	Brandon Burns		6.49 Fair	New 2018
Rush Creek <i>*Perlidae found</i>	Minnetonka High School	Dawn Norton		5.5 Good	New 2018

## Google Analytics

2.6K Users, 3.9K sessions. Average session duration 1 min 45 sec

How are your active users trending over time?



What pages do your users visit?

Page	Pageviews	Page Value
/	2,828	\$0.00
/minutes--meeting-packets.html	676	\$0.00
/application-requirements.html	470	\$0.00
/staff.html	425	\$0.00
/locations-and-maps.html	364	\$0.00
/lakes.html	344	\$0.00
/project-reviews-overview.html	303	\$0.00
/contact-us.html	297	\$0.00
/third-generation-plan.html	260	\$0.00
/rush-creek-swa.html	172	\$0.00

Jan 1, 2018 - Dec 31, 2018

PAGES REPORT >





**Elm Creek Watershed Management Commission  
2017-2019 Operating Budgets**

	2017 Budget	2018 Budget	2019 Budget
<b>GENERAL OPERATING BUDGET</b>			
<b>Operating Expenses</b>			
Administrative	90,000	90,000	90,000
Watershed-wide TMDL Admin		2,500	1,500
Grant Writing	5,000	4,000	4,000
Website	6,000	6,000	5,000
Legal Services	2,000	2,000	2,000
Audit	5,000	5,000	5,000
Insurance (dividend 2017 = \$487)	3,800	3,900	3,900
Contingency	2,000	1,000	1,000
<b>Subtotal</b>	<b>113,800</b>	<b>114,400</b>	<b>112,400</b>
<b>Project Reviews</b>			
Technical - HCEE	98,000	95,000	97,400
Technical - HCEE - Floodplain modeling		46,386	46,386
Technical Support - Consultant	15,000	12,000	15,000
Admin Support	11,000	14,000	15,000
<b>Subtotal</b>	<b>124,000</b>	<b>167,386</b>	<b>173,786</b>
<b>Wetland Conservation Act</b>			
WCA Expense - HCEE	12,000	17,750	18,200
WCA Expense - Legal	500	500	500
WCA Expense - Admin	2,000	1,500	2,000
<b>Subtotal</b>	<b>14,500</b>	<b>19,750</b>	<b>20,700</b>
<b>Water Monitoring</b>			
Stream Monitoring			
Stream Monitoring - USGS	24,177	24,900	41,000
Stream Monitoring - TRPD			6,225
Extensive Stream Monitoring	7,000	7,600	650
DO Longitudinal Survey	500	1,000	
Gauging Station - Elec Bill	220	250	250
Rain Gauge Network	100	100	100
Lake Monitoring			
Lake Monitoring - CAMP	1,200	720	760
Lake Monitoring - TRPD			
Sentinel Lakes	2,470	3,300	8,100
Additional lake	618	825	1,500
Aquatic Vegetation Surveys	1,029	1,100	325
Source Assessment	2,000	0	
Watershed-wide TMDL - Followup - TRPD	10,000	5,000	2,500
Wetland Monitoring - WHEP	4,000	4,000	4,000
<b>Subtotal</b>	<b>53,314</b>	<b>48,795</b>	<b>65,410</b>

Elm Creek Watershed Management Commission 2017-2019 Operating Budgets			
	2017 Budget	2018 Budget	2019 Budget
<b>Operating Expenses, continued</b>			
Education			
Education - City/Citizen Programs	4,000	4,000	4,000
WMWA General Admin	4,000	4,000	5,000
WMWA Implementa Activities incl Watershed PREP	6,000	6,500	6,500
R Garden Workshop/Intensive BMPs	2,000	2,000	2,000
Education Grants	2,000	2,000	1,000
Macroinvertebrate Monitoring-River Watch	6,000	3,000	3,000
<b>Subtotal</b>	<b>24,000</b>	<b>21,500</b>	<b>21,500</b>
Management Plan			
Plan Amendments	5,000	2,000	2,000
Local Plan Review	2,000	8,000	
<b>Subtotal</b>	<b>7,000</b>	<b>10,000</b>	<b>2,000</b>
CIPs, Grants, Special Projects, Studies			
Capital Outlay - CIPs - Ad Valorem	249,000	490,000	462,500
Projects ineligible for ad valorem	50,000	50,000	50,000
Upper and South Metro Miss TMDL	0	0	0
Studies, Subwatershed Assessments	35,000	35,000	35,000
<b>Subtotal</b>	<b>334,000</b>	<b>575,000</b>	<b>547,500</b>
Contingency	0	0	0
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Operating Expenses</b>	<b>670,614</b>	<b>956,831</b>	<b>943,296</b>
<b>Revenue</b>			
CIPs - Ad Valorem	249,000	490,000	462,500
Grant Revenue			
Floodplain Modeling		46,386	46,386
Project Review Fees	100,000	80,000	80,000
Water Monitoring - TRPD Co-op Agmt	6,500	6,500	5,000
WCA Fees	8,000	10,000	5,000
Forfeited/Reimbursed Sureties, Reimbursement from LGUs	0	0	4,000
Membership Dues	219,700	225,000	230,400
Interest Income	100	250	2,500
Dividend Income		750	500
<b>Total Operating Revenue</b>	<b>583,300</b>	<b>858,886</b>	<b>836,286</b>
<b>Surplus (Deficit)</b>	<b>87,314</b>	<b>97,945</b>	<b>107,010</b>

**Elm Creek Watershed Management Commission  
2017-2019 Member Assessments**

2017	2016 Taxable Market Value	2017 Budget Share		Increase over Prev Year	
		%age	Dollars	%age	Dollars
Champlin	410,505,694	3.85%	8,458.23	-3.24%	-283
Corcoran	709,731,668	6.66%	14,623.61	0.77%	112
Dayton	501,487,424	4.70%	10,332.86	3.60%	359
Maple Grove	5,651,956,239	53.01%	116,455.30	0.42%	486
Medina	891,170,325	8.36%	18,362.05	6.82%	1,172
Plymouth	905,845,273	8.50%	18,664.42	6.92%	1,208
Rogers	1,592,062,304	14.93%	32,803.53	4.08%	1,286
<b>Totals</b>	<b>10,662,758,927</b>	<b>100.00%</b>	<b>219,700.00</b>	<b>2.02%</b>	<b>4,340</b>
2018	2017 Taxable Market Value	2018 Budget Share		Increase over Prev Year	
		%age	Dollars	%age	Dollars
Champlin	435,155,559	3.82%	8,593.96	1.60%	136
Corcoran	742,511,061	6.52%	14,663.98	0.28%	40
Dayton	563,384,729	4.95%	11,126.38	7.68%	794
Maple Grove	5,908,582,953	51.86%	116,689.62	0.20%	234
Medina	950,777,365	8.35%	18,777.07	2.26%	415
Plymouth	1,108,795,705	9.73%	21,897.80	17.32%	3,233
Rogers	1,683,675,595	14.78%	33,251.20	1.36%	448
<b>Totals</b>	<b>11,392,882,967</b>	<b>100.00%</b>	<b>225,000.00</b>	<b>2.41%</b>	<b>5,300</b>
2019	2018 Taxable Market Value	2019 Budget Share		Increase over Prev Year	
		%age	Dollars	%age	Dollars
Champlin	482,451,066	3.96%	9,131.64	6.26%	538
Corcoran	805,284,845	6.62%	15,242.10	3.94%	578
Dayton	657,235,681	5.40%	12,439.89	11.81%	1,314
Maple Grove	6,195,629,078	50.90%	117,268.32	0.50%	579
Medina	1,017,473,342	8.36%	19,258.32	2.56%	481
Plymouth	1,218,746,394	10.01%	23,067.93	5.34%	1,170
Rogers	1,795,887,426	14.75%	33,991.82	2.23%	741
<b>Totals</b>	<b>12,172,707,832</b>	<b>100.00%</b>	<b>230,400.00</b>	<b>2.40%</b>	<b>5,400</b>



