elm creek
Watershed Management Commission

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April 5, 2017

Representatives
Elm Creek Watershed Management Commission
Hennepin County, MN

The meeting packet for this meeting 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 12, 2017, at 11:30 a.m.** in the Mayor's Conference Room at Maple Grove City Hall, 12800 Arbor Lakes Parkway, Maple Grove, MN.

The meeting will be preceded at 10:00 a.m. by a meeting of the Commission's Technical Advisory Committee (TAC). Materials for the TAC meeting are also available on the Commission's website.

Please email Kerstin at kerstin@jass.biz to confirm whether you or your Alternate will be attending the meeting. Thank you.

Regards,

Judie A. Anderson
Administrator
JAA:tim

Encls: Meeting Packet

cc: Alternates
Joel Jamnik
TRPD
HCEE
TAC
Diane Spector
BWSR
Met Council
Clerks
MPCA
DNR
Official Newspaper

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AGENDA
April 12, 2017

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 – *also see Staff Report.**
   b. Select CAMP sites for 2017. Jubert + ?
      1) Mill Pond Monitoring.*
   c. Accept 2016 Audit Report.*
   d. Accept 2016 Annual Activity Report.*
5. Watershed Management Plan.
   a. Report from Technical Advisory Committee.
   b. 2017 Capital Improvement Program.*
   c. Notice of Minor Plan Amendment.*
6. Elm Creek Watershed-wide TMDL.
7. Grant Opportunities and Updates.
   a. Fish Lake Internal Phosphorus Loading Control.
      1) L_TRPD to MPCA re Alum application.*
      2) Cooperative Agreement between TRPD, City of Maple Grove, Commission.*
      3) Assurance Agreement.**
   b. Rush Creek Headwaters Subwatershed Assessment.
   c. MSRC Request for Stormwater Research Proposals.*
8. New Business.
9. Education.
   a. WMWA Update.
10. Communications.
    a. L_MEP_vote no HF 888.*
    b. L_MEP_vote no SF 723.*
    c. Buffer Law – Alternative Practices.*

*in meeting packet
**available at meeting

11. Project Updates – *see Staff Report.**
12. Other Business.
13. Adjourn.

Project Reviews. (See Staff Report.*)						
				a.	2013-046	Woods of Medina, Medina.
				b.	2014-015	Rogers Drive Extension, Rogers.
				c.	2015-004	Kinghorn Outlet A, Rogers.
			AR	d.	2015-006	Veit Building Expansion, Rogers.
			AR	e.	2015-013	Wayzata High School, Plymouth.
			AR	f.	2015-020	Strehler Estates, Corcoran.
			AR	g.	2015-030	Kiddiegarten Child Care Center, Maple Grove.
				h.	2016-002	The Markets at Rush Creek, Maple Grove.
				i.	2016-004	Park Storage Place, Corcoran.
				J	2016-005W	Ravinia Wetland Bank Plan, Corcoran.
			AR	k.	2016-014	Balsam Apartments, Dayton.
			AR	l.	2016-018	Cambridge Park, Maple Grove.
			AR	m.	2016-019	Just for Kix, Medina.
			AR	n.	2016-021	Diamond View Estates, Dayton.
			AR	o.	2016-022	AutoZone, Maple Grove.
			AR		2016-026	Faithbrook Church, Dayton.
				q.	2016-038	AutoMotor Plex, Medina.
			AR	r.	2016-039	The Fields at Meadow Ridge, formerly Sands Parcel, Plymouth.
				s.	2016-040	Kinghorn 4th Addition, Rogers.
	E	**R**		t.	2016-041	Meadow Ridge Ponds (Bartus), Plymouth.
				u.	2016-047	Hy-Vee Maple Grove #1 (Hy-Vee Maple Grove North).
		R		v.	2016-049	Medina Senior Living, Medina.
				w.	2016-052	The Woods at Rush Creek, Maple Grove.
				x.	2017-002	RDO Site Plan, Dayton.
				y.	2017-004W	Cartway Trail, Champlin.
A	**E**			z.	2017-005	Creekside Hills, Plymouth.
A	**E**			aa.	2017-006	Summers Edge II, Plymouth.
				ab.	2017-007	D'town Corcoran Ditch Maint. and Cimarron Circle Drainage Maintenance, Corcoran.
				ac.	2017-008	TH 169 Reconstruction, Champlin.
				ad.	2017-009	Maple Grove Senior HS Tennis Court Rehabilitation, Maple Grove.
				ae.		

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

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*in meeting packet
**available at meeting

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Technical Advisory Committee
and Regular Meeting Minutes
March 8, 2017

I. A meeting of the **Technical Advisory Committee (TAC)** for the Elm Creek Watershed Management Commission was convened at 10:01 a.m., Wednesday, March 8, 2017, in the Mayor's Conference Room, Maple Grove City Hall, 12800 Arbor Lakes Parkway, Maple Grove, MN.

In attendance were: Susan Nelson, Wenck Associates, Corcoran; Rick Lestina, Maple Grove; Kaci Fisher, Hakanson-Anderson, Medina; Ben Scharenbroich, Plymouth; Andrew Simmons, Rogers; Ali Durgunoğlu, James Kujawa and Kirsten Barta, Hennepin County Dept. of Environment and Energy (HCEE); Rich Brasch, Three Rivers Park District (TRPD); Jeff Weiss, Barr Engineering; and Judie Anderson and Amy Juntunen, JASS.

Not represented: Champlin and Dayton.

Also present: Sharon Meister, Corcoran; Doug Baines, Dayton; and Elizabeth Weir, Medina.

A. Motion by Kujawa, second by Nelson to approve the **revised meeting agenda.*** *Motion carried unanimously.*

B. Motion by Kujawa, second by Durgunoğlu to approve the **minutes of the January 11, 2017 TAC meeting.*** *Motion carried unanimously.*

C. **Model Manure Management Ordinance.** The Commission's Third Generation Watershed Management Plan states as one of its Water Quality goals that the member cities shall adopt a manure management ordinance using the Commission's model ordinance for guidance, or adopt other standards and practices that will accomplish the objective of reducing phosphorus loading from new livestock operations. Currently the Commission does not have a model manure management ordinance. At a previous TAC meeting the members identified three elements that should be considered when writing such an ordinance. Barta spoke to these elements.

1. Facilitate transition from agricultural to rural residential land use.

a. Horses/chickens/other animals where there was no livestock before– follow animal expansion recommendations from Pioneer Sarah ordinance

b. New animal operations with grazing animals should have a proper grazing plan/appropriately designed feedlot

1) Ensure there is no excessive grazing and erosion

2) Proper siting and design of feedlot and barn structures will allow for water flow on site to be directed away from the additional nutrients from animal operation

c. Where there was livestock before, proper disposal procedures should be followed when sealing and cleaning waste pits

d. For cropped fields going into housing, temporary cover crop or other vegetation should be put in until lawn/pasture is established

e. Topsoil should be conserved on site as much as possible

f. Maintain buffers along waterways as needed

g. Wetland restoration where feasible

2. What BMPs should be used when animals are present? Manure management should be practiced appropriately depending on the animal species – if enough animal units are present, MPCA feedlot rules must be followed.

a. Composting – especially horse operations

b. Livestock exclusion from streams, wetlands, and other sensitive areas

c. For cattle, swine, and poultry proper manure holding facilities should be established

1) Wastewater filter strips should be established below barn and feedlot facilities

2) Scraping of feedlots should be practiced regularly

3. How are load reduction credits quantified? Impacts will be measured using University of Minnesota, BWSR, and MPCA nutrient load calculation tools, RUSLE, and other programs/tools as needed and appropriate

4. How will reductions from land conversion be measured? Depends on whether land conversion reduces nutrient production or increases it. See 3 for tools.

Included in the meeting packet for reference was a copy of the Pioneer-Sarah Creek Commission's Livestock Management Policy.*

How will proposed ordinance feed into TMDL? The way the TMDL is structured most areas are out of the MUSA and will be covered under load allocations. Areas within MUSA will not be able to have livestock. Hopefully, cities will be looking for overall water quality improvement. There is an evolving definition of regulated conveyance facility.

D. Rules pertaining to filtration, infiltration and abstraction during stormwater management review. Staff has requested from the member cities their stormwater pond, infiltration, filtration, and runoff volume abstraction rules and standards. Responses have been received from the member cities and are being compiled and reviewed by the Commission's technical staff.

When the Minnehaha Creek Watershed District goes through sequencing and filtration is the only option, they require 2x filtration. This provides for elevated removal of TSS and TP. An iron-enhanced filtration system may receive a higher credit than regular filtration.

Technical staff are looking for a hierarchal list.

1. Water Reuse. Water reuse is another substitute for abstraction that is not currently in the Commission's rules. Requiring abstraction through water reuse prior to other proxy methods could be added to the rules, though it would not be a minor plan amendment. Concerns about city requirements for inspections were raised. The Commission could require operations & maintenance agreements with annual inspections for the irrigation systems to assure that water reuse will occur in residential developments. Weir will research how Medina ensures reuse is occurring.

2. Infiltration/Filtration/Credit Sequencing. Currently buffers, preservation areas and compost amendment are all equal in credit for abstraction. The bio-filtration credit should be removed unless associated with a pond. The filtration credit could be increased from 1:1 to incentivize developers to investigate other options. Iron-enhanced filtration credits should be added. Water reuse will be further researched for inclusion. A maximum credit per sequencing BMP may also be considered. The detachment credit will be further defined for length of travel over vegetated area for sheet and channel flows.

Staff will create a credit scenario for demonstration at the next TAC meeting, potentially a tiered system with 50% abstraction done by one suite of BMPs and the other 50% by less quantifiable options.

3. Pre and post development TSS/TP loans and runoff volume. Kujawa noted that P8 modeling is acceptable by MPCA, but technical staff prefers to use the MIDS or PondNet/NURP models for TSS/TP reduction modeling. Technical staff does not use P8 modeling and the many variables can be used to obtain non-reliable results. Staff will compare submitted P8 modeling to PondNet. Brian Vlach of TRPD can also train staff on P8 modeling.

E. Cost share policy. Postponed to next TAC meeting.

F. Prioritizing special projects other than SWAs.* Postponed to next TAC meeting.

G. Calls for additions/revisions to Commission's current CIP.* Two additions and one revision to the CIP have been received. Corcoran requested the Stone's Throw wetland restoration be moved from 2017 to 2018. Plymouth requested the restoration of Elm Creek Reach D, and Rogers requested Ag BMPs around Cowley and Sylvan Lakes be added to the CIP for 2018 implementation. Nelson noted that she is unable to locate any details about the Stone's Throw project. Anderson will send her the Exhibit A description of the project.

Motion by Scharenbroich, second by Lestina to recommend to the Commission the following: 1) adjust the name of the Rogers project to Cowley/Sylvan Connection BMPs and add the project as a placeholder to the CIP for 2018, 2) add the Plymouth Reach D restoration project to the CIP for 2018, and 3) revise the date on the Stone's Throw project. *Motion carried unanimously.*

H. Next meeting/Adjournment. The next TAC meeting will be held prior to the next regular meeting, April 12, 2017 at 10:00 a.m. The TAC meeting was adjourned at 11:30 a.m.

II. A **regular meeting** of the Elm Creek Watershed Management Commission was called to order at 11:39 a.m., Wednesday, March 8, 2017, in the Mayor's Conference Room, Maple Grove City Hall, 12800 Arbor Lakes Parkway, Maple Grove, MN by Chairman Doug Baines.

Present were: Gerry Butcher, Champlin; Sharon Meister, Corcoran; Doug Baines, Dayton; Joe Trainor, Maple Grove; Elizabeth Weir, Medina; Fred Moore, Plymouth; Kevin Jullie, Rogers; Ali Durgunoğlu, James Kujawa and Kirsten Barta, Hennepin County Dept. of Environment and Energy (HCEE); Rich Brasch, Three Rivers Park District (TRPD); Jeff Weiss, Barr Engineering; and Judie Anderson and Amy Juntunen, JASS.

Also present: Brad Martens, Corcoran; Lisa Vertelney and Ben Scharenbroich, Plymouth; and Andrew Simmons, Rogers.

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

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

C. Motion by Moore, second by Weir to approve the March **Treasurer's Report and Claims*** totaling $10,984.91. *Motion carried unanimously.*

Motion by Weir, second by Jullie to encumber the funds remaining in the 2016 Studies/Project ID/SWA account for that purpose. *Motion carried unanimously.* (Pre-audit, the funds remaining in that account total $28,515.80.)

III. Open Forum.

No one wished to speak on matters not on the agenda.

IV. Action Items.

A. Project Review 2016-052 The Woods at Rush Creek, Maple Grove.* This project combines five parcels (40 acres total) into 73, single family residential lots. It is located on CR 101 south of the Rush Creek Golf Course and north of the Lord of Life Lutheran Church. The majority of the site drains into Cook Lake which is located immediately west of this development. The Commission's review is for compliance with the Commission's rules D (stormwater management), E (erosion control), G (wetland alteration) and I (buffer strips). In their findings dated February 15, 2017, Staff recommends approval of the project contingent upon; a) Biofiltration pond approval in lieu of abstraction or abstraction credit alternatives; b) The Biofiltration pond must have an operation and maintenance plan developed, approved by the Commission and City and recorded on the land title; and c) A buffer monument location plan must be provided and approved. Motion by Weir, second by Jullie to approve Staff's recommendations. *Motion carried unanimously.*

B. Project Review 2017-002 RDO Site Plan, Dayton.* This is a commercial development proposal on a 25.6± acre plot located between I94 and Holly Lane. The project will develop the south 16 acres, to create about 7.6 acres of impervious cover. Staff recommends the approval of the project with the following revisions: a) A note on the plans that the soil amendment mix shall be a mix of 25% compost and 75% sand; b) The type of storm sewer line

running along the center line of the swale shall be specified as either solid or perforated; and c) A final, dated plan signed by a professional engineer licensed in the State of Minnesota must be submitted to the Commission and the City. Motion by Moore, second by Trainor to approve Staff's recommendations. *Motion carried unanimously.*

C. Project Review 2017-008 TH169 Reconstruction, Champlin.* The stormwater review will be done by the West Mississippi WMO because over three-fourths of the work will be done in that watershed. This Commission's review is for floodplain impacts and mitigation. No WCA jurisdictional wetlands will be impacted by this project. In their findings dated March 2, 2017, Staff recommended approval conditioned upon receiving signed final plans when they become available. Motion by Weir, second by Butcher to approve Staff's recommendation. *Motion carried unanimously.*

D. 2017 Work Plan.* The members reviewed Staff's March 1, 2017 memo that summarizes the projected work plan for 2017. Brasch proposed two additional monitoring programs for 2017.

1. Monitor the Mill Pond now that it is back up to full pool. This would be the "additional water body" referred to in #3. $3,200 to do the four sentinel lakes, another $800 to do the Mill Pond, $6,300 to do the three stream sites (flow only), and $1,000 for the synoptic survey of Diamond Creek . The synoptic survey was on the program last year but could not be completed due to flow conditions. The Commission was not charged for the survey.

2. Perform a longitudinal survey of upper Rush Creek over 4-5 different flow conditions and at 4-5 different locations to support the Upper Rush Creek subwatershed assessment. Estimated cost for this effort would be $5,000.

Motion by Weir, second by Trainor to accept the 2017 Work Plan including the two additional monitoring programs described above, encumber $1,000 from the 2016 Stream Monitoring budget for the synoptic survey, and earmark $5,000 from the Water Monitoring and Contingency budgets for the longitudinal survey. *Motion carried unanimously.*

Staff will continue to work to complete some missing details, after which it will be incorporated into the *2016 Annual Activity Report.*

A final draft of the 2016 Work Plan* was also included in the meeting packet.

E. Two lakes are included in the 2017 budget for **CAMP monitoring.** The Citizen Assisted Monitoring Program is sponsored by Metropolitan Council. In 2016 Cowley and Jubert lakes were monitored. Kujawa will seek volunteers for this year's program, likely Jubert plus one more.

V. Watershed Management Plan.

The members received Table 4.5* of the Third Generation Plan. It is an updated version of the **Capital Improvement Program (CIP)** as amended on May 11, 2016. Staff contacted the cities requesting their updates and additions to the CIP. Two additions and one revision were received. They were reviewed by the Technical Advisory Committee (TAC) at its meeting earlier today.

A. 2017 CIP-PL-01 Elm Creek Stream Restoration Reach D was submitted by the City of Plymouth. Proposed for construction in 2018, the Commission's share of the $850,000 project is $212,500. The TAC recommended approval of this project for inclusion on the CIP.

B. 2017 CIP-RO-1 Ag BMPs was submitted by the City of Rogers. Proposed for construction in 2018, the Commission's share of this $300,000 project is $75,000. To be more definitive, this project will be renamed the Cowley-Sylvan Connections BMPs. The TAC recommended approval of this project for inclusion on the CIP.

C. The City of Corcoran has requested that the **Stone's Throw Wetland Projec**t be moved from 2017 to 2018. The Commission's share of this $450,000 project is $112,500. The TAC recommended approval of this revision to the CIP.

Motion by Weir, second by Butcher to approve these updates to the Commission's CIP.

VI. Elm Creek Watershedwide TMDL. Approval of the TMDL by the Environmental Protection Agency is expected in mid-March.

VII. Grant Opportunities and Updates.

A. The Board of Water and Soil Resources (BWSR) has approved Clean Water Grant funding for the **Internal Phosphorus Loading Control in Fish Lake project** in the amount of $200,000. The Commission's share will be $75,000. The City and Lake Association portions will be determined in April. Chairman Baines signed the contract agreement last month. Staff is awaiting the fully executed agreement. Staff has drafted a cooperative agreement between the parties that is currently being reviewed.

B. BSWR has also approved Accelerated Implementation Grant funding for the **Rush Creek Headwaters Subwatershed Assessment project** in the amount of $50,280. The local match will total $12,570. Chairman Baines signed the contract agreement in February. Staff is awaiting the fully executed agreement.

VIII. Education.

A. The **Plymouth Home Expo** is April 7-8, 2017. Volunteers are being sought to "man" the Commission's booth.

B. The next **WMWA meetings** are scheduled for 8:30 a.m., Tuesday, March 14, and Tuesday, April 11, 2017, at Plymouth City Hall. Commissioners are encouraged to attend.

IX. New Business.

Election of officers. The current officers have been nominated for re-election. They are Baines, Chair; Weir, Vice Chair; Bill Walraven, Champlin, Secretary; and Moore, Treasurer. Hearing no further nominations, motion by Butcher, second by Jullie to elect these individuals to serve in 2017. *Motion carried unanimously.*

X. Communications.

"Stream Buffers 101," January 13, 2017, *Stormwater Weekly*.* Printed from Forester Network.

XI. 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. 2015-006 Veit Building and Parking Lot Addition, Rogers.
5. 2015-013 Wayzata High School, Plymouth.
6. 2015-020 Strehler Estates, Corcoran.
7. 2015-030 Kiddiegarten Child Care Center, Maple Grove.
8. 2016-002 The Markets at Rush Creek, Maple Grove.
9. 2016-004 Park Place Storage Site Plans, Corcoran.
10. 2016-005W Ravinia Wetland Bank, Corcoran.
11. 2016-014 Balsam Apartments, Dayton.
12. 2016-018 Cambridge Park, Maple Grove.
13. 2016-019 Just for Kix, Medina.
14. 2016-021 Diamond View Estates, Dayton.
15. 2016-022 AutoZone, Maple Grove.
16. 2016-026 Faithbrook Church, Dayton.
17. 2016-038 AutoMotorPlex, Medina.
18. 2016-039 Fields at Meadow Ridge, Plymouth.
19. 2016-040 Kinghorn 4th Addition, Rogers.
20. 2016-041 Bartus Subdivision, Plymouth.
21. 2016-045W Brothers Mini Storage Wetland Replacement Plan, Corcoran.
22. 2016-047 Hy-Vee Maple Grove #1, Maple Grove.
23. 2016-049 Medina Senior Living, Medina.
24. 2016-052 The Woods at Rush Creek, Maple Grove.*

25. 2017-001 Sundance Road Pond Excavation, Corcoran.
26. 2017-002 RDO Site Plan, Dayton.*
27. 2017-003 Brayburn Trail EAW, Dayton.*
28. 2017-004W Cartway Trail, Champlin.
29. 2017-005 Creekside Hills, Plymouth.
30. 2017-006 Summers Edge II, Plymouth.
31. 2017-007 Downtown Corcoran Ditch Maint/Cimarron Circle Drainage Maintenance, Champlin.
32. 2017-008 TH169 Reconstruction, Champlin.*

B. Adjournment. There being no further business, motion by Weir, second by Jullie to adjourn. *Motion carried unanimously.* The meeting was adjourned at 12:49 p.m.

Respectfully submitted,

Judie A. Anderson
Recording Secretary
JAA:tim

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STAFF REPORT
April 5, 2017

2013-046 Woods of Medina. Medina. This is two parcels totaling 9.5 acres located east of CR 116 and south of Hackamore Road. The site is proposed to be developed into 16 single-family residential lots. On January 13, 2015, the Commission approved this project with two conditions. Although this project has not been constructed, it is still active with the City of Medina and remains approved by the Commission until it becomes inactive with the City.

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. Due to limited options to treat the nutrient loads on the east 1.7 acre portion of Rogers Drive, 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 in Rogers on the west side of Brockton Road and I-94. The proposed site will have two warehouse buildings, 275,000 and 26,000 SF in size, with associated parking and loading facilities. The Commission standards require review of stormwater management, grading and erosion controls and buffers. In June 2015 the Commission approved this project with three conditions. Numerous revised plans have been received for Staff review. *If the City of Rogers has not given prior approvals for this project, Commission Staff will give the applicant 30 days to complete the revisions for approval; otherwise it will be denied.*

2016-002 The Markets at Rush Creek, Maple Grove. This is a proposal to develop 40 acres of a 123 acre planned unit development located in the southwest quadrant of the intersection of CSAH 101 and CSAH 10. County Ditch 16 (Maple Creek) runs along the south property line on this project. The 40-acre project area includes a Hy-Vee grocery store (16.8 acres), a Hy-Vee gas station (2.5 acres) and 11 outlots (18.76 acres). Right-of-way accounts for 2.3 acres. The remaining acreage (83 acres) consists of 5 outlots and right-of-way. The additional outlot areas are not part of the stormwater review for this project but will be reviewed for compliance with the Commission's buffer and floodplain requirements. At their May 2016 meeting, the Commission granted Staff authority to administratively approve the project and report any updates. This project has been placed on hold by Hy-Vee. As long as it remains active with the City, the Commission's approval with conditions remains in place.

2016-004 Park Place Storage Site Plans, Corcoran. The applicant is proposing to develop a 22-acre site in the southwest portion of the city into a multi-unit storage facility with associated access roads, utilities, and stormwater features. This will be an addition to the existing storage facility located west of the proposed project. New wetland permit revisions were approved by the Commission at their July 2016 meeting. New site plan information was received and *approved by the Commission in October 2016. All approval contingencies have been met with the exception of the a). BWSR certification of wetland banking withdrawals for0.24 acres from bank account #1560. The Commission has a wetland replacement escrow in case this does not occur.*

2016-005W Ravinia Wetland Replacement Plan, Corcoran. In February 2016, Lennar Corporation submitted a Wetland Banking Concept Plan for Phase II of the Ravinia Development. This plan was withdrawn in favor of an onsite wetland replacement plan. *At their December 2016 meeting the Commission approved Staff's findings and recommendations dated January 10, 2017. Final wetland impacts will be 1.22 acres. Wetland credits created on site will be 4.01 acres.*

Approval is contingent upon; a) Final compliance with ACOE requirements. b) Cash or renewable letter of credit escrow submittals for wetland replacement ($292,000) and wetland monitoring ($30,000) to the Commission. c) No impacts to wetlands can take place until wetland replacement and monitoring escrows are received by the LGU. d) Performance goals for vegetation establishment must meet 70% overall coverage of native vegetation. e) A minimum of 4" topsoil shall be placed or remain in all wetland and buffer areas. Scraping plans to eliminate reed canary grass must identify areas to be scraped, depth of scraping and amount of topsoil remaining or needed to meet this criteria. The applicant has since requested, and Staff has approved alternatives to scrapping the reed canary grass. All contingency items have been met. Construction on the site is proceeding this spring. Staff is working with Karen Wold from Barr Engineering to provide monitoring to ensure the replacement meets the performance standards of the approved plans.

2016-038 AutoMotorPlex, Medina. This 22.17 site is located on the northeast corner of County Roads 115 and 118. The site will be re-platted into two lots, 19.17 acres and 3 acres. For this phase only the northern 19.17 acres will be developed into commercial automobile condominiums and retail area. At its October 12, 2016 meeting, the Commission granted administrative approval authority to Staff. Final revisions were received on October 24. Staff reviewed the plans and issued an administrative approval on October 31, 2016, with the following conditions: a) show Erosion and Sediment Control, Rule E, requirements on the final plan set; b) submit a final plan set signed by a Professional Engineer; c) submit a copy of the O&M plan for the stormwater management basins and devices (ponds and filter benches, bio-filtration basins, dynamic separators, etc.) within 90 days following the final plat approval, if required by the City; and submit a copy of the proposed final plat, showing the drainage easements on both lots. *The City approved of the project at the end of the year. Revised plans were submitted on March 13, 2017. The only remaining condition is the recording of the O&M plan.*

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. At their November 2016 meeting the Commission approved the project with the following conditions: 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 any wetland-related documentation if wetlands are present. Condition #1 required no action, so the condition has been met. Condition #2 has been met for the current design; however, any future modifications to the design will require additional review. Conditions #3-6 remain outstanding and are expected to be addressed during final design in Spring 2017.

2016-041 Meadow Ridge Ponds (Bartus Subdivision), Plymouth. This site is approximately 10 acres located on the northwest side of the intersection of CR 47 and Troy Lane, just west of the Sands parcel (2016-039). The stormwater management plan was reviewed with the Sands parcel. At its October 12, 2016 meeting, the Commission approved this project with the following conditions: a) issues outlined in Staff findings memorandum dated October 5, 2016 must be incorporated into the plans; and b) a copy of the O&M plan must be submitted within three months following the final plat approval. The Applicant's agent requested to extend the review deadline to June 1st 2017. *Revisions submitted on March 13, 2017 addressed the conditions of the approval. This item will be removed from the report.*

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 Ave (just south of the future Highway 610) for the purpose of constructing a grocery store, fuel station, convenience store and parking facilities. The applicant's engineer was present at the November meeting to request interpretation from the Commission on their 25' average and 10' minimum standard for a buffer when a retaining wall is used to minimize wetland impacts. The Commission felt there had to be some type of mitigating compensation for such a scenario. A revised plan was submitted on December 1, 2016. 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 a) receipt, approval, and recordation of an Operations and Maintenance Plan for the pond and the iron-enhanced filtration system, b) revisions for items relating to buffer*

requirements and erosion and sediment control as enumerated in the findings, and c) receipt of a signed and 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.

2016-049 Medina Senior Living, Medina. This is a preliminary plan and requires no action at this time. *This item will be removed from the report.*

2016-052 The Woods at Rush Creek, Maple Grove. This project combines five parcels (40 acres total) into 73, single family residential lots. It is located on CR 101 south of the Rush Creek Golf Course and north of the Lord of Life Lutheran Church. The majority of the site drains into Cook Lake which is located immediately west of this development. The Commission's review will be for compliance with the Commission's rules D (stormwater management), E (erosion control), G (wetland alteration) and I (buffer strips). *At their March 2017 meeting, the Commission approved staff's findings and recommendations dated February 15, 2017. Outstanding items are the biofiltration pond, O & M plans and recording, and the buffer monument location plans.*

2017-002 RDO Dayton Site Plan. This is a commercial development proposal on a 25.6± acre plot located between I94 and Holly Lane. The project will develop the south 16 acres, to create about 7.6 acres of impervious cover. *This project was approved with conditions by the Commission at the March 8th meeting.*

2017-004 Cartway Trail Wetland Replacement Plan, Champlin Park and Recreation Dept. This project application was received on February 2, 2017, and determined to be incomplete. Additional floodplain and wetland information is necessary before it will be considered complete. The applicant was so notified on February 6. No additional information has been received since that time.

2017-005 Creekside Hills, Plymouth. This is a 69-acre residential lot located east of CR 101 and north of MN State Highway 55. The applicant proposes to develop 156 single-family residential lots, associated streets, utilities and three onsite wet stormwater detention ponds with filtration bench and filter strip to provide stormwater treatment and rate control. The existing site is a combination of golf course, wetlands and woodland. This project will create 17.7 acres of new impervious surface. *The project was reviewed for compliance with the Commission's requirements for stormwater management, erosion and sediment controls, buffer strips and floodplain. Staff reviewed site plans dated February 28, 2017 and recommends the Commission approve the project without conditions.*

2017-006 Summers Edge, Plymouth. This project is located on the east site of Brockton Lane and north of Medina Road. The site plans include all or portion of three PIDs and a ROW area that is proposed to be abandoned totaling 46.2 acres. The actual areas being grading total 30.9 acres. The current land use is cropland, woodland, wetlands and grassland. Proposed land use will be 52 single-family residential lots on approximately 22 acres. The Commission's standards require review of Rule D, Stormwater Management, Rule E, Erosion and Sediment Controls, and Rule I, Buffer Strips. Erosion and sediment control plans were reviewed and administratively approved by Staff on February 23, 2017. *Staff reviewed site plans dated February March 2, 2017 and recommends the Commission approve the project without conditions.*

2017-007W Downtown Corcoran and Cimarron Circle Ditch Maintenance. The City of Corcoran requested a no-loss/exemption for ditch and outlet cleaning on two wetlands in the community. Staff determined these were historic drainage systems that can be maintained by the City *and approved the project. It was noticed per MN WCA requirements on March 24, 2017.*

2017-008 TH169 Reconstruction, Champlin. The stormwater review will be done by the West Mississippi WMO because over three-fourths of the work will be done in that watershed. This Commission's review will be for floodplain impacts and mitigation. No WCA jurisdictional wetlands will be impacted by this project. *At their March 2017 meeting, the Commission approved the site plans contingent upon receipt of a final signed plan set.*

2017-009 MG High School Tennis Court Rehabilitation, Maple Grove. *ISD279 proposes to reconstruct 1.27 acres of pavement on eight existing tennis courts. Area disturbed will be 1.6 acres but impervious area will decrease by approximately 3,000 SF through the use of permeable pavers for the spectator/walkway area of the work. Staff will review for compliance to the Commission's erosion and sediment control rule E.*

FINAL RECORDINGS ARE DUE ON THE FOLLOWING PROJECTS:

2015-006 Veit Building and Parking Lot Addition, Rogers. Approved on May 13, 2015, pending the SAFL-Baffle weir being covered by an easement and the appropriate operation and maintenance agreement being obtained and recorded with the property.

2015-013 Wayzata High School, Plymouth. Approved with conditions on July 8, 2015. Awaiting final recording of the plan.

2015-020 Strehler Estates, Corcoran. Approved on January 10, 2015 contingent upon a conservation easement being recorded on the property title.

2015-030 Kiddiegarten Child Care Center, Maple Grove. This project was approved by the Commission at their December 9, 2015 meeting. If the City of Maple Grove 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.

2016-014 Balsam Apartments, Dayton. Approved April 13, 2016, pending recordation of an Operation and Maintenance agreement with an O&M plan.

2016-018 Cambridge Park, Maple Grove. Approved on July 13, 2016, subject to recorded preservation easements and pond maintenance provided by the City or through an approved operation and maintenance agreement recorded on the property title. Preliminary easements and operation and maintenance agreements for the ponds and preservation areas were received and approved by Commission Staff. Final proof of recording of the documents is still needed.

2016-019 Just for Kix, Medina. Approved June 8, 2016. Awaiting recordation of corrected O & M plan agreement for the bio-filtration basins.

2016-021 Diamond View Estates, Dayton. Approved June 8, 2016, contingent that, if the City of Dayton/homeowners are to maintain the ponds and the bio-filtration basin, an operation and maintenance plan agreement must be submitted for approval to the City and the Commission and recorded within 90 days of the final plat approval.

2016-022 AutoZone, Maple Grove. At their June 8, 2016 meeting, the Commission approved Staff's findings dated June 1, 2016, with the condition of recording an approved O & M Plan within 90 days of the final plat approval.

2016-026 Faithbrook Church, Dayton. Approved August 10, 2016, with the stipulation that an approved O&M plan be recorded with the property within 90 days following final plat approval.

2016-039 Sands Parcel (The Fields at Meadow Ridge), Plymouth. This is a 20.5-acre site located on the northeast side of the intersection of CR 47 and Troy Lane North. The site is proposed for a 46 single-family residential home development. The plans were submitted together with the adjacent 2016-041 Bartus site. At its October 12, 2016 meeting, the Commission approved the project conditioned that an O&M plan be recorded within 90 days following the final plat approval.

elm creek
Watershed Management Commission

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Meadow Ridge Ponds (Bartus)
Plymouth, Project #2016-041

Project Overview: This is a 9-acre site located at the northwest side of County Road 47 and Troy Lane North intersection. The project parcel (PID: 0611822210001) is located west of the Fields at Meadow Ridge project (#2016-039, aka Sands) that was reviewed in 2016. Current land use of the property are homestead and hobby farming (horses, pasture and hay). Surrounding land use is rapidly developing into residential. There are two small wetlands extending from the west and north. The applicant is proposing to build 21 single family houses. There is no floodplain in the vicinity. The project will have 2.52 acres of impervious cover. The project will be reviewed for stormwater management (Rule D), erosion and sediment control (Rule E) and buffer strips (Rule I).

Applicant: R & R Construction, Attn. Bob Rehberg, 14525 HWY 7, Suite 265, Minnetonka, MN 55345. Phone: 612-272-8472. Email: bobrehberg1@gmail.com.

Agent/Engineer: Sathre Bergquist Inc., Attn. Bob Molstad & Tom Welshinger, 150 South Broadway Ave., Wayzata, MN 55391. Phone; 952-476-6000. Email: Molstad@sathre.com & Twelshinger@sathre.com

Exhibits:

1) ECWMC Request for Plan Review and Approval, received September 29, 2016.
2) Application fee of $500.
3) Site Plans by Sathre Bergquist dated Augus 10, 2016 (last revision was received on March 24, 2017) (Signed by Robert Molstad, P.E. on February 10, 2017).
    a. SWMP Report (last revision date October 4, 2016 – submitted with #2016-039)
    b. Wetland Delineation and Replacement approval notices by the LGU
    c. Request to extend the review deadline to June 1, 2017
    d. Preliminary comments by staff dated October 5, 2016
    e. Respond to staff comments dated October 21, 2016
4) Plan Set

    Title Sheet
    Final Street Plan
    Final Sanitary and Water Main Plan
    Final Storm Sewer Plan
    Final Grading Plan

Final Erosion Control Plan
Construction Details

Findings;

1) A complete application was received on October 21, 2016. The initial 60 day review period per MN Statute 15.99 would expire on December 21, 2016. Applicant's agent requested the extension of the review period to June 1, 2017, in writing.
2) Applicant has asked this project to be reviewed in conjunction with the adjacent 20-acre parcel to its east (The Fields at Meadow Ridge -Sands property- #2016-039). The Stormwater Management Plan was designed for the combined 29 acre site.
3) The combined impervious ratio of the two projects (SANDS and BARTUS), excluding the offsite drainage, but including the County Road 47 right-of-way, is about 28%. For this project that will equate to about 2.52 acres of impervious cover. There is about 0.5 acres of existing impervious cover on the site.

Rule D. Stormwater Management

4) The existing stormwater from this site drains north, west and east. Majority of the site drains west. The east drainage is picked up by the stormwater system of SANDS (#2016-039) development. The west drainage is captured and treated by an onsite pond constructed with a filter shelf system. The north drainage is backyard drainage and gets discharged into a wetland.
5) Soils present throughout the site are predominately Hydrologic Soil Group (HSG) Type C and C/D soils, which have very low permeability.
6) The proposed new impervious area for this site is about 2 acres. The abstraction volume requirement for 1.1 inches of runoff from the new impervious area is about 8,000 cubic feet (0.185 ac-ft).
7) The stormwater management within the project area will be provided by the construction of single wet pond located on the southwest corner of the site. The pond will be equipped with a filtration shelf. Because the soils have very low permeability, the applicant is proposing the filter shelf in lieu of infiltration.

Nutrient and TSS

All nutrient calculations were made by using the P8 model and for the Bartus and Sands sites combined. Nutrient control meets the watershed's standards.

8) Phosphorus
    a. Pre-development phosphorus load = 7.5 lb/year.
    b. Post development phosphorus load without BMPs = 16.6 lbs/year.
    c. Post development phosphorus load with BMPs = 4.6 lbs/year
9) TSS
    a. Pre-development = 1,882 lbs/year
    b. Post development without BMPs = 5,188 lbs/year
    c. Post development with BMPs = 699 lbs/year

10) Rate requirements. The existing and proposed discharge rates are shown in the following table. Rate control meets the watershed's standards.

	Discharge Point	2-Year Event	10-Year Event	100-Year Event
Existing Conditions (cfs)	Northeast	11.7	23.7	47.8
	South	4.3	8.0	10.2
	Southeast	9.0	18.9	44.4
	West (Bartus)	**6.7**	**14.0**	**29.5**
Proposed Conditions (cfs)	Northeast	7.2	14.9	35.6
	South	4.1	7.2	8.8
	Southeast	4.5	15.4	22.0
	West (Bartus)	**2.5**	**4.9**	**18.0**
Change in Peak Flows (cfs)	Northeast	-4.5	-8.8	-12.2
	South	-0.2	-0.8	-1.4
	Southeast	-4.4	-3.5	-22.3
	West (Bartus)	**-4.2**	**-9.1**	**-11.5**

Nutrient and TSS

All nutrient calculations were made by using the P8 model and for the Bartus and Sands sites combined. Nutrient control meets the watershed's standards.

11) Phosphorus
   a. Pre-development phosphorus load = 7.5 lb/year.
   b. Post development phosphorus load without BMPs = 16.6 lbs/year.
   c. Post development phosphorus load with BMPs = 4.6 lbs/year

12) TSS
   a. Pre-development = 1,882 lbs/year
   b. Post development without BMPs = 5,188 lbs/year
   c. Post development with BMPs = 699 lbs/year

Volume abstraction and filtration requirements. (23,160 cubic feet of abstraction or equivalent is required)

13) Storm hydrographs of Pond 1, Pond 1SE and Pond 3 show that at the minimum the abstraction volume will be filtered within 48 hours during the 2-year event.

14) Abstraction by infiltration is not possible on this site due to clay soils. As required by the rules, the applicant has demonstrated that the abstraction volume is filtered through the sand filtration basin and the sand filter bench and the nutrient levels are maintained below the pre-development levels. That meets the watershed's standards.

15) Storm water summary is as follows:

(For combined Bartus & Sand sites. This information is the same as presented with the Sands development.)

Condition	TP Load (lbs./yr)[1]	TSS Load (lbs./yr)[1]	Filtered Volume (per event) (cu-ft)	Runoff volume (AF/yr.)[1]
Pre-development (baseline) Load	7.5	1,882		
Post-development Without Mitigation	16.6	5,188		
Post-development With Mitigation	4.6	699		
Net Change ("baseline" compared to "post-development with mitigation")	**-2.9**	**-1,183**	N/A	N/A
[1] Average annual values				

Rule F. Floodplain Alteration:
There are no established FEMA or ECWMC flood plains within the project area.

Rule G. Wetland Alteration:
The City of Plymouth is the LGU in charge of administering the MN Wetland Conservation Act on this parcel.

a. Wetland boundary survey was conducted and a report was prepared on June 15, 2016, by Sambatek.
b. The application for wetland boundary was posted on July 14, 2106 by the city.
c. Notice of decision for the wetland boundary approval has been posted on August 10, 2016.
d. Application to withdraw credits from a wetland bank has been done on March 6, 2017.

Rule I. Buffer Strip Requirements.

16) The proposed wetland buffers meet the watershed's standards. The average and minimum buffer widths are shown on the plans with buffer marks placed at the intersection of buffer line and property lines, as well as where the buffer line changes.

Rule E. Erosion and Sediment Control

17) Erosion and sediment control plan meets the standards.

Recommendation:

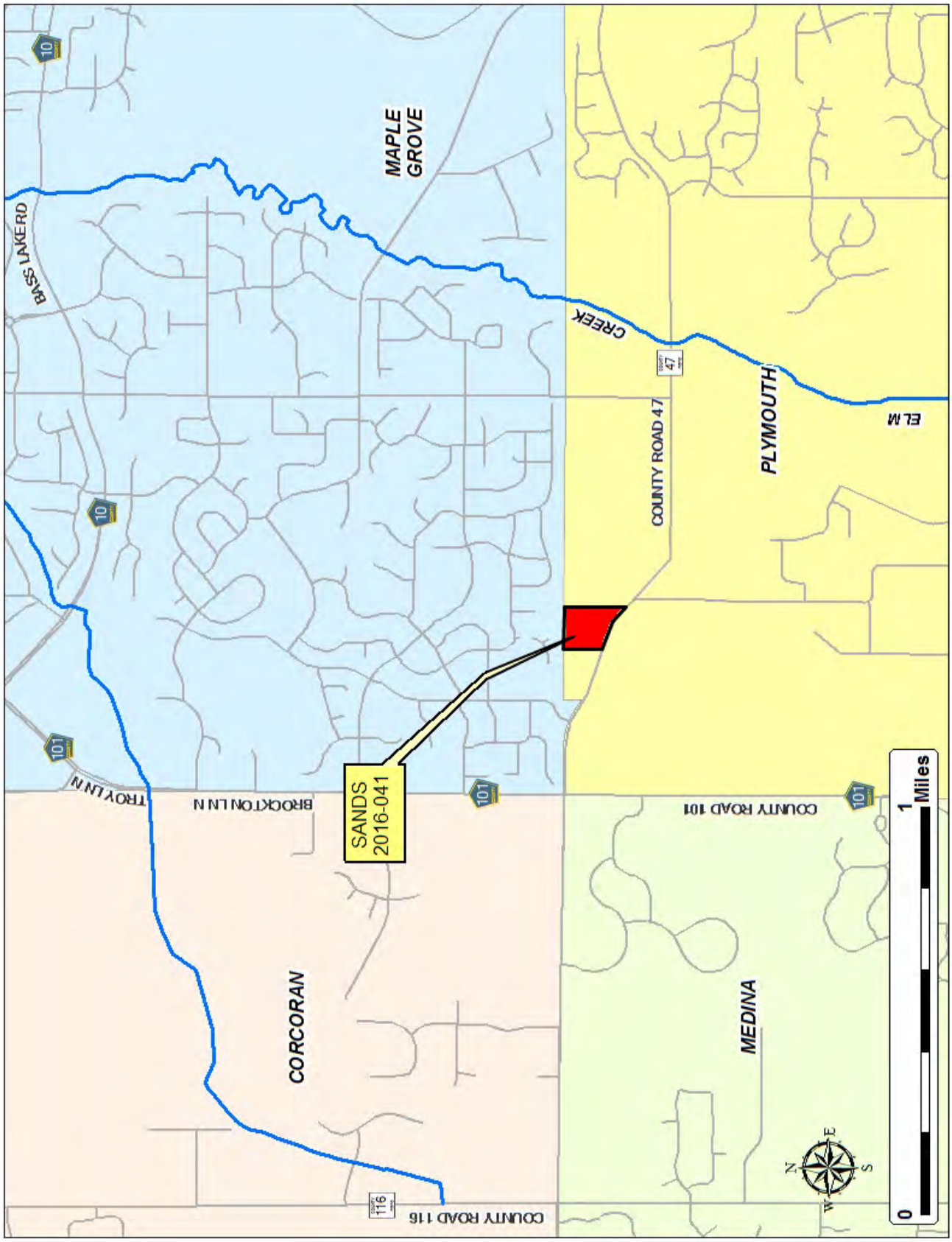
Staff recommends the approval of the final revised plan with the following condition.

- Please submit a copy of the O&M plan within 3 months following the final plat approval, if required by the city.

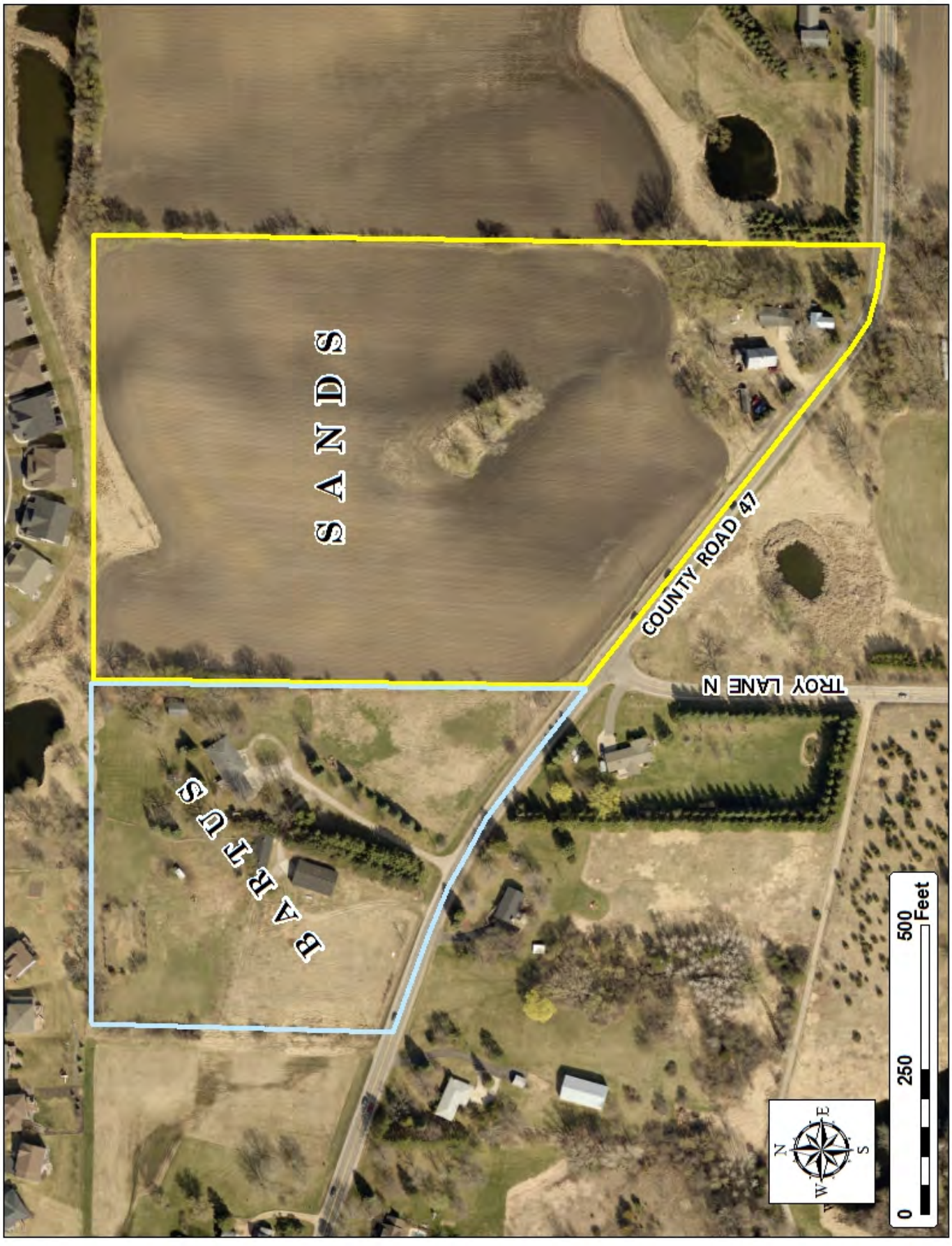
Ali Durgunoglu, Ph.D., P.E.
Technical Advisor to the Commission

March 28, 2017

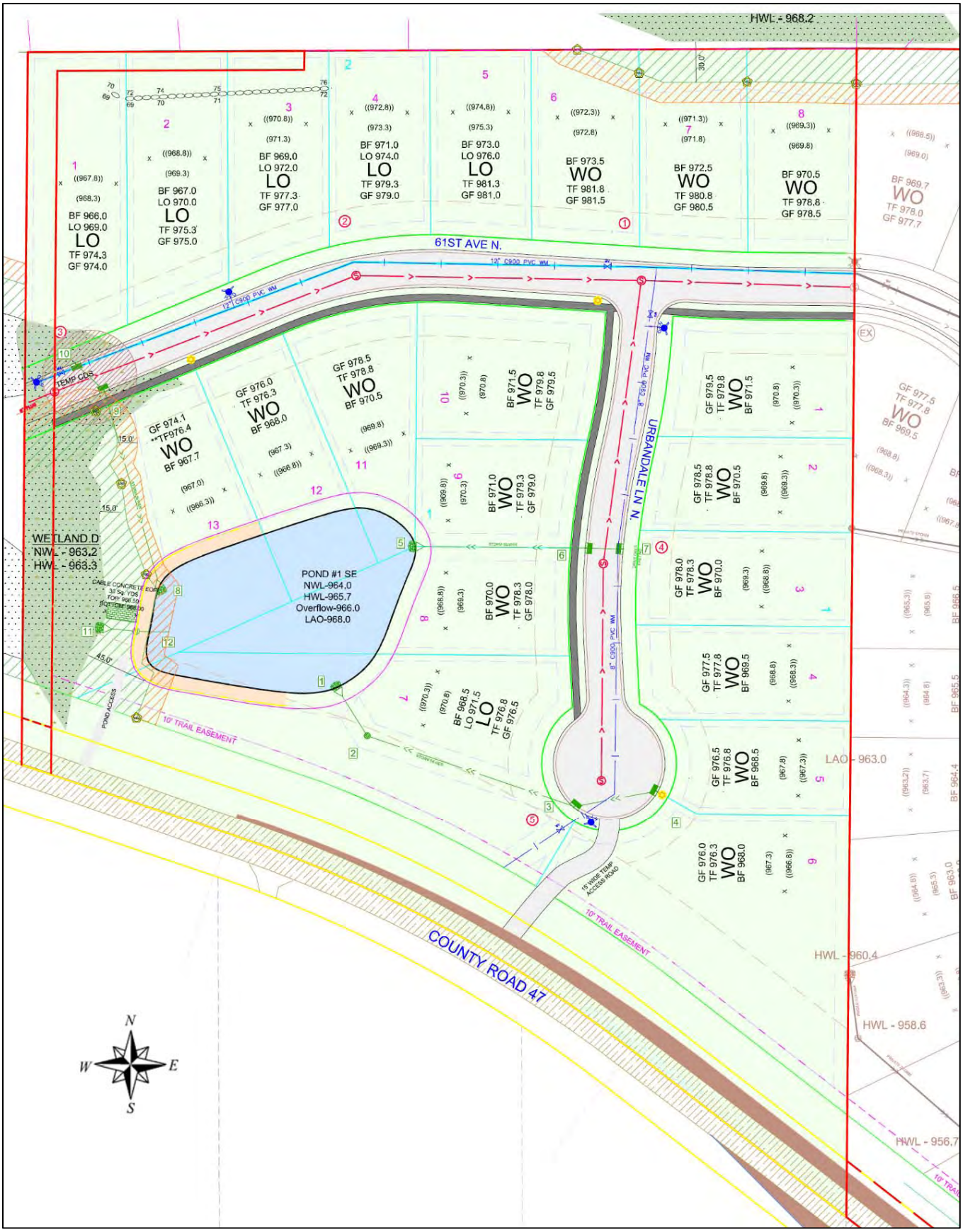
Site Location



Aerial View



Site Layout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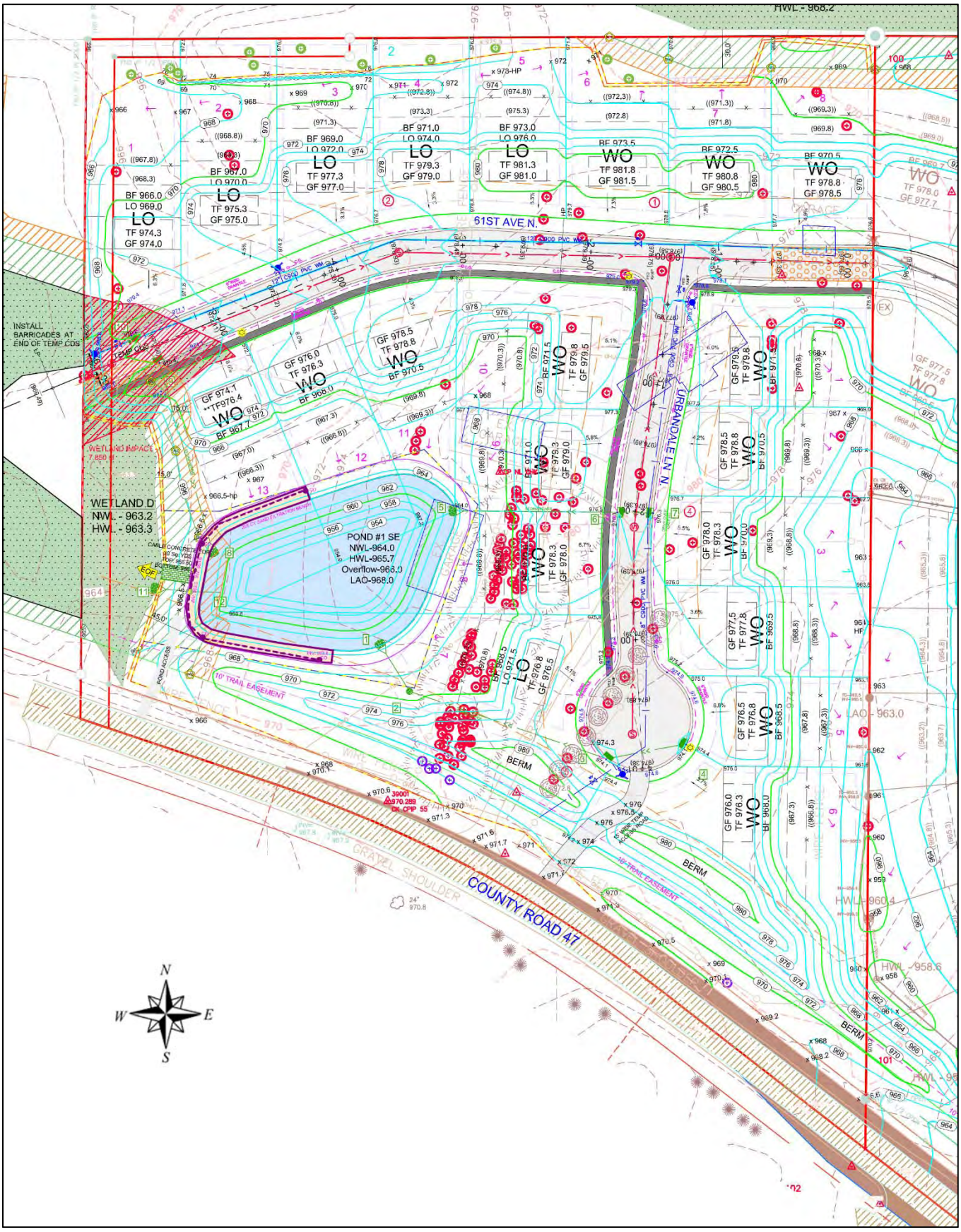
URBANDALE LN N.
POND #1 SE
NWL-964.0
HWL-965.7
Overflow-966.0
LAO-968.0
WETLAND D
NWL - 963.2
HWL - 963.3
10' TRAIL EASEMENT
15' WIDE TEMP ACCESS ROAD
COUNTY ROAD 47
LAO - 963.0
HWL - 960.4
HWL - 958.6
HWL - 956.7
N
W
E
S

Grading Plan



elm creek
Watershed Management Commission

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Creekside Hills
Plymouth #2017-005

Project Overview: This a is 69.2-acre site located north of Highway 55 and east of County Road 101 adjacent to the Wayzata High School. The existing site is a combination of a golf course, wetlands and woodland. The applicant proposes to develop 156 single-family residential lots. This project will create 17.7 acres of new impervious surface. It will be reviewed for compliance with the Commission's requirements for stormwater management, erosion and sediment controls, buffer strips and floodplain.

Applicant: Justin Bannwarth of Creekside Hills Development Inc., 10850 Old County Road 15 Suite 200, MN, 55441.Phone: 763-205-3961. Email: justin@gonyeacompany.com

Agent/Engineer: Eric Johnson, Sathre Bergquist, 150 South Broadway, Wayzata, MN 55391. Phone: 952-476-6000. Email: ejohnson@sathre.com

Exhibits:

1) ECWMC Request for Plan Review and Approval, application and fee ($3,510.0) received February 3, 2017.
2) Site Plans, hard copy and electronic files (32 sheets). Signed by Robert S. Molstad, P.E.:
    a. C1.0 Title Sheet, dated 12/7/16, last revision date of 2/1/17
    b. C2-6 Final Street Plan, dated 17/7/16, last revision date of 2/1/17
    c. C7-12 Final Sanitary and Watermain Plan, dated 17/7/16, last revision date of 2/1/17
    d. C13-18 Final Storm Sewer Plan, dated 17/7/16, last revision date of 2/1/17
    e. C19-23 Final Grading Plan dated 2/14/17, last revision date of 2/28/17.
    f. C24-26 Final Erosion Control Plan
    g. C27-31 Details Sheets, dated 2/1/17
3) Storm Management Report, by Advanced Engineering and Environmental Services, dated October 18, 2016 and signed Justin Klabo, P.E.

Findings;

1) A complete application was received on February 3, 2017. The initial 60-day review period, per MN Statute 15.99, expires April 4, 2017.
2) This site will disturb 56.7 acres out of total area of 73.1 acres. Per ECWMC Rules and Standards for a new, low-density residential site that disturbs more than one acre but less than 100 acre, the site must meet the following standards:
    a. Rate control
    b. Volume management
    c. Erosion and sediment control
    d. Water quality

e. Buffer strips

3) Existing land use consists of 54.4 acres of grassland, 5.3 acres of cropland, 4.3 acres of woodland, 3.3 acres of wetland areas and 4.0 acres of existing impervious/water surface.
4) Proposed land use will consist of 44.8 acres of grass/lawn areas, 3.25 acres of wetlands, 20.8 acres of impervious/water surfaces and 2.4 acres of woodland.
5) The soils present throughout the site are predominately Hydrologic Soil Group (HSG) type C soils.
6) The applicant is proposing to achieve the required water quantity and quality controls by constructing three onsite wet stormwater detention ponds with sand filtration bench around the perimeter of these ponds.

Storm Water Management Plan:

7) Three NURP ponds with filtration benches area proposed in lieu the Commission's volume abstraction. Some abstraction credits (1.03 acres of impervious area subtraction) will be obtained by disconnected flows. Ponds 1N-A (west) and 1N-B (east) are connected by a filtration strip between them. These two ponds will act as one pond during a runoff event.
    a. Abstraction requirements for 16.7 acres of new impervious area on this site is 66,683 cubic feet.
    b. Filtered volume provided per the applicant's storm water management plan for a 48 hour period will be 72,691 cubic feet of water based on filtration rate of 1.2 in/hr. within 48 hours.
    c. Filtration media of sand with a 6" underdrain is proposed on all ponds.
    d. The City of Plymouth will provide the long-term operation and maintenance on the ponds/filter systems and public drainage systems.

Rate Control: Applicant used the Atlas 14 precipitation distributions for stormwater hydrology, in compliance with the new Rules. The pre- and post-development flow rates leaving the site for the 24-hour duration events are shown in the following table. Rate control satisfies the Commission's standards.

	2-Year (2.87") Runoff Rate (cfs)	10-Year (4.27") Runoff Rate (cfs)	100-year (7.29") Runoff Rate (cfs)
Pre-Development	38.4	91.9	216.4
Post-Development	20.4	50.6	135.4

Water quality requirements: Summary of the water quality analysis for pre-development (baseline), post-development (without BMPs) and post-development (with BMP) conditions are shown below. Pre-development loads are based on the Commission's average annual land use concentrations. Post development controls are based on P8 model results by the applicant, cross checked by staff using MIDS and NURP models. The water quality control plan satisfies the Commission's standards.

- Pre-development loads = 28.7 lbs/year
- Post-development loads
    - P8= 9.5 lbs/year
    - NURP = 22.8 lbs/year

Condition (based on 69.2 acres)	TP Load (lbs/yr)*	TSS Load (lbs/yr)**	Required Abstraction (cu. ft.)	Filtered Volume* (cu.ft.)	Runoff volume* (ac-ft/yr)
Pre-development (baseline)	28.7	3,484		N/A	77.4
Post-development without BMPs	71.3	12,953		N/A	152.7
Post-development with BMPs	22.8	1,634		72,691	
Net Change (baseline compared to post-development w/ BMPs)	**-5.9**	**-1,850**	**+66,683**	**72,691**	**+75.3**
* All conditions reflect annual averages ** Based on P8 model					

8) Erosion and Sediment Control:
   a. After site development and home building, there is a good potential of a gully developing where channel flows and the retaining wall intersect on Lot 10, Block 2. Because of the tree cover in this area, we recommend a level spreader of similar BMP that reduces the velocities of the water to 2.0 fps or less before leaving the property.
   b. Site plans meet the minimum Commission standards for erosion and sediment controls.
9) Buffer: Two ECWMC buffer standards apply for this site;
   a. For Elm Creek, the Commission requires an average of 50 foot wide buffers and a minimum buffer of 25 feet wide, measured from the top of the bank.
      i. Creek buffer meets these conditions. Required buffer area = 174,000 sq. ft. Actual buffer area = 211,100 sq. ft. Minimum buffer width = 30'
   i. For the other wetlands on site, the Commission requires an average of 25 foot wide buffers with the minimum width of 10 feet.
   ii. The current buffers meet the City of Plymouth's wetland buffer ordinance for medium rankings which is a 30 foot average and 10 foot minimum. This exceeds the Commission's standard of 25' and 10' respectively.
10) Floodplain: There is a FEMA designated base flood elevation on ½ mile of stretch of Elm Creek that runs through this site. Elm Creek 100-year floodplain study elevations vary from 949.2 near the SW corner of the site to 959.1 (1988 NAVD). No floodplain impacts will occur on this site.

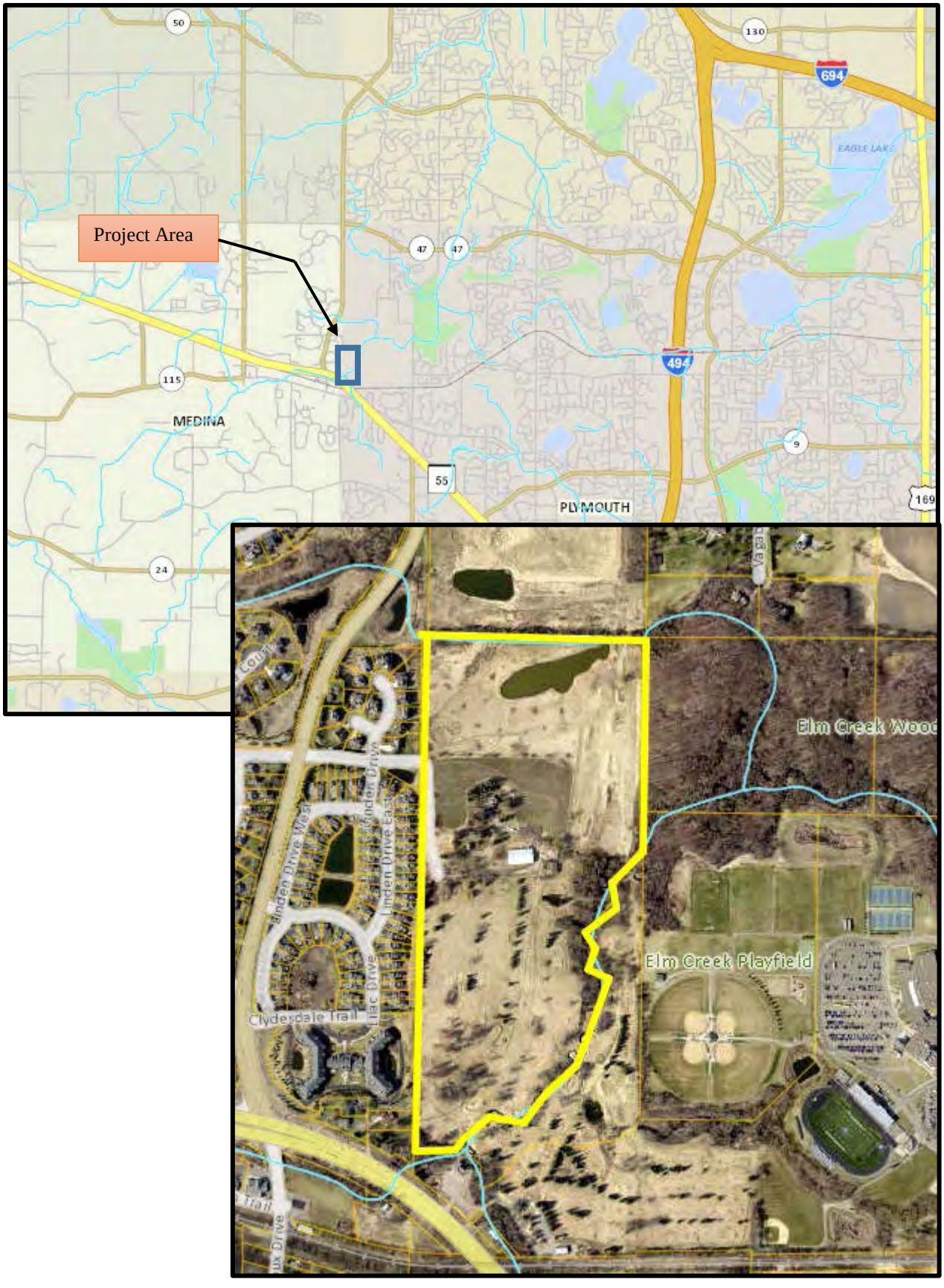
Recommendation: Approval

Hennepin County
Department of Environmental Services

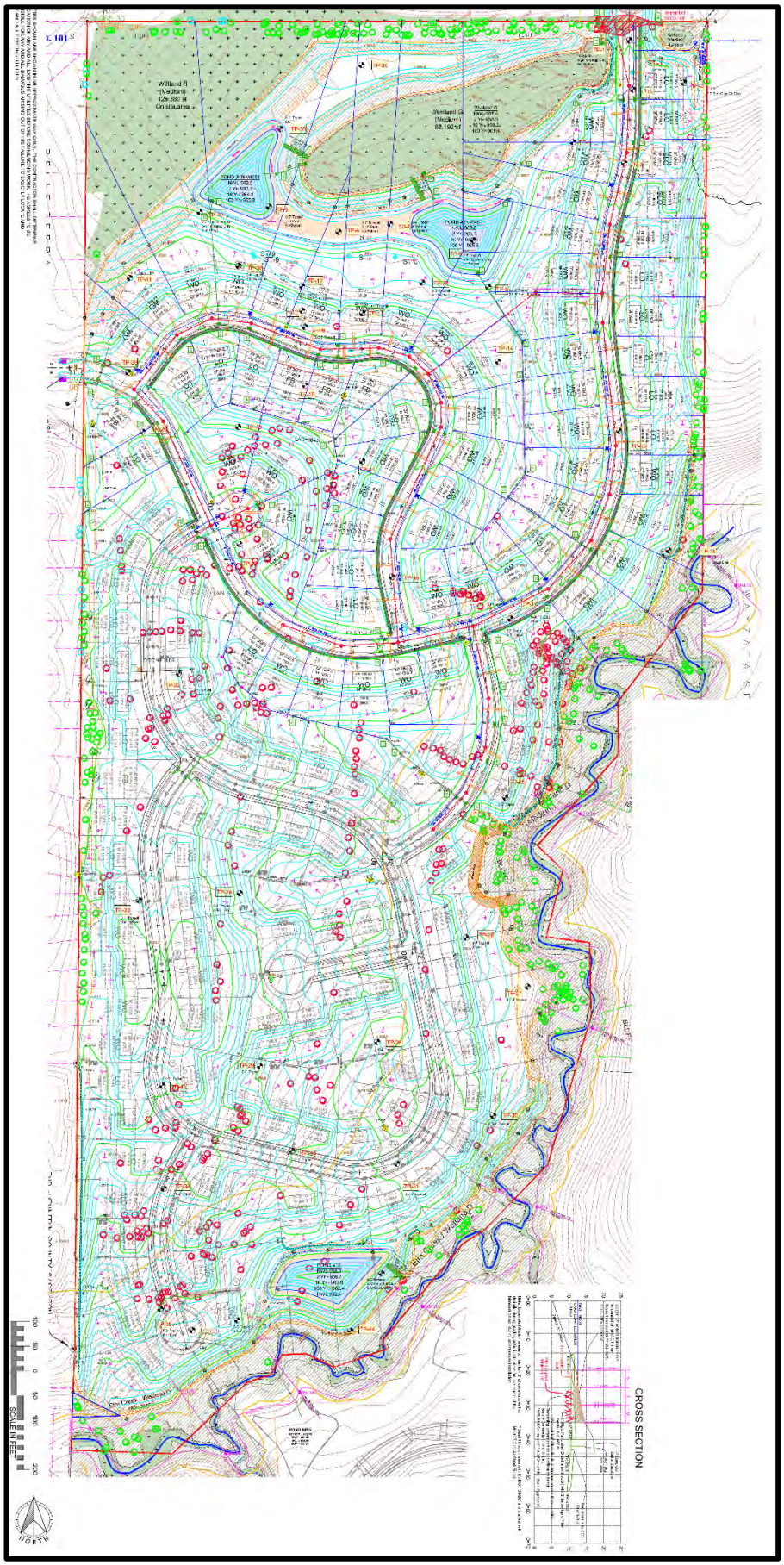
James C. Kujawa
Technical Advisor to the Commission.

February 23, 2017
Date

SITE LOCATION



Grading Plan



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

TECHNICAL OFFICE
Hennepin County Environment and Energy Dept.
701 Fourth Street South, Suite 700
Minneapolis, MN 55415-1600
PH: 612.348-7338
FAX: 612.348.8532
Email: james.kujawa@hennepin.us

Summers Edge South

Plymouth, Project #2017-006

Project Overview: This project is located on the east side of Brockton Lane and north of Medina Road. The site plans include all or portion of three PID's and a ROW areas that is proposed to be abandoned that total 46.2 acres. The actual areas being grading total 30.9 acres. The current land use is cropland, woodland, wetlands and grassland. Proposed land use will be 52 single family residential lots on approximately 22 acres of this property. The Commission's standards require review of; Rule D, Stormwater Management, Rule E, Erosion and Sediment Controls and Rule I, Buffer Strips. Erosion and sediment control plans were reviewed and approved by staff on February 23, 2017. This review will be for Rules D, I and E.

Applicant: Summergate Companies, Attn. Casey Wollschlager, 17305 Cedar Avenue, Suite 200, Lakeville, MN 55044. Phone: 952-898-3461. Email: casey@summer-gate.com

Engineer/Agent: Landform Professional Services, Attn. Reid Schulz, 105 S. Fifth Avenue, Suite 513, Minneapolis, MN 55401. Phone: 612-381-4214. Email: Rschulz@landform.net

Exhibits:

1) ECWMC Request for Plan Review and Approval. Received 2/10/17. Application fee, $1,900.00.
2) A complete application was accepted on February 17, 2017.
3) Summers Edge South site plans by Landform Engineering, dated March 2, 2017. 33 of 33 sheets.
4) Summers Edge South Stormwater Narrative, by Landform Engineering, dated March 1, 2017.
5) ECWMC findings and approval of Rule E, Erosion Control dated February 23, 2017.

Findings;

1) A complete application was received on February 17, 2017. The initial 60-day review period, per MN Statute 15.99 expires on April 17, 2017.
2) The applicant requested an expedited review and approval of Rule E, erosion and sediment controls, prior to full Commission review of the stormwater management plan. That review was completed on February 23, 2017 and approved by staff with conditions.

3) This review is for Rules I and D, stormwater and buffers. It covers Parcels A (8.2 acres) and C (18.9 acres) and the area of grading shown on the site plans that will occur on PID 1811822230003 (2.8 acres).
4) The existing and proposed drainage pattern for the site generally runs east then north toward Highway 55 before entering Elm Creek about a mile after leaving this site.
5) One pond is proposed for stormwater quality and quantity controls. 22.3 acres from this site will drain to the pond. The pond will have a 15' sand filter bench with two- six inch drain tiles to extend the detention time to 46 hours for a 1.1" rainfall event.
    a. The sand filter system will drain down the ECWMC abstraction requirement of 28,430 cubic feet in 46 hours from a 1.1" rainfall event. Actual = 30,624 in 48 hours.
    b. The tile and filter bench details meet the City of Plymouth and MPCA filter system requirements.
6) Pre and post development nutrient loads, per Commission standards are as follows;
    a. Pre development TP load is 17.2 lbs/yr.(area = 22.5 acres)
        i. Cropland = 15.9 acres (15.9 lbs/yr)
        ii. Woods/wetland = 5.5 acres (0.6 lbs/yr)
        iii. Farmstead = 0.4 acres (0.4 lbs/yr)
        iv. Grassland = 0.7 acres (0.3 lbs/yr)
    b. Post development TP loads = 12.7 lbs/yr (area = 25.7 acres)
        i. Based on NURP PondNet (22.3 acres to pond and 3.4 acres untreated)
7) No actual water volume abstraction is proposed for this project. In lieu of abstraction, the applicant is proposing a sand filter bench in the NURP pond.
8) Rate controls from the pond design are as follows.;

	2-Year (2.87") Runoff Rate (cfs)	10-Year (4.28") Runoff Rate (cfs)	100-year (7.36") Runoff Rate (cfs)
Pre-Development	16.7	36.8	77.3
Post-Development	6.8	19.2	44.0

9) Water quality summary;

Condition (based on 22.3 acres)	**TP Load (lbs/yr)***	**TSS Load (lbs/yr)**	**Required Abstraction (cu. ft.)**	**Filtered Volume (cu.ft.)**	**Runoff volume (ac-ft/yr)**
Pre-development (baseline)	17.2	2,899		N/A	17.7
Post-development without BMPs	29.1	N/A		N/A	32.3
Post-development with BMPs	12.7	1,838		30,624	32.3
Net Change (baseline compared to post-development w/ BMPs)	**-4.5**	**-1,850**	**+28,430**	**30,624**	**+14.6**
* TP load based on PondNet model					

10) The City of Plymouth will provide the long term operation and maintenance of the pond and public storm sewer systems.
11) Buffers meet the City of Plymouth requirement for medium quality wetlands; 10 foot minimum and a 30 foot average width. This will exceed the Commission standard of 10 and 25 feet respectively.
12) Based on the proposed erosion and sediment control plans, this project meets the Commissions requirements per Rule E;
    a. Install perimeter sediment control measures (silt fence) prior to grading.
    b. Install redundant sediment controls (2 silt fences) above wetlands.
    c. Install tree protection fences.
    d. Install a temporary sediment control pond and outlet structure where the permanent pond is located.
    e. Provides for inspection and maintenance of the E&SC measures.
    f. Provides for inlet protection measures once the storm sewer is installed
    g. Addresses cleanout of the temporary sediment pond when it is converted into a permanent pond.
    h. Provides for temporary and permanent seeding specifications and timing that meet MNDOT, ECWMC and MPCA requirements.
    i. Adequately addresses all other provisions necessary for a SWPPP permit.
13) Wetland impacts and replacement plans have been reviewed and approved by the City of Plymouth (LGU).