## Watershed Management Commission

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ADMINISTRATIVE OFFICE  
3235 Fernbrook Lane  
Plymouth, MN 55447  
PH: 763.553.1144  
E-mail: [judie@jass.biz](mailto:judie@jass.biz)

TECHNICAL OFFICE  
Hennepin County Public Works  
Department of Environment and Energy  
701 Fourth Ave. South, Suite 700  
Minneapolis, MN 55415  
PH: 612.348.7338  
E-mail: [james.kujawa@hennepin.us](mailto:james.kujawa@hennepin.us)

### Westin Ridge Plymouth, Project #2019-007

**Project Overview:** This project is proposed on four individual parcels that total approximately 75 acres. It is located at the SE intersection of CSAH 101 and 47 in Plymouth. The entire site flows to a large onsite wetland that takes up approximately the southerly 1/3 of the properties. This wetland discharges easterly into a chain of wetlands that run for about a mile before reaching Elm Creek on the east side of Peony Lane. The site will be developed into 122 single family detached residential lots. The Commission's review will for the Commissions 3<sup>rd</sup> Generation STWMP Rules and Standards on Stormwater Management (Rule D), Erosion Control (Rule E), and Wetland Buffers (Rule I)

**Applicant:** West Plymouth Development Inc., Nate Herman, 10850 Old County Road 15, Suite 200, Plymouth, MN 55441. Phone: 952-546-5070. Email: [nate@gonyecompany.com](mailto:nate@gonyecompany.com).

**Agent/Engineer:** Sathre-Bergquist, Inc. Tom Welshinger, 150 South Broadway, Wayzata, MN 55391. Phone: 952-476-6000. Email: [twelshinger@sathre.com](mailto:twelshinger@sathre.com)

**Exhibits:**

- 1) ECWMC Request for Plan Review and \$2,750 Project Review fee received March 15, 2019.
- 2) Preliminary Site Plans, Westin Ridge dated October 18, 2018. Most recent revision dated February 14, 2019.
  - a. Sheet SP, Preliminary Site Plan
  - b. Sheet AA, ALTA Survey
  - c. Sheet PP, Preliminary Plat
  - d. Sheets SW1 to SW4, Preliminary Sanitary Sewer and Watermain Plan,
  - e. Sheets SS1 and SS2, Preliminary Storm Sewer Plan
  - f. Sheet GP1 to GP4, Preliminary Grading Plan
  - g. Sheet EC1 to EC3, Preliminary Erosion Control Plan
  - h. Sheet TS1 to TS8, Tree Survey.
- 3) Westin Ridge Stormwater Management Plan by Advanced Engineering and Environmental Services dated February 14, 2019.
- 4) Preliminary Geotechnical Exploration Report by Haugo GeoTechnical Services dated July 8, 2013. Sketch and test pit logs dated December 20, 2018
- 5) ALTA Land Title Survey, 2 of 2 sheets, dated September 24, 2018.

- 6) Preliminary Plat, 2 of 2 sheets, last revision date February 6, 2019.

**Findings:**

- 1) A complete application was received March 15, 2019. The initial 60-day decision period per MN15.99 expires May 14, 2019.
- 2) Current land use consists of 47.6 acres rural residential lots and open space. These areas drain into a large wetland complex in the southerly 27 acres of the site.
- 3) Proposed land use is 122 single family residential lots and its required infrastructure.
- 4) The change in the land use and zoning triggers compliance to the Commissions Stormwater Management (Rule D), Erosion Control (Rule E), Floodplain (Rule F) and Wetland Buffer (Rule I) rules.
- 5) The large wetland complex in the southerly 1/3 of this site was previously modeled during other project development in this vicinity. It was modeled at 947.6. The Westin Ridge site plans label the high-water elevation at 948.0. This is acceptable for our review.

**Stormwater Management**

**General**

- 6) There will be two wet detention ponds (NURP) and four filtration basins constructed to treat and control the water from this site before it discharges into the existing onsite wetland complex.
  - a. All ponds and filter basins are covered by D & U Easements.
  - b. All pond and filter basin outlet control structures have skimming devices
  - c. The bottom of the filtration media is proposed at 3.0 feet or more above the groundwater elevations
  - d. Drawdown on the filtration pond will be less than 48 hours (12 to 41 actual).
  - e. No standard filtration bench/pond details provided on the site plans
  - f. No pretreatment is provided for filter basins 3S and 3SE.

**Abstraction/Filtration meet the Commission standards**

- 7) There will be 13.44 acres of new impervious areas because of this site plan.
- 8) This results in 53,666 cubic feet (1.232 ac. ft.) of abstraction/filtration volume required per the Commission's abstraction standard.
- 9) Actual filtration provided in the three filter basins and one pond bench will be 61,552 cubic feet.

**Water Quality meet the Commission standards.**

- 10) Pre and post development were modeled using P8, routing the developed conditions through the storm sewer infrastructure.
- 11) Existing TSS/TP loads are 6,451 and 20.6 lbs/year respectively. Proposed are 1,183 and 15.0 lbs/year.

**Water Quantity meet the Commission standards.**

- 12) This site has approximately 300 acres of off-site water routed through it.
- 13) Water quantity was analyzed looking at; a) the overall discharge before after development from the large wetland complex on this property.

### Rate Control Summary

	2-yr (cfs)	10-yr (cfs)	100-yr (cfs)
<b>Pre-Development Rates</b>	<b>60.1</b>	<b>139.9</b>	<b>317.2</b>
<b>Post-Development Rates</b>	<b>41.3</b>	<b>111.6</b>	<b>268.1</b>

### Water Quality Summary

<b>Condition (based on 47.6 acres)</b>	<b>TP Load (lbs/yr)</b>	<b>TSS Load (lbs/yr)</b>	<b>Abstraction (cu. ft.)</b>	<b>Filtration (cu. ft.)</b>	<b>Annual Volume* (ac. ft.)</b>
Pre-development (baseline)	20.6	6,581	N/A	N/A	34.5*
Post-development without BMPs	38.8	12,092		53,666	47.6*
Post-development with BMPs	15.0	1,183		61,552	11.9*
<b>Net Change</b>	<b>-5.6</b>	<b>-5,268</b>	<b>N/A</b>	<b>-7,886</b>	<b>N/A</b>

\*Staff estimates

#### Erosion Control

- 14) Construction sequencing on the filter basins are not provided on the site plans. Final establishment of the filter basins must not be constructed until all of the upstream watershed vegetation is established.
- 15) If the filter basins are utilized as temporary sediment basins, specific sequencing and sizing for the temporary and permanent conditions on the basins are required.
- 16) Temporary sediment basins on lots 50 to 52 and lot 91 must be sized and shown to MPCA design standards.
- 17) Identify options to route the clean water from the west and north (CR 101 and 47 culverts) through this site without contaminating it in the construction operations, in the event of a large rainfall occurrence.

#### Wetland Buffer Plans

- 18) Wetland buffer will meet the Commission's 10' minimum/25' average buffer requirements. Monumentation adheres to the Commission standards.