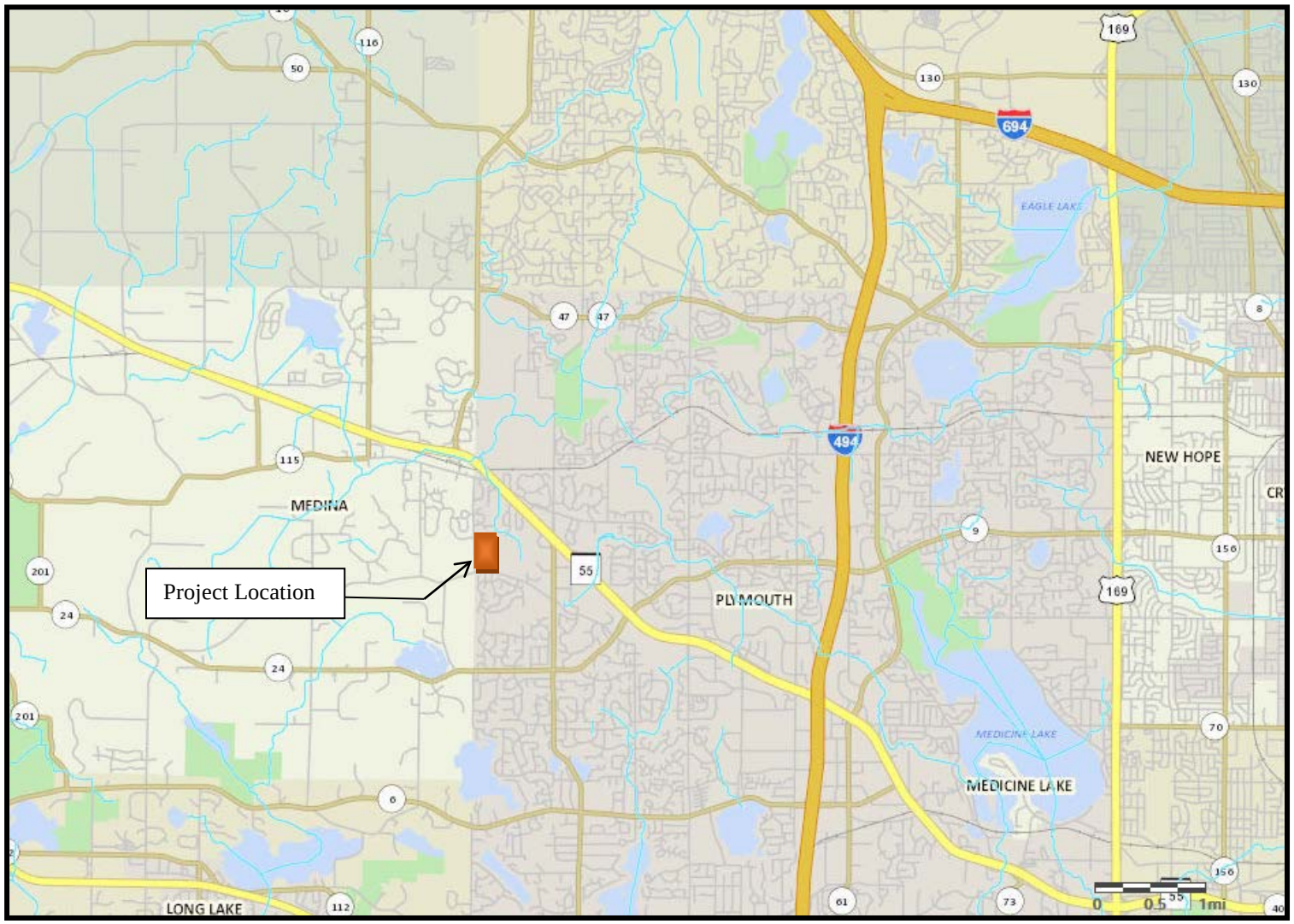
Recommendation: Approval

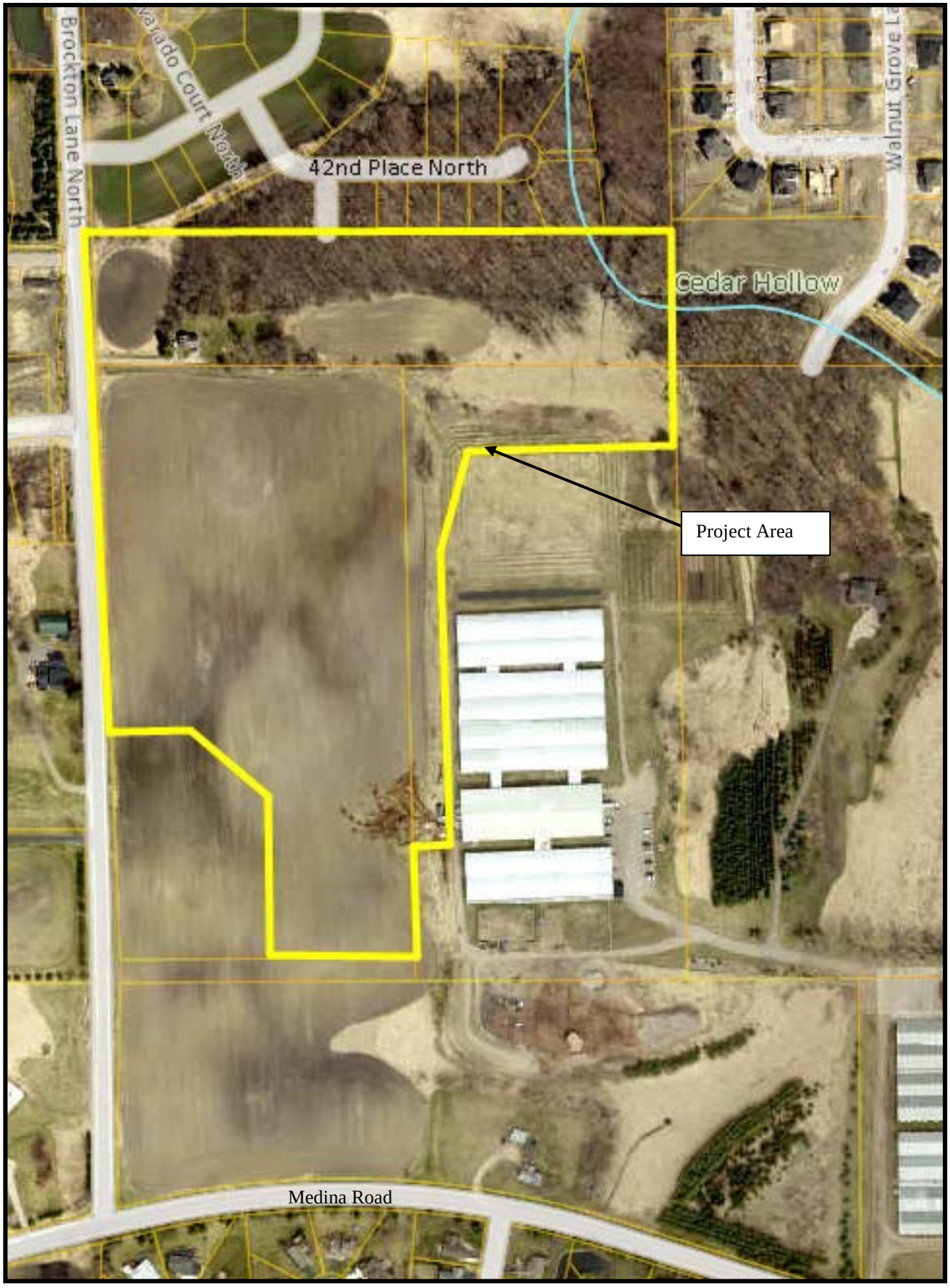
Hennepin County
Department of Environmental Services

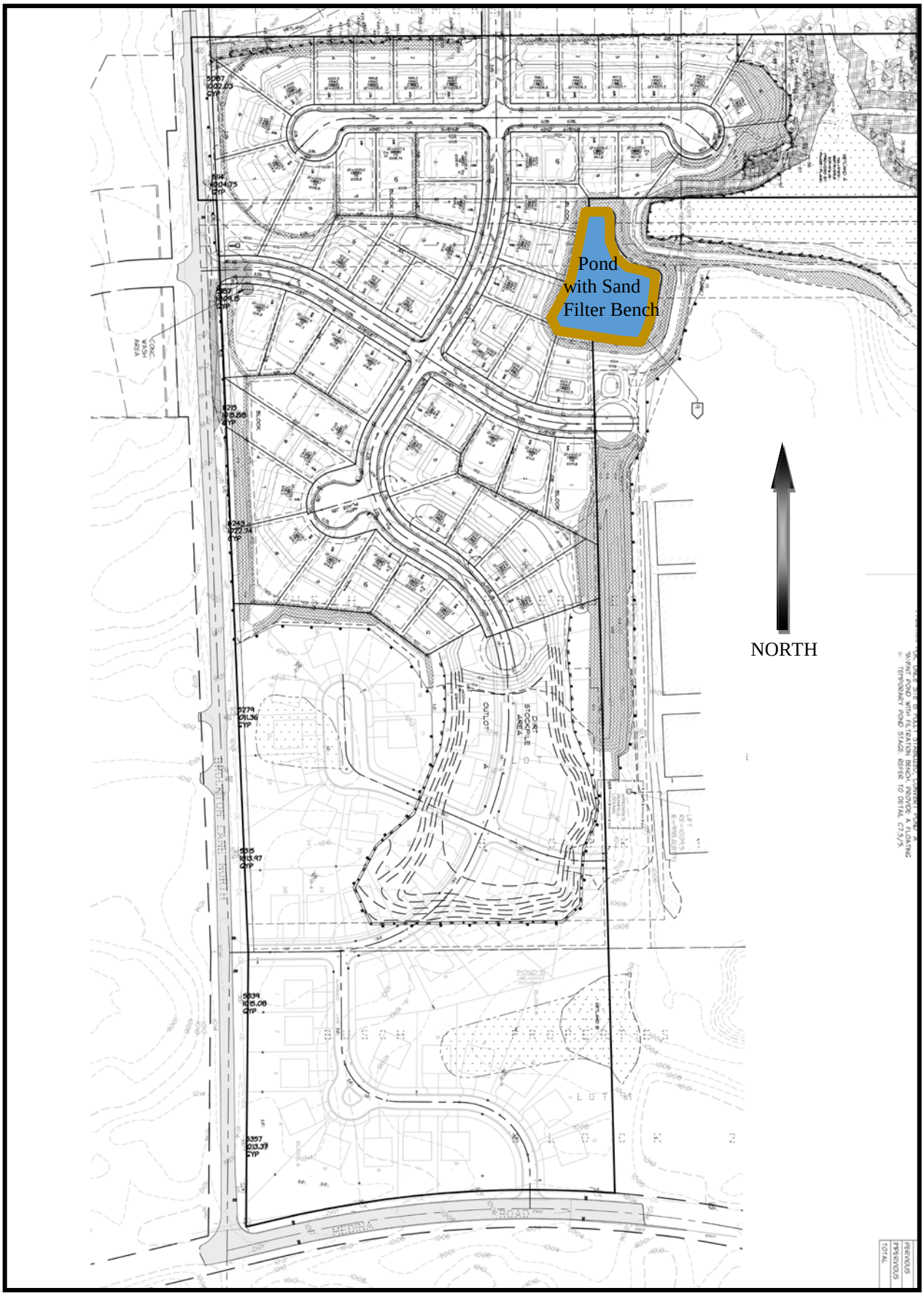
March 23, 2017
Date

James C. Kujawa
Advisor to the Commission

Project Location




Brockton Lane North
42nd Place North
Cedar Hollow
Walnut Grove La
Project Area
Medina Road


Pond
with Sand
Filter Bench
NORTH

ELM CREEK WATERSHED MANAGEMENT COMMISSION

Financial Statements and
Supplemental Information
Year Ended
December 31, 2016

ELM CREEK WATERSHED MANAGEMENT COMMISSION

Table of Contents

INDEPENDENT AUDITORS' REPORT

Board of Directors
Elm Creek Watershed Management Commission
Plymouth, Minnesota

Report on the Financial Statements

We have audited the accompanying financial statements of the governmental activities and major fund of the Elm Creek Watershed Management Commission (the Commission), as of and for the year ended December 31, 2016, and the related notes to the financial statements, which collectively comprise the Commission's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

The Commission's management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Commission's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a reasonable basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the governmental activities and major fund of the Commission as of December 31, 2016, the respective changes in the financial position thereof, and the budgetary comparison for the General Fund for the year then ended in accordance with accounting principles generally accepted in the United States of America.

OTHER MATTERS

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that Management's Discussion and Analysis (MD&A) be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. The Commission has not presented the MD&A that accounting principles generally accepted in the United States of America have determined necessary to supplement, although not required to be part of, the basic financial statements.

Prior Year Comparative Information

We have previously audited the Commission’s financial statements for the year ended December 31, 2015 and, in our report dated April 6, 2016, we expressed an unqualified opinion on the financial statements of the governmental activities and major fund. The financial statements include prior year partial comparative information, which does not include all of the information required in a presentation in conformity with accounting principles generally accepted in the United States of America. Accordingly, such information should be read in conjunction with the Commission’s financial statements for the year ended December 31, 2015, from which such information was derived.

Other Reporting

We have also issued our report dated April --, 2017, on our consideration of the Commission’s internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance.

BASIC FINANCIAL STATEMENTS

Elm Creek Watershed Management Commission

Statement of Net Position and
Governmental Fund Balance Sheet
As of December 31, 2016
(with Partial Comparative Actual Amounts as of December 31, 2015)

	Governmental Activities	
	2016	2015
Assets		
Cash and investments	$ 524,931	$ 517,502
Restricted cash	46,000	-
Accounts receivable	1,596	12,680
Total assets	$ 572,527	$ 530,182
Liabilities and Fund Balances/Net Position		
Liabilities		
Accounts payable	$ 42,733	$ 56,617
Financial and administrative guarantee fee deposits	46,000	-
Total liabilities	88,733	56,617
Fund balances/net position		
Restricted fund balances/net position		
Restricted for capital improvement projects	129,048	125,342
Assigned fund balances/net position		
Assigned for capital projects, studies	62,832	34,316
Assigned for water monitoring program	1,000	-
Total assigned funds	63,832	34,316
Unrestricted/unassigned fund balances/net position	290,914	(159,658)
Total assigned or unrestricted fund balances/net position	354,746	(125,342)
Total fund balances/net position	483,794	-
Total liabilities and fund balances/net position	$ 572,527	$ 56,617

Elm Creek Watershed Management Commission

Statement of Activities and
Governmental Fund Revenues, Expenditures, and
Changes in Fund Balances/Net Position
Budget and Actual
Year Ended December 31, 2016
(with Partial Comparative Actual Amounts for the Year Ended December 31, 2015)

	Governmental Activities			
	2016			2015
	Original and Final Budget	(Audited)	Over (Under)	(Audited)
Revenue				
General				
Member assessments	$ 215,360	$ 215,360	$ -	$ 209,000
Property taxes (ad valorem)	-	249,866	249,866	131,570
Charges for services - project and wetland review fees	105,000	70,882	(34,118)	79,690
Reimbursements	6,000	5,133	(867)	18,680
Interest income	80	915	835	83
Miscellaneous	1,500	-	(1,500)	-
Total revenue	327,940	542,156	214,216	439,023
Expenditures				
Current				
Administration	133,406	102,229	(31,177)	87,834
Education	30,000	18,124	(11,876)	19,367
Insurance	3,800	1,442	(2,358)	2,349
Professional fees	7,000	5,541	(1,459)	4,964
Technical support	111,500	100,434	(11,066)	113,806
Water monitoring	47,845	34,785	(13,060)	39,347
Watershed programs	106,100	15,032	(91,068)	43,240
Watershed plan	8,000	1,698	(6,302)	9,165
Capital outlay				
Improvement projects	-	252,642	252,642	3,291
Total expenditures	447,651	531,927	84,276	323,363
Net change in fund balances/net position	$ (119,711)	10,229	$ 129,940	115,660
Net fund balances/net position				
Beginning of year		473,565		357,905
End of year		$ 483,794		$ 473,565

Elm Creek Watershed Management Commission

Notes to Financial Statements
December 31, 2016

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Organization

The Elm Creek Watershed Management Commission is formed under a Joint Powers Agreement, as amended according to Minnesota Statutes Sections 103B.201 through 103B.255 and Minnesota Rules Chapter 8410 relating to Metropolitan Area Local Water Management and its reporting requirements. Elm Creek Watershed Management Commission was established in February, 1973 to protect and manage the natural resources of the Elm Creek Watershed.

The Commission is considered a governmental unit, but is not a component unit of any of its members. As a governmental unit, the Commission is exempt from federal and state income taxes.

Reporting Entity

A joint venture is a legal entity resulting from a contractual agreement that is owned, operated, or governed by two or more participants as a separate and specific activity subject to joint control, in which the participants retain either an ongoing financial interest or an ongoing financial responsibility. The Commission is considered a joint venture.

As required by accounting principles generally accepted in the United States of America, these financial statements include the Commission (the primary government) and its component units. Component units are legally separate entities for which the primary government is financially accountable, or for which the exclusion of the component unit would render the financial statements of the primary government misleading. The criteria used to determine if the primary government is financially accountable for a component unit include whether or not the primary government appoints the voting majority of the potential component's unit board, is able to impose its will on the potential component unit, is in a relationship of financial benefit or burden with the potential component unit, or is fiscally depended upon by the potential component unit. Based on these criteria, there are no component units required to be included in the Commission's financial statements.

Government-Wide and Fund Financial Statement Presentation

The government-wide financial statements (the Statement of Net Position and the Statement of Activities) report information about the reporting government as a whole. These statements include all the financial activities of the Commission. The Statement of Activities demonstrates the degree to which the direct expenses of a given function are offset by program revenues. Direct expenses are those that are clearly identifiable with a specific function or segment. Program revenues include charges to customers or applicants who purchase, use, or directly benefit from goods, services, or privileges provided by a given function or segment, and grants or contributions that are restricted to meeting the operational or capital requirements of a particular function or segment. Other internally directed revenues are reported instead as general revenues.

Measurement Focus, Basis of Accounting and Financial Statement Presentation

The government-wide financial statements are reported using the economic resources measurement focus and the accrual basis of accounting. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows. Grants and similar items are recognized as revenue as soon as eligibility requirements imposed by the provider have been met.

NOTE 1 - SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Measurement Focus, Basis of Accounting and Financial Statement Presentation (Continued)

Governmental fund financial statements are reported using the current financial resources measurement focus and the modified accrual basis of accounting. Revenues are recognized as soon as they are both measurable and available. Revenues are considered to be available when they are collectible within the current period or soon enough thereafter to pay liabilities of the current period. For this purpose, the Commission considers revenue to be available if they are collected within 60 days of the end of the current fiscal period. Expenditures generally are recorded when a liability is incurred, as under accrual accounting.

Fund Financial Statement Presentation

The accounts of the Commission are organized on the basis of funds, each of which is considered a separate accounting entity. The operations of each fund are accounted for with a separate set of self-balancing accounts that comprise its assets, liabilities, fund equity, revenue, and expenditures. Resources are allocated to, and accounted for in individual funds based on the purposes for which they are to be spent and the means by which spending activities are controlled. The resources of the Commission are accounted for in one major fund:

- **General Fund (Governmental Fund Type) –** This fund is used to receive dues and miscellaneous items which may be disbursed for any and all purposes authorized by the bylaws of the Commission.

Typically, separate fund financial statements are provided for Governmental Funds. However, due to the simplicity of the Commission's operation, the Governmental Fund financial statements have been combined with the government-wide statements.

Budgets

The amounts shown in the financial statements as "budget" represent the budget amounts based on the modified accrual basis of accounting. A budget for the General Fund is adopted annually by the Commission. Appropriations lapse at year-end. Budgetary control is at the fund level.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Members' Contributions

Members' contributions are calculated based on the member's share of the taxable market value of all real property within the watershed to the total market value of all real property in the watershed.

NOTE 1 - SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Capital assets

The Commission follows the policy of expensing any supplies or small equipment at the time of purchase. The Commission currently has no capitalized assets.

Risk Management

The Commission is exposed to various risks of loss related to torts: theft of, damage to, and destruction of assets; error and omissions; and natural disasters. The Commission participates in the League of Minnesota Cities Insurance Trust (LMCIT), a public entity risk pool for its general property, casualty, and other miscellaneous insurance coverages. LMCIT operates as a common risk management and insurance program for a large number of cities in Minnesota. The Commission pays an annual premium to LMCIT for insurance coverage. The LMCIT agreement provides that the trust will be self-sustaining through member premiums and will reinsure through commercial companies for claims in excess of certain limits. Settled claims have not exceeded this commercial coverage in any of the past three years. There were no significant reductions in insurance coverage during the year ended December 31, 2016.

Receivables

The Commission utilizes an allowance for uncollectible accounts to value its receivables; however, it considers all of its receivables to be collectible as of December 31, 2016 and 2015.

Net Position

Net position represents the difference between assets and liabilities in the government-wide financial statements.

Prior Period Comparative Financial Information/Reclassification

The basic financial statements include certain prior year partial comparative information in total but not at the level of detail required for a presentation in conformity with accounting principles generally accepted in the United States of America. Accordingly, such information should be read in conjunction with the Commission's financial statements for the year ended December 31, 2015, from which the summarized information was derived. Also, certain amounts presented in the prior year data may have been reclassified in order to be consistent with the current year's presentation.

NOTE 2 – ASSETS, LIABILITIES AND NET POSITION

A. Deposits

In accordance with applicable Minnesota Statutes, the Commission maintains a checking account authorized by the Commission.

The following is considered the most significant risk associated with deposits:

Custodial Credit Risk – In the case of deposits, this is the risk that in the event of a bank failure, the Commission's deposits may be lost.

Minnesota Statutes require that all deposits be protected by federal deposit insurance, corporate surety bond, or collateral. The market value of collateral pledged must equal 110 percent of the deposits not covered by federal deposit insurance or corporate surety bonds. Authorized collateral includes treasury bills, notes, and bonds; issues of U.S. government agencies; general obligations rated "A" or better; revenue obligations rated "AA" or better; irrevocable standard letters of credit issued by the Federal Home Loan Bank; and certificates of deposit. Minnesota Statutes require that securities pledged as collateral be held in safekeeping in a restricted account at the Federal Reserve Bank or in an account at a trust department of a commercial bank or other financial institution that is not owned or controlled by the financial institution furnishing the collateral. The Commission has no additional deposit policies addressing custodial credit risk.

At year-end, the Commission had no funds held in its bank account. All funds were transferred to their MBIA investment account. (see below)

B. Investments

At December 31, 2016 and 2015, the Commission held $570,931 and $517,502 (approximate cost and fair market value), respectively, in investments with MBIA in Minnesota 4M Holdings.

The 4M fund is an external investment pool not registered with the Securities Exchange Commission (SEC) that follows the same regulatory rules of the SEC under rule 2a7. The 4M Fund is a customized cash management and investment program for Minnesota public funds that is allowable under Minnesota Statutes. The fair value of the position in the pool is the same as the value of the pool shares.

NOTE 2 – ASSETS, LIABILITIES AND NET POSITION (CONTINUED)

Investments are subject to various risks, the following of which are considered the most significant:

Custodial Credit Risk – For investments, this is the risk that in the event of a failure of the counterparty to an investment transaction (typically a broker-dealer) the Commission would not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. The Commission does not have a formal investment policy addressing this risk, but typically limits its exposure by purchasing insured or registered investments, or by the control of who holds the securities.

Credit Risk – This is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. Minnesota Statutes limit the Commission's investments to direct obligations or obligations guaranteed by the United States or its agencies; shares of investment companies registered under the Federal Investment Company Act of 1940 that receive the highest credit rating, are rated in one of the two highest rating categories by a statistical rating agency, and all of the investments have a final maturity of 13 months or less; general obligations rated "A" or better; revenue obligations rated "AA" or better; general obligations of the Minnesota Housing Finance Agency rated "A" or better; bankers' acceptances of United States banks eligible for purchase by the Federal Reserve System; commercial paper issued by United States corporations or their Canadian subsidiaries, rated of the highest quality category by at least two nationally recognized rating agencies, and maturing in 270 days or less; Guaranteed Investment Contracts guaranteed by a United States commercial bank, domestic branch of a foreign bank, or a United States insurance company, and with a credit quality in one of the top two highest categories; repurchase or reverse purchase agreements and securities lending agreements with financial institutions qualified as a "depository" by the government entity, with banks that are members of the Federal Reserve System with capitalization exceeding $10,000,000; that are a primary reporting dealer in U.S. government securities to the Federal Reserve Bank of New York; or certain Minnesota securities broker-dealers. The Commission's investment policies do not further address credit risk.

Concentration Risk – This is the risk associated with investing a significant portion of the Commission's investment (considered 5 percent or more) in the securities of a single issuer, excluding U.S. guaranteed investments (such as treasuries), investment pools, and mutual funds. The Commission does not have an investment policy limiting the concentration of investments.

Interest Rate Risk – This is the risk of potential variability in the fair value of fixed rate investments resulting from changes in interest rates (the longer the period for which an interest rate is fixed, the greater the risk). The Commission does not have an investment policy limiting the duration of investments.

NOTE 3 – FUND EQUITY

The following fund balance classifications describe the relative strength of the spending constraints placed on the purposes for which resources can be used:

- Nonspendable fund balance – amounts that are not in a spendable form (such as inventory) or are required to be maintained intact;
- Restricted fund balance - amounts constrained to specific purposes by their providers (such as grantors, bondholders, and higher levels of government), through constitutional provisions, or by enabling legislation;
- Committed fund balance – amounts constrained to specific purposes by a government itself, using its highest level of decision-making authority; to be reported as committed, amounts cannot be used for any other purpose unless the government takes the same highest level action to remove or change the constraint;
- Assigned fund balance – amounts a government intends to use for a specific purpose; intent can be expressed by the governing body or by an official or body to which the governing body delegates the authority;
- Unassigned fund balance – amounts that are available for any purpose; these amounts are reported only in the general fund.

The Commission establishes (and modifies or rescinds) fund balance commitments by passage of an ordinance or resolution. This is typically done through adoption and amendment of the budget. A fund balance commitment is further indicated in the budget document as a designation or commitment of the fund. Assigned fund balance is established by the Commission through adoption or amendment of the budget as intended for specific purpose.

NOTE 4 – COMMITMENTS AND CONTRACTS

Minnesota Pollution Control Agency (MPCA) – Watershed-wide TMDL Project

During 2009, the MPCA contracted the Commission to conduct a water monitoring program of the Elm Creek watershed for a cost not to exceed $35,000. This contract was amended four times to add additional funds of $148,000 for phase II, $100,000 for phase III, $109,995 for phase IV, $16,500 for phase V and $58,495 for phase VI. Total cost to the MPCA not to exceed $467,990. The Commission has contracted Three Rivers Park District to perform the services in conjunction with this project. The Commission earned $12,680 during the year ended December 31, 2015, and incurred expenses of $15,032 and $12,680 during the years ended December 31, 2016 and 2015, respectively.

Restricted fund balance – capital improvement projects

During 2015, the Commission received $68,916 from tax levies that is to be used for the Tower Drive improvement project. During 2016, the Commission incurred expenses of $37 in project related costs. As of December 31, 2016, the city of Medina has yet to complete the project. The Commission will hold the funds of $66,890, amount of the levy, (less administrative costs) until completion.

During 2015, the Commission received $62,654 from tax levies that is to be used for the Elm Creek Dam rehabilitation project. During 2016, the Commission incurred expenses of $34 in project related costs. As of December 31, 2016, the city of Champlin has yet to complete the project. The Commission will hold the funds of $60,988, amount of the levy, (less administrative costs) until completion.

Restricted fund balance – capital improvement projects (continued)

During 2015, the Commission agreed to support the city of Plymouth with certain stream restoration capital improvement projects. During 2016, the Commission received $249,866 from tax levies that is to be used for the Plymouth Elm Creek Restoration project. The Commission incurred $245,557 and $2,606 of costs associated with this project during the years ended December 31, 2016 and 2015, respectively. The Commission will hold the remaining funds of $1,703 (less administrative costs) until completion.

NOTE 5 – MEMBERS' DUES

Dues received from members were as follows:

	For Year Ended December 31			
	2016		2015	
	Amount	Percentage	Amount	Percentage
Champlin	$ 8,741	4.06 %	$ 8,420	4.03 %
Corcoran	14,511	6.74	13,261	6.35
Dayton	9,974	4.63	9,568	4.58
Maple Grove	115,969	53.85	114,518	54.79
Medina	17,190	7.98	16,378	7.84
Plymouth	17,457	8.11	15,949	7.63
Rogers	31,518	14.63	30,906	14.78
Total	$ 215,360	100.00 %	$ 209,000	100.00 %

OTHER REQUIRED REPORTS

INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS

Board of Directors
Elm Creek Watershed Management Commission
Plymouth, MN

We have audited, in accordance with the auditing standards generally accepted in the United States of America, the financial statements of the governmental activities and the major fund of the Elm Creek Watershed Management Commission (the Commission) as of and for the year ended December 31, 2016, and the related notes to the financial statements, which collectively comprise the Commission's basic financial statements, and have issued our report thereon dated April 5, 2017.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Commission's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Commission's internal control. Accordingly, we do not express an opinion on the effectiveness of the Commission's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or combination of deficiencies, in internal control such that there is a reasonable possibility that material misstatement of the financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies and therefore, material weaknesses or significant deficiencies may exist that were not identified. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses, as defined above. However, material weaknesses may exist that have not been identified. We did identify the following deficiencies in internal control that we consider to be significant deficiencies:

Because of the limited size of your office staff, your organization has limited segregation of duties. A good system of internal accounting control contemplates an adequate segregation of duties so that no one individual handles a transaction from inception to completion. While we recognize that your organization is not large enough to permit an adequate segregation of duties in all respects, it is important that you be aware of the condition.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Commission's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the result of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. Accordingly, this communication is not suitable for any other purpose.

April 5, 2017

INDEPENDENT AUDITORS' REPORT ON
MINNESOTA LEGAL COMPLIANCE

Board of Directors
Elm Creek Watershed Management Commission
Plymouth, Minnesota

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of the governmental activities and major fund of the Elm Creek Watershed Management Commission (the Commission) as of and for the year ended December 31, 2016, and the related notes to the financial statements, which collectively comprise the Commission's basic financial statements, and have issued our report thereon dated April --, 2017.

The *Minnesota Legal Compliance Audit Guide for Other Political Subdivisions*, promulgated by the State Auditor pursuant to Minn. Stat. 6.65, contains six categories of compliance to be tested: contracting and bidding, deposits and investments, conflicts of interest, claims and disbursements, miscellaneous provisions, and tax increment financing. Our audit considered all of the applicable listed categories, except that we did not test for compliance in tax increment financing, because the Commission does not utilize tax increment financing.

In connection with our audit, nothing came to our attention that caused us to believe that the Commission failed to comply with the provisions of the *Minnesota Legal Compliance Audit Guide for Other Political Subdivisions.* However, our audit was not directed primarily toward obtaining knowledge of such noncompliance. Accordingly, had we performed additional procedures, other matters may have come to our attention regarding the Commission's noncompliance with the above referenced provisions.

This report is intended solely for the information and use of those charged with governance and management of the Pioneer-Sarah Creek Watershed Management Commission and the State Auditor and is not intended to be and should not be used by anyone other than these specified parties.

April 5, 2017

Elm Creek
Watershed Management Commission

2016 Annual Activity Report

Elm Creek Watershed Management Commission
2016 Annual Activity Report

Table of Contents

This report was prepared
for the Elm Creek Watershed Management Commission
by JASS, Inc.

For more information about this report, contact Judie@jass.biz

We gratefully acknowledge the assistance of:
Rich Brasch, Three Rivers Park District
Ali Durgunoğlu, Hennepin County Environment and Energy (HCEE)
James Fallon, U S Geological Service (USGS)
Brian Johnson, Metropolitan Council
Mary Karius, Hennepin County Environment and Energy (HCEE)
James Kujawa, Hennepin County Environment and Energy (HCEE)

Cover photograph:
River Watch 2016
Wayzata High School Students

This annual activity report has been prepared by the Elm Creek Watershed Management Commission in accordance with the annual reporting requirements of Minnesota Rules Chapter 8410.0150 Subp. 2 and 3. It summarizes the activities undertaken by the Commission during calendar year 2016.

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.

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.

Appendix 1 includes the names of the Commissioners appointed to serve in 2016. Also listed there are the individuals/firms serving as the Commission's administrative, legal and technical support staff along with the members of the Commission's Technical Advisory Committee (TAC). 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 Commission's website.

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%
	130.61	100.0%

Watershed Plan

The Elm Creek Watershed Management Commission adopted its Third Generation Watershed Management Plan on October 14, 2015. This 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 in the Minnesota Administrative Rules Chapter 8410, Local Water Management: an 1) 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 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 shown in *Appendix 2.*

Local Plans

Revisions to Minnesota Rules 8410 adopted in 2015 include significant changes in the timing of local water plan revisions. Per 8410.0105 sub-paragraph 9 and 8410.0160 subparagraph 6:

- Local water plans must be prepared by metropolitan cities and towns and a local water plan must become part of the local comprehensive plan for a municipality.
- Under the amended rule, local water plans must be revised essentially once every ten years in alignment with the local comprehensive plan schedule.
- A municipality has two years before their local comprehensive plan is due to adopt its local water plan.
- Prior to adoption, a municipality must prepare its local water plan, distribute it for comment, and have it approved by the organization with jurisdiction in the municipality.
- The next local comprehensive plans are due December 31, 2018. All cities and towns in the seven-county metropolitan area must complete and adopt their local water plans between January 1, 2017 and December 31, 2018. Thereafter, add ten years to each of the previous dates.
- Local water plans may be updated more frequently by a municipality at its discretion.

2016 Work Plan in Review

The Elm Creek Commission identified the following activities to be undertaken in 2016. Progress toward completing those activities is *italicized.*

■ Technical ■ Water Monitoring ■ Education ■ Administrative

■ Continue to review local development/redevelopment plans for conformance with the standards outlined in the Commission's Watershed Management Plan. *Fifty-two projects were reviewed by the Commission in 2016. A list of the projects, the criteria for which they were reviewed, and comparisons of the pre- and post-conditions relating to rate control and volume loads can be found in Appendix 3, along with a map showing the location of the projects. The Commission does not have a permit program.*

- Serve as the local government unit (LGU) for administering the Wetland Conservation Act (WCA) for the cities of Champlin and Corcoran. *The Commission continues to serve as the LGU for Champlin and Corcoran. In 2016 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: six wetland boundary/type; three no-loss; two exemptions; three sequencing; and three wetland replacement plans. Wetland impacts totaled 67,809 SF; wetland replacement totaled 204,419 SF. Two WCA violations were investigated and resolved; two others were determined to not be WCA/Commission violations. The Commission was involved in 17 Technical Evaluation Panels (TEPs) throughout the watershed. The Elm Creek Commission does not have a wetland banking program.*

- Complete informal and formal reviews of the Elm Creek Watershed-wide TMDL and WRAPS reports. Obtain US EPA approval of the TMDL document and MPCA approval of the WRAPS report. *At year-end the MPCA had completed its informal review of both the TMDL and the WRAPS. The TMDL was still being reviewed by the EPA. The informal Stakeholder review will begin early in 2017 and extend for a period of 30 days. Both documents will be available on the MPCA and Commission websites.*

- Use results of WRAPS study to establish priority areas and complete subwatershed assessments to identify specific BMPs that feasibly and cost-effectively reduce nutrient and sediment loading to impaired water resources. *The Commission submitted a grant application to the Clean Water Fund (CWF) Accelerated Implementation Program to complete a subwatershed assessment in four key subwatersheds in the headwaters of Rush Creek and North Fork Rush Creek. Much of the land in those subwatersheds is in the City of Corcoran. The Commission was awarded a $50,280 grant to complete this project.*

- Work in partnership with Hennepin County's agriculture specialist to help build relationships with the agricultural community in the watershed in order to encourage TMDL implementation. *The Commission will continue to seek opportunities to use the resources of the Ag Specialist. (Appendix 9)*

- 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. *This task is being undertaken by the Technical Advisory Committee and is a priority in 2017.*

- Promote river stewardship through the River Watch program. *Three sites were monitored in the Elm Creek watershed in 2016. Appendix 4 contains more information about the River Watch program and the 2016 results.*

- Seek grant funding to assist with the costs associated with projects identified on the Commission's CIP. *Five CIP projects, the Fox Creek Streambank Stabilization Project in Rogers; the Mississippi River Shoreline Repair and Stabilization and the Elm Creek Dam at the Mill Pond projects in Champlin; and the Rush Creek Main Stem Restoration and the Fish Lake Alum Treatment Phase 1 projects in Maple Grove were certified through the ad valorem taxing process for funding by Hennepin County. (Appendix 5)*

In conjunction with this effort, the Commission adopted two resolutions in 2016. Resolution 2016-01 adopted a Minor Amendment to the Third Generation Watershed Management Plan to add five projects to the Commission's CIP and revise the scope of one project and shift the timing of five others on the CIP. Resolution 2016-02 ordered the five projects certified above, designated the members responsible for construction, and designated the Commission cost-share funding.

- Continue to support City-sponsored projects as they are identified. *The Commission continues to identify projects on its CIP for funding either though the Commission's CIP budget or grant funding. In 2016 the Commission applied for and received a Board of Water and Soil Resources (BWSR) Competitive Grant (Projects and Practices) in the amount of $200,000 for the Internal Phosphorus Loading Control Project on Fish Lake and a BWSR Competitive Grant (Accelerated Implementation Grant) in the amount of $50,280 for the Rush Creek Headwaters Subwatershed Assessment Project.*

- Conduct lake and stream monitoring programs to track water quality and quantity conditions. *The Commission monitored Diamond, Fish, Rice and Weaver lakes in cooperation with Three Rivers Park District (TRPD). Lake report cards for these lakes can be found in Appendix 6. The Commission also funded the monitoring of Jubert and Cowley lakes through Metropolitan Council's Citizen Assisted Monitoring Program (CAMP). Preliminary CAMP results are also included in Appendix 6. Final monitoring results for these lakes will be included in the 2016 CAMP report, available in summer 2017. For more information on CAMP, contact Brian Johnson, brian.johnson@metc.state.mn.us, or 651.602.8743.*

- Continue to operate the monitoring station in Champlin in cooperation with the United States Geological Survey (USGS). *Stream monitoring continued at the Champlin monitoring station where both grab samples and storm runoff samples were collected and analyzed for various parameters. Monitoring results are found in Appendix 7.*

- The Commission will also monitor lower Rush Creek (RT) and lower Diamond Creek (DC) in cooperation with TRPD. *Three Rivers Park District performed flow monitoring at RT and DC and at a site on Elm Creek above Rice Lake in 2016. See Appendix 7 for monitoring results.*

- Participate in the Minnesota Wetland Health Evaluation Program (WHEP). *The four wetlands monitored in 2016 were located in the Elm Creek Park Reserve (ECP-1) and at CHP-1, CHP-2, and CHP-3 in Crow Hassan Park. More information about WHEP and the 2016 findings are found in Appendix 8.*

- Partner with the Hennepin County Department of Environment and Energy (HCEE) in the Stream Health Evaluation Program (SHEP) to monitor six sites in the Elm Creek watershed. *This program was discontinued by the County in 2016.*

- Continue as a member of the West Metro Water Alliance (WMWA). *The Commission continued to support the WMWA Educator Program and contribute articles to its e-newsletter* Water Links. *The Commission promoted the Watershed PREP (Protection, Restoration, Education, and Prevention) program to reach every 4th grade science class in the watershed. 878 students in nine schools in the Elm Creek watershed participated in Lesson 1: What is a Watershed and Why do we Care? and Lesson 2: The Incredible Journey.*

The Watershed Prep educators also presented at the Basswood Science Night, the Fernbrook Nature Night, the Plymouth Home Expo and the Plymouth Kids Fest.

In 2016 the Commission also collaborated on the Pledge to Plant for Pollinators and Clean Water *project and creation of the new WMWA website. The* 2016 Annual Report *describing all of WMWA's activities is found in (Appendix 9)*

- Participate as an exhibitor at Plymouth's Home Expo. *Volunteers from the Commission "manned" a booth at the Expo, April 8-9, 2016, alongside other watershed organizations to promote water quality initiatives.*

- Continue as a member of WaterShed Partners and a partner in the NEMO (Nonpoint Education for Municipal Officials) program. *The Commission continues its membership in these organizations with financial support and in-kind contributions.*
- Co-sponsor Rain Garden Workshops in conjunction with the Commission's Education and Public Outreach Program. *The cities of Champlin and Plymouth hosted workshops in 2016.*
- Assist member communities in preparing and adopting their local water management plans. *No local plans were submitted for review in 2016. It is anticipated most communities will submit their local plans for approval in 2017.*
- Adopt a 2017 operating budget. *At its June 8, 2016 regular meeting, the Commission approved a 2017 operating budget totaling $421,614, with assessments to the member cities totaling $219,700, a 2.02% increase over the 2016 assessments. (Appendix 10)*
- Continue to populate and maintain the Commission's website www.elmcreekwatershed.org to provide news to residents of the watershed. *In 2016 the Commission transferred its current website to a new mobile-ready platform and continued to populate and maintain the website to provide news to residents, students, developers and other individuals interested in the water resources of the watershed.*
- Publish an annual activities report summarizing the Commission's yearly activities and financial reporting. *The 2015 Annual Activity Report was accepted by the Commission on April 13, 2016, and circulated as prescribed in MN Rules Chapter 8410.0150.*

Financial Reporting

Appendix 10 includes the Commission's approved budget for 2016. 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 2016 assessments to the members are also found in *Appendix 10.*

Of the $447,651 operating budget for 2016 approved by the Elm Creek Watershed Management Commission on June 10, 2015, revenue of $105,000 was projected as proceeds from application fees, $6,000 from partnership revenue, and $80 from interest income, resulting in assessments to members totaling $215,360. $119,711 was projected as coming from reserves.

$137,500 was projected as project review-related expense; $47,845 for water monitoring; $30,000 for education; and $86,000 for special projects, studies and subwatershed assessments. $24,406 was set aside for WRAPS-related expenses; however, it was anticipated that entire amount would not be expended. $121,900 was earmarked for administration, planning, and general operating expenses. The Commission also designated $250,000 as its share of the Plymouth Elm Creek Restoration CIP Project. A Hennepin County ad valorem levy will be used to fund the Commission's share of this $1,086,000 project.

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.

The 2016 Audit Report prepared by Johnson & Company, Ltd., Certified Public Accountants, is also found in *Appendix 10.* 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 preliminary 2016 Audit are as follows:

General engineering	99,910
General administration	111,434
Education	18,124
Programs	34,785
Projects	5,032
Capital Projects	252,642
Total	$531,927

General engineering work includes review of local plans, review of development/ redevelopment projects, attendance at meetings and other technical services. General administration includes support to technical staff, attendance at meetings, insurance premiums, annual audit, legal counsel, tracking grant opportunities, watershed planning, and other non-engineering services.

2017 Work Plan

Following is the projected work plan for 2017:

■ Technical ■ Water Monitoring ■ Education ■ Administrative

■ Continue to review local development/redevelopment plans for conformance with the standards outlined in the Commission's Third Generation Management Plan. Review the current project review fee schedule for fiscal conformity.

■ Serve as the local government unit (LGU) for administering the Wetland Conservation Act (WCA) for the cities of Champlin and Corcoran.

■ Conduct lake and stream monitoring programs to track water quality and quantity conditions. The Commission will undertake stream monitoring (continuous flow only) at monitoring sites DC on Diamond

Creek, RT on Rush Creek main stem, and EC77 on Elm Creek above Rice Lake, and conduct a dissolved oxygen (DO) longitudinal survey for Diamond Creek. In addition, four sentinel lakes (Fish, Weaver, Diamond, and Rice Lake-main basin) and one additional water body will be monitored. Mill Pond?

Longitudinal surveys in upper Rush Creek will be conducted at 4-5 locations and at different flow conditions to support the Upper Rush Creek subwatershed assessment. All monitoring outlined in this section will be conducted in cooperation with Three Rivers Park District.

- Fund the monitoring of two lakes through Metropolitan Council's Citizen Assisted Monitoring Program (CAMP). Jubert plus one
- Continue to operate the monitoring station in Champlin in cooperation with the United States Geological Survey (USGS).
- Promote river stewardship through the River Watch program with six sites in 2017.
- Participate in the Minnesota Wetland Health Evaluation Program (WHEP) with four wetlands in 2017.
- Assist member communities in preparing and adopting their local water management plans. Advise the member cities of the revised requirements under Rule 8410.0160, subp. 6, regarding local water plans and local comprehensive plans.
- Conduct the biennial solicitation of interest proposals for administrative, legal, technical and wetland consultants as required under Minnesota Statutes, section 103B.227, subdivision 5.
- Complete both informal and formal reviews of the Elm Creek Watershed-wide TMDL and WRAPs reports and obtain MPCA and USEPA approval of the TMDL document and MPCA approval of the WRAPs report. The informal Stakeholder 30-day review will begin in early 2017. It is anticipated these reviews will be completed in 2017.
- Use results of WRAPS study to establish priority areas and complete subwatershed assessments to identify specific BMPs that feasibly and cost-effectively reduce nutrient and sediment loading to impaired water resources.
- Continue as a member of the West Metro Water Alliance (WMWA). Continue to support the WMWA Educator Program and contribute to its e-newsletter *Water Links*. Promote the Watershed PREP program to reach every 4th grade science class in the watershed. Participate in the *Pledge to Plant for Clean Water and Pollinators* project. Conduct native plant sales at various city events around the watershed including the Maple Grove Farmers Market.
- Participate as an exhibitor in the Plymouth Home Expo. The Commission will share booth space with the other members of WMWA at the Expo, April 7-8, 2017.
- Continue as a member of WaterShed Partners and a partner in the NEMO (Nonpoint Education for Municipal Officials) program.
- Co-sponsor Rain Garden Workshops in conjunction with the Commission's Education and Public Outreach Program. Two Metro Blooms workshops are scheduled in the Elm Creek watershed in 2017 – April 6 at Champlin City Hall and April 11 at St. Barnabas Lutheran Church in Plymouth. The 2017 workshops are entitled, "Learn How to Create a Weather Resilient Yard."

- Continue to award Water Quality Education Grants. Grant funds are to be used to increase awareness and knowledge of water resources issues within the Elm Creek watershed.

- Partner with Hennepin County's Agriculture Specialist to help build relationships with the agricultural community in the watershed in order to encourage TMDL implementation. Last year Hennepin County hired a Rural Conservation Specialist. The Commission has obtained MN Buffer Law updates from her work and will encourage and assist, if necessary, with the law's implementation throughout the watershed in 2017. Additional contacts and assistance by the Extension Specialist with rural landowners will also continue in 2017.

- 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. The Technical Advisory Committee is continuing to work on developing this ordinance.

- Seek grant funding to assist with the costs associated with projects identified on the Commission's CIP. A call for CIPs went out to the cities in December 2016. Proposed CIPs and CIP updates will be reviewed for inclusion on the Commission's CIP by the Technical Advisory Committee (TAC) at their March meeting. The TAC's recommendations will be forwarded to the Commission. This activity will most likely require a Minor Plan Amendment.

- Undertake the Internal Phosphorus Loading Control Project on Fish Lake. This project was awarded a Board of Water and Soil Resources (BWSR) Competitive Grant (Projects and Practices) in the amount of $200,000 in December 2016.

- Undertake the Rush Creek Headwaters Subwatershed Assessment Project. This project was also awarded a BWSR Competitive Grant (Accelerated Implementation Grant) in the amount of $50,280 in December 2016.

- Continue to support City-sponsored projects using the ad valorem funding mechanism. A call for CIPs went out to the cities in December 2016. Proposed CIPs and CIP updates will be considered for ad valorem funding recommendation by the Technical Advisory Committee at their April meeting.

- Adopt a 2018 operating budget.

- Continue to populate and maintain the website to provide news to residents, students, developers and other individuals interested in the water resources of the watershed. In 2016 the Commission's website was transferred to a new mobile-ready platform. The Commission will consider adding Facebook as a media opportunity.

- Publish an annual activities report summarizing the Commission's yearly activities and financial reporting. The 2016 Annual Activity Report will be available at the Commission's April 12, 2017 meeting.

Appendix

2016 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	Jon Bottema Commissioner	10500 Trail Haven Road Corcoran, MN 55374-9376	612.247.7328 jonathan.bottema@ubs.com
	Cindy Patnode Alternate	22802 County Road 50 Corcoran, MN 55340	612.483.8569 dcpatnode@aol.com
Dayton	Doug Baines Chair	13000 Overlook Road Dayton, MN 55327	763.323.9506 dougbaines@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
	Bill Kidder Alternate	9221 Cheshire Lane North Maple Grove, MN 55369-8860	763.568.2992 o2bonh20@gmail.com
Medina	Elizabeth Weir Vice Chair	1262 Hunter Drive Wayzata, MN 55391	763.473.3226 lizvweir@gmail.com
	Victoria Reid Alternate	4405 Shorewood Trail Medina, MN 55340	763.843.5774 vreid7@gmail.com
Plymouth	Fred Moore Treasurer	1820 Ives Lane Plymouth, MN 55441	612.269.2088 fred@emailmoore.net
	Jesse Larson Alternate	4245 Goldenrod Lane North Plymouth, MN 55441	612.860.2256 jesse.larson@state.mn.us
Rogers	Kevin Jullie Commissioner	13315 Oakwood Drive Rogers, MN 55374	763.428.9160 kjullie@srfconsulting.com
	Vacant Alternate		

2016 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 polices used to evaluate plats, 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	Susan Nelson	Wenck Associates 1800 Pioneer Creek Center Maple Plain, MN 55359	763.479.5131 snelson@wenck.com
Dayton	Jason Quisberg	Wenck Associates 7500 Highway 55 Ste 300 Golden Valley, MN 55427	763.252.6873 jquisberg@wenck.com
Maple Grove	Rick Lestina	City of Maple Grove 12800 Arbor Lakes Parkway Maple Grove, MN 55313	763.494.6354 rlestina@ci.maple-grove.mn.us
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 Department of Energy and Environment	Ali Durgunoğlu	701 Fourth Avenue S. Suite 700 Minneapolis, MN 55415-1600	612.596.1171 Ali.Durgunoglu@hennepin.us
	James Kujawa		612.348.7338 James.Kujawa@hennepin.us
Three Rivers Park District	Rich Brasch	12615 County Road 9 Plymouth, MN 55441	763.694.2061 richard.brasch@threeriversparkdistrict.org

2016 Staff and Consultants

The required biennial solicitation for interest proposals for administrative, legal, technical and wetland consulting services was published in the January 26, 2015 edition of the State Register. At their March 11, 2015 meeting the Commission voted to retain the following consultants for 2015-2016. The Commission has no employees.

	NAME/POSITION	ADDRESS	TELEPHONE/EMAIL
Technical Services	Ali Durgunoglu	Hennepin County Energy and Environment 701 Fourth Avenue S. Suite 700 Minneapolis, MN 55415-1600	612.596.1171 Ali.Durgunoglu@hennepin.us
	James Kujawa		612.348.7338 James.Kujawa@hennepin.us
	Jeff Weiss	Barr Engineering 4700 West 77th Street Minneapolis, MN 55435	952.832.2706 jweiss@barr.com
Legal Services	Joel Jamnik	Campbell Knutson Grand Oak Office Center I 860 Blue Gentian Road #290 Eagan, MN 55121	651.645.5000 jjamnik@ck-law.com
Administrative Services	Judie Anderson	JASS 3235 Fernbrook Lane Plymouth, MN 55447	763.553.1144 judie@jass.biz
	Amy Juntunen		763.553.1144 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: an 1) 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, and implementation strategies are outlined below.

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 runoff 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

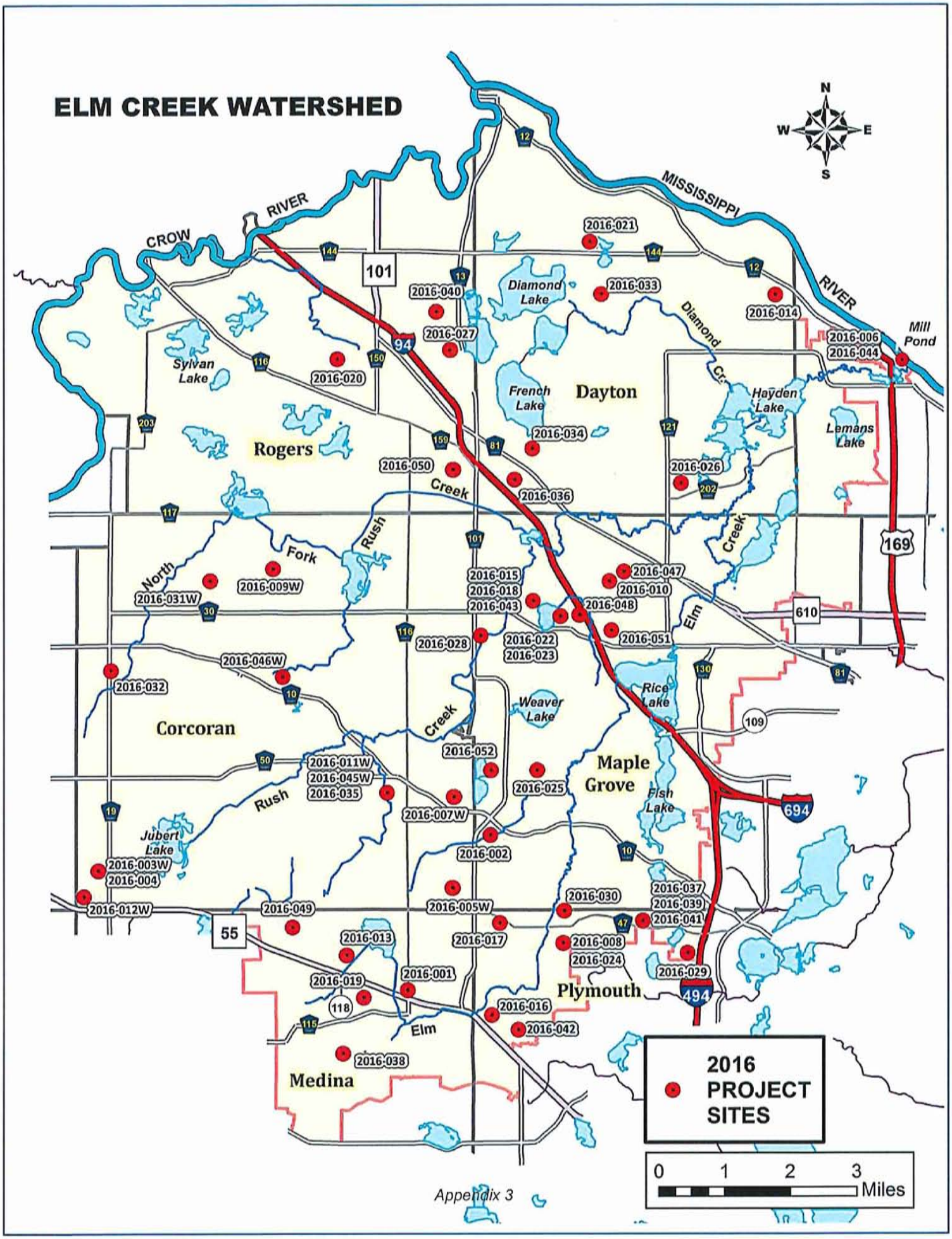
The Plan includes key findings and actions identified in the Elm Creek Watershed Restoration and Protection Strategies (WRAPS) study, which includes Total Maximum Daily Loads (TMDLs) for the impaired waters and improvement and protection strategies and activities for all waters.

2016 Project Reviews

			Reviewed for					Rate Control (cfs) (pre- and post-development)			Net Change Nutrient Control (lbs./yr) (pre- and post-development)		Net change			
Project No.	Project Name	City	Erosion Control	Stormwater	Floodplain	Wetlands	Buffers	2-yr Pre | Post	10-yr Pre | Post	100-yr Pre | Post	TP load #/yr Pre-w/o BMPs | Post-w/ BMPs	TSS load #/yr Pre w/o BMPs | Post-w/ BMPs	Runoff Volume (af / yr)	Abstraction (cfs)	Filtration (cfs)	Biofiltration (cfs)
2016-001	County State Aid Highway 115/County Road 116	Medina	X	X				27.5 | 27.7	53.6 | 53.3	114.1 | 113.4	-0.9	-592	2.1			
2016-002	The Markets at Rush Creek	MG	X	X	X		X	24.5 | 9.7	52.0 |30.4	113.4 | 108.0	-9.4	-4,622		-1,025		73,469
2016-003W	Park Place Storage	Corcoran				X										
2016-004	Park Place Storage	Corcoran	X	X		X		13.4 | 11.7	37.0 | 22.5	137.3 | 62.4	-1.6	-7,128			N/A	41,472
2016-005W	Ravinia Wetland Bank Plan	Corcoran			X											
2016-006	Miss River Shoreline Repair	Champlin	X				X	stormwater management does not require review								
2016-007W	Beacon Academy	Corcoran				X										
2016-008	Northwest Greenway Trail Phase II	Plymouth	X	X	X		X	Linear project, did not create more than one ace new impervious cover. No review for rate, nutrient and volume control.								
2016-009W	Chris Butek Pond Excavation	Corcoran				X										
2016-010	Park Nicollet at The Grove	MG	X	X				Reviewed for compliance with Project Review 2005-027 and Commission's Second Generation Plan								
2016-011W	2016 Downtown Corcoran Utility and Street Improvements	Corcoran				X										
2016-012W	B. R. Corcoran Community Solar Gardens	Corcoran				X										
2016-013	Arrowhead Drive Trail	Medina	X		X		X	Linear project, did not create more than one ace new impervious cover. No review for rate, nutrient and volume control.								
2016-014	Balsam Apartments	Dayton	X	X				4.37 | .23	| 1.94	9.37 | 9.08	-0.69	-125	-0.5	5,780		
2016-015	Lawndale Lane Trail Improvements	MG	X	X	X		X	Linear project, did not create more than one ace new impervious cover. No review for rate, nutrient and volume control.								
2016-016	Wayzata High School Varsity Baseball Improvements	Plymouth	X	X			X	Project decreased impervious cover. No review for stormwater - rate, nutrient and volume.								
2016-017	The Preserve at Meadow Ridge	Plymouth	X	X	X		X	5.3 | 4.8	11.8 | 10.2	28.0 | 23.6	-1.54	-508	-3.4	0		
2016-018	Cambridge Park	MG	X	X			X	9.4 | 7.3	19.3 | 16.2	42.4 | 41.8	-1.2	21	--		523	
2016-019	Just for Kix	Medina	X	X	X		X	2.83 | 1.26	5.44 | 4.39	11.38 | 7.60	-0.61	-110	-2.3	4,161		
2016-020	Ryan Meadows	Rogers	X	X			X	18.8 | 15.7	35.6 | 30.6	72.0 | 63.3	-1.4	-18,860	-6.7		1,563	
2016-021	Diamond View Estates	Dayton	X	X			X	12.2 | 6.4	30.1 | 27.4	90.3 | 89.5	-2.1	-1,995	-23.3	38,006		
2016-022	AutoZone Store #6379	MG	X	X			X	1.87 | .64	4.16 | 1.66	9.71 | 9.57	-0.73	-172	-0.55			
2016-023	Tricare	MG						Project denied. Constructed prior to Commission review.								
2016-024	Dunkirk Gateway Development	Plymouth	X	X			X	13.5 | 7.4	31.1 | 16.8	75.2 | 44.5	-3.7	-1,126	5.7			
2016-025	Killarney Glenn 2nd Addition	MG	X	X				9.6 | 4.3	18.1 | 12.3	38.0 | 24.0	-1.38	-355	-2.0	16.500		
2016-026	Faithbrook Church	Dayton	X	X			X	20.03 | 14.08	37.87 | 27.9	78.51 | 57.90	-8.45	-6,743	-1.9	48,771.38		
2016-027	Rogers Drive / Brockton Lane Intersection Improvements	Rogers	X					Linear project, did not create more than one ace new impervious cover. No review for rate, nutrient and volume control.								
2016-028	Ploceus Meadows	MG	X	X			X	3.99 | 3.75	9.18 | 7.40	22.33 | 17.02	-0.8	-53.7	1.6		-4,375	

2016 Project Reviews

			Reviewed for					Rate Control (cfs) (pre- and post-development)			Net Change Nutrient Control (lbs./yr) (pre- and post-development)		Net change			
Project No.	Project Name	City	Erosion Control	Stormwater	Floodplain	Wetlands	Buffers	2-yr Pre | Post	10-yr Pre | Post	100-yr Pre | Post	TP load #/yr Pre-w/o BMPs | Post-w/ BMPs	TSS load #/yr Pre-w/o BMPs | Post-w/ BMPs	Runoff Volume (af / yr)	Abstraction (cfs)	Filtration (cfs)	Biofiltration (cfs)
2016-029	Camelot Nine at Begin, Plymouth	Plymouth	X	X			X	EC 16.2 | 13.0 SC 6.1 | 2.3	EC 57.5 | 33.3 SC 15.1 | 5.1	EC 151.4 | 63.3 SC 26.4 | 13.9	-2.2	-12,784.3	-16.0	1,525		
2016-030	Elm Creek Meadows	Plymouth	X	X	X		X	23 | 13	52 | 28	117 | 78	-0.6	-836	10.4			
2016-031W	9735 Garden Lane no-loss exemption	Corcoran				X										
2016-032	CSAH 19 Cross Culvert	Corcoran		X												
2016-033	Dayton Public Works Facility Site Improvements	Dayton	X	X			X	12.02 | 4.9	27.84 | 11.8	65.79 | 30.05	-13.19	-5,527	-8.2	14,670		
2016-034	French Lake Golf Course Industrial Project AUAR	Dayton	Provided comments													
2016-035W	20070 Larkin Road (Wetland Violation)	Corcoran				X										
2016-036	K-Manufacturing 3rd Addition	Dayton						Falls below Commission threshold for review.								
2016-037	Lanewood Estates	Plymouth	X	X			X	5.4 | 3.2	11.5 | 6.7	24.9 | 20.6	-0.4	-186	N/A	N/A		
2016-038	AutoMotor Plex-Medina	Medina	X	X			X	29.53 | 22.84	55.28 | 42.28	143.62 | 97.21	-3.0	-609	N/A	N/A		
2016-039	The Fields at Meadow Ridge, formerly SANDS Parcel	Plymouth	X	X			X	25.0 | 15.8	50.6 | 37.5	102.4 | 66.4	-2.9	-1,183	N/A	N/A		
2016-040	Kinghorn 4th Addition	Rogers	X	X			X	29.05 | 3.6	49.27 | 5.62	90.95 | 14.26	-3,168	-5.94				
2016-041	Meadow Ridge Ponds (Bartus)	Plymouth	X	X			X	6.7 | 2.5	14.0 | 4.9	29.5 | 18.0						
2016-042	Cherrywood of Plymouth	Plymouth	X	X				9.8 | 3.3	18.7 | 9.7	38.9 | 18	0.0	-47	N/A	N/A		
2016-043	Lawndale Lane Improvements	MG	X	X	X			7.1 |4.4	12.0 | 7.3	23.4 | 16.7	-0.8 MIDS -3.8 P8	-478 MIDS -1,285 P8		not feasible		
2016-044W	Highway 169 Reconstruction - Wetland Delineation	Champlin	X	X		X										
2016-045W	Brother's Mini Storage	Corcoran				X										
2016-046W	Combine Lots: 8920 Foxline Drive and 8909 Trail Haven Road	Corcoran				X										
2016-047	Hy-Vee Maple Grove #1 (Maple Grove North)	MG	X	X			X	13 | 10	33.3 | 25	50.5 | 39.6	-2.6	-230		1.11 abs volume	1.29 filtered vol	
2016-048	Menards Yard Expansion	MG	Project was withdrawn.														
2016-049	Concept Plan Review for Medina Senior Living (Preliminary)	Medina	No review														
2016-050	Southeast Rogers Area AUAR	Rogers	Provided comments														
2016-051	Grove Circle Medical Office Building	MG	X	X				Reviewed for compliance with Project Review 2005-027 and Commission's Second Generation Plan								
2016-052	The Woods at Rush Creek	MG	X	X	X		X	27.3 | 9.3	59.9 | 26.5	130.1 | 60.1	-1.7	-800	23.5	38,532 req abs	45,230 filtered vol	


ELM CREEK WATERSHED
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W
E
S
MISSISSIPPI RIVER
CROW RIVER
Mill Pond
Diamond Lake
Sylvan Lake
French Lake
Dayton
Hayden Lake
Lemans Lake
Rogers
Corcoran
Maple Grove
Fish Lake
Rice Lake
Weaver Lake
Jubert Lake
Plymouth
Medina
Diamond Cr.
Rush Creek
North Fork Rush Creek
Elm Creek
2016-021
2016-040
2016-033
2016-014
2016-027
2016-006
2016-044
2016-020
2016-034
2016-026
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2016-008
2016-024
2016-029
2016-019
2016-001
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2016-038
2016
PROJECT
SITES
0 1 2 3 Miles

Appendix 3

2016 RIVER WATCH

INTRODUCTION

The River Watch Program has provided hands-on environmental education opportunities for students throughout Hennepin County since 1995. Every spring and fall, students and teachers venture into Hennepin County streams with waders securely fastened and dip nets in hand to collect aquatic macroinvertebrates, or bottom-dwelling, spineless organisms including mayflies, stoneflies, snails and beetles. Macroinvertebrates are influenced by physical and chemical properties of streams, so monitoring those 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.

In 2016, 16 stream stretches were monitored in the spring and/or fall. Data was gathered by more than 750 students from 32 classes and 15 schools, and students, teacher and chaperones donated more than 5,000 hours. Three sites were monitored by two classes in the Elm Creek watershed in 2016. Rush Creek at 101st Lane in Maple Grove was monitored by Kaleidoscope Charter School, where the students garnered a family biotic index (FBI) of 6.60 (fairly poor) as compared to 4.50 (good) in 2015. Elm Creek at Elm Creek Golf Club and at Peony Lane near Wayzata High School were monitored by WHS students. An FBI of 4.8 (good) was garnered at the high school site in 2015, in 2016 the site was under construction. An FBI of 6.1 (fair) was garnered at the Peony Lane site compared to 5.7 (fair) in 2015. Kaleidoscope students have participated in River Watch for 10 years, the WHS students for 18 years.

Data Analysis

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

Historical Data

Historical 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 hennepin.us/riverwatch.

Legal Notice
NOTICE OF PUBLIC HEARING
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, September 14, 2016 at approximately 11:30 a.m., or as soon thereafter as the matter may be heard, for a public hearing on the following improvement:

PROJECT: 2016-01 Fox Creek Streambank Stabilization Phase 2
Location: 1300 LF of Fox Creek from Red Fox Road to Industrial Blvd., Rogers, MN.
Description: Correct stream bank erosion along multiple segments of Fox Creek
Cost: Estimated project cost is $321,250, with $240,938 borne by city in which project is located. The Elm Creek Commission proposes to fund a matching $80,312 by certifying this cost to Hennepin County for collection with the county ad valorem tax levy.

PROJECT: 2016-02 Mississippi River Shoreline Repair and Stabilizatio
Location: River shoreline between Mississippi Point Park and Steamboat Landing, Champlin, MN.
Description: Repair and stabilize river banks damaged by flood waters, armoring 1600 LF of shoreline with rip rap
Cost: Estimated project cost is $300,000, with $225,000 borne by city in which project is located. The Elm Creek Commission proposes to fund a matching $75,000 by certifying this cost to Hennepin County for collection with the county ad valorem tax levy.

PROJECT: 2016-03 Elm Creek Dam at the Mill Pond
Location: Elm Creek Dam and Bridge, Champlin, MN.
Description: Construction of new dam, spillway and flood reduction culvert.
Cost: Estimated project cost is $7,001,220, with $6,813,720 borne by FEMA, MN Dept. of Public Safety, MN Recover Funds, Hennepin County, and city in which project is located. The Elm Creek Commission proposes to fund a matching $187,500 by certifying this cost to Hennepin County for collection with the county ad valorem tax levy.

PROJECT: 2016-04 Rush Creek Main Stem Restoration
Location: On the border of Maple Grove and Dayton, west of Fernbrook Lane and north of Territorial Road, Maple Grove, MN.
Description: Stabilization of erosional sites in a 2900 LF portion of the creek
Cost: Estimated project cost is $300,000, with $225,000 borne by city in which project is located. The Elm Creek Commission proposes to fund a matching $75,000 by certifying this cost to Hennepin County for collection with the county ad valorem tax levy.

PROJECT: 2016-05 Fish Lake Alum Treatment Phase 1
Location: Fish :Lake, Maple Grove.
Description: Conduct whole lake alum treatment based on 2013 U of WI-Stout study
Cost: Estimated project cost is $300,000, with $225,000 borne by city in which project is located. The Elm Creek Commission proposes to fund a matching $75,000 by certifying this cost to Hennepin County for collection with the county ad valorem tax levy.

The Commission proposes to proceed under the authority granted by MN Statutes, Sec. 103B.251 to certify its share of the project cost to Hennepin County for payment by a tax levy on all taxable property located within the Elm Creek watershed. The watershed includes portions of the cities of Champlin, Corcoran, Dayton, Maple Grove, Medina, Plymouth, and Rogers. Maps of the watershed are available at the respective city halls or at www.elmcreekwatershed.org.

Persons who desire to be heard with reference to the proposed improvement will be heard at this meeting. Written comments may be submitted to Doug Baines, c/o JASS, 3235 Fernbrook Lane, Plymouth, MN 55447, or emailed to judie@jass.biz. Auxiliary aids for persons with handicaps are available upon request at least 7 days in advance. Please contact Judie Anderson at 763-553-1144 to make arrangements.

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

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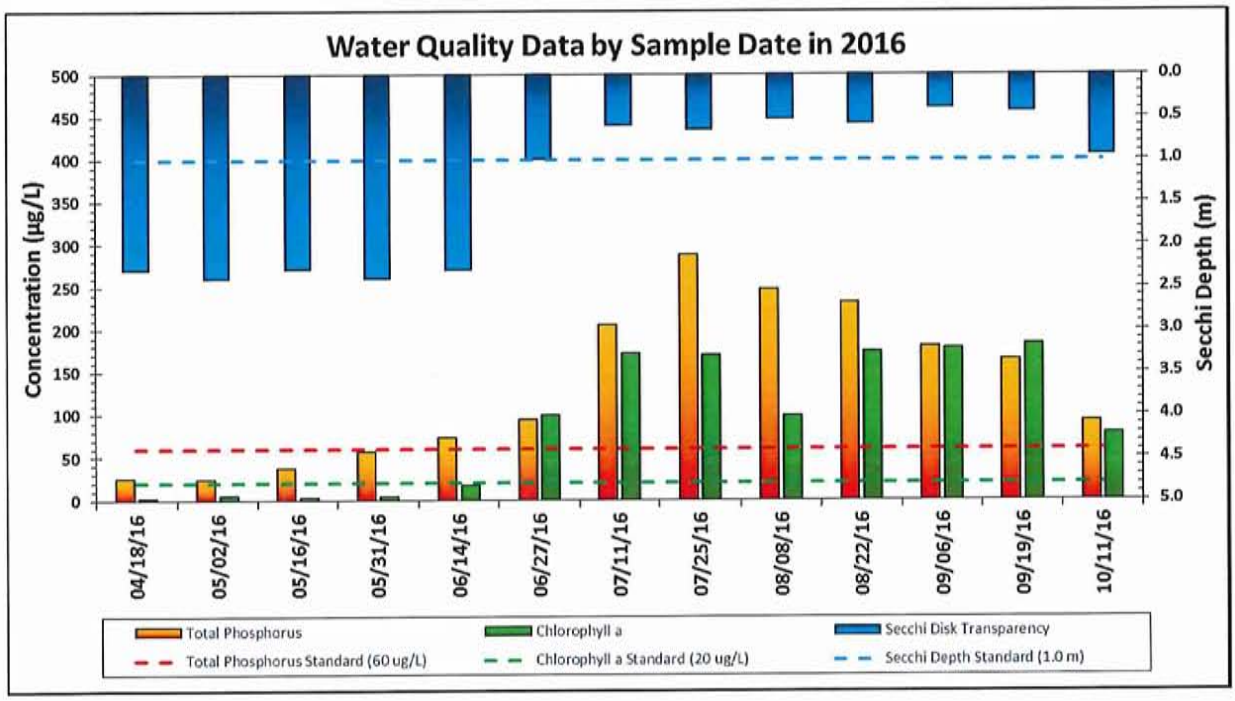
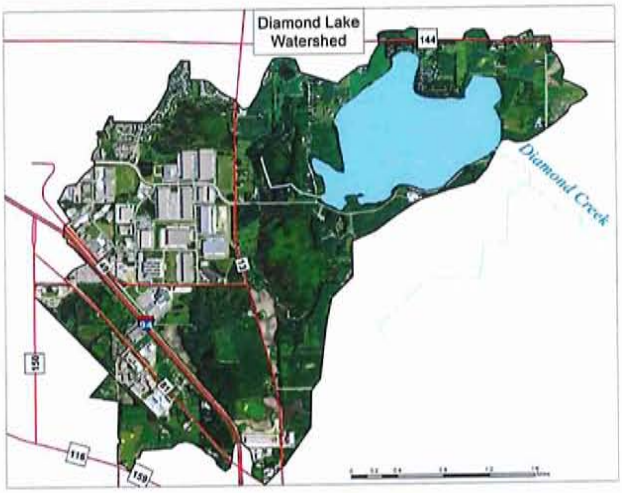
Published between August 15 and August 26, 2016 in the Osseo-Maple Grove Press

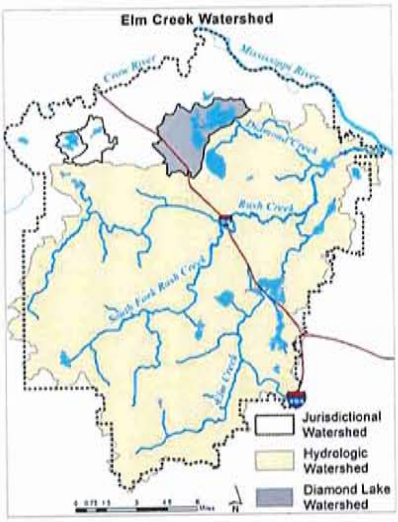
Diamond Lake Water Quality Report Card				
Year	TP	Chl-a	Secchi	Avg Grade
1998	D	D	F	D-
1999				
2000	F	F	F	F
2001				
2002				
2003				
2004	F	D	F	F
2005				
2006	F	F	F	F
2007	F	C	F	D-
2008	F	D	D	D-
2009	F	D	C	D
2010	D	C	C	C-
2011	D	B	C	C
2012	D	D	D	D
2013	D	F	F	F
2014	C	B	C	C+
2015	F	D	C	D
2016	D	F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

Metropolitan Council Grading System (Osgood 1989)