**Recommendation:** The following items must be addressed to meet the Commission's requirements;

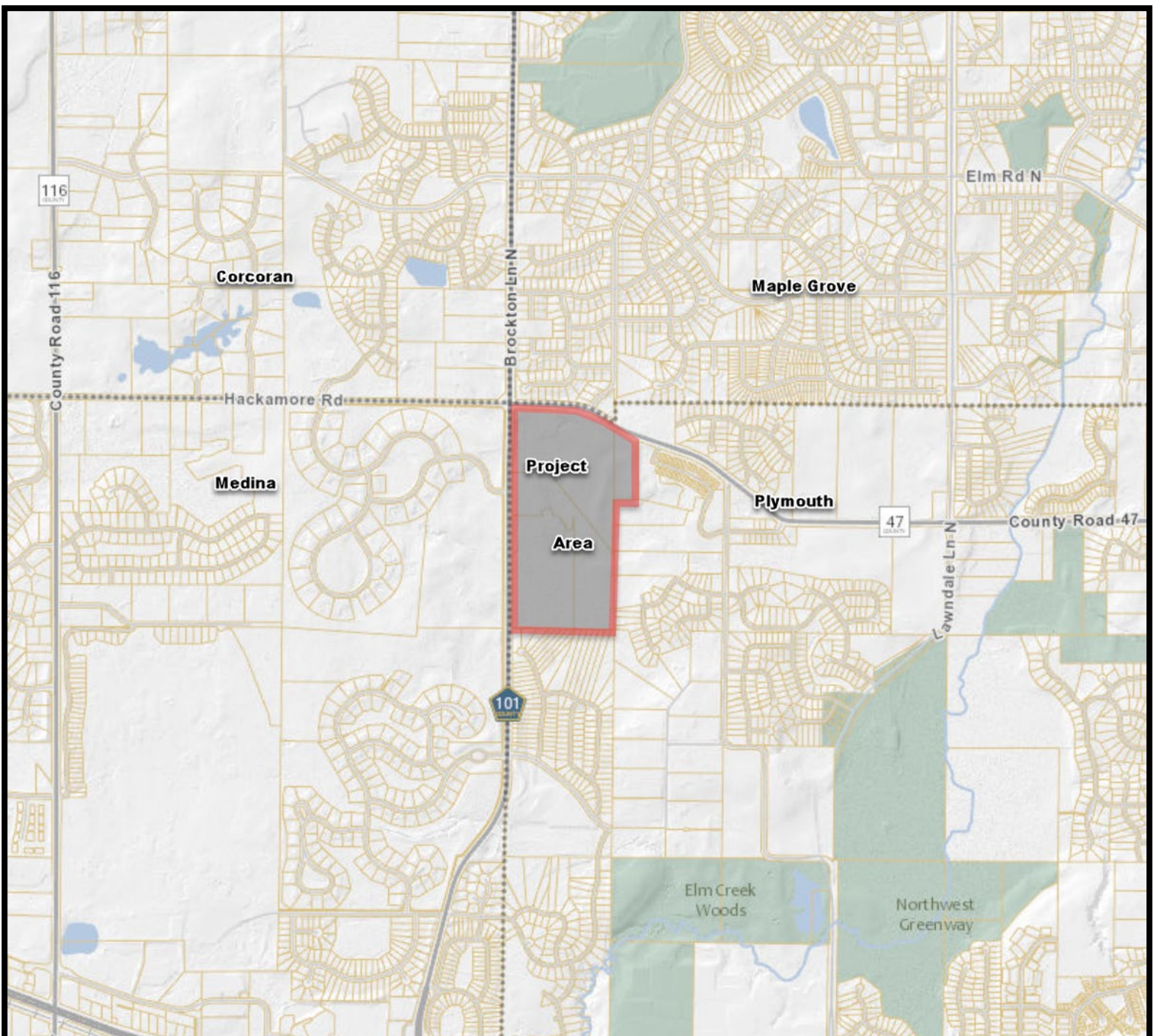
- Filtration bench/pond details
- Pretreatment for filter basins 3S and 3SE.
- Construction sequencing on the filter basins.
- Proper sizing and construction sequencing on the filter basins if they are utilized as temporary sediment basins.
- Sizing on the temporary sediment basins on lots 50 to 52 and lot 9.



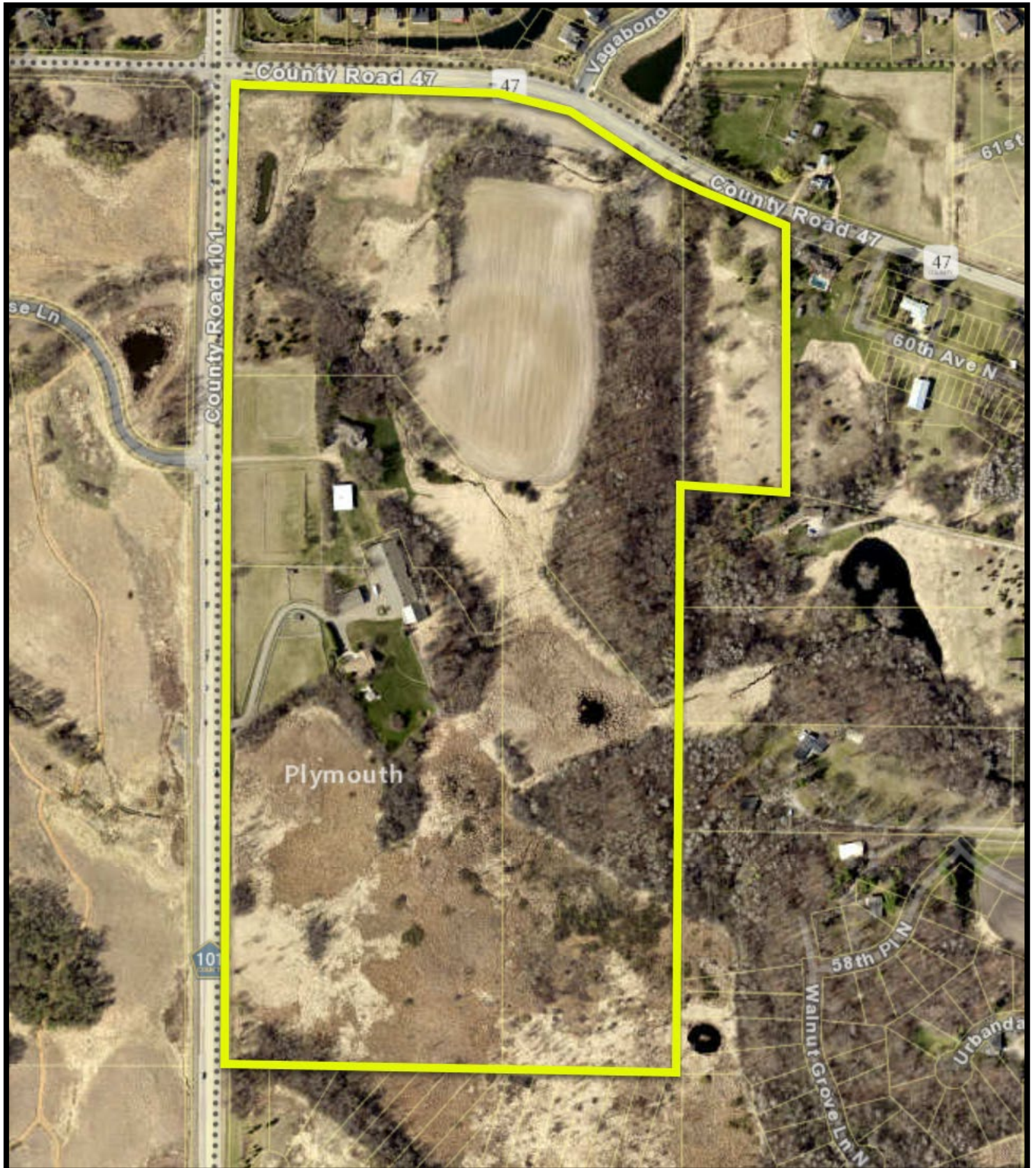
- Identify options to route the clean water from the west and north (CR 101 and 47 culverts) through this site without contaminating it in the construction operations, in the event of a large rainfall event.

Hennepin County  
Department of Environment and Energy  
Advisor to the Commission

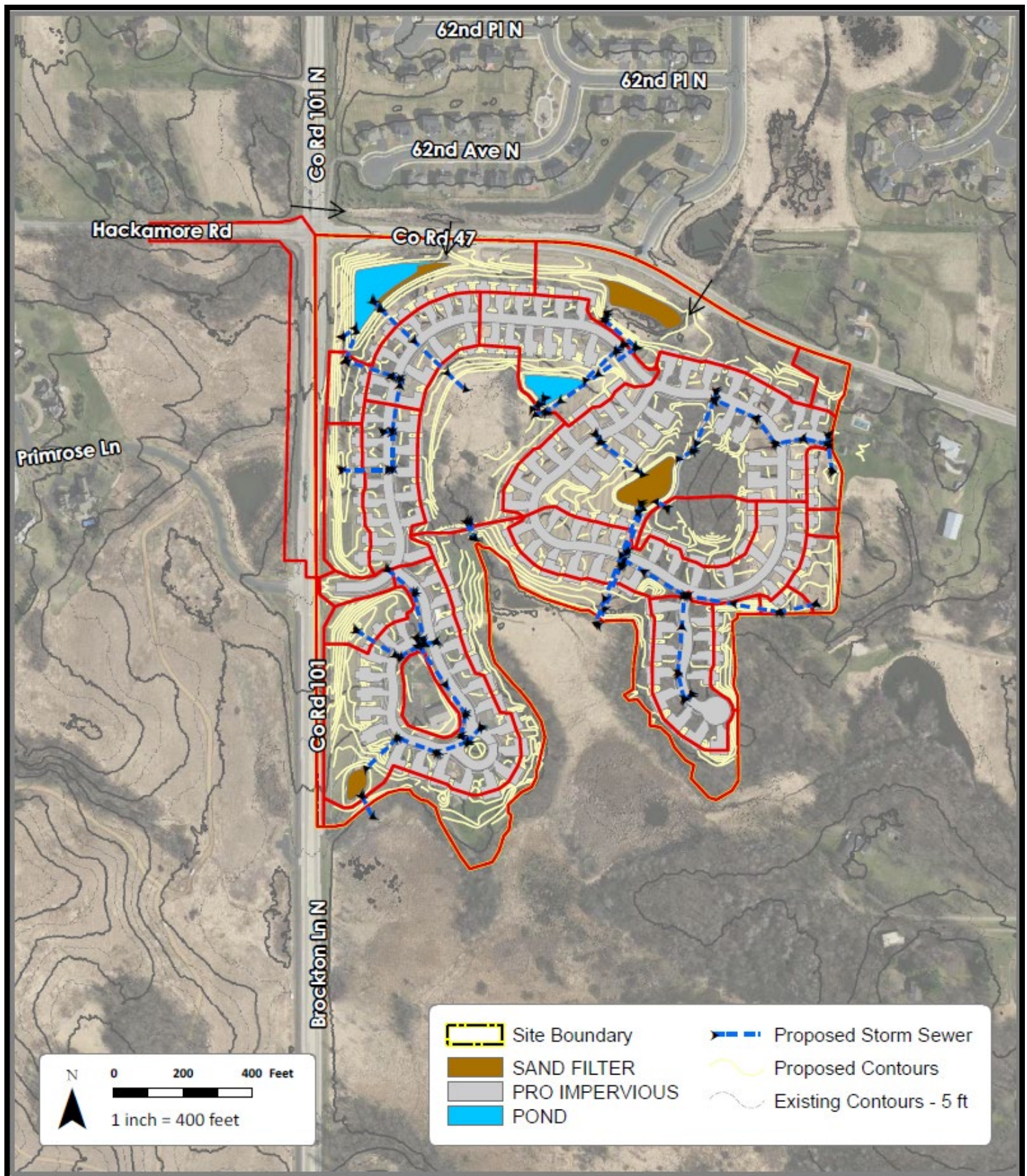
April 2, 2019











# elm creek

## Watershed Management Commission

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Item 10ah

ADMINISTRATIVE OFFICE  
3235 Fernbrook Lane  
Plymouth, MN 55447  
PH: 763.553.1144  
E-mail: [judie@jass.biz](mailto:judie@jass.biz)

TECHNICAL OFFICE  
Hennepin County Public Works  
Department of Environment and Energy  
701 Fourth Ave. South, Suite 700  
Minneapolis, MN 55415  
PH: 612.348.7338  
E-mail: [james.kujawa@hennepin.us](mailto:james.kujawa@hennepin.us)

### **Raskobs Elm Creek Addition (Residences on Elm Creek)** **Medina, Project #2019-008**

**Project Overview:** The Commission received a request from the landowner and City of Medina to review a proposed driveway access on Hamel Road, adjacent to Elm Creek. The driveway work will disturb approximately 2,650 sq. ft. With the proximity to Elm Creek, impacts to the floodplain/floodway were a concern to staff. Because of the limited extent and nature of work (driveway access only), ECWC staff will only review the floodplain issues at this time. Future development on this parcel will require further review by the Commission, depending on the degree of development

**Applicant:** Jonathan Ruffing, 3544 Aldrich Ave. S, Minneapolis, MN 55408. Phone; 612-327-1794. Email; [jr@jonathanruffing.com](mailto:jr@jonathanruffing.com)

#### **Exhibits:**

- 1) Application dated March 13, 2019 with review fee for floodplain impacts >500 cubic yards, \$550.00
- 2) Incomplete application determination email to project land surveyor, Lynn Caswell, Landform dated March 20, 2019. Voice mail phone call conveying same to applicant's phone March 20, 2019.
- 3) Floodplain Mitigation Area drawings, 2 sheets of 2, by Landform, last revision date of March 27, 2019.
- 4) Wetland Exhibit drawings, 2 sheets of 2, by Landform, last revision date March 27, 2019.
- 5) FEMA Flood Insurance Study for Hennepin County dated November 4, 2016.
  - a. Floodway Data, Table 9, Elm Creek cross-section CP.
- 6) Hennepin County Natural Resource Interactive map with FEMA flood information overlay.

#### **Findings:**

- 1) A complete application was received on March 27, 2019. The 60-day decision period expires May 26, 2019.
- 2) FEMA floodplain/floodway extent in relation to the proposed driveway shows approximately 80 cubic yards of floodplain impacts, and no floodway impacts.
  - a. Proposed impacts per site plan= 2,152 cubic feet (80 cubic yards)



- b. Proposed mitigation per site plan= 3,112 cubic feet (115 cubic yard)
- 3) No erosion control information is provided with the application. The following erosion and sediment control measures are recommended by the ECWMC;
  - a. Dual rows of silt fence at the limits of work along the east side of the new driveway and on the north side of the mitigation area.
  - b. All disturbed areas must be restored within 72 hours with MNDOT seed mix 25-141 or similar.
  - c. All disturbed areas steeper than 4:1 must be covered by erosion control blankets immediately after seeding.
- 4) No culvert is shown for ditch flows under the driveway
  - a. The applicant shall maintain ditch flows as required by the City of Medina Public Works Department.
  - b. Inlet and outlet protections for the culverts shall conform to City and MPCA requirements.

**Recommendation:** ECWMC Approval of Elm Creek floodplain impacts. Erosion controls (item 3) and culvert (item 4) recommendations to the City of Medina.

Hennepin County  
Department of Environment and Energy  
Advisor to the Commission