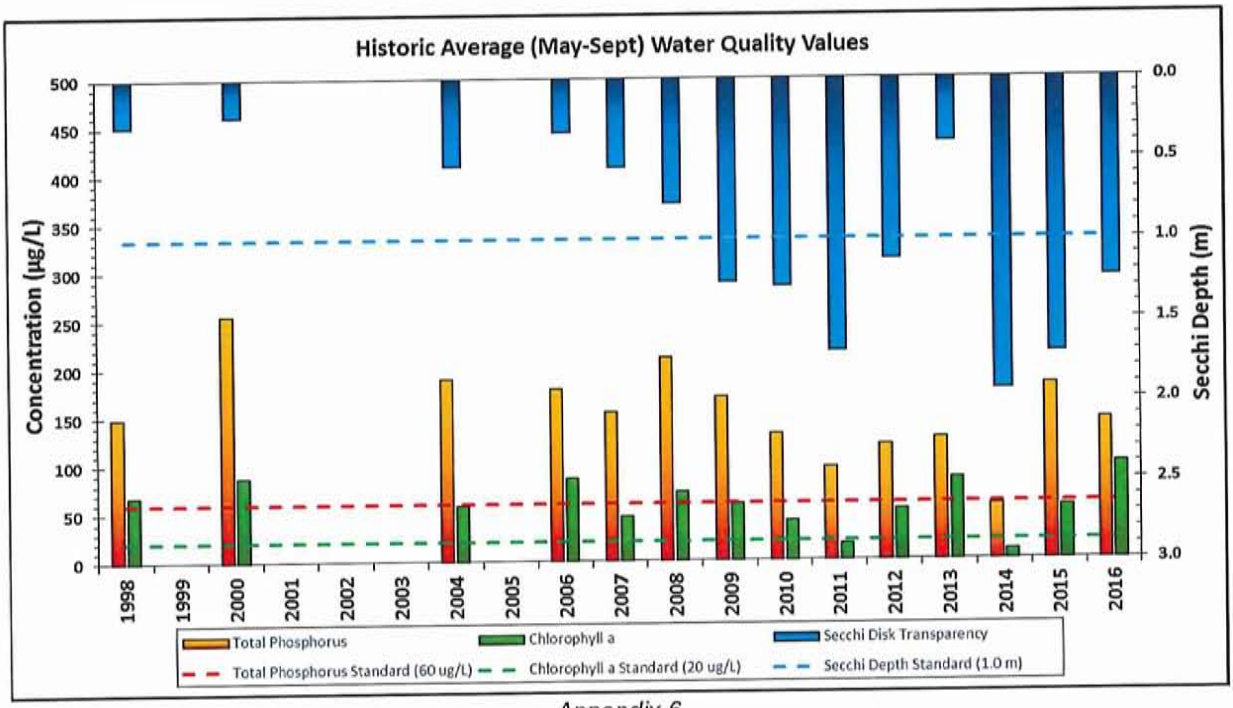


Diamond Lake



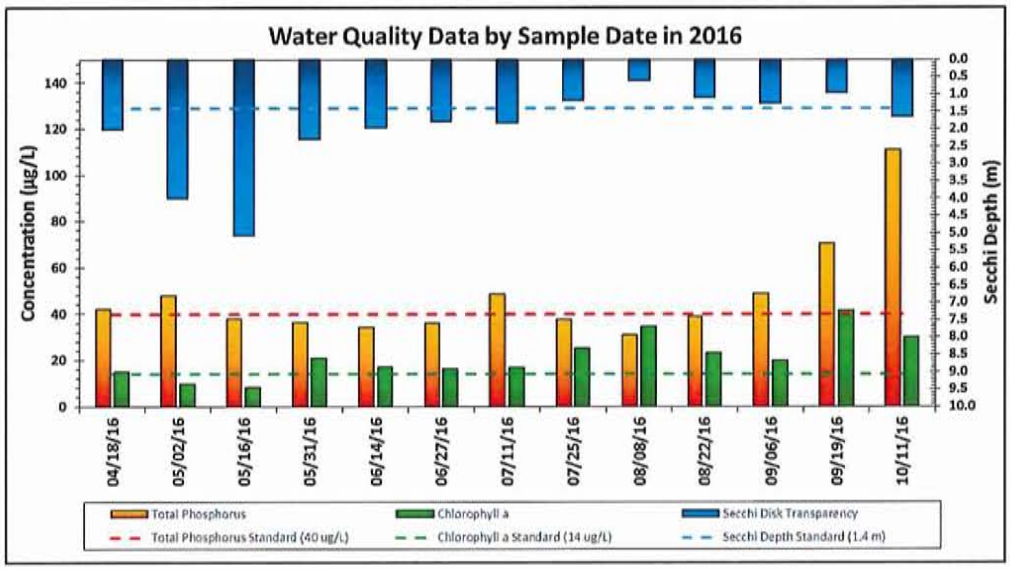


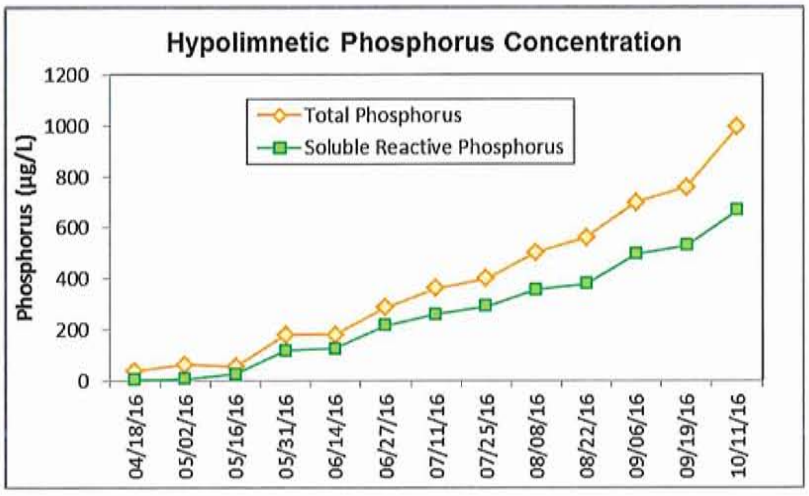
Lake and Watershed Characteristics	
DNR #	27012500
Watershed Area	2366.6 Acres
Lake Area	381.8 Acres
% Littoral Area	100%
Average Depth	3.97 ft
Maximum Depth	7.37 ft
Watershed/Lake Area Ratio	6.2 to 1
Hydraulic Residence Time	0.72 Years
Impairment	Excessive Nutrients 2006
Classification	Shallow Lake



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
MPCA Standard	C	B	C	C+

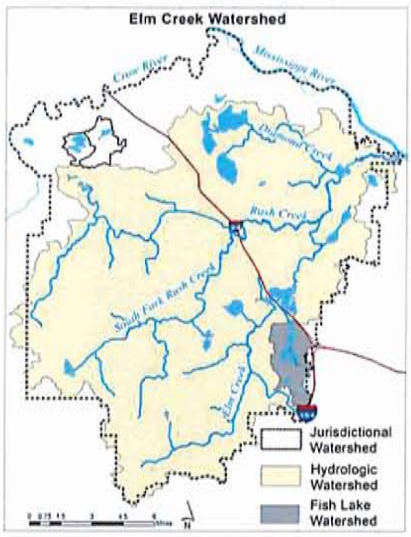
Metropolitan Council Grading System (Osgood 1989)

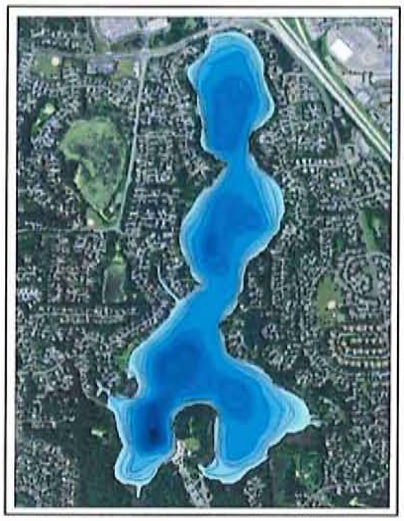




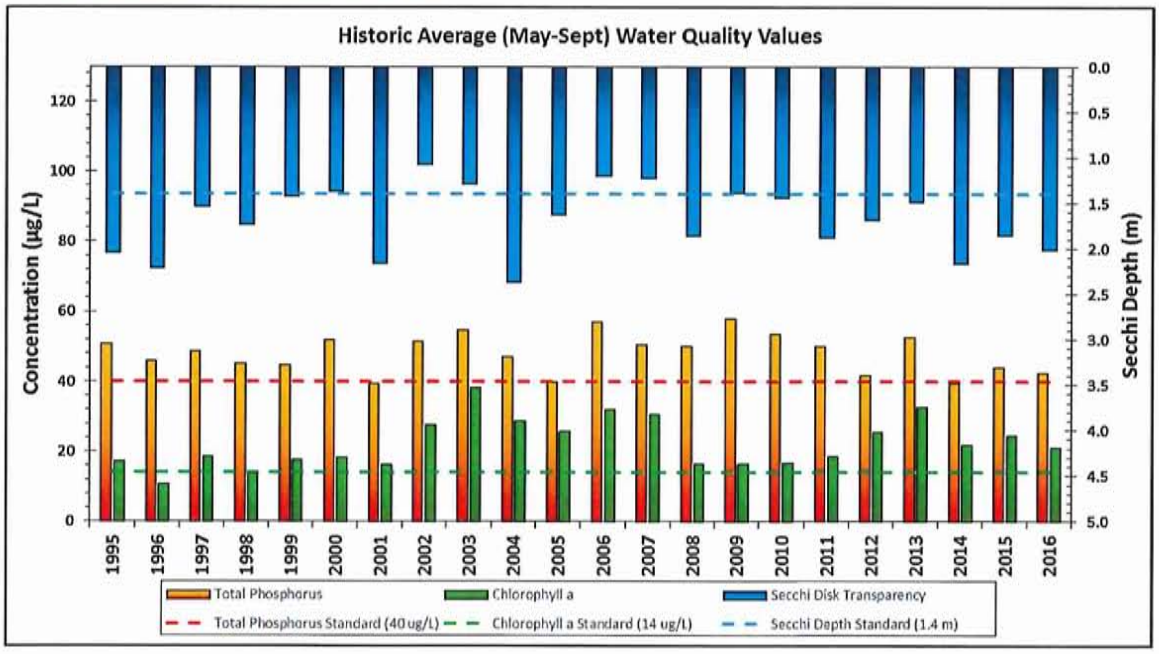
Appendix 6

Fish Lake





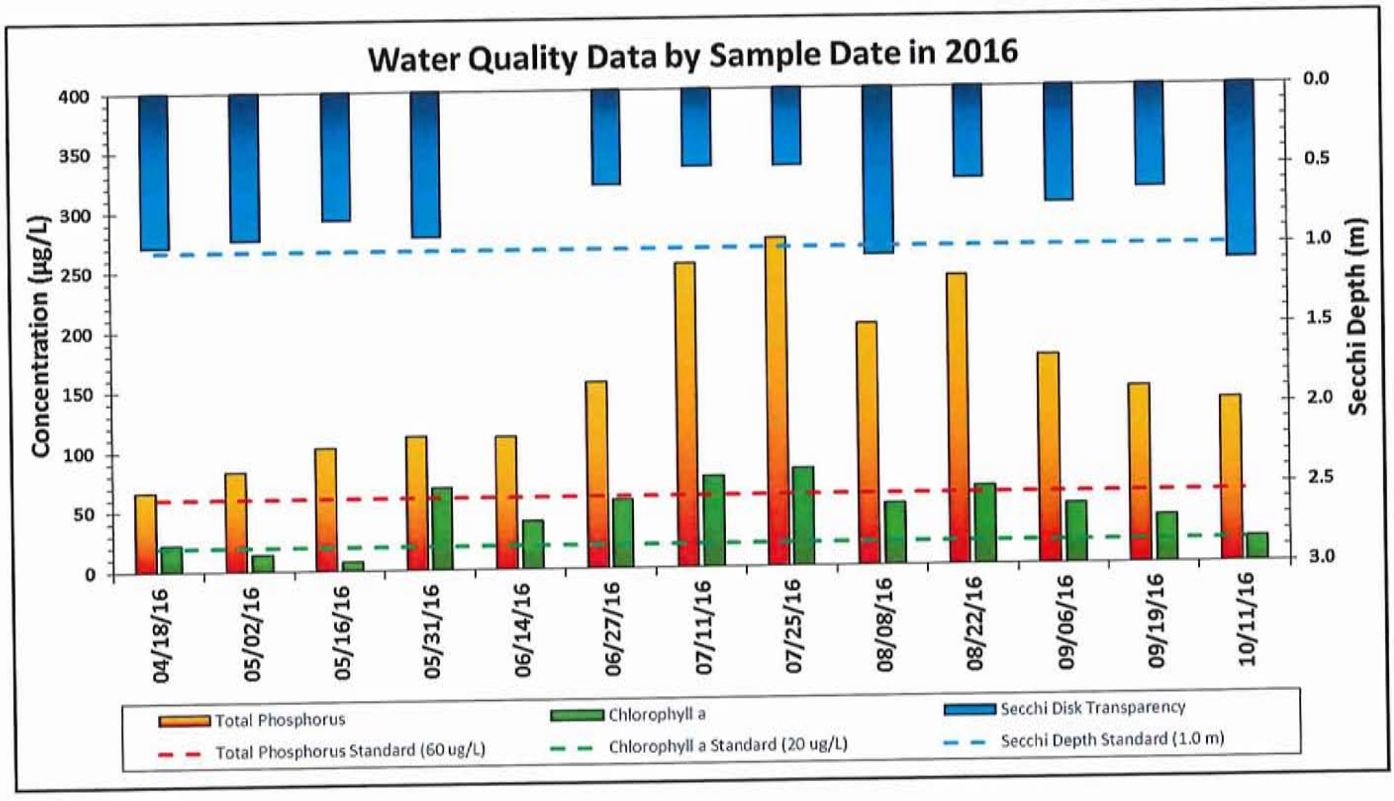
Lake and Watershed Characteristics	
DNR #	27011800
Watershed Area	1611 Acres
Lake Area	232.1 Acres
% Littoral Area	32%
Average Depth	20.5 ft
Maximum Depth	62.0 ft
Watershed/Lake Area Ratio	6.9 to 1
Hydraulic Residence Time	4.6 Years
Impairment	Excessive Nutrients 2008
Classification	Deep Lake



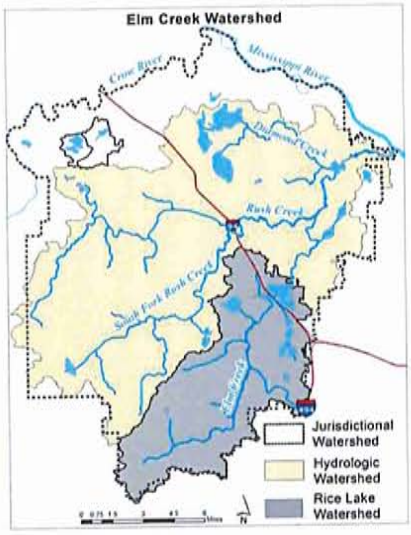
Appendix 6

Rice Lake - Main Basin Lake 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-
MPCA Standard	C	C	D	C

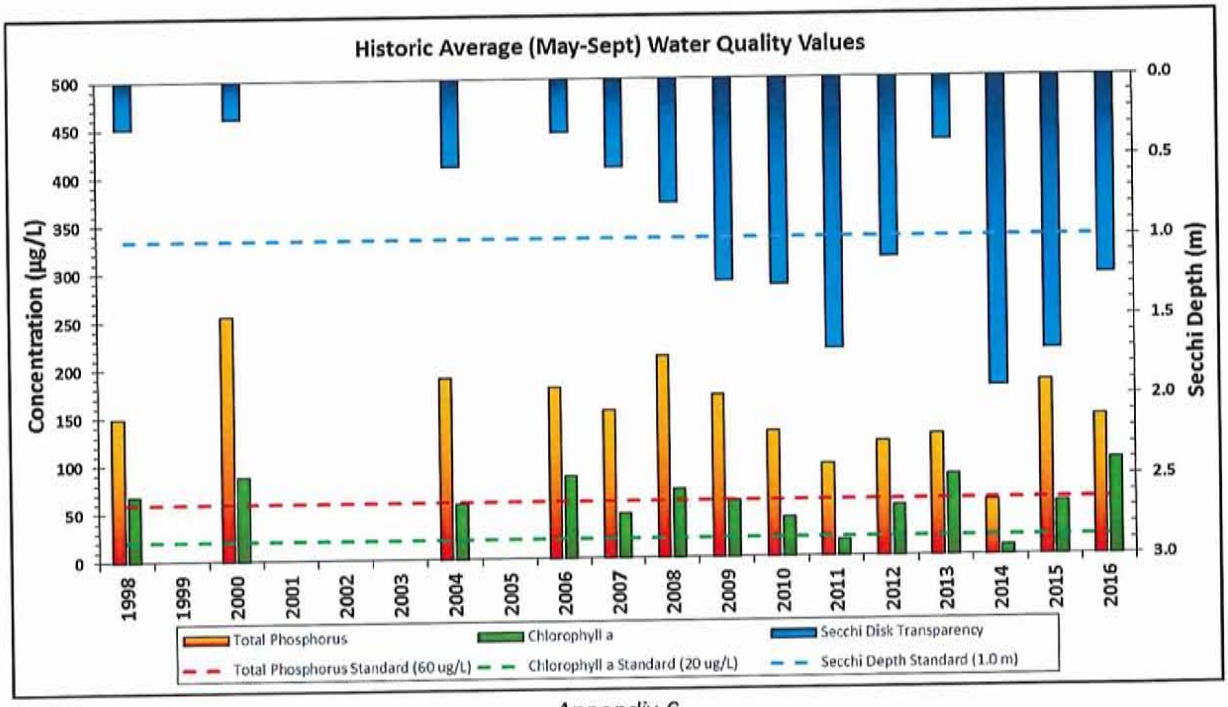
Metropolitan Council Grading System (Osgood 1989)



Rice Lake-Main Basin

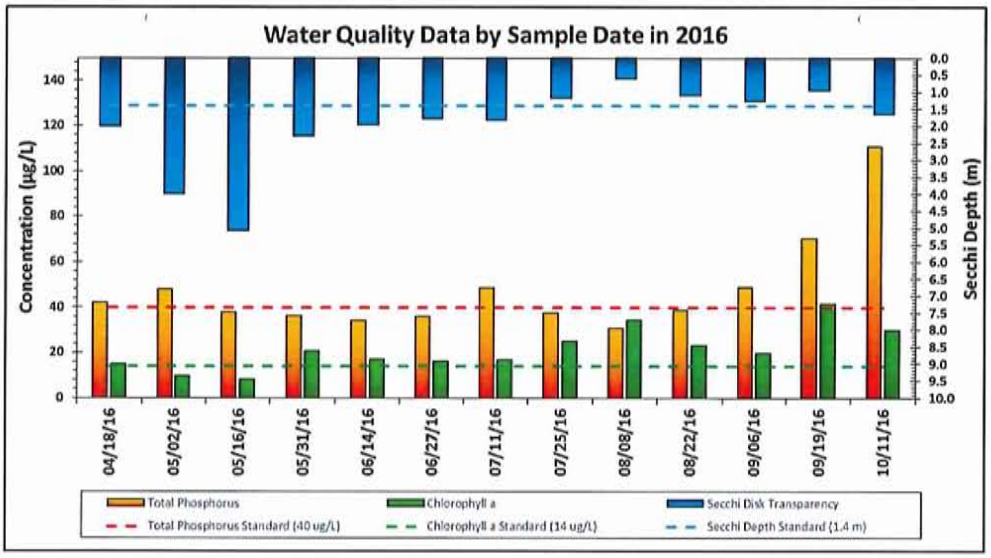


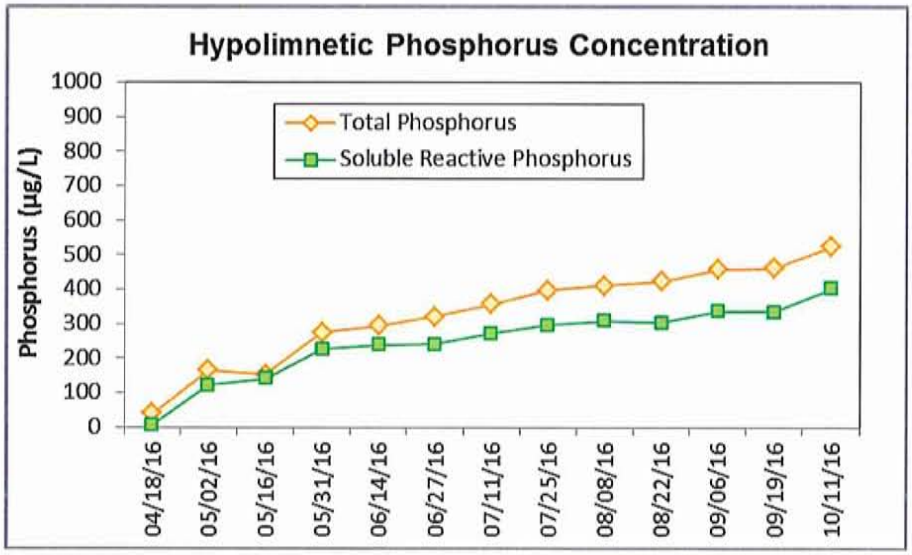
Lake and Watershed Characteristics	
DNR #	27011601
Watershed Area	16092 Acres
Lake Area	307.2 Acres
% Littoral Area	100%
Average Depth	7.02 ft
Maximum Depth	10.14 ft
Watershed/Lake Area Ratio	52.4 to 1
Hydraulic Residence Time	0.16 Years
Impairment	Excessive Nutrients 2010
Classification	Shallow Lake



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-
MPCA Standard	C	B	C	C+

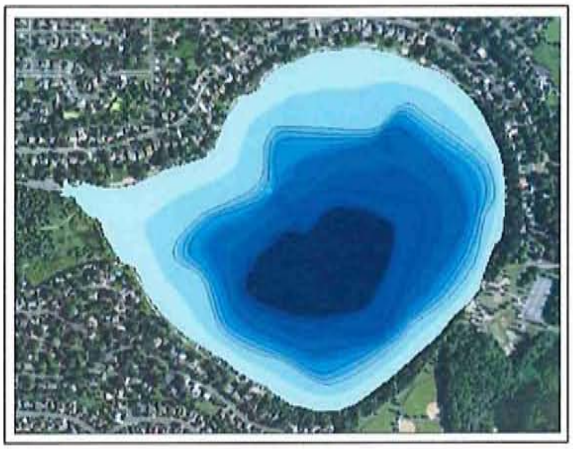
Metropolitan Council Grading System (Osgood 1989)



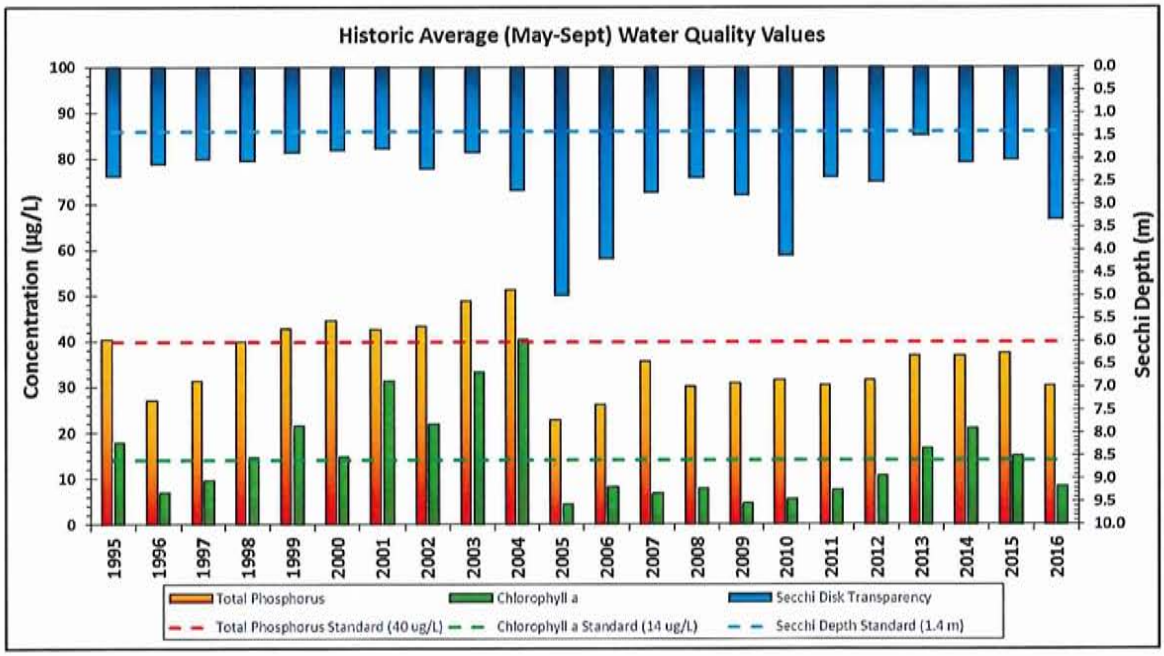


Appendix 6

Weaver Lake



Lake and Watershed Characteristics	
DNR #	27011700
Watershed Area	187 Acres
Lake Area	149.5 Acres
% Littoral Area	47%
Average Depth	21.1 ft
Maximum Depth	52.0 ft
Watershed/Lake Area Ratio	1.3 to 1
Hydraulic Residence Time	13 Years
Impairment	None
Classification	Deep Lake



Preliminary 2016 CAMP Data - Project No. 7108

Description	City	Water Planning Authority	Watershed	DNR ID	Lake Site	Site Desc	Date / Time	Field Replicate	Sample Depth, m	Air Temp °F	Aquatic Plants
Cowley Lake	Rogers	Elm Creek WMC	No.Fork Crow River	27016900	451	Center of Lake	05/18/2016 15:00	A	0	61-80	Moderate
Cowley Lake	Rogers	Elm Creek WMC	No.Fork Crow River	27016900	451	Center of Lake	06/01/2016 14:20	A	0	61-80	Moderate
Cowley Lake	Rogers	Elm Creek WMC	No.Fork Crow River	27016900	451	Center of Lake	06/13/2016 14:10	A	0	61-80	Moderate
Cowley Lake	Rogers	Elm Creek WMC	No.Fork Crow River	27016900	451	Center of Lake	06/30/2016 14:00	A	0	61-80	Slight
Cowley Lake	Rogers	Elm Creek WMC	No.Fork Crow River	27016900	451	Center of Lake	07/15/2016 08:00	A	0	61-80	Moderate
Cowley Lake	Rogers	Elm Creek WMC	No.Fork Crow River	27016900	451	Center of Lake	07/27/2016 11:00	A	0	61-80	Slight
Jubert Lake	Corcoran	Elm Creek WMC	Miss River - Twin Cities	27016500	451	Deepest point of Lake	05/26/2016 19:10	A	0	61-80	Minimal

Data are preliminary
and subject to revision.

Report Date: 3/31/2017

Preliminary 2016 CAMP Data - Project No. 7108

Description	Cloud Cover, %	Physical Condition	Recreation Suitable	Precipi-tation	Water Color	Water Odor	Water Surface	Wind	Water Temperature, C	L Secchi Disk Sign	L Secchi Disk, cm	Lake Level
Cowley Lake	75	3	4		Yellow	None	Calm	Light	21.9		280	Normal
Cowley Lake	50	3	4		Yellow	None	Small Waves	Breezy West	25		250	Normal
Cowley Lake	50	3	4		Yellow	None	Calm	Calm	26.1		250	Normal
Cowley Lake	25	3	4		Yellow	None	Calm	Calm	27.3			Normal
Cowley Lake	25		4		Green	Fishy	Ripple	Light	28.2		100	Normal
Cowley Lake	100	3	4		Green	Musty	Calm	Calm	27.1		100	Normal
Jubert Lake	0				Blue-Green	None	Calm	Calm	19		180	Normal

Data are preliminary
and subject to revision.

Item 4d

Preliminary 2016 CAMP Data - Project No. 7108

			Chlorophyll-a, % Pheo-Corrected %			Chlorophyll-a, Pheo-Corrected ug/L			Chlorophyll-a/Pheophytin-a Abs. Ratio			Chlorophyll-a, Trichromatic Uncorrected ug/L		
Description	Lake Gauge	Field Comment 1	Result Sign	Result	Censored Flag	Result Sign	Result	Censored Flag	Result Sign	Result	Censored Flag	Result Sign	Result	Censored Flag
Cowley Lake			>	100.000			300.000			1.670			310.000	
Cowley Lake				98.000			220.000			1.560			240.000	
Cowley Lake			>	100.000			230.000			1.650			240.000	
Cowley Lake				98.000			250.000			1.660			260.000	
Cowley Lake			>	100.000			340.000			1.680			360.000	
Cowley Lake			>	100.000			300.000			1.690			310.000	
Jubert Lake			>	85.000			5.800			1.430			6.500	

Data are preliminary
and subject to revision.

Preliminary 2016 CAMP Data - Project No. 7108

	Chlorophyll-b ug/L			Chlorophyll-c ug/L			Nitrogen, Total Kjeldahl, Low Level mg/L			Pheophytin-a ug/L			Phosphorus, Total, Low Level Detection mg/L		
Description	Result Sign	Result	Censored Flag	Result Sign	Result	Censored Flag	Result Sign	Result	Censored Flag	Result Sign	Result	Censored Flag	Result Sign	Result	Censored Flag
Cowley Lake	<	1.000			26.000			5.300		<	1.000			0.423	
Cowley Lake		5.900			33.000			4.500			5.400			0.346	
Cowley Lake	<	1.000			19.000			4.800		<	1.000			0.359	
Cowley Lake	<	1.000			18.000			4.600			4.300			0.360	
Cowley Lake	<	1.000			23.000			5.800		<	1.000			0.427	
Cowley Lake	<	1.000			18.000			4.400		<	1.000			0.381	
Jubert Lake	<	1.000			1.600			1.500		<	1.000			0.064	

Data are preliminary
and subject to revision.

2016

USGS Stream Monitoring Information

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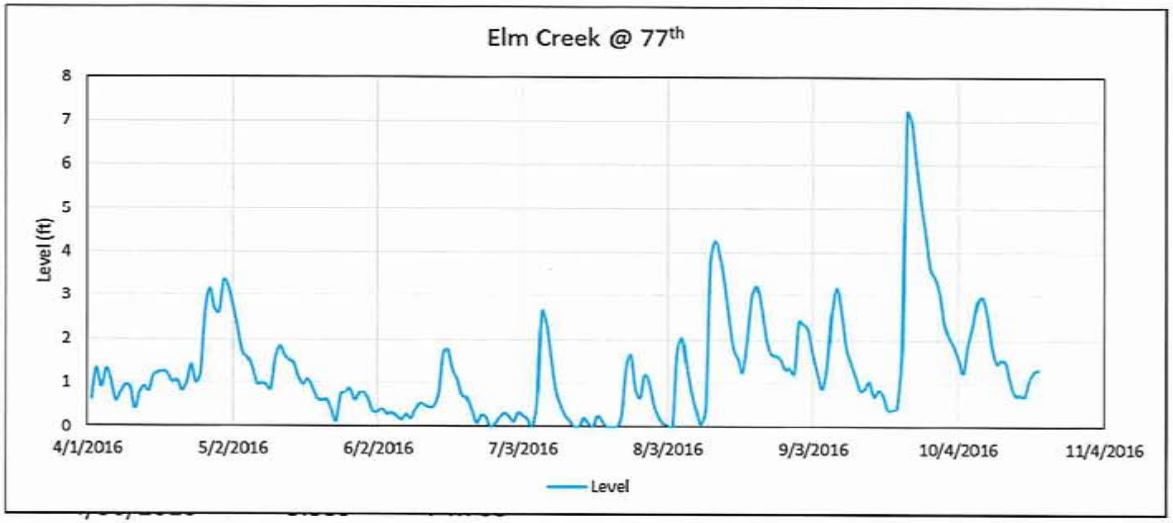
Elm Creek 2016 Stream Monitoring

Site Name	EC77 2016	EC77 2016
Isco Quantity	Level	Flow Rate
Label	Level	Flow Rate
Units	ft	cfs
Resolution	0.1	0.1
Significant Digits	0	0
4/2/2016	0.649	8.715
4/3/2016	1.344	16.437
4/4/2016	0.934	9.887
4/5/2016	1.338	16.29
4/6/2016	1.053	11.747
4/7/2016	0.606	5.692
4/8/2016	0.772	7.58
4/9/2016	0.949	9.968
4/10/2016	0.915	9.592
4/11/2016	0.414	3.883
4/12/2016	0.773	7.652
4/13/2016	0.933	9.751
4/14/2016	0.824	8.317
4/15/2016	1.176	13.43
4/16/2016	1.248	14.647
4/17/2016	1.269	15.026
4/18/2016	1.238	14.481
4/19/2016	1.031	11.174
4/20/2016	1.056	11.504
4/21/2016	0.849	8.666
4/22/2016	1.009	11.033
4/23/2016	1.42	17.808
4/24/2016	1.007	10.959
4/25/2016	1.232	15.748
4/26/2016	2.647	50.078
4/27/2016	3.159	67.72
4/28/2016	2.694	51.362
4/29/2016	2.611	48.692
5/1/2016	3.207	69.628
5/2/2016	2.767	53.756
5/3/2016	2.261	37.973
5/4/2016	1.731	24.484
5/5/2016	1.591	21.288
5/6/2016	1.37	16.94
5/7/2016	0.994	10.641
5/8/2016	0.996	10.609
5/9/2016	0.958	10.048
5/10/2016	0.88	8.977
5/11/2016	1.591	21.794
5/12/2016	1.834	26.756
5/13/2016	1.648	22.502
5/14/2016	1.516	19.721
5/15/2016	1.454	18.524
5/16/2016	1.136	12.857
5/17/2016	0.973	10.269
5/18/2016	1.084	11.954
5/19/2016	0.911	9.423
5/20/2016	0.659	6.267
5/21/2016	0.611	5.732
5/22/2016	0.618	5.822
5/23/2016	0.382	3.686
5/24/2016	0.142	2.116
5/25/2016	0.734	7.133
5/26/2016	0.794	8.172
5/27/2016	0.878	9.008
5/28/2016	0.62	5.86
5/29/2016	0.764	7.478
5/30/2016	0.787	7.767
5/31/2016	0.623	5.924
6/1/2016	0.35	3.347
6/2/2016	0.351	3.355
6/3/2016	0.417	3.895



Elm Creek 2016 Stream Monitoring

6/4/2016	0.294	2.927	7/7/2016	2.612	48.535	8/9/2016	0.371	3.59
6/5/2016	0.323	3.149	7/8/2016	2.347	40.494	8/10/2016	0.08	1.652
6/6/2016	0.242	2.598	7/9/2016	1.567	21.065	8/11/2016	0.417	7.99
6/7/2016	0.176	2.178	7/10/2016	0.844	8.679	8/12/2016	3.788	94.249
6/8/2016	0.287	2.889	7/11/2016	0.517	4.81	8/13/2016	4.268	116.59
6/9/2016	0.203	2.346	7/12/2016	0.269	2.848	8/14/2016	3.951	101.456
6/10/2016	0.412	4.016	7/13/2016	0.147	2.001	8/15/2016	3.334	74.776
6/11/2016	0.548	5.101	7/14/2016	0.01	1.206	8/16/2016	2.495	45.171
6/12/2016	0.501	4.634	7/15/2016	0.01	1.126	8/17/2016	1.793	25.82
6/13/2016	0.46	4.299	7/16/2016	0.207	2.361	8/18/2016	1.571	20.873
6/14/2016	0.49	4.557	7/17/2016	0.102	1.794	8/19/2016	1.267	15.051
6/15/2016	0.766	8.357	7/18/2016	0.01	1.343	8/20/2016	1.988	31.655
6/16/2016	1.711	23.915	7/19/2016	0.257	2.683	8/21/2016	2.98	61.173
6/17/2016	1.761	25.118	7/20/2016	0.145	2.017	8/22/2016	3.215	69.856
6/18/2016	1.321	16.017	7/21/2016	0.01	0.955	8/23/2016	2.707	51.872
6/19/2016	1.086	11.979	7/22/2016	0.01	0.741	8/24/2016	2.003	31.098
6/20/2016	0.733	7.208	7/23/2016	0.01	0.82	8/25/2016	1.678	23.137
6/21/2016	0.658	6.253	7/24/2016	0.271	5.638	8/26/2016	1.645	22.433
6/22/2016	0.393	3.749	7/25/2016	1.376	17.238	8/27/2016	1.56	20.651
6/23/2016	0.099	1.761	7/26/2016	1.657	22.819	8/28/2016	1.334	16.192
6/24/2016	0.26	2.716	7/27/2016	0.855	8.957	8/29/2016	1.347	16.435
6/25/2016	0.236	2.554	7/28/2016	0.674	7.192	8/30/2016	1.242	14.568
6/26/2016	0.01	1.279	7/29/2016	1.199	13.811	8/31/2016	2.412	42.632
6/27/2016	0.08	1.651	7/30/2016	1	10.756	9/1/2016	2.352	40.604
6/28/2016	0.221	2.45	7/31/2016	0.513	4.819	9/2/2016	2.221	36.931
6/29/2016	0.318	3.107	8/1/2016	0.232	2.519	9/3/2016	1.674	23.167
6/30/2016	0.247	2.621	8/2/2016	0.096	1.731	9/4/2016	1.243	14.642
7/1/2016	0.136	1.943	8/3/2016	0.045	1.486	9/5/2016	0.887	9.115
7/2/2016	0.325	3.158	8/4/2016	0.01	1.12	9/6/2016	1.372	17.436
7/3/2016	0.262	2.71	8/5/2016	1.729	32.846	9/7/2016	2.624	51.24
7/4/2016	0.186	2.237	8/6/2016	2.039	31.961	9/8/2016	3.186	68.771
7/5/2016	0.01	1.219	8/7/2016	1.363	17.019	9/9/2016	2.647	49.867
7/6/2016	0.499	12.807	8/8/2016	0.758	7.489	9/10/2016	1.843	27.107