March 29, 2019

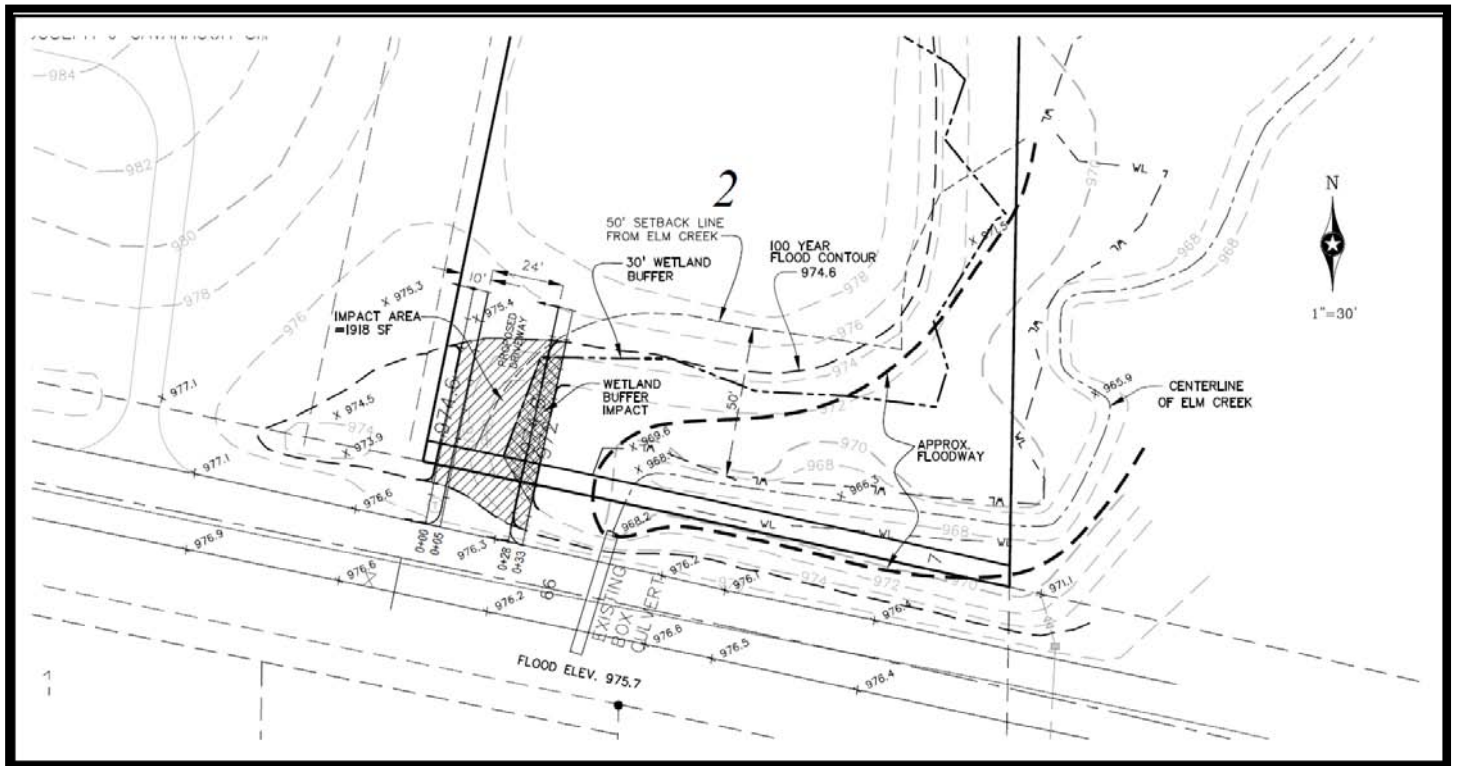




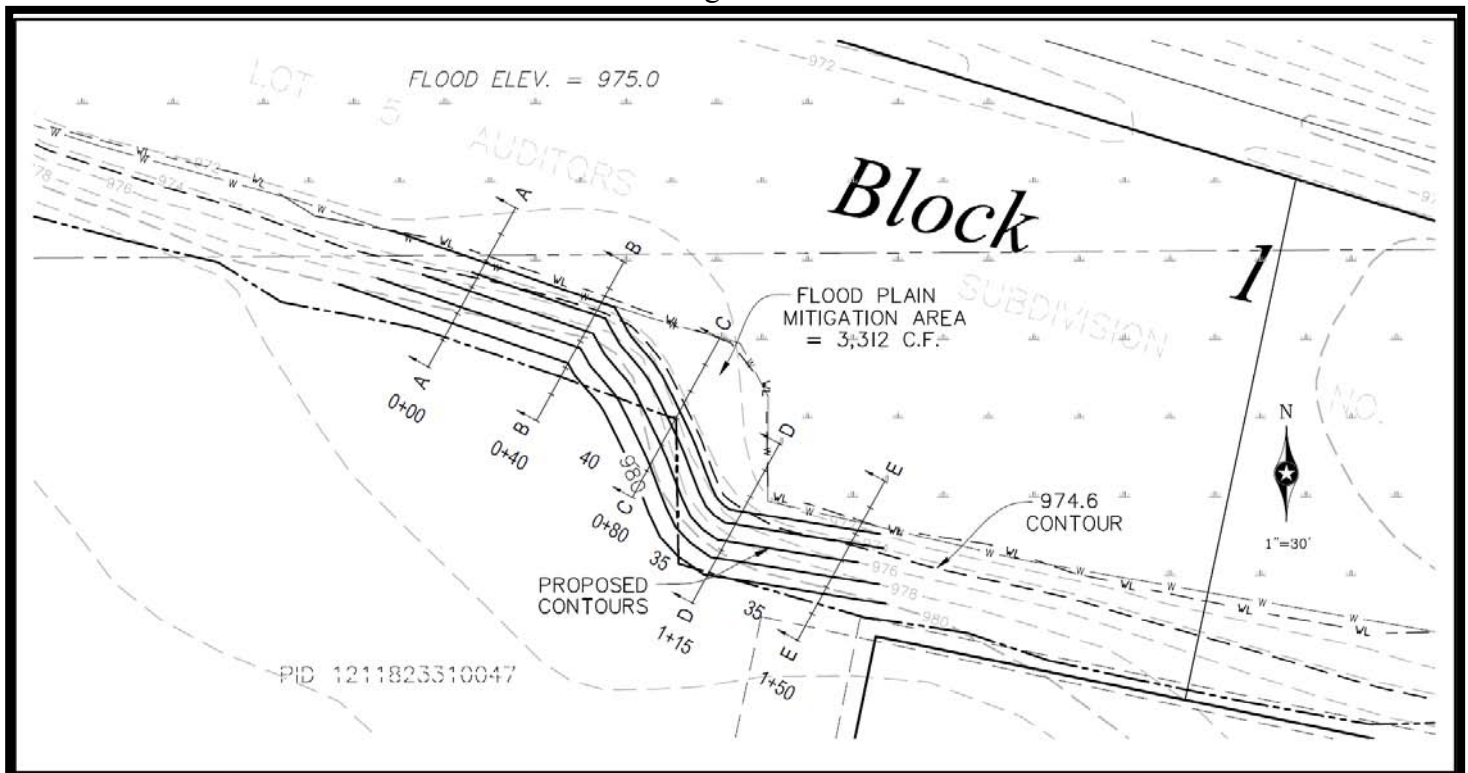




### Driveway Area



### Mitigation Area





# TEP Findings Summary

**To:** Ernie Mayers  
Ben Hodapp, Anderson Engineering

**From:** Wes Boll, Wenck Associates (City of Corcoran WCA Agent)  
Kevin Mattson, City of Corcoran Public Works Director

**Copy:** James Kujawa, Elm Creek Watershed Management Commission  
Ben Carlson, MN BWSR  
Stacy Lijewski (Hennepin County SWCD)  
Jason Spiegel (MN DNR)  
Jason Swenson (Hennepin County/ECWMC)

**Date:** 3/20/2019

**Subject:** City of Corcoran – Ernie Mayers Wetland Replacement Plan Application  
February 28, 2019 Technical Evaluation Panel (TEP) Meeting Findings

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**Meeting Date:** February 28, 2019

**Attendees:** Ben Carlson (MN BWSR)  
Stacey Lijewski (Hennepin County SWCD)  
James Kujawa (ECWMC)  
Jason Spiegel (MN DNR)  
Wes Boll (Wenck-City of Corcoran WCA Agent)  
Ben Hodapp (Anderson Engineering)  
Katie Ring (Anderson Engineering)  
Jason Swenson (Hennepin County/ECWMC)

**Background:**

On Thursday February 28, 2019, the WCA TEP for the Elm Creek Watershed Management Commission met at the Corcoran City Hall to review and discuss the Ernie Mayers Wetland Replacement Plan application received by the ECWMC on January 29, 2019.

The Wetland Replacement Plan Application was submitted in response to the WCA Restoration Order that was issued on August 8, 2018 on the following properties Ernie Mayers operates in Corcoran 1) 2811923410009, 2) 2811923130002, 3) 2711923220002 4) 2711923230002 5) 2811923220002.

Note that at the time the Application was submitted the Elm Creek Watershed Management Commission (ECWMC) was the acting Local Government Unit (LGU) in charge of administering WCA in the City of Corcoran. The City of Corcoran assumed the role of LGU on March 1, 2019, with Wes Boll from Wenck Associates acting as WCA Agent for the City. The ECWMC sent out the Notice of Application for the Application, but the City of Corcoran will act as WCA LGU reviewing and making a decision on this Application going forward.



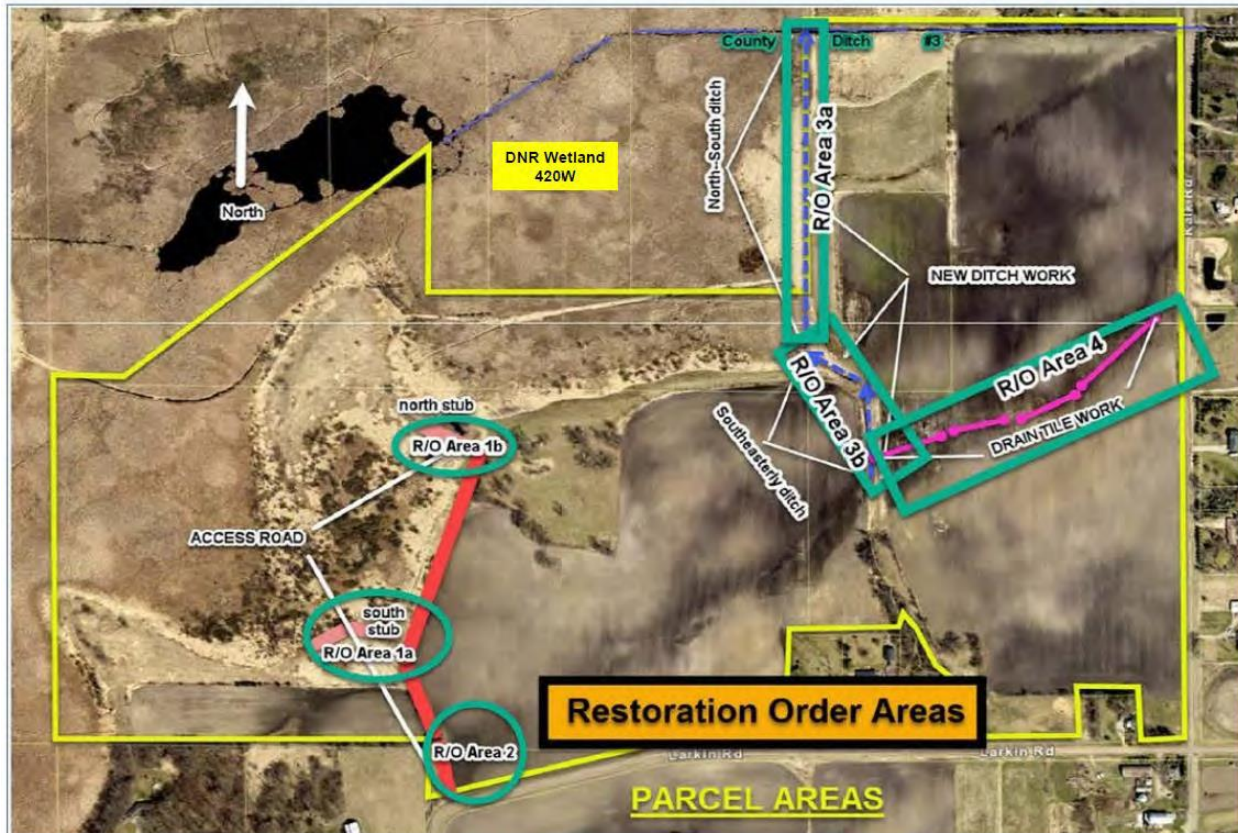
The timeline of the WCA activities for this site to date is summarized below:

- A cease and desist order (F890599734501) was issued to Mr. Mayers in December 2017.
- A WCA Restoration Order was issued to Mr. Mayers on August 8, 2018. An extension to the restoration order was issued to November 1, 2018.
- An appeal to the MN Board of Water and Soil Resources was received October 31, 2018. The appeal has been placed in abeyance by BWSR to April 1, 2019.
- An Application for a no-loss/exemption determination was received by the Elm Creek Watershed Management Commission on October 31, 2018. The Commission determined the application to be incomplete and has not reviewed said application.
- A Wetland Replacement Plan Application was received by the Elm Creek Watershed Management Commission on January 29, 2019. The application was considered complete and noticed per MN WCA requirements on January 31, 2019.

**Meeting Summary and TEP Findings:**

The February 28, 2019 TEP was requested by the ECWMC (LGU at the time the Application was submitted) to review and discuss the Ernie Mayers Wetland Replacement Plan application received by the ECWMC on January 29, 2019. The Restoration Order identified impact areas as shown in Figure 1 below. The action proposed for each area in the Application in response to the Restoration Order are described below.

**Figure 1-Restoration Order Subject Areas**



### **Area 1**

The Applicant proposes to retain portions of the access road, which will result in 1,283 sq. ft. of wetland impacts in Area 1a and 3,712 sq ft of wetland impacts in Area 1b. The Applicant proposes to mitigate for these impacts by purchasing bank credits at a 4:1 ratio from wetland bank #1361 and #1643.

#### ***TEP Findings:***

*The TEP agrees with the sequencing and proposed replacement as outlined in the Wetland Replacement Plan Application for Areas 1a and 1b.*

### **Area 2**

The Applicant proposes to restore the ditch in Area 2 to pre-construction conditions.

#### ***TEP Findings:***

*The TEP agrees with the Applicant's plan to restore the ditch to pre-construction conditions as described in the Application. wetland replacement plan.*

### **Area 3**

The Restoration Order suggested that the ditch in Area 3 be restored to preconstruction conditions. The Applicant requests in the Wetland Replacement Plan that restoration of this area be addressed in a future application package given frozen conditions that currently prevent investigation of the area. The Applicant requests additional time to allow for

ongoing investigation of the historic ditch extent and conditions and the completion of the ditch survey that Hennepin County is undertaking at this time.

***TEP Findings:***

*The TEP does not agree completely with the Replacement Plan request. The TEP believes that sufficient evidence has not been provided to affect their original conclusion in the Restoration Order that the ditch work was not permitted, and that it resulted in impact to adjacent wetlands. Additional evidence provided in the Wetland Replacement Plan does not sufficiently demonstrate that the recent ditch work in Area 3 did not impact adjacent wetlands. .*

*The TEP concluded the ditch must be restored to its pre-construction condition to meet the terms of the Restoration Order. However, if the Applicant wishes to conduct further investigation to collect additional evidence on the historic elevations of the ditch, the TEP would allow temporary ditch blocks constructed to the original ground elevations at two locations: 1) just upstream of the junction of County Ditch 3, and 2) at power pole #4 as identified in the Restoration Order. The ditch plugs must be constructed with good structural soils, compacted by the routing and hauling of heavy equipment.*

*If the Applicant wishes to construct the temporary ditch blocks in order to have time to collect more information, the TEP requests that the Applicant submit a plan for the temporary ditch blocks and a schedule for completing the work. The TEP requests that the temporary ditch blocks be constructed as soon as field conditions allow.*

**Area 4**

The Applicant proposes to remove the perforated drain tile and replace it with a non-perforated drain tile with a surface inlet at the appropriate elevation installed near Kalk Road to capture the excess surface water and convey it to the west. The Applicant also proposes the construction of a side inlet, for erosion protection, as approved by NRCS in 1998.