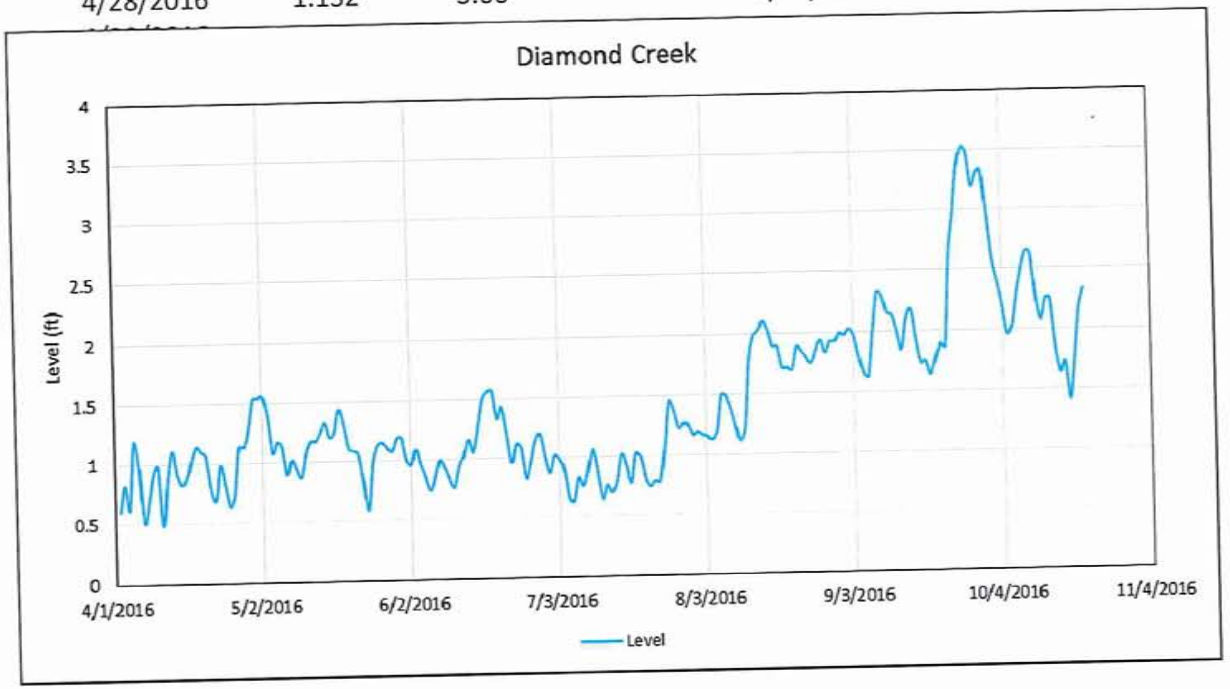
Elm Creek 2016 Stream Monitoring

9/11/2016	1.487	19.131
9/12/2016	1.182	13.636
9/13/2016	0.862	8.742
9/14/2016	0.89	9.114
9/15/2016	1.032	11.215
9/16/2016	0.713	6.91
9/17/2016	0.848	8.545
9/18/2016	0.723	7.004
9/19/2016	0.402	3.822
9/20/2016	0.406	3.81
9/21/2016	0.464	4.312
9/22/2016	1.693	58.552
9/23/2016	7.191	309.194
9/24/2016	6.976	292.067
9/25/2016	6.023	221.566
9/26/2016	5.151	165.137
9/27/2016	4.404	123.784
9/28/2016	3.63	86.984
9/29/2016	3.427	78.308
9/30/2016	3.072	65.25
10/1/2016	2.371	41.111
10/2/2016	2.051	32.193
10/3/2016	1.839	26.863
10/4/2016	1.565	20.809
10/5/2016	1.259	14.866
10/6/2016	1.892	28.676
10/7/2016	2.323	39.67
10/8/2016	2.878	57.551
10/9/2016	2.958	60.293
10/10/2016	2.537	46.365
10/11/2016	1.847	27.159
10/12/2016	1.471	18.84
10/13/2016	1.548	20.382
10/14/2016	1.471	18.854
10/15/2016	1.017	11.075
10/16/2016	0.737	7.177
10/17/2016	0.742	7.327
10/18/2016	0.718	6.956
10/19/2016	1.06	11.604
10/20/2016	1.274	15.119
10/21/2016	1.322	15.984

Elm Creek Watershed Management Commission

Elm Creek 2016 Stream Monitoring

Site Name	DC 2016	DC 2016
Isco Quantity	Level	Flow Rate
Label	Level	Flow Rate
Units	ft	cfs
Resolution	0.1	0.1
Significant Digits	0	0
4/2/2016	0.605	1.537
4/3/2016	0.827	2.251
4/4/2016	0.622	1.569
4/5/2016	1.181	4.013
4/6/2016	0.971	2.982
4/7/2016	0.512	1.224
4/8/2016	0.68	1.706
4/9/2016	0.91	2.556
4/10/2016	0.979	3.057
4/11/2016	0.483	1.145
4/12/2016	0.891	2.49
4/13/2016	1.107	3.526
4/14/2016	0.899	2.469
4/15/2016	0.826	2.185
4/16/2016	0.869	2.348
4/17/2016	1.024	3.049
4/18/2016	1.141	3.706
4/19/2016	1.098	3.447
4/20/2016	1.059	3.226
4/21/2016	0.802	2.133
4/22/2016	0.687	1.733
4/23/2016	0.981	2.837
4/24/2016	0.824	2.205
4/25/2016	0.639	1.582
4/26/2016	0.723	1.868
4/27/2016	1.132	3.68
4/28/2016	1.132	3.66



4/30/2016	1.533	7.181
5/1/2016	1.539	7.24
5/2/2016	1.557	7.472
5/3/2016	1.393	5.711
5/4/2016	1.079	3.393
5/5/2016	1.168	3.878
5/6/2016	1.134	3.696
5/7/2016	0.894	2.47
5/8/2016	1.018	3.011
5/9/2016	0.934	2.619
5/10/2016	0.867	2.341
5/11/2016	1.068	3.326
5/12/2016	1.169	3.887
5/13/2016	1.173	3.906
5/19/2016	1.296	4.854
5/20/2016	1.104	3.481
5/21/2016	1.083	3.359
5/22/2016	1.059	3.24
5/23/2016	0.823	2.211
5/24/2016	0.591	1.457
5/25/2016	0.991	2.895

Elm Creek 2016 Stream Monitoring

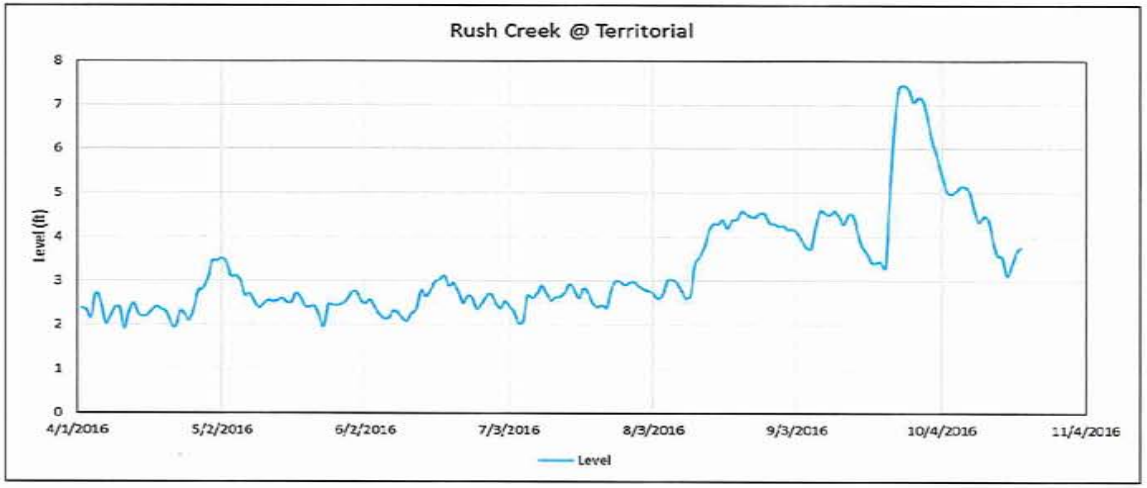
5/26/2016	1.125	3.616	6/27/2016	0.948	2.683	7/29/2016	1.262	4.548
5/27/2016	1.15	3.76	6/28/2016	1.133	3.671	7/30/2016	1.253	4.481
5/28/2016	1.109	3.511	6/29/2016	1.196	4.08	7/31/2016	1.166	3.862
5/29/2016	1.072	3.298	6/30/2016	1.01	2.985	8/1/2016	1.193	4.045
5/30/2016	1.184	3.994	7/1/2016	0.865	2.338	8/2/2016	1.164	3.849
5/31/2016	1.189	4.034	7/2/2016	1.018	3.013	8/3/2016	1.157	3.804
6/1/2016	1.006	2.951	7/3/2016	0.986	2.857	8/4/2016	1.124	3.614
6/2/2016	0.959	2.728	7/4/2016	0.898	2.476	8/5/2016	1.192	4.152
6/3/2016	1.086	3.379	7/5/2016	0.651	1.62	8/6/2016	1.493	6.758
6/4/2016	0.955	2.715	7/6/2016	0.631	1.57	8/7/2016	1.49	6.689
6/5/2016	0.85	2.277	7/7/2016	0.828	2.194	8/8/2016	1.384	5.603
6/6/2016	0.743	1.903	7/8/2016	0.758	1.952	8/9/2016	1.238	4.395
6/7/2016	0.844	2.279	7/9/2016	0.889	2.459	8/10/2016	1.108	3.503
6/8/2016	0.99	2.876	7/10/2016	1.057	3.221	8/11/2016	1.221	4.381
6/9/2016	0.925	2.586	7/11/2016	0.866	2.341	8/12/2016	1.775	10.74
6/10/2016	0.83	2.202	7/12/2016	0.645	1.608	8/13/2016	1.977	14.465
6/11/2016	0.764	1.973	7/13/2016	0.76	1.96	8/14/2016	2.022	15.465
6/12/2016	0.932	2.613	7/14/2016	0.695	1.749	8/15/2016	2.099	17.276
6/13/2016	1.027	3.059	7/15/2016	0.8	2.108	8/16/2016	2.026	15.583
6/14/2016	1.162	3.867	7/16/2016	1.021	3.03	8/17/2016	1.888	12.662
6/15/2016	1.058	3.235	7/17/2016	0.921	2.578	8/18/2016	1.891	12.71
6/16/2016	1.252	4.488	7/18/2016	0.776	2.025	8/19/2016	1.715	9.711
6/17/2016	1.489	6.681	7/19/2016	1.022	3.044	8/20/2016	1.713	9.642
6/18/2016	1.555	7.458	7/20/2016	0.984	2.855	8/21/2016	1.696	9.366
6/19/2016	1.57	7.639	7/21/2016	0.804	2.116	8/22/2016	1.884	12.596
6/20/2016	1.332	5.19	7/22/2016	0.743	1.905	8/23/2016	1.852	12.016
6/21/2016	1.433	6.1	7/23/2016	0.79	2.061	8/24/2016	1.8	11.061
6/22/2016	1.218	4.269	7/24/2016	0.782	2.082	8/25/2016	1.75	10.231
6/23/2016	0.962	2.751	7/25/2016	1.044	3.222	8/26/2016	1.859	12.099
6/24/2016	1.116	3.564	7/26/2016	1.449	6.256	8/27/2016	1.937	13.635
6/25/2016	1.086	3.394	7/27/2016	1.381	5.582	8/28/2016	1.836	11.683
6/26/2016	0.831	2.215	7/28/2016	1.232	4.318	8/29/2016	1.92	13.285

Elm Creek 2016 Stream Monitoring

8/30/2016	1.924	13.371
8/31/2016	1.993	14.807
9/1/2016	1.975	14.423
9/2/2016	2.025	15.533
9/3/2016	1.973	14.429
9/4/2016	1.801	11.087
9/5/2016	1.662	8.891
9/6/2016	1.627	8.416
9/7/2016	2.002	15.446
9/8/2016	2.325	23.629
9/9/2016	2.292	22.6
9/10/2016	2.16	18.854
9/11/2016	2.135	18.186
9/12/2016	2.006	15.225
9/13/2016	1.847	11.905
9/14/2016	2.094	17.227
9/15/2016	2.181	19.449
9/16/2016	1.926	13.51
9/17/2016	1.737	10.016
9/18/2016	1.751	10.229
9/19/2016	1.642	8.623
9/20/2016	1.758	10.407
9/21/2016	1.892	12.739
9/22/2016	1.866	12.361
9/23/2016	2.622	34.77
9/24/2016	2.952	50.396
9/25/2016	3.364	76.703
9/26/2016	3.524	88.993
9/27/2016	3.483	85.777
9/28/2016	3.198	65.071
9/29/2016	3.308	72.599
9/30/2016	3.327	74.014
10/1/2016	2.97	51.634
10/2/2016	2.588	33.213
10/3/2016	2.404	26.229
10/4/2016	2.207	20.246
10/5/2016	1.962	14.214
10/6/2016	2.032	15.858
10/7/2016	2.299	22.843
10/8/2016	2.504	29.912
10/9/2016	2.651	35.635
10/10/2016	2.64	35.373
10/11/2016	2.275	22.173
10/12/2016	2.084	16.936
10/13/2016	2.256	21.603
10/14/2016	2.254	21.549
10/15/2016	1.875	12.688
10/16/2016	1.65	8.749
10/17/2016	1.724	9.969
10/18/2016	1.419	5.949
10/19/2016	1.759	10.554
10/20/2016	2.173	19.344
10/21/2016	2.332	23.84

Elm Creek 2016 Stream Monitoring

Site Name	RT 2016	RT 2016
Isco Quantity	Level	Flow Rate
Label	Level	Flow Rate
Units	ft	cfs
Resolution	0.1	0.1
Significant Digits	0	0
4/2/2016	2.392	6.881
4/3/2016	2.349	7.033
4/4/2016	2.174	5.303
4/5/2016	2.726	19.082
4/6/2016	2.511	11.981
4/7/2016	2.048	4.42
4/8/2016	2.188	4.885
4/9/2016	2.401	7.462
4/10/2016	2.403	8.506
4/11/2016	1.924	4.077
4/12/2016	2.312	6.257
4/13/2016	2.5	9.541
4/14/2016	2.262	5.305
4/15/2016	2.201	4.896
4/16/2016	2.229	5.055
4/17/2016	2.344	6.171
4/18/2016	2.428	7.531
4/19/2016	2.355	6.32
4/20/2016	2.309	5.741
4/21/2016	2.066	4.506
4/22/2016	1.959	4.209
4/23/2016	2.312	5.864
4/24/2016	2.249	5.435
4/25/2016	2.11	4.575
4/26/2016	2.406	7.957
4/27/2016	2.798	23.167
4/28/2016	2.836	25.694
4/29/2016	3.076	52.165
4/30/2016	3.457	116.416
5/1/2016	3.468	119.043
5/2/2016	3.523	132.547
5/3/2016	3.427	110.391
5/4/2016	3.11	55.872
5/5/2016	3.128	56.363
5/6/2016	3.018	43.694
5/7/2016	2.69	17.301
5/8/2016	2.727	18.65
5/9/2016	2.547	10.708
5/10/2016	2.392	6.897
5/11/2016	2.489	9.257
5/12/2016	2.57	11.368
5/13/2016	2.538	10.315
5/14/2016	2.563	11.105
5/15/2016	2.617	13.14
5/16/2016	2.529	10.327
5/17/2016	2.524	10.115
5/18/2016	2.734	18.946
5/19/2016	2.63	13.943
5/20/2016	2.427	7.593
5/21/2016	2.42	7.352
5/22/2016	2.442	7.86
5/23/2016	2.225	5.316
5/24/2016	1.968	4.241
5/25/2016	2.483	9.111
5/26/2016	2.461	8.277
5/27/2016	2.448	7.983
5/28/2016	2.502	9.254



Elm Creek 2016 Stream Monitoring

5/29/2016	2.565	11.199
5/30/2016	2.745	19.799
5/31/2016	2.772	21.464
6/1/2016	2.568	11.325
6/2/2016	2.503	9.281
6/3/2016	2.583	11.824
6/4/2016	2.402	7.187
6/5/2016	2.253	5.241
6/6/2016	2.152	4.73
6/7/2016	2.16	4.771
6/8/2016	2.322	5.909
6/9/2016	2.285	5.558
6/10/2016	2.156	4.7
6/11/2016	2.091	4.512
6/12/2016	2.28	5.526
6/13/2016	2.357	6.384
6/14/2016	2.796	26.017
6/15/2016	2.658	15.439
6/16/2016	2.794	23.151
6/17/2016	2.987	39.23
6/18/2016	3.043	45.656
6/19/2016	3.115	54.619
6/20/2016	2.9	31.886
6/21/2016	2.957	36.374
6/22/2016	2.768	21.598
6/23/2016	2.502	9.376
6/24/2016	2.661	15.275
6/25/2016	2.63	13.896
6/26/2016	2.365	6.585
6/27/2016	2.482	8.738
6/28/2016	2.65	14.692
6/29/2016	2.705	17.407
6/30/2016	2.525	10.1
7/1/2016	2.382	6.759
7/2/2016	2.542	10.459
7/3/2016	2.433	7.661
7/4/2016	2.31	5.855
7/5/2016	2.051	4.439
7/6/2016	2.08	5.036
7/7/2016	2.666	15.28
7/8/2016	2.62	13.266
7/9/2016	2.713	18.202
7/10/2016	2.91	31.78
7/11/2016	2.729	18.651
7/12/2016	2.564	11.682
7/13/2016	2.644	14.499
7/14/2016	2.65	14.521
7/15/2016	2.752	20.16
7/16/2016	2.931	33.662
7/17/2016	2.82	25.13
7/18/2016	2.616	13.408
7/19/2016	2.837	25.807
7/20/2016	2.739	19.504
7/21/2016	2.501	9.6
7/22/2016	2.405	7.103
7/23/2016	2.452	8.02
7/24/2016	2.394	7.679
7/25/2016	2.834	26.491
7/26/2016	3.004	41.009
7/27/2016	2.975	37.984
7/28/2016	2.918	32.465
7/29/2016	2.969	37.349
7/30/2016	2.975	37.964
7/31/2016	2.881	29.276
8/1/2016	2.819	24.395
8/2/2016	2.783	21.885
8/3/2016	2.724	18.3
8/4/2016	2.603	12.933
8/5/2016	2.684	19.506
8/6/2016	3.017	42.477
8/7/2016	3.036	44.62
8/8/2016	2.977	49.745
8/9/2016	2.801	78.208
8/10/2016	2.613	70.927
8/11/2016	2.676	73.382
8/12/2016	3.398	101.405
8/13/2016	3.569	108.033
8/14/2016	3.794	116.792
8/15/2016	4.15	130.581
8/16/2016	4.309	136.756
8/17/2016	4.293	136.145
8/18/2016	4.394	140.074
8/19/2016	4.211	132.974
8/20/2016	4.382	139.616
8/21/2016	4.4	140.29
8/22/2016	4.573	147.031
8/23/2016	4.524	145.108
8/24/2016	4.471	143.065
8/25/2016	4.454	142.41
8/26/2016	4.54	145.722
8/27/2016	4.535	145.535
8/28/2016	4.325	137.371
8/29/2016	4.306	136.653
8/30/2016	4.248	134.412
8/31/2016	4.255	134.669
9/1/2016	4.185	131.971

Elm Creek 2016 Stream Monitoring

9/2/2016	4.187	132.048
9/3/2016	4.11	129.049
9/4/2016	3.933	122.172
9/5/2016	3.781	116.263
9/6/2016	3.743	114.78
9/7/2016	4.272	135.338
9/8/2016	4.587	147.562
9/9/2016	4.539	145.708
9/10/2016	4.503	144.283
9/11/2016	4.588	147.606
9/12/2016	4.476	143.258
9/13/2016	4.293	136.147
9/14/2016	4.508	144.499
9/15/2016	4.502	144.264
9/16/2016	4.126	129.671
9/17/2016	3.788	116.544
9/18/2016	3.659	111.528
9/19/2016	3.431	102.67
9/20/2016	3.427	102.525
9/21/2016	3.438	102.967
9/22/2016	3.31	97.993
9/23/2016	5.064	166.065
9/24/2016	6.618	226.403
9/25/2016	7.398	256.704
9/26/2016	7.442	258.411
9/27/2016	7.36	255.2
9/28/2016	7.065	243.749
9/29/2016	7.158	247.375
9/30/2016	7.107	245.381
10/1/2016	6.651	227.707
10/2/2016	6.159	208.594
10/3/2016	5.801	194.683
10/4/2016	5.398	179.049
10/5/2016	5.039	165.124
10/6/2016	4.972	162.516
10/7/2016	5.036	164.99
10/8/2016	5.141	169.059
10/9/2016	5.132	168.732
10/10/2016	5.024	164.535
10/11/2016	4.594	147.814
10/12/2016	4.352	138.438
10/13/2016	4.479	143.351
10/14/2016	4.401	140.347
10/15/2016	3.932	122.123
10/16/2016	3.596	109.078
10/17/2016	3.552	107.394
10/18/2016	3.121	90.653
10/19/2016	3.352	99.596
10/20/2016	3.666	111.816
10/21/2016	3.771	115.899

Wetland Health Evaluation Program (WHEP)

WHEP is a citizen volunteer wetland monitoring program that is focused on educating the public on wetland ecology and quality issues; as well as, providing local governments with wetland planning information. WHEP is currently active in Dakota and Hennepin counties and is coordinated in Hennepin County by the staff of the Environment and Energy Department. For more information about WHEP, contact Mary Karius, 612-596-9129,

In 2016, 93 volunteers donated 1,067 hours of their time to monitor area wetlands. According to the Independent Sector, the value of volunteer time in Minnesota is $24.83 per hour ; therefore, our volunteers contributed more than $26,000 to monitor, protect and advocate for Hennepin County wetlands.

For the past two decades, WHEP has provided a great opportunity for Hennepin County residents to connect with the wetlands in their communities and become advocates for their sustainability.

Watershed management organizations and cities contract with Hennepin County to administer volunteer water quality monitoring programs. WHEP is designed to collect data and provide hands-on environmental education experiences for volunteers.

The volunteers use protocols approved by the Minnesota Pollution Control Agency to gather a variety of organisms. Their presence or absence can indicate a possible change in water quality. This biological data is often used to assess the long-term health of water and is complimentary to chemical analysis and other data used to determine water quality.

The data collected is primarily used by watershed management organizations and cities. Some organizations use the data to communicate to residents about the health of their local water resource. Others have used the data to identify or track impacts of restoration efforts. They may also use the data as a historic catalog of specific organisms that have been collected and identified. For example, the county's program has data going back 17 years on Minnehaha Creek. In many cases, organizations use the data to fulfill the education requirement for stormwater management plans.

DATA KEY

INVERTEBRATES

 # Kinds of Leeches: The # of leeches present in the sample; number is higher in healthier wetlands

% Corixidae : This measure counts the density and overall % of the sample of corixid bugs which are algae and detritus feeders.

 # Kinds of Odonata: This measures the number of dragonflies and damselflies in a sample. This number is higher in healthier wetlands.

 # ETSD : This metric adds the number of mayfly larvae (Ephemeroptera), caddisfly larvae (Trichoptera), dragonfly presence (D), and fingernail clam presence (Sphaeriidae). This collection is sensitive to pollution.

 # Kinds of Snails : This measures the number of snail TYPES in the wetland. The higher the number the better quality wetland.

Total Invertebrate Taxa: The total number of invertebrate taxa is the strongest indicator of health in a wetland. This is an overall inventory of invertebrates, the higher the number the better diversity.

VEGETATION

Vascular Genera: measures the richness or number of different kinds of vascular plants

Nonvascular Genera : measures the richness or number of different kinds of nonvascular plants such as mosses, liverworts and lichens.

Grasslike Genera: measures the richness of a specific type of vascular plants including grasses, sedges and related genera.

***Carex* Cover**: measures the extent of coverage by member of the genus *Carex* or sedges. Abundance increases in healthier wetlands.

***Utricularia* Presence**: Bladdorwort is a group of carnivorous plants that feed on macroinvertebrates. Its presence suggests a good condition.

Aquatic Guild: this metric measures the richness of the aquatic plants which tends to decrease as human disturbance increases.

Persistent Litter: measures the abundance of certain plants whose leaves and stems decompose very slowly. The greater abundance means more nutrients are tied up in undecomposed plants. This will increase with increased disturbance.

SCORING SUMMARY

Invertebrates	Vegetation
5-11 Poor	7-15 Poor
12-18 Moderate	16-25 Moderate
19-25 Excellent	26-35 Excellent

Elm Creek Watershed Wetlands Monitored in 2016

Crosscheck scores in RED	Macroinvertebrate		Vegetation	
	Score	Grade	Score	Grade
ECP-1 Elm Creek Park Preserve (Dayton)	14	D	17	D
CHP-1 Crow Hassan Park	22/22	B/B	19/17	C/D
CHP-2 Crow Hassan Park	22	B	17	D
CHP-3 Crow Hassan Park	16	C	11	F

Metric	CHP-1 Crow Hassan Park	CHP-2 Crow Hassan Park	CHP-3 Crow Hassan Park	ECP-1 Elm Creek Park
# Kinds of Leeches	5/5	3	3	5
% Corixidae	3/5	3	3	3
# Kinds of Odonata	3/1	3	1	1
# ETSD	5/5	5	3	1
# Kinds of Snails	1/1	3	1	1
Total Invertebrate Taxa	5/5	5	5	3
Invertebrate Totals (30 Max)	**22/22**	**22**	**16**	**14**
Vascular Genera	3/3	3	1	3
Nonvascular Genera	3/1	1	1	3
Grasslike Genera	3/5	3	1	1
Carex Cover	1/1	1	1	1
Utricularia Presence	1/1	1	1	1
Aquatic Guild	3/1	3	1	3
Persistent Litter	5/5	5	5	5
Vegetation Totals (35 Max)	**19/17**	**17**	**11**	**17**

Hennepin

University of Minnesota
EXTENSION

Horse Stable Site Assessment and Land Management Techniques Field Day

10:00 AM to 12:30 PM ☼ Saturday October 10th

Mud, manure, standing water ... not suitable for horse or human ... leads to runoff pollution ... not good for local waters!

Foxwood Farm ☼ David & Joanie Stene
15120 S. Diamond Lake Rd., Dayton, MN

You are invited to a field day about managing horse facilities --manure and pastures-- in ways that keep horses, people --and local waters-- clean and healthy! A number of projects, including clean water diversions, gutters and manure management techniques, are underway and will be described. It will be informal and informative event with plenty of time for discussion and interaction. Meet fellow horse enthusiasts *--a great networking opportunity!* Light refreshments provided. This is a ***free*** event.

Please RSVP by October 8th to Karl Hakanson, University of MN Extension, Hennepin County 612.624.7948 / khakanso@umn.edu, or Joanie 763.242.4877 / jmastene@gmail.com

- - - AGENDA - - -

10:00 to 10:15: **Welcome and Introductions**

10:15 to 10:45: Joanie Stene, Horsemaster and Certified Instructor, will talk about the process of improving her wet, muddy, hard to manage facilities.

10:45 – 11:15: **Horses, Natural Resources and Water Quality**

Equine operations and the water quality connection. Discussion led by Jim Kujawa, Senior Environmentalist, Hennepin Co. Environment & Energy

11:15 to 11:45: **Manure Management**

Manure is not a waste ... unless it ends up in our waters!
Discussion led by Karl Hakanson, U of MN Extension Hennepin County.

11:45 to 12:30: **Pasture Management**

Grow more of your own high quality, economical feed.
Discussion led by U of MN equine PhD. Student Amanda Grev.

12:30: Adjourn

v9/23/15

Save the Date!

Plan to attend this Minnesota Department of Agriculture
Sustainable Agriculture Demonstration Field Day at the Patnode Dairy Farm in Hennepin County!

Three-Crops in Two Years for Farm Profit, Soil Health & Water Quality: Winter Rye after Corn Silage Managed for Forage

August 10, 2016 • 10:30 AM to 2:00 PM

Patnode Dairy Farm • 23301 County Rd 50, Corcoran, MN 55340

This well run family dairy farm of 80 cows and 400 acres is currently adding a new free stall for more capacity and a manure storage structure. Learn about successes and challenges of using cover crops for improved productivity, water holding capacity and keeping soil and nutrients where they belong –on your fields! As a cover cop the Rye protected the soil all fall, winter and spring by keeping living roots in the soil and providing soil cover. As silage the Rye produced a low-cost, quality feed (14.5% CP, 64.3% TDN, RFV of113, and RFQ of 188).

Lunch provided by the Corcoran Locker • Please RSVP for a meal count by August 8th to:
Daryl Patnode (763.464.6540 / patnode4@gmail.com) -- or --
Karl Hakanson, UM Extension (612.624.7948 / khakanso@umn.edu)
An informal, informative event with plenty of time for discussion!

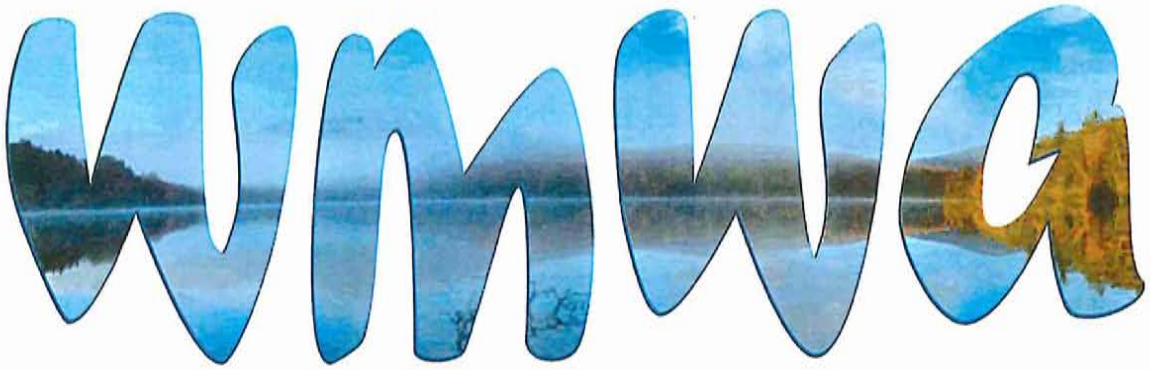
Soil Health and Successes the Challenges of Cover Crops
-- Glen Borgerding CCA, and James Schroepfer, B.S. Agronomy, Ag Resource Consulting, Inc.

Our experience growing, harvesting and feeding Winter Rye on our dairy farm
-- Daryl, Lori and Andrew Patnode

Sustainable Ag. Demonstration Program --Alatheia Stenvik, MN Dept. of Ag. (MDA), will highlight this great program for farmers to try out new and innovative practices.

Sponsored by:

AG RESOURCE CONSULTING INC. | sfa FARMER-to-FARMER NETWORK | MINNESOTA DEPARTMENT OF AGRICULTURE | UNIVERSITY OF MINNESOTA EXTENSION



WEST METRO WATER ALLIANCE

2016 ANNUAL REPORT

Background

In 2006 the Shingle Creek and West Mississippi Watershed Management Commission's Education and Public Outreach Committee (EPOC) invited the Education Committee of the Bassett Creek Watershed Management Commission to partner in developing joint education and outreach activities. Since that time this voluntary partnership has grown to include the Elm Creek Watershed Management Commission, the Three Rivers Park District, Hennepin County Department of Environment and Energy, and the Freshwater Society. The WMOs are designated as "members," the latter three organizations as "partners."

This alliance, the West Metro Water Alliance (WMWA), grew from a recognition that the individual organizations have many common education and public outreach goals and messages that could be more efficiently and effectively addressed and delivered collaboratively and on a wider scale.

Meetings

WMWA meets monthly, as needed, on the second Tuesday, at Plymouth City Hall. Member representatives include Laura Jester, Administrator, Bassett Creek WMC; Doug Baines, Dayton, Elm Creek WMC; and Shelley Marsh, Brooklyn Center, and Ben Scharenbroich, Plymouth, Shingle Creek and West Mississippi WMCs. Partner attendees have included Denis Hahn, Three Rivers Park District; Mary Karius, Hennepin County; and Peggy Knapp, Freshwater Society. Other attendees include Mary Anderson, Sharon Meister, Tracy Leavenworth, and Jenny Schaust, Watershed PREP Educators; Dawn Pape, Lawn Chair Gardener; Michaela Neu and Tammy Schmitz, Mississippi WMO; and Dave Dahle, Eden Prairie. Diane Spector, Wenck Associates, serves as technical support for WMWA, and Amy Juntunen and Judie Anderson, JASS, serve as administrative support. In 2016 eleven meetings were held. All WMWA member Commissioners are welcome to attend meetings.

The WMWA Program

Goals of the WMWA program are to:

- Inform public about the watershed organizations and their programs.
- Provide useful information to public on priority topics.
- Engage public and encourage positive, water-friendly behaviors.

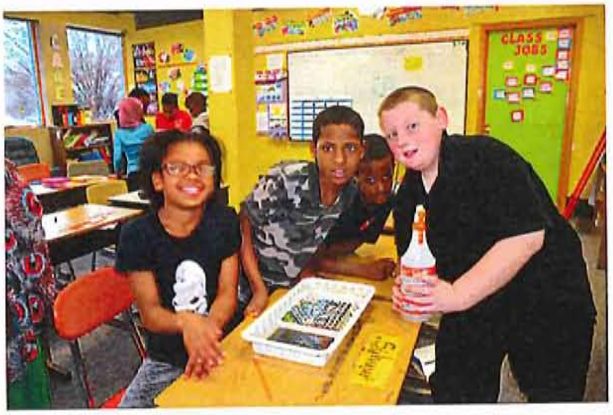
Two informational pieces have been developed by WMWA to support these goals. The *10 Things You Can Do Brochure* targets the general public. The brochure is distributed at all venues where the Commissions or member cities have a presence and also in the Watershed PREP classrooms. It is also available on the websites of the WMO member cities.

The *Maintain Your Property the Watershed Friendly Way* handbook targets small businesses, multi-family housing properties, and common interest communities such as homeowners' associations. It contains tips for specifying and hiring turf and snow maintenance contractors, and includes checklists for BMP inspections.

WATERSHED PREP

Watershed PREP is a program of WMWA, and stands for Protection, Restoration, Education, and Prevention. 2016 was the fourth year of the program. Three contract educators with science education backgrounds are shared between the member watersheds. The focus of the program is two-fold - to present water resource-based classes to fourth grade students and to provide education and outreach to citizens, lake associations, other civic organizations, youth groups, etc. Goals of the program are 1) to have audiences gain a general understanding of watersheds, water resources and the organizations that manage them, and 2) to have audiences understand the connection between actions and water quality and water quantity. The ultimate goal is to make this program available to all fourth graders in the four WMWA watersheds and to other schools as contracted.

Fourth Grade Program. Three individual lessons meeting State education standards have been developed. **Lesson 1,** *What is a Watershed and Why do we care?,* provides an overview of the watershed concept and is specific to each school's watershed. It describes threats to the watershed. **Lesson 2,** *Water Cycle - More than 2-dimensional!,* describes the movement and status of water as it travels through the water cycle. **Lesson 3,** *Stormwater Walk,* investigates movement of surface water on schools grounds.



In 2016, 127 classes totaling 3,374 students attended lessons 1 and 2 (compared to 149 and 4,042, respectively in 2015, compared to 78 and 1,373, respectively, in 2014, and 37 and 931, respectively, in 2013.) *Appendix A* details the students reached in lessons 1 and 2.

Community Education and Outreach. The PREP educators also provided outreach at ten community and school events. Outreach activities are also described in *Appendix A.*

UPDATED WORK PLAN

In 2015 the WMWA Work Plan was updated to reflect current practices. The last plan, created in 2010, had become outdated. The updated Work Plan identified the following activities:

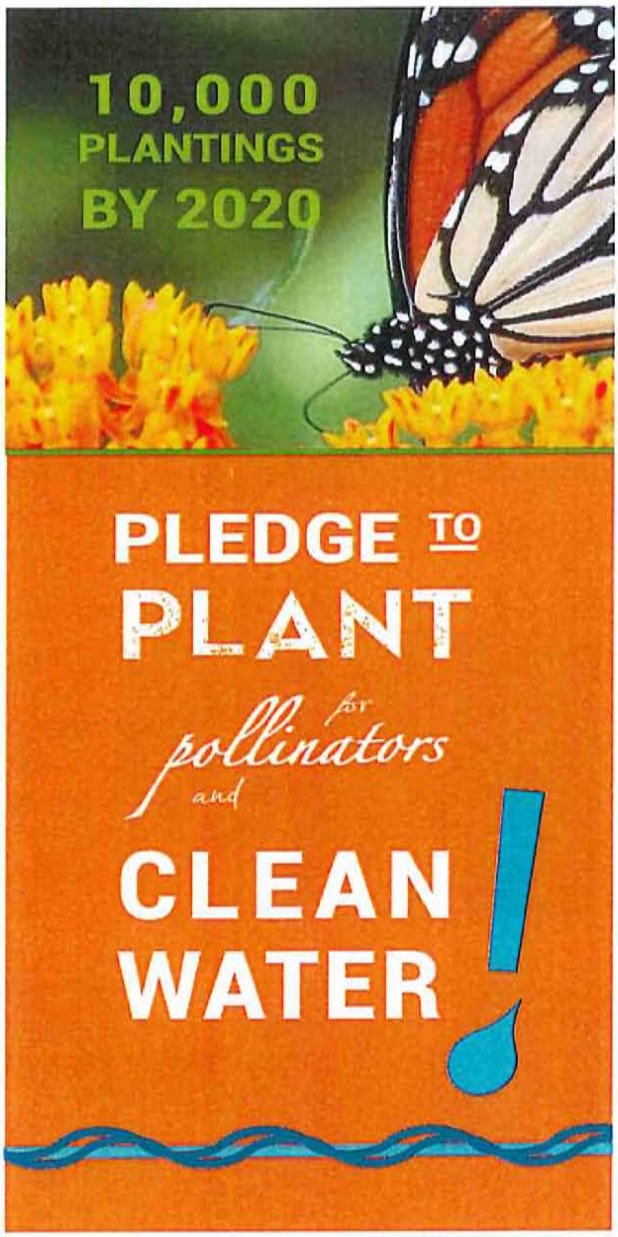
1. Facilitate information availability and sharing.
2. Reschedule professional opinion survey to measure knowledge and attitudes about water resources to 2019.
3. Provide Coordinated Communication, Media Relations, and Information Sharing that more closely parallels what the NPDES Permit education and public outreach minimum measure require. Components include identifying priority issues every year, developing a communications plan that identifies educational goals by stakeholder, establishing measurable goals, and identifying responsible parties.
4. Develop county-wide or regional activities. At this time WMWA does not have the capacity to undertake these activities.
5. Pursue and obtain funding for education and public outreach activities.
6. Support and expand in scope and reach the Watershed PREP program.