***TEP Findings:***

*The TEP agrees with the proposed work in Area 4 as described in the Wetland Replacement Plan. The TEP requests that the specific plan for tile removal, replacement, and inlet installation be approved by the LGU. The TEP also requests that the LGU be notified prior to the completion of the work so that it can be verified.*

**TEP Recommendations**

*The TEP recommends that the Applicant submit additional information to demonstrate how TEP findings for Area 3 are going to be addressed, whether that is filling in the ditch or constructing temporary ditch blocks. The TEP has sufficient information to approve the proposed work in Areas 1, 2, and 4. It is anticipated that a decision will be made on the Wetland Replacement Plan following the submittal of additional information for Area 3.*





April 1, 2019

Maury J. Noonan  
 Rinke Noonan  
 Suite 300 US Bank Plaza  
 1015 W. St. Germain St.  
 St. Cloud, MN 56302

Sent Via Email

**RE: Amendment to Order, Wetland Conservation Act Appeal of a Restoration Order  
 Hennepin County, File 18-3**

Dear Mr. Noonan:

The above referenced appeal of a Wetland Conservation Act Restoration Order, located in part of Section 27 and 28 T. 119N, R. 23W, Hennepin County, was placed in abeyance by an Order of the Board of Water and Soil Resources (Board) on December 4, 2018. The Board's Order was later amended on January 31, 2019 to extend the time period on the stay of the Restoration Order an additional 60 days until April 1, 2019. This agency has since received correspondence that the status of the local unit of government (LGU) has changed and that the new LGU (City of Corcoran) recently issued an extension to the review period on the application.

Therefore, the Board's Order is hereby amended for a second time to extend the time period on the stay of the Restoration Order until: (1) City of Corcoran makes a final decision on the wetland replacement plan application, or (2) May 31, 2019 whichever is sooner. As such, the appeal will continue to be held in abeyance and the period of time to render a final decision on the appeal is extended per mutual agreement.

Thank you for your cooperation in this matter. If you have any questions please contact Appeals and Regulatory Compliance Coordinator Travis Germundson at 651-297-4859.

Sincerely,

John Jaschke  
 Executive Director

c: Kevin Mattson, City of Corcoran  
 Wes Boll, Wenck Associates  
 James Kujawa, Elm Creek Watershed Management Commission  
 Stacey Lijewski, Hennepin County  
 Leah Weyandt, DNR Enforcement  
 DRC Members  
 Stacey Person, Attorney General's Office  
 Doug Norris, DNR Ecological and Water Resources  
 BWSR: Dave Weirens, Ken Powell, Ben Carlson, Travis Germundson

# elm creek

## Watershed Management Commission

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Item 10o

ADMINISTRATIVE OFFICE  
3235 Fernbrook Lane  
Plymouth, MN 55447  
PH: 763.553.1144  
E-mail: [judie@jass.biz](mailto:judie@jass.biz)

TECHNICAL OFFICE  
Hennepin County Public Works  
Department of Environment and Energy  
701 Fourth Ave. South, Suite 700  
Minneapolis, MN 55415  
PH: 612.348.7338  
E-mail: [james.kujawa@hennepin.us](mailto:james.kujawa@hennepin.us)

### **Sundance Greens** **Dayton, Project #2018-005**

#### **Overall Regional Stormwater Management, Wetland and Buffer Plan** **Sundance Greens West Grading & Erosion Control Plans** **Sundance Greens 2<sup>nd</sup> Addition Grading and Erosion Control Plans**

**Project Overview:** This site consists of 7 parcels that total 310 acres. Approximately ½ is the Sundance Golf Course and the other ½ agricultural land. The applicant is proposing a long term phased residential development with 645 residential units while maintaining a portion (9 of the 18 holes) of the golf course. 100 of the units is proposed a senior housing facility in phase 3B. Total new impervious area will be 71 acres. The Commission will review the complete site build-out for Stormwater Management (Rule D), Floodplain Alteration (Rule F), and Buffer Strips (Rule I). As part of the submittal for this project, the Sundance West and Sundance 2<sup>nd</sup> Addition phases will be reviewed for E&SC. As the site is phased in, the Commission will review each addition for consistency with the approved stormwater management, floodplain and buffer strip rules and for Erosion and Sediment Control (Rule E).

**Applicant:** Sundance Development, LLC, Attn. Mr. Tom Dehn, 11261 Fernbrook Lane N., Maple Grove, MN 55369. Phone: 612-328-2215. Email: [tom.dehn@powerlodge.com](mailto:tom.dehn@powerlodge.com).

**Agent/Engineer:** Campion Engineering Services, Inc., Attn. Marty Campion, 1800 Pioneer Creek Center, Maple Plain, MN 55359. Phone: 763-479-5172. Email: [mcampion@campioneng.com](mailto:mcampion@campioneng.com)

#### **Exhibits:**

- 1) ECWMC Request for Project Review and Approval, received February 2, 2018.
- 2) Request from Agent/Engineer for project extensions to May 5, 2019.
- 3) Project review fees for a low density (<40% impervious area) new development with floodplain impacts  $\geq$  100 cubic yards. \$6550.
- 4) Preliminary Plans for; Sundance Greens by Campion Engineering, dated January 5, 2018, no signature. revision date of February 20, 2019 and for sheet 45, March 20, 2019..
  - a) Sheet 1 of 45, Cover Sheet
  - b) Sheets 2-6 of 45, Existing Conditions.
  - c) Sheet 7 of 45, Phasing Exhibit,
  - d) Sheets 8-12 of 45, Preliminary Plat
  - e) Sheets 13-17 of 45, Preliminary Sanitary Sewer & Watermain Plan
  - f) Sheets 18-22 of 45, Preliminary Street and Storm Sewer Plan
  - g) Sheets 23-27 of 45, Preliminary Grading Plan (updated July 31, 2018)

- h) Sheets 28-32 of 45, Preliminary Storm Water Pollution Plan
  - i) Sheets 33-37 of 45, Preliminary Wetland Impact & Buffer Exhibit (updated July 31, 2018),
  - j) Sheet 38 of 45, Preliminary Tree Inventory
  - k) Sheets 39-43 of 45, Preliminary Tree Survey & Removal Plan
  - l) Sheet 44 of 45, Street Details,
  - m) Sheet 45 of 45, Outlet Control Structure Details, revised March 20, 2019.
- 2) Grading Plans for Sundance Greens West by Campion Engineering dated September 11, 2018, updated September 27, 2018, 7 of 7 sheets.
  - 3) Construction Plans for Sundance Greens West by Campion Engineering dated September 11, 2018, updated September 27, 2018, 13 of 13 sheets.
  - 4) Grading Plans for Sundance Greens 2<sup>nd</sup> Addition, by Campion Engineering dated November 6, 2018 with latest revision date of February 18, 2019. 9 of 9 sheets.
  - 5) Construction Plans for Sundance Greens 2<sup>nd</sup> Addition by Campion Engineering dated November 5, 2018 with latest revision of February 18, 2019. 33 of 33 sheets.
  - 6) Sundance Greens West Floodplain Exhibit Sheet 1 of 1, dated September 27, 2018.
  - 7) Sundance Greens Floodplain Exhibit, Sheet 1 of 1 dated March 18, 2019.
  - 5) Sundance Greens Landscaping Plans by Pioneer Engineering dated February 21, 2018. Sheets 1.1 to 1.8 of 8.
  - 6) Stormwater Management Plan, Sundance Greens, by Civil Methods, Inc. revision date February 12, 2019.
  - 7) Sheet 1 of 1 by Civil Methods, Inc., Sundance Greens Impervious Area Disconnection (1 electronic submittal)
  - 8) Response to ECWMC February 23, 2018 findings. Response letter includes updated stormwater management plan information. Letter and SWMP updates are dated April 19, 2018. Received at ECWMC on July 31, 2018.
  - 9) Wetland Delineation Information;
    - a) Fernbrook Lane Property Wetland Delineation Report by Midwest Natural Resources, Inc. dated November 13, 2017. Approved by Dayton January 16, 2018.
    - b) Sundance/Dehn Development Wetland Boundary Map and Approval Notice of Decision dated February 13, 2017,
    - c) Project 2013-025, Sundance Woods WCA information and City of Dayton notice of decision dated October 7, 2013.

**Findings:**

- 1) A complete application was received February 2, 2018. The decision deadline per MN Statute 15.99 has been extended by the Agent/Engineer to May 5, 2019.
- 2) The complete site consists of 310 acres. The Sundance Golf Course is approximately 160 acres of the site with the remaining areas being agriculture fields (~122 acres) with approximately 20 acres of woods and small areas of farmsteads and wetlands. Rush Creek Parkway was constructed through the SE parcel in 2014 for access to the Sundance Woods Development (EC #2013-025).
- 3) The developer proposes to reconfigure the golf course from an 18-hole to a 9-hole course (approximately 80 acres of the site). The remaining areas will be phased in over several years, creating 465 single family lots, 80 multiple family homes and a senior housing facility (645 total residential units).

- 4) This review will cover the overall stormwater management, wetland buffer, floodplains and grading plans. Only the Sundance Greens West and Sundance Greens 2<sup>nd</sup> Addition erosion and sediment control plans are being reviewed at this time for the Commission's requirements for erosion control (Rule E). Future phasing of the grading plans must be submitted separately for the Commission's review for Rule E and consistency with other approvals from the ECWMC.
- 5) Sundance Greens West proposes to grade approximately 15 acres and develop approximately 5.5 acres into 15 single family residential lots.
- 6) Sundance Greens 2<sup>nd</sup> Addition will result in approximately 50 acres and develop 101 single family and 24 multifamily lots.

Floodplain.

- 7) There is a large FEMA zone A (no base flood elevation determined) floodplain complex that extends through this site.
- 8) Technical Memo dated September 12, 2016 from Civil Methods Inc. models the 100-year floodplain in this area at an elevation of 907.9.
  - a) Modeling methods appear to be consistent with acceptable hydrology/hydraulic approaches.
- 9) The Civil Methods memo and supporting documentation are being submitted to the MNDNR and FEMA for a letter of map amendment (LOMA).
- 10) Using 907.9 as the 100-year elevation throughout this site floodplain impacts will occur at the following locations;
  - a) The west edge of block 9,
  - b) The access road (Street 2) to and portions of Block 7
  - c) The west portion of Block 1.
- 11) Floodplain exhibits dated 9/27/18 and 3/18/19 provide for 887 cy of fill vs 1019 cy cut in the floodplain for this area mitigation.
- 12) This floodplain mitigation plan meets the Commission's requirements under Rule F.

Stormwater Management Plan. Site plans conform to Rule D.

- 13) The project proposes to manage storm water using 8 NURP ponds, 3 pre-treatment ponds and 6 biofiltration basins.
- 14) There are three main discharge points from this property before and after development.
  - a) Flows to the southwest through a wetland/floodplain complex before it discharges into Rush Creek approximately ½ mile away.
  - b) Flows to the south where it discharges in two areas from this property traveling about 500' before entering Rush Creek.
  - c) Flows that run to the east/northeast to the Fernbrook Lane ROW then flow for approximately ¾ of a mile where it discharges into Powers Lake which flows into the floodplain/wetland complex before it hits Elm Creek.



15) Pre and post-development flow rates for the 2, 10- and 100-year storm events are as follows:

	2-Year (2.9") Runoff Rate (cfs)		10-Year (4.3") Runoff Rate (cfs)		100-year (7.3") Runoff Rate (cfs)	
	Pre-Dev	Post-Dev	Pre-Dev	Post-Dev	Pre-Dev	Post-Dev
#1-Southwest	30.9	14.4	68.3	48.3	238.2	185.0
#2- South	20.5	8.0	55.1	13.9	150.9	53.0
#3-East/Northeast	36.2	17.7	64.2	23.7	241.5	38.9

16) Total treatment volume requirements for 70.54 acres of new impervious areas = 281,666 cubic feet prior to any volume credit. With volume credits (1.13 acres of disconnected flows) there must be 277,154 cubic feet (6.36-acre feet) of abstraction provided on this site.

- Actual filtration (abstraction credits) volume will be 278,249 cubic feet in 7 biofiltration ponds. (required abstraction = 277,154 cubic feet)
- All biofiltration ponds will draw down within 48 hours or less.
- To properly establish native vegetation, a long-term maintenance plan is essential. We highly recommend a 3 to 5-year vegetation maintenance plan on all the native vegetation planting areas.
- The City of Dayton will be responsible for operating and maintaining the storm sewer system on site.

17) Phosphorus loads are based on ECWMC phosphorus Loads for pre-existing conditions and PondNet for post development loads. TSS loads are based on P8 before and after development. TP and TSS loads meet the Commission's standards.

- TP before development = 200.9 lbs/year
- TP after development = 139.5 lbs/year
- TSS before development = 200,491 lbs/year
- TSS after development = 8,285 lbs/year.

#### Stormwater Quality Summary

Condition	TP Load (lbs/yr)	TSS Load (lbs/yr)	Filtration (cu. ft.) (69.4 ac. impervious)	Annual Volume (ac. ft.)
Pre-development (baseline)	<b>200.9*</b>	<b>12,236*</b>	N/A	<b>352.0*</b>
Post-development without BMPs	<b>338.4*</b>	<b>200,491</b>	<b>277,154</b>	
Post-development with BMPs	<b>139.5*</b>	<b>8,285</b>	<b>278,249</b>	<b>365.7*</b>
<b>Net Change</b>	<b>-61.4</b>	<b>-3,951</b>	<b>-1,095</b>	<b>+13.7*</b>

\*Staff Estimate

#### Erosion and Sediment Controls

18) Final grading plans for Sundance Greens West were submitted on September 27, 2018. Sundance Greens West generally corresponds to Phase 1a west of Sundance Ridge Drive in the phasing plan on sheet 7 of 45 in the preliminary plan set.

- Sundance West E&SC Plan;

- i. Grading and erosion control plans for Sundance West meet the Commission Standards. Administrative approval of the grading was granted by the ECWMC staff in the fall of 2018 with the understanding the applicant and agent accept responsibility for any changes necessary for final site approval by the ECWMC.
- 19) Final Grading and Construction Plans were received for Sundance Greens 2<sup>nd</sup> Addition on March 6, 2019. Sundance Greens 2<sup>nd</sup> Addition corresponds to Phases 5B, 6B, 7B and 8B in the phasing plan on sheet 7 of 45 in the preliminary plan set.
  - a) Sundance Greens 2nd Addition E&SC Plan must provide locations of the temporary sediment ponds on the plans. All other erosion and sediment controls are adequate.

Wetlands and Wetland Buffers

- 20) The City of Dayton is the Local Government Unit in charge of administering the Wetland Conservation Act for this site.
  - a) 1.013 acres of impacts in 5 wetlands are proposed over the entire site.
  - b) 2.026 acres of wetland banking credits are proposed to mitigate for these impacts.
- 21) Wetland buffer monumentation must be placed per the Commission's standard of;
  - a) A maximum spacing of 200 feet
  - b) As necessary to accurately define the edge of the buffer strip and
  - c) At each parcel line where it crosses a buffer strip.
- 22) The area adjacent to green 7 on the golf course does not have a buffer. Alternative wetland protections or a variance to the Commission's buffer rules will be necessary on this site.
- 23) All other areas have 10' minimum buffers with an average of 25' per the Commission standards.
- 24) Buffer monuments are necessary on the following sites;
  - a) Wetland 22
  - b) Lots 1 and 6 on wetland 23
  - c) Lots 3 and 4 angle points on wetland 15
  - d) All the major angle points on the wetlands in the golf course so no encroachment from mowing will occur.
- 25) Wetland Buffer plans for Sundance West as submitted on September 27, 2018, meet the Commission Standards.

Summary:

- Grading and erosion control plans for Sundance Greens West meet the Commission's standards.
- Stormwater management plans for the complete buildout of the site meet the Commission's standards
- Floodplain mitigation plans meet the Commission's Standards
- Wetland Buffer monumentation per item 24 are necessary to meet the Commission's standards.
- Wetland Buffers on Green #7 adjacent to wetland 3 do not meet the Commission's standards
- Grading and erosion control plans for Sundance Greens 2<sup>nd</sup> Addition per item 19a do not meet the Commission standards.

Hennepin County  
Department of Environment and Energy  
Advisor to the Commission



March 28, 2019  
Date