WMWA's 2016 and 2017 budgets reflect these activities and were approved by the members on March 10, 2015 and March 8, 2016, respectively. The budgets are included in this report as *Appendix B*.

Special Project

At WMWA's request, Metro Blooms/Blue Thumb submitted a proposal for a project that would encourage residents to replace impervious surface and turf grass with native plantings to benefit clean water by reducing stormwater runoff. The project includes the additional benefit of creating habitat for pollinators. An agreement between Metro Blooms and the Shingle Creek Commission, as fiscal agent, to move the project forward was approved.

Phase one of the project began with creation of a name, tag line and logo. The project was promoted in the Blue Thumb space at the State Fair where the public voted to name the campaign, *Pledge to Plant for Clean Water and Pollinators.*



Phase two included a roll out of the Pledge campaign on the Metro Blooms and WMWA websites where citizens can enter the square footage of their new plantings, creation of a Pledge to Plant banner for events, and a social media campaign that began in May 2016. The Campaign was promoted at the State Fair and other area events.

As of December 31, 2016, over 250 people had submitted the Pledge online covering approximately 25 acres, although several submissions did not specify area to be planted, so it may be more. The total includes a few larger prairie restoration projects. Most of the Pledges come from the metro area, but Pledges have been received from Oklahoma, Arkansas, Missouri, Kansas, Ohio, Wisconsin, Indiana and California.

Raingarden Workshops

In 2016, three Green Yard/Raingarden Workshops, hosted by WMWA member cities and presented by Metro Blooms were held. Workshops took place in Plymouth, Champlin, and Brooklyn Park. Attendees learned about raingardens and other practices, like stormwater recapture and reuse with rain barrels, diversion of downspouts away from impervious surfaces, and use of pervious pavers for driveways and patios.

WMWA Website

A new website, www.westmetrowateralliance.org, went live in January 2016. The website serves as a repository for documents and information for access by member cities and citizens, lists local events WMWA is participating in and/or otherwise promoting, stores Watershed PREP information for schools, and collects information for the Pledge to Plant campaign.

2016 Marketing Activity

Water Links. The members and their partners contribute to the WMWA eNewsletter *Water Links*, which is published by the Hennepin County Department of Environment and Energy. Three issues were published in 2016. Articles included seasonal topics such as Environmentally Friendly Lawn Care, Managing Fall Yard Waste, and Snow and Ice control, as well as project updates including grants received, restoration projects, city and watershed events, and the new buffer law.

Seed Packets. One of the priority messages in 2016 was the role of native vegetation in improving stormwater infiltration and reducing other negative environmental impacts. To help promote this message, WMWA and the member Commissions handed out 360 packets of native seeds at community events and in Watershed PREP classrooms. A short educational message was printed on the seed packets.

Plymouth Home Expo. Bassett Creek, Shingle Creek, and Elm Creek booths were combined into a large area and included a WMWA focus area at the 2016 Expo, April 8 and 9. There were over 120 direct contacts at the booths. A "Planting in native clay soil" handout was available at the Shingle Creek and Elm Creek booths and doggy-doo bags were provided at the Bassett Creek booth. Over 900 residents visited the event.

Social Media. In May 2016 WMWA contracted with Dawn Pape, Lawn Chair Gardener, LLC, to create a social media campaign for the Pledge to Plant campaign and WMWA in general on Facebook and Twitter. As of December 31, 2016, the WMWA Facebook page had 88 likes and the Twitter page had 37 followers. The most well-received posts had nearly 500 engagements.

To learn more about WMWA, contact:
Diane Spector, Wenck Associates, 763.479.4280, dspector@wenck.com
or Amy Juntunen, JASS, 763.553.1144, amy@jass.biz

APPENDIX

2016 School Visits

Lesson 1: What is a Watershed and Why do we Care?

	Date	School	School District	City	Watershed	# of Classes	# of Students	Funded By
1	1/12	Shirley Hills Primary	Westonka	Mound	Minnehaha	1	25	PSC Trial
2	1/25	St. Alphonsus	Parochial	Brooklyn Ctr	Shingle	1	30	WMWA
3	1/26	Hilltop Primary	Westonka	Minnetrista	Minnehaha	3	90	PSC Trial
4	2/5	Lakeview Elementary	Robbinsdale	Robbinsdale	Shingle	3	69	WMWA
5	2/8	Palmer Lake	Osseo	Brooklyn Park	Shingle	4	80	WMWA
6	2/22	Hassan	Elk River	Rogers	Elm	5	124	WMWA
7	2/23	Zachary Lane Elementary	Robbinsdale	Plymouth	Bassett	3	78	WMWA
8	3/9	Forest Elementary	Robbinsdale	Crystal	Shingle			WMWA
9	3/11	Good Shepherd	Parochial	St. Louis Park	Bassett	2	50	WMWA
10	3/15	Sacred Heart	Parochial	Robbinsdale	Shingle	1	20	WMWA
11	3/17	Gleason Lake	Wayzata	Plymouth	Minnehaha	2	48	Plymouth
12	3/22	Oakwood	Wayzata	Plymouth	Minnehaha	4	110	Plymouth
13	3/24	Plymouth Creek	Wayzata	Plymouth	Bassett	5	115	WMWA
14	4/5	Mary Queen Of Peace	Parochial	Rogers	Elm	1	8	WMWA
15	4/27	Rush Creek	Osseo	Maple Grove	Elm	7	196	WMWA
16	5/2	Earle Brown Elementary	Brooklyn Center	Brooklyn Ctr	W. Miss	6	156	WMWA
17	5/12	Kimberly Lane	Wayzata	Plymouth	Bassett	4	104	WMWA
18	6/7	St. Vincent de Paul School	Parochial	Brooklyn Park	W. Miss	2	48	WMWA
19	10/5	Basswood Elementary	Osseo	Maple Grove	Elm	6	171	WMWA
20	10/5	FAIR School	Robbinsdale	Crystal	Shingle	4	108	WMWA
21	10/12	Rice Lake	Osseo	Maple Grove	Elm	4	114	WMWA
22	10/13	Champlin Brooklyn Park Acade	Anoka-Hennepin	Champlin	W. Miss	5	148	WMWA
23	10/14	Rogers Elementary School	Elk River	Rogers	Elm	10	265	WMWA
24	10/17	Oxbow Creek Elementary	Anoka-Hennepin	Champlin	W. Miss	6	179	WMWA
25	10/25	School of Engineering and Arts (SEA)	Robbinsdale	Golden Valley	Bassett	3	78	WMWA
26	10/27	Woodland Elementary	Osseo	Brooklyn Park	W. Miss	4	123	WMWA
27	11/21	Monroe Elementary	Anoka-Hennepin	Brooklyn Park	W. Miss	4	118	WMWA
28	11/21	Sonnesyn Elementary	Robbinsdale	New Hope	Shingle	2	75	WMWA
29	12/20	Robbinsdale Spanish Imm.	Robbinsdale	New Hope	Bassett	5	120	WMWA
30	Conflict	Jackson Middle School (8th gr.) Expert day	Anoka-Hennepin		W. Miss			WMWA
31		Birchview	Wayzata		Bassett			WMWA
32		Sunset Hill	Wayzata		Bassett			WMWA
33		New Millennium	Mpls		Bassett			WMWA
34	9/27	Weaver Lake Science Math & Tech	Osseo	Maple Grove	Elm	?	?	WMWA
35		Elm Creek Elementary	Osseo		Elm			WMWA
36		Meadow Lake	Robbinsdale		Shingle			WMWA
37		Noble Academy	Charter		W. Miss			WMWA
					Total:	**107**	**2850**	

Lesson 2: The Incredible Journey

Date	School	School District	Watershed	# of Classes	# of Students
16-17 Feb	Palmer Lake	Osseo	Shingle	4	82
26-27 Apr	Rush Creek	Osseo	Elm	7	196
16-May	Earle Brown	Brooklyn Center	W. Miss	6	156
5-Apr	Mary Queen of Peace	Parochial	Elm	1	15
21-Nov	Sonnesyn Elementary	Robbinsdale	Shingle	2	75
			Total	**20**	**524**

Other

Date	Event	Location	Watershed	# of Attendees
5/24	Basswood Science Night	Maple Grove	Elm Creek	
4/8	Plymouth Home & Garden	Plymouth	BC, SC, EC	1100
5/24	Fernbrook Nature Night	Maple Grove	Elm Creek	
7/28	Plymouth Kids Fest	Plymouth	BC, SC, EC	
4/16	Brooklyn Center Clean Up	Brooklyn Center		
	HC Nature Fest			
6/4	New Hope City Days	New Hope	SC	
9/17	New Hope Farmers Market	New Hope	SC	
9/20	Coon Rapids Dam TRPD Nature	Brooklyn Park	WM	
9/29	HC Enviro Edu Conversation	Brooklyn Center		

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	**WMWA 2015 Operating Budget** (mirrors 2014 budget)														
2												Actual 2014			
3	**Revenue**			**BC**	**EC**	**SC**	**WM**	**Partners**	**Total**		**RECD**	**Pending**	**Total**		
4		Member Reimbursement Admin/Tech Servs													
5			Routine tasks, coordinate newsletter, etc.	3,750	3,750	3,750	3,750		15,000		15,260.48	145.80	15,114.68		
6			Annual Report, Newsletter, Social Media												
7															
8		Member Reimbursement - Special Projects		1,500	1,500	1,500	1,500		6,000		6,000.00		6,000.00		
9															
10		Watershed PREP		4,500	4,500	4,500	4,500		18,000		9,244.72	774.00	10,018.72		
11			Fourth Grade Initiative												
12			Public Outreach												
13															
14		Green Yard Workshops - Metro Blooms		3,000	3,000	3,000	3,000	2,500	14,500		11,250.00		11,250.00		
15															
16		***Total Revenue***		***9,750***	***9,750***	***9,750***	***9,750***	***0***	***39,000***		***41,755.20***	***628.20***	***42,383.40***		
17															
18	**APPROVED 2016 BUDGET**											Actual 2015			
19	**Revenue**			**BC**	**EC**	**SC**	**WM**	**Partners**	**Total**		**Income**	**Expense**	**Balance**		
20		Member Reimbursement Admin/Tech Servs													
21			Routine tasks, coordinate newsletter, etc.	3,750	3,750	3,750	3,750		15,000		*15,000*	*15,691*	*691*		
22			Annual Report, Newsletter, Social Media												
23															
24		Member Reimbursement - Special Projects		1,500	1,500	1,500	1,500		6,000		*6,000*	*6,000*	*0*		
25											*from 2014 budget carryover; 2015*				
26											*budget is unspent*				
27															
28		Watershed PREP		4,500	4,500	4,500	4,500		18,000		*18,000*	*11,840*	*6,160*		
29			Fourth Grade Initiative									*includes MWMO mini grant*			
30			Public Outreach									*expense outside grant*			
31															
32		Green Yard Workshops - Metro Blooms		3,000	3,000	3,000	3,000	2,500	14,500		*7,800*	*7,800*	*0*		
33		*(not included in services agreement)*													
34															
35		***Total Revenue***		***12,750***	***12,750***	***12,750***	***12,750***	***2,500***	***53,500***		***46,800***	***41,331***	***5,469***		
36															
37	The cost to develop written materials such as the *Ten Things* brochure is shared by the members. Each watershed														
38	organization and/or member city is invoiced for the number of items they purchase for their use/distribution.														

Elm Creek Watershed Management Commission - 2016 -2017 Operating Budgets

	A	B	C	D	AF	AQ
3					2016 Budget	2017 Budget
4	GENERAL OPERATING BUDGET					
5	Expenses					
6		Administrative			90,000	90,000
7			Watershed-wide TMDL Admin (Commission in-kind)		24,406	
8		Grant Writing			5,100	5,000
9		Website			6,000	6,000
10		Legal Services			2,000	2,000
11		Audit			5,000	5,000
12		Insurance			3,800	3,800
13		Contingency			2,000	2,000
14				***Subtotal***	***138,306***	***113,800***
15		Project Reviews				
16			Technical - HCES		105,500	98,000
17			Technical Support - Consultant		6,000	15,000
18			Admin Support		11,000	11,000
19					***122,500***	***124,000***
20		Wetland Conservation Act				
21			WCA Expense - HCES		12,500	12,000
22			WCA Expense - Legal		500	500
23			WCA Expense - Admin		2,000	2,000
24				***Subtotal***	***15,000***	***14,500***
25		Water Monitoring				
26			Stream Monitoring			
27				Stream Monitoring - USGS	23,500	24,177
29				Extensive Stream Monitoring	7,200	7,000
30				DO Longitudinal Survey	500	500
31			Gauging Station - Elec Bill		195	220
32			Rain Gauge Network		100	100
33			Lake Monitoring			
34				Lake Monitoring - CAMP	1,650	1,200
35				Lake Monitoring - TRPD		
36				Sentinel Lakes	3,100	2,470
37				Additional lake	600	618
38				Aquatic Vegetation Surveys	1,000	1,029
39			Source Assessment			2,000
40			Watershed-wide TMDL - Followup - TRPD, Admin			10,000
41			Wetland Monitoring - WHEP		4,000	4,000
42			Stream Health - SHEP		6,000	0
43				***Subtotal***	***47,845***	***53,314***
44		Education				
45			Education - City/Citizen Programs		6,000	4,000
47			WMWA General Admin		4,000	4,000
48			WMWA Implementa Activities incl Watershed PREP		6,000	6,000
50			Rain Garden Workshop/Intensive BMPs		3,000	2,000
51			Education Grants		3,000	2,000
52			Macroinvertebrate Monitoring-River Watch		6,000	6,000
53			Ag Specialist		2,000	
54				***Subtotal***	***30,000***	***24,000***
59		Management Plan				
60			Plan Amendments		5,000	5,000
61			Local Plan Review - due two years after Commission Plan adopti		3,000	2,000
62			Contribution to 4th Gen Plan - consider $10,000/set-aside beginning 2020			
63				***Subtotal***	***8,000***	***7,000***

Elm Creek Watershed Management Commission - 2016 -2017 Operating Budgets

	A	B	C	D	AF	AQ
3					2016 Budget	2017 Budget
64		Special Projects				
66			Projects ineligible for ad valorem		50,000	50,000
68			Upper and South Metro Miss TMDL		1,000	0
70			Studies, Project Identification, Subwatershed Assessments		35,000	35,000
72				***Subtotal***	***86,000***	***85,000***
74						
75		Contingency			0	0
76				***Subtotal***	***0***	***0***
77		***Total Operating Expense (lines 14,19,24,43,54,63,72,76)***			***447,651***	***421,614***
78						
79	**Revenue**					
80		CIPs - Ad Valorem				
81		Project Review Fees			100,000	100,000
82		Water Monitoring - TRPD Co-op Agmt			6,000	6,500
84		WCA Fees			5,000	8,000
85		Forfeited/Reimbursed Sureties/Reimbursement from LGUs			1,500	0
86		Membership Dues			215,360	219,700
87		Watershed-wide TMDL				
88		Interest Income			80	100
89		Miscellaneous Income				
90						
91		From (To) Cash Reserves				
92				***Total Operating Revenue (lines 80-91)***	***327,940***	***334,300***
93	**TOTAL GENERAL OPERATING BUDGET (lines 77, 92)**				**119,711**	**87,314**
94						
95	***Cash on hand, unencumbered***				***194,196***	***106,882***
96						
97	**ASSIGNED FUND BALANCES**					
98		**Capital Projects**				
99			**Revenue**			
100				Ad Valorem Levy Funds	250,000	492,812
101			**Expense**			
102				Commission Cost Share	250,000	492,812
103				Administrative Expense	3,000	4,000
104				***Total Capital Projects***	***3,000***	***4,000***
105						
106		**Third Generation Management Plan**				
107			Member Assess - Contribution to Reserves			
108			Encumbered from General Fund			
109			Less Expenses			
110				***Total Third Gen Plan***		
112						
113		**WCA - Beginning Accumulated**				
114			WCA Activity - Current Year			
115				***WCA - Year-End Accumulated***		
116						
117		**~~Assigned for capital improvement projects~~**				
118		**Assigned for ~~capital improvement~~ projects, studies**				
119			Less Expenses			
120				***Total CIPs, Projects, Studies***		
121						
131	***Total Assigned Fund Balances (lines 104, 110, 115, 120)***					
132						
133	**TOTAL CASH ON HAND (lines 95, 131)**					

Elm Creek Watershed Management Commission
2016 - 2017 Member Assessments

2016	2015 Taxable Market Value	2016 Budget Share		Increase over Prev Year	
		%age	Dollars	%age	Dollars
Champlin	409,399,869	4.06%	8,741.51	3.82%	322
Corcoran	679,629,691	6.74%	14,511.46	9.43%	1,250
Dayton	467,103,289	4.63%	9,973.60	4.24%	405
Maple Grove	5,431,286,657	53.85%	115,968.92	1.27%	1,451
Medina	805,089,215	7.98%	17,190.28	4.96%	812
Plymouth	817,567,896	8.11%	17,456.72	9.45%	1,508
Rogers	1,476,090,709	14.63%	31,517.51	1.98%	612
Totals	**10,086,167,326**	**100.00%**	**215,360.00**	**3.04%**	**6,360**

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
Totals	**10,662,758,927**	**100.00%**	**219,700.00**	**2.02%**	**4,340**

Table 4.5. Elm Creek Third Generation Plan Capital Improvement Program

Description	Location	Priority	Est Proj Cost	Partners	Funding Source(s)	Estimated Commission Cost					
						2015	2016	2017	2018	2019	2020-2024
Special Studies											
TMDL implementation special study	Watershed	H	225,000	Cities, HCEED	Operating budget	0	25,000	25,000	25,000	25,000	125,000
Stream segment prioritization	Watershed	H	20,000	Cities, HCEED, TRPD	Operating budget	10,000	0	0	0	10,000	0
High Priority Stream Restoration Projects				Cities, TRPD	Cities, TRPD, county levy, grants						
Elm Cr Reach E	Plymouth	H	1,086,000	Commission, Plymouth	County Levy - levied in 2015	250,000					
CIP-2016-RO-01 Fox Cr, Creekview	Rogers	H	321,250	Commission, Rogers	County Levy - levied in 2016	0	80,312	0	0	0	0
Mississippi Point Park Riverbank Repair	Champlin	M	300,000		County Levy - levied in 2016	0	75,000	0	0	0	0
Elm Creek Dam	Champlin	H	7,001,220		County Levy - levied in 2016	0	187,500	0	0	0	0
Tree Thinning and Bank Stabilization Project	Watershed	H	50,000			0		50,000	50,000	50,000	250,000
Fox Cr, Hyacinth	Rogers	M	360,000			0	0	90,000	0	0	0
Fox Cr, South Pointe, Rogers	Rogers	M	90,000			0	0	22,500	0	0	0
Other High Priority Stream Project	Watershed	H	500,000			0	0	0	125,000	125,000	250,000
CIP-2016-MG-02 Rush Creek Main	Maple Grove		1,650,000		County Levy - levied in 2016		75,000	75,000	75,000	25,000	
CIP-2016-MG-03 Rush Creek South	Maple Grove		675,000						168,750		
CIP-2017-PL-01 EC Stream Restoration Reach D	Plymouth		850,000	City, County, Comm	City, County, Comm				212,500		
High Priority Wetland Improvements				Cities	Cities, Commission						
DNR #27-0437	Maple Grove	L	75,000			0	0	0	0	0	18,750
Stone's Throw Wetland	Corcoran	M	450,000			0	0	~~112,500~~	112,500	0	0
Other High Priority Wetland Projects	Watershed	L	100,000			0	0	0	0	0	25,000
CIP-2016-MG-01 Ranchview Wetland Restoration	Maple Grove		2,000,000					250,000			
Lake TMDL Implementation Projects				Cities, lake assns.	Cities, Comm, grants, owners						
Mill Pond Fishery and Habitat Restoration	Champlin	H	5,000,000			0	0	250,000	0	0	0
Other Priority Lake Internal Load Projects	Watershed	M	100,000			0	0	0	0	0	25,000
CIP-2016-MG-04 Fish Lake Alum Treatment-Phase 1	Maple Grove	H	300,000	City, TPRD, Comm, lake assn	County Levy - levied in 2016		75,000				
Stonebridge	Maple Grove	M	200,000			0		50,000	0	0	0
Rain Garden at Independence Avenue	Champlin	L	300,000			0		75,000	0	0	0
CIP-2016-CH-01 Mill Pond Rain Gardens	Champlin	M	400,000			0	0		100,000	0	0
Other Priority Urban BMP Projects	Watershed	L	200,000			0	0	0	0	0	50,000
Other											
Livestock Exclus, Buffer & Stabilized Access	Watershed	M	50,000	Cities, owners, U Extension, NRCS	Cities, owners, Comm, NRCS	0	0	0	50,000	0	50,000
Agricultural BMPs Cost Share	Watershed	H	50,000	Cities, owners, U Extension, NRCS	Cities, owners, Comm, NRCS	0		50,000	50,000	50,000	100,000
~~CIP-2016-RO-04~~ CIP-2017-RO-1 ~~Ag BMPs~~ Cowley-Sylvan Connections BMPs	Rogers		300,000	City, Comm	City, Comm, BWSR				75,000		
CIP-2016-RO-03 Downtown Pond Exp & Reuse	Rogers		406,000						101,500		
Hydrologic & Hydraulic Modeling	Watershed	L	25,000	HCEE	Commission	0	0	0	25,000	0	0
Fourth Generation Plan	Watershed	L	70,000		Commission	0	0	0	0	0	$70,000
TOTAL STUDIES			245,000		**COMM SHARE TOTAL STUDIES**	**10,000**	**25,000**	**25,000**	**25,000**	**35,000**	**125,000**
TOTAL CIPS			~~21,759,470~~		**COMM SHARE TOTAL CIPS**	**$ 250,000**	**$ 492,812**	**~~$ 1,025,000~~**	**~~$ 576,500~~**	**$ 250,000**	**$ 838,750**
			22,909,470					**$ 912,500**	**$ 1,145,250**		

Projects levied in prior years

Projects added/revised in 2017

elm creek
Watershed Management Commission

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www.elmcreekwatershed.org

TECHNICAL OFFICE
Hennepin County Public Works
Dept. of Environment and Energy
701 Fourth Ave S Suite 700
Minneapolis, MN 55415-1600
PH: 612.596.1171
FAX: 612.348.8532
email: Ali.Durgunoglu@co.hennepin.mn.us

April 15, 2016 **SAMPLE**

Mr. Steve Christopher
MN Board of Water and Soil Resources via email
520 Lafayette Road N.
St. Paul, MN 55155

RE: Minor Plan Amendment
Elm Creek Watershed Management Commission
Third Generation Watershed Management Plan

Dear Steve:

The Elm Creek Watershed Management Commission proposes to revise its Third Generation Watershed Management Plan Capital Improvement Plan in a minor amendment that would add five projects, revise one project and shift the timetable for five other projects.

On February 12, 2016, you indicated in an email to this office that these revisions to the CIP can go forward as a Minor Plan Amendment.

At their March 9, 2016 meeting the Commissions elected to go forward with the Minor Plan Amendment, scheduling a public meeting at their regular meeting on May 11, 2016 at 11:30 am. As required, notice of this meeting will be published twice prior to the meeting, and notice of the proposed minor plan amendment will be mailed to the member cities, Hennepin County, the Met Council, and the state review agencies for review and comment.

The Commissions' Technical Advisory Committee (TAC) met on April 13, 2016 to officially receive the feasibility reports and recommend that the new and revised projects be included on the CIP. The Commission has asked the TAC to provide comments and a recommendation to the Commission at the May 11, 2016 public meeting. This recommendation will include: 1) should the project description and project cost be revised, 2) is this project appropriate for Commission cost share and, if so, 3) what should that share be. The Commission's current policy is to cost-share 25 percent of the cost of a qualifying project, up to $250,000, with that share funded by certifying, in accordance to Minnesota Statutes 103B.251, that share to Hennepin County, which will levy an ad valorem tax on all property within the Elm Creek watershed.

Steve Christopher, BWSR
Elm Creek Minor Plan Amendment
April 15, 2015

A copy of the Notice of Public Meeting and the proposed revised CIP are attached.

The Commission also seeks comment from other reviewers. If you have questions, please contact the Commission' s Administrator, below. Please submit comments by email or phone by **5:00 pm, Monday May 2, 2016,** to:

Judie Anderson, Administrator
Elm Creek Watershed Management Commission
763.55.1144
judie@jass.biz

Sincerely,

Judie A. Anderson
Administrator

Z:\Elm Creek\Third Generation Plan\Minor Plan Amendment Spring 2016\L-christopher initiate minor plan amendment_.doc

Encls.
Cc via email: Hennepin County- Randy Anhorn
City of Champlin – Roberta Colotti, City Clerk
City of Corcoran - Jeanie Heinecke, City Clerk
City of Dayton – Sandra Borders, City Clerk
City of Maple Grove –Stevie Koll-Anderson, City Clerk
City of Medina – Scott Johnson, City Clerk
City of Plymouth - Sandra Engdahl, City Clerk
City of Rogers - Stacy Doboszenski, City Clerk
Minnesota Dept. of Natural Resources- Jeanne Daniels
Minnesota Pollution Control Agency- Juline Holleran
Minnesota Dept. of Health- Pat Bailey
Minnesota Dept. of Agriculture- Rob Sip
Metropolitan Council - Judy Sventek
Minnesota Dept. of Transportation - Beth Neuendorf

elm creek
Watershed Management Commission

ADMINISTRATIVE OFFICE
3235 Fernbrook Lane
Plymouth, MN 55447
PH: 763.553.1144
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April 21, 2016 SAMPLE

Mr. Randy Anhorn
Hennepin County Environment and Energy via email
701 Fourth Ave South, Suite 700
Minneapolis, MN 55415-1600

RE: Maximum Capital Project Levy 2016

Dear Mr. Anhorn:

This letter is to inform you that the Elm Creek Watershed Management Commission has estimated a maximum 2016 special projects levy of $492,812. The Commission expects to hold a public hearing and certify a levy for five projects on September 14, 2016, contingent upon approval of a Minor Plan Amendment revising the 2016 CIP. A short description of the projects is provided below.

Project 2016-01

CIP-2016-RO-01:	Foxcreek Streambank Stabilization Project Phase 2
Location:	1300 LF of Fox Creek from Red Fox Road to Industrial Blvd., Rogers
Project Description:	Correct stream bank erosion along multiple segments of Fox Creek
Proposed Levy:	$80,312

Project 2016-02

CIP-2016-02:	Mississippi Point Park Riverbank Repair *(renamed Mississippi River Shoreline Repair and Stabilization)*
Location:	River shoreline between Mississippi Point Park and Steamboat Landing in Champlin
Project Description:	Repair and stabilize river banks damaged by flood waters, armoring 1600 LF of shoreline with rip rap
Proposed Levy:	$75,000

Project 2016-03

CIP-2016-03	Elm Creek Dam *(renamed Elm Creek Dam at the Mill Pond)*
Location:	Elm Creek Dam and Bridge in Champlin
Project Description:	Construction of new dam, spillway and flood reduction culvert
Proposed Levy:	$187,500

Project 2016-04

CIP-2016-MG-02:	Rush Creek Main Stem Restoration
Location:	On the border of Maple Grove and Dayton, west of Fernbrook Lane and north of Territorial Road, in Maple Grove
Project Description:	Stabilization of erosional sites in a 2900 LF portion of the creek
Proposed Levy:	$75,000

Project 2016-05

CIP-2016-MG-04:	Fish Lake Alum Treatment Phase 1
Location:	Fish Lake in Maple Grove
Project Description:	Conduct whole lake alum treatment based on 2013 UW Stout Study
Proposed Levy:	$75,000

If you have any questions regarding these projects, please contact me at the phone number or email, above.

Sincerely,

Judie A. Anderson
Administrator
JAA:tim

Cc: Steve Christopher, BWSR

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elm creek
Watershed Management Commission

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September 19, 2016

Joan Flavin
Hennepin County
A-600 Government Center
300 South Sixth Street
Minneapolis, MN 55487-0060

SAMPLE

via certified mail
Return Receipt Requested

Re: Elm Creek Watershed Management Commission
2016 Tax Levy for Collection in 2017

Dear Ms. Flavin:

On September 14, 2016, the Elm Creek Watershed Management Commission adopted Resolution No. 2016-02, certifying for payment by Hennepin County of the Commission's share of the cost of five projects. The projects are named below and described in Resolution No. 2016-02, certified copy attached.

2016-01 Fox Creek Streambank Stabilization Project, Rogers. Total project cost $321,250 | Levy $80,312.
2016-02 Mississippi River Shoreline Repair and Stabilization Project, Champlin. Total project cost 300,000 | Levy $75,000.
2016-03 Elm Creek Dam at the Mill Pond Project, Champlin. Total project cost $7,001,220 | Levy $187,500.
2016-04 Rush Creek Main Stem Restoration Project, Maple Grove. Total project cost $300,000 | Levy $75,000.
2016-05 Fish Lake Alum Treatment Project Phase 1, Maple Grove. Total project cost $300,000 | Levy $75,000.

The Commission's share of the cost of the five projects is $492,812. This letter and the attached resolution will serve as certification to the County for payment of this cost in accordance with Minnesota Statutes, Section 103B.251, Subd. 4. The Commission understands that payment will be made in 2017 from taxes to be levied in 2016.

Thank you for your cooperation in this matter.

Very truly yours,

Judie A. Anderson
Administrator
JAA:tim
Encls: Resolution 2016-02

Cc w/ encl: Rick Sheridan, Assistant County Attorney
Hennepin County
C-2000 Government Center
300 South Sixth Street
Minneapolis, MN 55487

Cc w/encl via email
Randy Anhorn, Hennepin County
Bret Heitkamp, City of Champlin
Todd Tuominen, City of Champlin
Heidi Nelson, City of Maple Grove
Rick Lestina, City of Maple Grove
Steve Stahmer, City of Rogers
Andrew Simmons, City of Rogers
Rich Brasch, Three Rivers Park District
Joel Jamnik, Campbell Knutson
Ali Durgunoglu, HCEE
James Kujawa, HCEE
Project file

Z:\Elm Creek\CIPs\2016 Projects\L_Certifying levy 2016.doc

From: Brasch, Richard [mailto:Richard.Brasch@threeriversparks.org]
Sent: Friday, March 24, 2017 2:22 PM
To: Judie Anderson (judie@jass.biz)
Cc: Todd Tuominen; Vlach, Brian
Subject: Mill Pond monitoring for 2017

Hi, Judie:

At a Technical Advisory Committee (TAC) meeting I attended on the Mill Pond Shoreland and Aquatic Habitat Restoration Project on Tuesday this week, we discussed the Commission's intent to include water quality monitoring of Mill Pond in its lake monitoring program for 2017.

You'll remember that the Commission approved water quality monitoring of Mill Pond as part of its monitoring services arrangement with the Park District at its last regular meeting on March 8. Because the Mill Pond will be draw down again this fall to facilitate removal of sediment and some of the riparian habitat work, both the City and the TAC felt that conducting early and late summer aquatic plant surveys would be of more interest and value than water quality monitoring. The purpose of the aquatic plant monitoring would be to establish a pre-sediment removal and restoration project baseline for the aquatic plant community and help assess how both curly leaf pondweed and the native plant community responded to the first drawdown associated with the dam rehabilitation project.

I felt I should check in with the Commission to see if they OK with substituting one type of monitoring for the other type preferred by the City and TAC before we committed to the proposal. The costs for the aquatic plant surveys would be the same - $800 – as for the water quality monitoring efforts.

If you could make sure there is a spot on the April regular meeting agenda to discuss this with the Commission, I'd appreciate it. Let me know if you need any more information from me in order to add this to the agenda. Thanks.

Rich

Rich Brasch
Senior Manager of Water Resources Management
Three Rivers Park District
Field Operations Center
12615 County Road 9
Plymouth, MN 55441
Phone: 763-694-2061
e-mail: Richard.Brasch@threeriversparks.org
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ThreeRivers
PARK DISTRICT

March 28, 2017

Mr. Dennis Wasley
Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, MN 55155-4194

Re: Alum Treatment for Fish Lake (DNR # 27-0118)

Dear Mr. Wasley:

As per our telephone conversation earlier this year, this letter is intended to inform the MPCA that the Elm Creek Watershed Management Commission (ECWMC), Three Rivers Park District (TRPD), the City of Maple Grove, and the Fish Lake Area Residents Association (FLARA) are proposing a joint project to treat up to 120 acres of Fish Lake (about 51% of the surface area) with aluminum sulfate. The work is being funded through a Clean Water Fund grant administered by the Board of Water and Soil Resources as well as local funding contributions from the ECWMC, TRPD, the City of Maple Grove, and FLARA. The purpose of this grant project is to improve water quality and fish habitat in Fish Lake, which is a prime public recreation resource serving the Metro area and beyond.

Fish Lake is located in the City of Maple Grove (Hennepin County). 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) of 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. Fish Lake was included in the watershed restoration and protection strategies (WRAPS) study and total daily maximum load (TMDL) completed by the Elm Creek Watershed Management Commission in partnership with MPCA in 2016. 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 goal of treating the lake with alum is to reduce the phosphorus load affecting the lake by at least 310 lbs./yr. The reduction will meet the load reductions identified in the agency-approved WRAPS/TMDL reports. The goal of the alum treatment program will be to limit the internal load to the degree necessary to consistently meet ecoregion deep lake water quality standards over at least a 20-year period. The Fish Lake alum treatment project would be completed as a partnership between the Commission (as the

Administrative Center, 3000 Xenium Lane North, Plymouth, MN 55441-1299
Information 763.559.9000 • TTY 763.559.6719 • Fax 763.559.3287 • www.ThreeRiversParks.org

grant applicant), TRPD (as the project lead), the City of Maple Grove, and FLARA.

Approximately one third of Fish Lake's shoreline is within TRPD's Fish Lake Regional Park, which includes a public boat access to the lake, a fishing pier, a swimming beach, trails, a pavilion and picnic areas, and other public amenities. The shoreline within the Park is mostly undeveloped. With support from the City of Maple Grove and the ECWMC, the Fish Lake Area Residents Association (FLARA) are continuing their effort to improve shoreline buffers around the lake on private property as well as to improve general stormwater management practices. Further, the City of Maple Grove is incorporating stormwater pollutant load reductions into its street re-construction projects in the watershed and is examining use of high efficiency street sweepers to intensively clean streets in high priority areas to reduce the pollutant load available for wash-off.

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. In addition to determining aerobic and anaerobic sediment phosphorus release rates used to support the development of the Fish Lake TMDL, alum dosing options were also developed to address the internal load. Based on the sediment data, we propose to achieve a sediment delivery rate of 80 gm. Al/m^2 in areas of the lake 20 feet or deeper, which translates to a liquid alum application rate of 1,583 gallons/acre of commercial grade alum over 120 acres of lake surface. While this dosing rate is at the lower end of the range recommended, we feel it is a prudent approach based on the funding available, the fact that the lake is very close to meeting water quality standards now, and that even the proposed dose should provide a reasonable margin of safety for achieving the long-term internal load reductions called for in the TMDL. Bench testing and ph modeling further indicate that because the alkalinity of Fish Lake is high (143 mg/l $CaCO_3$) we could safely apply the entire proposed dose and retain a ph of at least 6.5 in the system, which will be protective of the biological community. However, we propose to apply approximately half the dose in fall 2017 and the other half in fall 2019. This is consistent with the current scientific thinking 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. During the treatments, pH will be monitored hourly to avoid pH depression below 6.5. The treatment specifications (Section 02670-Aluminum Sulfate Application) discussing these requirements are attached to this letter (see Section 3.02, A.4.).

After the first half of the dose is applied, TRPD intends to periodically assess the phosphorus inactivation capacity of the alum added to the system as well as hypolimnetic total phosphorus concentrations to support the adaptive management approach outlined in the TMDL and WRAPS reports. While we do not expect to need additional treatments to control internal load within the next 20 years, that possibility should be acknowledged based on our inability to predict precisely

the impact of major factors that could impact the system over the long term such as climate change.

If you have any questions, please contact either myself (763-694-2061) or Brian Vlach at (763) 694-7846.

Sincerely,

Rich Brasch
Senior Water Resources Manager
Three Rivers Park District

cc. Angie Smith, TRPD
Brian Vlach, TRPD
Judie Anderson, Elm Creek Watershed Management Commission
Rick Lestina, City of Maple Grove
Daryl Ellison, Mn DNR (Fisheries)

SECTION 02670

ALUMINUM SULFATE APPLICATION

PART 1 GENERAL

1.01 SUMMARY

A. This section includes furnishing all equipment, products, facilities, skill and labor to apply aluminum sulfate (alum) to Fish Lake, Fish Lake Regional Park, at the location shown on the Drawings. All work related to the project shall comply with the requirements of the Material Safety Data Sheet and the product label.

B. It is the intent of these specifications to apply aluminum sulfate or aluminum sulfate/sodium aluminate to deliver an aluminum dose of 43 g Al/m^2 of sediment surface in the designated treatment area, defined as areas of the lake with water depths of 20 feet or greater. The final dose determination will be made prior to the initiation of application and be based upon the lake alkalinity level. These data will be provided to the Contractor prior to the treatment startup.

C. The Contractor shall monitor the lake pH during the application process to ensure that the pH does not decrease below 6.5 to minimize the potential of toxicity to the fish and invertebrate population.

D. Refer to Drawings for the Location Map and the lake bathymetric conditions.

1.02 PROJECT SITE

A. The lake access is located in Township 119 North, Range 22 West, South ½ of Section 28 in Maple Grove, MN.

B. Location:
   1. Fish Lake is located in Fish Lake Regional Park, in the City of Maple Grove. The park entrance is located at 14900 Bass Lake Road. Access to the lake will be through the public watercraft access in the Park approximately 0.5 miles from the main entrance of the park.

C. Bathymetry:
   1. See bathymetric map in Section 00300. The 20-foot bathymetric contour is highlighted in red.

D. Work Area:
   1. Confine all launching operations to the boat launch site and immediate parking lot area. Avoid impacts to adjacent park facilities.
   2. Provide signage to inform park guests of the work activity. Provide adequate traffic control to avoid conflicts between delivery trucks and park guests.
   3. Alternative access to the site shall be as approved by the Owner.
   4. Install proper spill containment facilities at the alum mixing/loading site.

E. Temporary Water
   1. Contractor can obtain water from Fish Lake for alum mixing operations.

F. Temporary Electrical Service:

1. Electrical service is available in the boat rental building immediately adjacent to the swim beach near the visitors center.

1.03 EQUIPMENT AND PERSONNEL

A. Alum application equipment shall be capable of accurately applying the proper dose of the product to different lake depths. The application equipment shall be capable of utilizing Global Positioning System Coordinates to determine location on the lake and synchronizing alum dose to lake depth to achieve the desired aluminum concentration.

B. All equipment shall be an acceptable type normally used for the intended work, of adequate size and capacity, in good repair and capable of properly performing the intended operations in a good, progressive, orderly fashion and allow for safety of all personnel.

C. The Contractor shall employ only competent workers for the execution of the work and all such work shall be performed under the direct supervision of an experienced applicator satisfactory to the Owner. Each bidder shall, if requested, submit the following information.
   1. List of lakes of similar size and depth to which they have applied alum.
   2. Name and experience record of project supervisor.
   3. Manufacturer's name and description of all other pertinent equipment to be used on the project.

1.04 REFERENCES

A. This specification refers to the following documents. In their latest revision, they form a part of this specification. In the case of any conflict, the more stringent requirement, in this specification or the document listed below, shall prevail.

B. American Water Works Association (AWWA), American Society for Testing and Materials (ASTM), and American Petroleum Institute (API) standards and specifications.

C. Standard Methods for the Examination of Water and Wastewater. Published by American Public Health Association, American Water Works Association, and the Water Environment Federation.

1.05 PERMITS, LAWS, AND TAXES

A. The Contractor shall give all notices and comply with all laws, ordinances and regulations applicable to the application of alum in Lake Rebecca, except that the Owner will secure approval from the Minnesota Pollution Control Agency for the alum application itself to Fish Lake. If the Contractor observes that the specifications or drawings are at variance therewith, the Contractor shall give the Owner prompt written notice. If the Contractor performs any work knowing it to be contrary to such laws without notice, the Contractor shall bear all costs arising from the actions.

B. The Contractor shall obtain and pay all permit fees and sales taxes required by

law.

1.06 SUBMITTALS

A. The Contractor shall submit the following data and test results to the Owner.

1. Method and Schedule Information
   a. Method of alum application
   b. Proposed Project Schedule.
   c. Proposed product (aluminum sulfate or aluminum sulfate/sodium aluminate)
2. Test Pumping
   a. Submit results from calibration of alum application pumps. These shall show time, date, discharge rates, and times of stopping and starting.
3. Weigh slips from product delivery
   a. Submit weigh slips of product delivered to site weekly.
   b. Submit certification of percent aluminum (Al2O3) for each load of product.
4. pH and Water Temperature Analysis
   a. Submit results of pH analysis during application process. pH monitoring results shall be taken with a properly calibrated ph meter and at least hourly in the top meter of the water column during alum injection to ensure that the lake pH remains above 6.5.
   b. Submit results of water temperature measurements at beginning and end of application period.
7. Contract Close-Out:
   a. Amount of alum applied

1.07 CORRECTIVE WORK

A. In the event that even distribution of alum floc over the lake sediments did not occur due to the neglect of the Contractor, the Contractor shall, at no added expense to the Owner, perform such work or supply such product or other material as may be necessary to create the necessary sediment floc layer.

1.08 BOUNDARIES OF WORK

A. The Contractor shall not enter or occupy with people, tools, materials or equipment any area outside of the construction area as defined on the Site Drawings without the written consent of the Owner.

B. The Contractor shall utilize only the ingress and egress provided by the Owner as described in the drawings and specifications, or as subsequently permitted in writing by the Owner.

C. Other contractors, employees, or agents of the Owner may, for all necessary purposes, enter upon the premises used by the Contractor.

1.09 PROTECTION OF SITE

A. Except as otherwise specified, the Contractor shall protect all structures, trees, shrubbery, lawns, etc., during the progress of the work and shall remove from

each site all construction materials at the completion of project. The Contractor shall be liable for damage to any underground structures which are located by the Owner or shown on the drawings, or are indicated to be protected.

B. The Contractor shall take reasonable precautions to maintain the premises in a safe condition and to avoid impacts to park guest or staff utilizing the park or the lake.

C. At all times during the progress of the work the Contractor shall use all reasonable precautions to prevent either tampering with equipment or chemical product stored on the site.

1.10 METHODS OF MEASUREMENT AND PAYMENT

A. Measurement
   1. Mobilization/Demobilization:
      a. Measure as a complete unit on a lump sum basis.
      b. Fifty percent of the bid amount identified for mobilization will be paid upon set-up of equipment and commencement of alum application and receipt of a correct invoice by the Owner from the Contractor not to exceed that amount.
      c. Remainder of contract amount for mobilization/de-mobilization will be paid upon tear-down and removal of equipment, and final clean-up of the site and receipt of a correct invoice by the Owner from the Contractor not to exceed that amount.
   2. Alum Application:
      a. Measure by volume of alum applied.
      b. Price includes:
         1) Alum delivered to site
         2) Application of alum to Fish Lake
         3) Calibration of application equipment
         4) Setup of GPS equipment to ensure proper dose of alum
         5) Measurement of pH levels
         6) Measurement of water temperature

B. Basis of Payment:
   1. Payment for acceptable quantities of alum applied shall be at the contract unit price as listed on the Bid Form. All associated work items shall be considered incidental.

1.11 WARRANTY

A. The Contractor warrants and guarantees to the Owner that all material and work shall be of good quality and free from faults or defects and in accordance with the requirements of the Contract Documents.

PART 2 PRODUCTS

2.01 ALUMINUM SULFATE

A. Alum shall be Technical grade, NSF Certified aluminum sulfate, Al2(SO4) in aqueous solution, with the following properties:

Pounds/Gallon	11.11

Gallons/Ton	180
Specific Gravity	1.333
Total Al as Al2O3	8.3%
Free Al2O3	0.00
Iron as Fe	100 ppm maximum

B. Sodium Aluminate shall be Technical grade, NSF certified NaA1O2, with the following properties:

Al2O3	45 to 47 % Minimum
Na2O	28 to 32 % Minimum
Fe2O3	50 ppm Maximum

PART 3 EXECUTION

A. The workmanship for the alum application project shall meet the objectives of developing an alum floc over the sediments of Fish Lake to minimize the movement of phosphorus into the lake water column. The target dose for Fish Lake is 43 g Al/m^2 of sediment surface in the designated treatment area, defined as areas of the lake with water depths of 20 feet or greater. The target dose may be adjusted upon final lake alkalinity measurements and any additional sediment core phosphorus release rate data.

3.01 MOBILIZATION AND DEMOBILIZATION

A. This task includes moving onto and off the site, all the materials and equipment, for applying the chemical product to Lake Rebecca. It also includes cleaning up the site upon completion of the contract.

3.02 ALUM APPLICATION

A. General Application Operations:
1. Method of Application:
   a. At the option of the Contractor.
   b. Shall be capable of producing the intended results.
   c. Calibrate equipment prior to beginning application
2. Target Al Concentration
   a. Apply Alum or Alum/Sodium Aluminate mix to achieve an aluminum dose of 43 g Al/m^2 of sediment surface in the designated treatment area, defined areas of the lake with water depths of 20 feet or greater.
   b. Maintain the lake pH above 6.5.
3. Alum Distribution:
   a. Utilize GPS or equivalent guidance system to ensure uniform distribution of alum in lake water and uniform floc formation over lake sediments.
4. Water Quality Monitoring:
   a. The Contractor shall monitor the pH of the lake hourly during alum application to verify that the lake pH does not decrease below 6.5.

3.03 SITE PROTECTION

A. Contamination
   1. The Contractor shall take such precautions as are necessary or as may be required to prevent contaminated water, or water having undesirable physical or chemical characteristics, from being discharged to a non-target area of Lake Rebecca. The Contractor shall also take all necessary precautions during the construction period to prevent contaminated water, gasoline, etc. from entering the lake either through the operational activities or leaks in equipment.

   2. The Contractor shall take such precautions as are necessary or as may be required to prevent the application from affecting the fish population in the lake. The Contractor will monitor the pH level to ensure that the level does not decrease to a level that will affect fish survival.

3.08 SITE CLEAN-UP

A. Remove all debris from site.
B. Restore to original condition.

END OF SECTION

ADD DRAWING 00105 SHOWING ACCESS

COOPERATIVE WATER RESOURCES MANAGEMENT PROJECT JOINT POWERS AGREEMENT BETWEEN Three Rivers Park District, City of Maple Grove, and Elm Creek Watershed Management Commission

1. PARTIES

The City of Maple Grove (hereinafter referred to as "Maple Grove"), the Elm Creek Watershed Management Commission (hereinafter referred to as "the Commission") and the Three Rivers Park District (hereinafter referred to as "the Park District"), all being governmental units of the State of Minnesota, and acting through their respective governing bodies, hereby enter into this Joint Powers Agreement ("Agreement"). Maple Grove, the Commission, and the Park District from time to time may be referred to hereinafter as "the Parties."

2. PURPOSE

Maple Grove, the Park District, and the Commission recognize that intergovernmental cooperation in achieving internal phosphorus loading reduction called for in the Elm Creek Watershed Management Commission TMDL to improve water quality in Fish Lake is in the mutual interest of the Parties, the citizens of Hennepin County, and the metropolitan area. The Parties enter into this Agreement to facilitate the improvement of Fish Lake water quality through the implementation of a batch alum treatment for the Lake.

3. AUTHORITY

The parties enter into this agreement pursuant to Minn. Stat. § 471.59, regarding joint exercise of powers which allows two or more governmental units, by agreement entered into through action of their governing bodies, to jointly or cooperatively exercise any power common to the contracting parties or any similar powers, including those which are the same except for the territorial limits within which they may be exercised.

4. DUTIES OF THE PARK DISTRICT The

Park District will be responsible for:

a. Preparation of the Clean Water Fund project work plan and grant agreement and delivering the grant agreement to the Commission for signature.

b. Securing regulatory approval from the MN Pollution Control Agency to allow the project to proceed.

c. Leading a project coordinating committee to facilitate communication about the project and manage project execution.

d. Securing the services of a qualified contractor to execute the alum treatment(s). The Park District will go through a formal bidding process as per Minnesota Statutes Section 471.345 to select and hire the contractor.

e. Securing a fully executed contract between the selected contractor, the Park District, and the Commission to carry out the project.

f. Provide coordination with, and supervision of, the contractor to assure proper application of the alum.

g. Coordinate the invoicing process for the work, including review of the invoices from the contractor and forwarding of the contractor invoices to the Commission for payment consistent with the project contracts.

h. Preparation of project reports as required by the granting agency.

i. Providing a cash contribution of 32% of the non-grant cost of the project up to $8,000 as the Park District's share of the capital cost of the project.

5. DUTIES OF THE COMMISSION,

The Commission will be responsible for:

a. Acting as the signatory for the Clean Water Fund grant contract with the Board of Soil and Water Resources (BWSR) as well as being party to a fully executed contract between the selected contractor, the Park District and the Commission to carry out the project.

b. Acting as the Fiscal Agent for the Clean Water Fund grant. This includes receipt and management of CWF grant funds issued by BWSR for the project as per the terms of the grant contract, prompt payment of invoices received by the alum application contractor, invoicing the Parties to pay their share of the project cash cost (as specified in Sections 4i.) and 6c.), and such other duties as are required for the successful fiscal management of the Project.

c. Providing a cash contribution of 25% of the total project cost up to a maximum of $75,000 as the Commission's share of the capital cost of the project.

d. Designation of one individual to represent the Commission on the coordinating

committee for the Project.

e. Assuring timely and responsive participation from that individual.

6. DUTIES OF THE CITY OF MAPLE GROVE

a. Designation of one individual to represent Maple Grove on the coordinating committee for the Project.

b. Assuring timely and responsive participation from that individual.

c. Providing a cash contribution of 68% of the non-grant cost of the project up to $17,000 as its share of the capital cost of the project. It is anticipated that the City will work with the Fish Lake Area Residents Association (FLARA) to reach agreement on a contribution from that organization to defray a portion of this local cost share.

7. AMENDMENT

Any amendment to this agreement must be in writing and approved by the Parties. The Parties shall have full power to amend this agreement to add or delete items from the scope of this agreement upon such terms as are agreed to between the Parties.

8. TERMINATION

This agreement will terminate upon completion of the Fish Lake alum treatment project or on December 31, 2019, whichever comes first. Notwithstanding, this Agreement shall terminate in the event the State of Minnesota terminates the Grant Agreement with the Commission. In the event of termination, all parties will pay pro rata for that portion of the Project completed in accordance with Sections 4 and 5.

IN WITNESS WHEREOF, the parties have caused this joint powers agreement executed and effective as of the date of signature of the last party to the agreement.

City of Maple Grove

Dated: _____,

_____

(Name), (position)

_____

Ken Ashfeld, Director of Public Works

Elm Creek Watershed Management Commission

Dated: _____,

_____
Doug Baines, chair

_____
Judie A. Anderson, Exec. Secretary

THREE RIVERS PARK DISTRICT

Dated: _____,

_____
John Gunyou, Chair

_____
Boe Carlson, Superintendent
and Secretary to the Board

From: John 'JB' Bilotta [mailto:bilot002@umn.edu]
Sent: Tuesday, April 04, 2017 8:15 PM
To: Judie Anderson
Subject: MSRC Request for Stormwater Research Proposals

Metro Watershed Partners -

The MN Stormwater Research Council is pleased to release the 2017 request for proposals to conduct stormwater research in support of MSRC goals. The RFP is at z.umn.edu/MSRCrfp

Please distribute this widely to potential researchers. Copy me (alewand@umn.edu) whenever you share, so I can track where the RFP is being distributed.

Contact me if you have any questions about the proposal process. Technical questions should be directed to John Bilotta (bilot002@umn.edu).

Sincerely,

Ann Lewandowski
University of Minnesota Water Resources Center
1985 Buford Ave., Room 173
St. Paul, MN 55108
612-624-6765
Twitter @annlewandow

--

John Bilotta
Extension Educator - Water Resource Management and Policy
University of Minnesota Extension | extension.umn.edu/water/
Minnesota Sea Grant | seagrant.umn.edu
Email jbilotta@umn.edu Phone 612-624-7708

Minnesota Extension and the Minnesota Sea Grant Program work in partnership to bring resources, research, and results to Minnesota communities.

Minnesota Stormwater Research Council

Request for Research Proposals - 2017

The Minnesota Stormwater Research Council (MSRC) is pleased to announce the 2017 round of grant funding. These grants are supported by funds provided by MSRC organizations. One of the purposes of the Council is to support applied research that leads to improved stormwater management decision-making by enhancing understanding of the processes associated with stormwater runoff and by finding solutions that improve the design, constructability, maintainability, cost effectiveness, hydraulic performance, and treatment efficiency of stormwater facilities. For additional information about the Council, see the Council framework document at z.umn.edu/MSRCFramework.

Research proposals are requested for projects up to two years in length beginning December 2017. The MSRC expects to have approximately $80,000 available for this competition. We anticipate funding one to three proposals.

Eligibility and requirements

Researchers and professionals who have stormwater management related expertise in research design and the implementation of practices are invited to submit proposals. Proposals may come from local, state, or federal government; academic institutions, private industry, non-profits, or individuals. Organizations and their staff that have contributed funds to the MSRC are eligible to submit research proposals.

Grant recipients will be required to enter into a contract with the U of M Water Resources Center (WRC) and their proposals will be public information on the WRC website.

Priority research topics

Proposals must address one of the following topics.

1. Pre-treatment for stormwater practices. Examples include settling devices, screens, and vegetated filter strips that remove trash, debris, organic materials, coarse sediments, and associated pollutants prior to entering structural stormwater BMPs.
2. Effectiveness of current stormwater practices. Examples include examining the effect of practices in series, the effective size of practices, or the impact of stormwater reuse and trees to reduce runoff.
3. Chloride/road salt use, management, pollution, and best practices.

Submission guidelines

Proposals are due **June 16, 2017** by emailing a single pdf document to alewand@umn.edu. The proposal must contain the following elements:

- Narrative not to exceed six pages, using at least 1" margins and 11 pt type, and including the following:
  - Title
  - Collaborators. List the investigators, researchers or professionals involved in the project.
    - Include contact information for the project leader.
    - For all collaborators, include name, title, organization and one or two sentences describing their qualifications related to proposal activities. If desired, this list can be attached separately and not included in the narrative page limit.
  - Problem statement. Explain the problem you are addressing, the value of the proposed

work to local decision-makers, and how it builds off of previous related work. Explain how the results of your work will advance stormwater science or management.
    - Objectives
    - Methodology. Clearly show how you will achieve the objectives.
    - Project deliverables
        - One deliverable must be a final report of results written for local government managers and decision-makers. Investigators will also be expected to provide oral presentations of results as appropriate. Additional outreach activities will be viewed favorably by reviewers, but are not required. The MSRC will help with distribution of results to stakeholders.
    - Timeline of project activities. Assume a start date no earlier than December 2017 and a project no longer than 24 months.
      (Note: No project activities can begin without prior written approval or prior to research contract being awarded and approved.)
- References cited (not included in page limit).
- Budget *(Separate from the narrative and not included in the page limit)*
    - Use template provided at http://z.umn.edu/MSRCrfpBudget
    - Provide a budget narrative describing the expenses, and connecting each expense to specific activities and objectives.
    - Matching funds are not required but indicate if you have the opportunity to leverage other funds.

Review procedure

Proposals will be reviewed and awarded by the MSRC Advisory Board in consensus with the Director of the U of M Water Resources Center. The MSRC and WRC Director will solicit the advice of external reviewers if needed.

Evaluation criteria

Proposals will be evaluated for the following:

1. Relevance: Do the research and deliverables address an identified priority information need? Do the objectives have high value to local stormwater managers? Does the work avoid duplicating previous efforts?
2. Scientific quality: What is the quality of the research plan? Are the objectives and activities clearly explained? Will proposed activities achieve objectives? Are the budget and timeframe realistic and reasonable for completing activities and objectives? Are appropriate partners identified?
3. Capacity: Do the personnel and institutions have the capacity and expertise to effectively complete proposed work?
4. Demonstrated support: Are there in-kind and additional financial contributions from other sources? Does the proposal build on other research or funding?

Timeline

- RFP released April 2017
- Proposals due June 16, 2017
- Review decision announced September 2017

- Funds awarded late fall 2017
- Award recipients will be required to enter into a contract with the Water Resources Center.

Contacts

For questions about the submission process contact Ann Lewandowski, U of M Water Resources Center, 612-624-6765, alewand@umn.edu.

For questions about the Minnesota Stormwater Research Council or about technical issues such as the suitability of a proposed topic, contact John Bilotta, U of M Extension and Sea Grant, 612-624-7708, bilot002@umn.edu.

For more information about the MSRC, see the Minnesota Stormwater Research Council Framework, at z.umn.edu/MSRCFramework.

Item 10a

Minnesota Environmental Partnership

www.MEPartnership.org
Suite 100
546 Rice Street
St. Paul, MN 55103
Phone 651.290.0154
Fax 651.290.0167

March 30, 2017

Dear Members of the Minnesota House:

We, the undersigned organizations and the citizens we represent, ask you to vote NO on the Omnibus Environment and Natural Resources Budget Bill, H.F. 888. We do not make this request lightly. This bill will roll back environmental protections and erode the basic foundation of Minnesota's legacy of protecting our Great Outdoors. The bill contains many provisions that undo existing protections and make it more costly and time consuming to adopt new protections for our state's air, land, lakes, rivers and streams.

In addition, at a time when the state's coffers are full, this bill makes historic cuts, effectively raiding $21 million in general public support from the core work of protecting our Great Outdoors. The impacts of this nearly 7% cut in support will be compounded if the significant cuts in grant funds to the state, proposed by the Trump Administration, are adopted. These combined cuts threaten the long term viability of major areas of work for the citizens of our state.

This bill is out of sync with Minnesota voters. Just last month, our extensive statewide issue poll found that 20% of voters think our environmental laws are at the right levels and fully 62%, from all corners of the state, would like to see environmental laws be made tougher or enforced better. Yet this bill goes in the opposite direction.

House File 888 includes a large number of policy provisions that obstruct or prohibit the state agencies, charged with protecting our water and controlling pollution, from carrying out their functions and duties. Some of these duties are delegated to Minnesota under the Federal Clean Water Act, and legislative action interfering with the state's ability to carry out delegated duties puts Minnesota at odds with the Clean Water Act.

Though what follows is not a comprehensive list, we are deeply concerned that this bill:

Unravels Buffer Protections for Habitat and Water Quality (Art. 2, Sec. 80, 81.)

- Limits the 50-foot buffer requirement to only those waterways that have a shoreland classification, leaving all other waterways subject to only the 16.5 foot buffer requirement. This exempts 200,000 acres and 24,000 miles of watercourses from 50-foot buffer requirements, rolling back water protections that were in place before passage of the 2015 buffer law.

- Eliminates the buffer requirement altogether unless the state or federal government pays for the entire cost of establishing the buffer.

- Delays implementation of 50-foot buffers for one year, despite Board of Water and Soil (BWSR) and local Soil and Water Conservation District (SWCD) reports that most counties already have 60 – 100% compliance with the law.

Hobbles the MPCA and DNR from carrying out their duties. (Art. 2, Sec. 6, 110, 111):

- Bars the MPCA and DNR from enforcing against any permittee or polluter any guidance, policy, or interpretation that meets the definition of a rule under Minn. Stat. 14.02, without first conducting full Chapter 14 rulemaking, and creates a presumption against the agency in any challenges alleging that MPCA is enforcing an unadopted rule. The guidance, policy, and other interpretations provided by the MPCA is intended to answer common questions, typically from regulated parties, about how the MPCA's rules and state law would be applied, without resorting to court action.
- Establishes presumption that DNR and PCA guidance documents are invalid, unpromulgated "rules." This makes environmental regulation much more complex, time consuming and expensive – it's the opposite of streamlining. It also invites litigation. Guidance documents that are truly being used inappropriately can already be challenged in court under existing law.

Takes the science out of agency decisions. (Art 2, Sec. 98):

- Eliminates deference to PCA's science when a water quality decision is challenged, and creates a special process for municipalities to end run existing expertise and challenge agency decisions. This is a favor for a few municipalities that want to re-fight a losing battle over the state's river eutrophication standards. Their science and arguments haven't held up in front of agencies or courts, and this section creates a new opportunity to rehash the same arguments at taxpayer expense.

Delays actions to clean-up polluted drinking water. (Art. 2, Sec. 132):

Exempts cities that build new facilities from future technology updates to meet standards for clean water for 16 years. This provision broadly delays actions to clean-up pollution and creates more uncertainty for operators because it puts state-issued water pollution permits at odds with federal Clean Water Act requirements.

Eliminates public participation in mining permits (DNR). (Art. 2, Sec. 51, 52):

- Limits the right of affected citizens and local governments to have a "contested case" hearing on mining permits, allowing it only for adjacent property owners and affected governments. A contested case is an opportunity to present evidence, question industry and agency experts, and build a solid record to support smart decisions, including how lands can be reclaimed and what type and amount of financial assurance should be required from mining companies. Since 1969 this has been a right of citizens, guaranteeing public participation in important decisions that affect the whole state.

Allows corporations to write their own environmental impact statements. (Art. 2, Sec. 117, Lines 106.2 – 106.27):

- Puts the fox in charge of the hen house, allowing corporations to author their own environmental impact statements and restricting the government's role to "review, modification and determination of completeness and adequacy" of an EIS. This is antithetical to the whole point of environmental review, which is to allow the regulator (and public) to gather information about environmentally destructive projects and alternatives. It also prevents the public from accessing all of the underlying data and analyses that support the EIS because private companies are not subject to data practices laws.

Undermines effective environmental review by requiring agencies to begin action on permits before environmental review is complete. (Art. 2, Sec. 115, 105.8 – 105.11)

- This undermines the core purpose of environmental review which is to do an assessment of potential environmental harm to see if it can be mitigated through conditions on the permit. To be effective, action on the permit must wait until environmental review is complete.

Requires DNR and PCA to issue draft permits within 150 days. (Art. 2, Sec. 3, 106):

- DNR and PCA are already issuing more than 90% of permits in line with statutory streamlining goals. This mandate is a one-size-fits-all requirement that does not recognize that some projects are located in sensitive areas or are simply too big or too complex to be permitted within such a short period.

Eliminates requirement to adopt air quality rules and environmental review standards for frac sand facilities. (Art. 2, Sec. 121, Lines 108.1-108.17):

- Removes the requirement that the MPCA must develop ambient air quality standards for frac sand mines. Long-term low level exposure to silica dust can cause silicosis, which is fatal.

Prohibits rules regarding use of lead shot. (Art.2, S. 71):

- Restricts the DNR from using existing authorities to reduce non-target mortality of birds (including Bald Eagles) and wildlife exposed to lead shot. Steel shot is readily available, performs similarly as lead, costs the same or less, and is non-toxic to birds and wildlife that ingest it. Modern ballistics have developed many superior ammunition loads and restricting the use of toxic lead shot makes environmental sense and does not impact Second Amendment rights.

Interferes with science-based forest planning process at Sand Dunes State Forest. (Art. 2, Sec. 126, Lines 110.17 – 111.13):

- This provision does an end run around the existing well-established, science-based forest planning process that includes the involvement of local representatives. It also suspends the authority to restore any part of the forest to native oak savannah, of which less than 1% of Minnesota's original oak savannah forest remains. Finally, it improperly delegates approval of the state forest plan to an unspecified county board.

Lastly we would like to object to the insertion of the large amount of unrelated policy language into this biennial appropriations bill. This action ignores the strong objection Governor Dayton expressed in his letter to Speaker Daudt on March 13, 2017. As many of the policy provisions that have been added to this bill are highly unpopular with the voting public, this combining of budget and policy provisions allows these issues to avoid the public process and scrutiny they would receive otherwise. These unpopular issues should be required to stand on their own as separate policy bills.

This bill is not right for the shared legacy of Minnesota's Great Outdoors and it is not acceptable to Minnesota voters. Please vote no on HF888.

Steve Morse
Minnesota Environmental Partnership

Alliance for Sustainability
Audubon Chapter of Minneapolis
Center for Biological Diversity
Clean Water Action
CURE (Clean Up the River Environment)
Friends of Minnesota Scientific & Natural Areas
Friends of the Boundary Waters Wilderness
Friends of the Cloquet Valley State Forest
Friends of the Mississippi River
Institute for Local Self Reliance
Izaak Walton League – Minnesota Division
Land Stewardship Project
League of Women Voters Minnesota
Lower Phalen Creek Project
Minnesota Center for Environmental Advocacy
Minnesota Conservation Federation
Minnesota Native Plant Society
Minnesota Ornithologists Union
Minnesota River Valley Audubon Chapter
Minnesota Trout Unlimited
MN 350
Pesticide Action Network
Pollinate Minnesota
Renewing the Countryside
Save Our Sky Blue Waters
Sierra Club – North Star Chapter
Transit for Livable Communities
Water Legacy

Item 10b
Minnesota Environmental Partnership
www.MEPartnership.org
Suite 100
546 Rice Street
St. Paul, MN 55103
Phone 651.290.0154
Fax 651.290.0167

March 29, 2017

Dear Members of the Minnesota Senate:

We, the undersigned organizations and the citizens we represent, ask you vote NO on the Senate Omnibus Environment and Natural Resources Budget Bill, S.F. 723. We do not make this request lightly. This bill will roll back environmental protections and erode the basic foundation of Minnesota's legacy of protecting our Great Outdoors. The bill contains many provisions that undo existing protections and make it more costly and time consuming to adopt new protections for our state's air, land, lakes, rivers and streams.

In addition, at a time when the state's coffers are full, this bill makes historic cuts, effectively raiding $40 million in general public support from the core work of protecting our Great Outdoors. The impacts of this nearly 13% cut in support will be compounded if the significant cuts in grant funds to the state, proposed by the Trump Administration, are adopted. These combined cuts threaten the long term viability of major areas of work for the citizens of our state.

This bill is out of sync with Minnesota voters. Just last month, our extensive statewide issue poll found that 20% of voters think our environmental laws are at the right levels and fully 62%, from all corners of the state, would like to see environmental laws be made tougher or enforced better. Yet this bill goes in the opposite direction.

Senate File 723 includes a large number of policy provisions that obstruct or prohibit the state agencies, charged with protecting our water and controlling pollution, from carrying out their functions and duties. Some of these duties are delegated to Minnesota under the Federal Clean Water Act, and legislative action interfering with the state's ability to carry out delegated duties puts Minnesota at odds with the Clean Water Act.

Though what follows is not a comprehensive list, we are deeply concerned that this bill:

Unravels Buffer Protections for Habitat and Water Quality (Art. 2, Sec. 74, Lines 23, 28-29 (p. 67), Lines 20-21 (p. 68); Sec. 75, Lines 3-5 (p. 69) and 9-12 (p. 70).)

- Limits the 50-foot buffer requirement to only those waterways that have a shoreland classification, leaving all other waterways subject to only the 16.5 foot buffer requirement. This exempts 200,000 acres and 24,000 miles of watercourses from 50-foot buffer requirements, rolling back water protections that were in place before passage of the 2015 buffer law.

- Eliminates the buffer requirement altogether unless the state or federal government pays for the entire cost of establishing the buffer as well as annual payments or an easement for the land.
- Delays implementation of the Buffer Law for 2 years, despite Board of Water and Soil (BWSR) and local Soil and Water Conservation District (SWCD) reports that most counties already have 60 – 100% compliance with the law.

Hobbles the MPCA and DNR from carrying out their duties. (Art. 3, Sec. 4 & 14):

- Bars the MPCA from enforcing against any permittee or polluter any guidance, policy, or interpretation that meets the definition of a rule under Minn. Stat. 14.02, without first conducting full Chapter 14 rulemaking, and creates a presumption against the agency in any challenges alleging that MPCA is enforcing an unadopted rule. The guidance, policy, and other interpretations provided by the MPCA is intended to answer common questions, typically from regulated parties, about how the MPCA's rules and state law would be applied, without resorting to court action.
- Establishes presumption that DNR and PCA guidance documents are invalid, unpromulgated "rules." This makes environmental regulation much more complex, time consuming and expensive – it's the opposite of streamlining. It also invites litigation. Guidance documents that are truly being used inappropriately can already be challenged in court under existing law.

Takes the science out of agency decisions. (Art 3, Sec. 9, Line 107.25-11.6):

- Eliminates deference to PCA's science when a water quality decision is challenged, and creates a special process for municipalities to end run existing expertise and challenge agency decisions. This is a favor for a few municipalities that want to re-fight a losing battle over the state's river eutrophication standards. Their science and arguments haven't held up in front of agencies or courts, and this section creates a new opportunity to rehash the same arguments at taxpayer expense.

Delays actions to clean-up polluted drinking water. (Art. 2, Sec. 114, Line 100.27-101.6):

- Exempts cities that build new facilities from future technology updates to meet standards for clean water for 16 years. This provision broadly delays actions to clean-up pollution and creates more uncertainty for operators because it puts state-issued water pollution permits at odds with federal Clean Water Act requirements.

Suspends water quality standards and rules. (Art. 3., Sec. 18, line 122.10-122.20):

- Suspends water quality standards adopted between mid-2014 and mid-2019 if a facility would have to make updates to protect water quality. This section aims to block standards that protect rivers from algae-causing pollution and new standards proposed for pollutants such as sulfate or nitrate. This could lead MPCA to rely more on less-certain narrative standards, and put MPCA at odds with the Clean Water Act, which requires compliance with EPA-approved standards such as the river eutrophication standard.

Doubles the size a large feedlot can be before mandatory environmental review is required from 1,000 animal units to 2,000 in virtually all cases. (Art. 3, Sec. 15, lines 119.23-119.27):

- Removes the requirements for a mandatory environmental assessment worksheet for an animal feedlot facility with a capacity of less than 2,000 animal units, unless the feedlot will be in an environmentally sensitive area. The current standard is very generous impacting only the largest 7% of feedlots in our state and is so large that only 9 factory farms were required to do an environmental review in 2016.

Eliminates public participation in mining permits (DNR). (Art. 3, Sec. 6):

- Eliminates the right of affected citizens and local governments to have a "contested case" on mining permits. A contested case is an opportunity to present evidence, question industry and agency experts, and build a solid record to support smart decisions, including how lands can be reclaimed and what type and amount of financial assurance should be required from mining companies. Since 1969 this has been a right of citizens, guaranteeing public participation in important decisions that affect the whole state.

Allows corporations to write their own environmental impact statements. (Art. 3, Sec. 17):

- Puts the fox in charge of the hen house, allowing corporations to author their own environmental impact statements and restricting the government's role to "review, modification and determination of completeness and adequacy" of an EIS. This is antithetical to the whole point of environmental review, which is to allow the regulator (and public) to gather information about environmentally destructive projects and alternatives. It also prevents the public from accessing all of the underlying data and analyses that support the EIS because private companies are not subject to data practices laws.

Requires DNR and PCA to issue draft permits within 150 days. (Art. 3, Sec. 1 & 11):

- DNR and PCA are already issuing more than 90% of permits in line with statutory streamlining goals. This mandate is a one-size-fits-all requirement that does not recognize that some projects are located in sensitive areas or are simply too big or too complex to be permitted within such a short period.

Removes requirement to adopt air quality rules for silica sand. (Art. 2, Sec. 107):

- Removes the requirement that the MPCA must develop ambient air quality standards for frac sand mines. Long-term low level exposure to silica dust can cause silicosis, which is fatal.

Prohibits rules regarding use of lead shot. (Art.2, S. 59):

- Restricts the DNR from using existing authorities to reduce non-target mortality of birds (including Bald Eagles) and wildlife exposed to lead shot. Steel shot is readily available, performs similarly as lead, costs the same or less, and is non-toxic to birds and wildlife that ingest it. Modern ballistics have developed many superior ammunition loads and restricting the use of toxic lead shot makes environmental sense and does not impact Second Amendment rights.

Interferes with science-based forest planning process at Sand Dunes State Forest. (Art. 2, Sec. 113):

- This provision does an end run around the existing well-established, science-based forest planning process that includes the involvement of local representatives. It also suspends the authority to restore any part of the forest to native oak savannah, of which less than 1% of Minnesota's original oak savannah forest remains.

Prohibits local government from banning or placing fees on plastic bags. (Art. 2, Sec. 105):

- Banning or charging a fee on plastic bags is a proven effective method of reducing air and water pollution, protects wildlife and human health by keeping plastic out of our food stream and can provide significant economic savings to communities. Local communities have already democratically voted to implement a bag ban, and this pre-emption bill erodes local control and overrides the political will of the residents.

Lastly we would like to object to the insertion of the large amount of unrelated policy language into this biennial appropriations bill. This action ignores the strong objection Governor Dayton expressed in his letter to Senator Gazelka on March 13, 2017. As many of the policy provisions that have been added to this bill are highly unpopular with the voting public, this combining of budget and policy provisions allows these issues to avoid the public process and scrutiny they would receive otherwise. These unpopular issues should be required to stand on their own as separate policy bills.

This bill is not right for the shared legacy of Minnesota's Great Outdoors and it is not acceptable to Minnesota voters. Please vote no on SF 723.

Steve Morse
Minnesota Environmental Partnership

Alliance for Sustainability
Audubon Chapter of Minneapolis
Center for Biological Diversity
CURE (Clean Up the River Environment)
Friends of Minnesota Scientific & Natural Areas
Friends of the Boundary Waters Wilderness
Friends of the Cloquet Valley State Forest
Friends of the Mississippi River
Institute for Local Self Reliance
Izaak Walton League – Minnesota Division
Land Stewardship Project
League of Women Voters Minnesota
Lower Phalen Creek Project
Minnesota Center for Environmental Advocacy
Minnesota Conservation Federation
Minnesota Native Plant Society
Minnesota Ornithologists Union
Minnesota River Valley Audubon Chapter
MN 350
Pesticide Action Network
Pollinate Minnesota
Renewing the Countryside
Save Our Sky Blue Waters
Sierra Club – North Star Chapter
Transit for Livable Communities

Buffer Law: Alternative Practices Overview

March 13, 2017

What Statute says:

A landowner owning property adjacent to a water body identified in a buffer protection map and whose property is used for cultivation farming may meet the requirements… …by adopting an alternative riparian water quality practice, or combination of structural, vegetative, and management practices, based on the Natural Resources Conservation Service Field Office Technical Guide or other practices approved by the board, that provide water quality protection comparable to the buffer protection for the water body that the property abuts.

What should be considered when evaluating an alternative practice?

NRCS Field Office Technical Guide practices are identified on the BWSR website and standards are detailed on the NRCS website.

A comparable benefit may be achieved by practices or combinations of practices other than the prescribed perennially vegetated buffer that prevent or reduce erosion or provide water quality treatment for runoff, including stability of soils, shores and banks.

Roles

Soil and Water Conservation Districts (SWCDs) have the authority and expertise to work with landowners to determine what alternative practices may best fit on their land and verify compliance.

BWSR's responsibility is to support local decision-making and assure consistency. In some situations, a SWCD may request additional input from other field staff or technical experts. BWSR's role is to provide guidance to ensure local staff are successful when working with landowners.

Examples of Common Alternative Practices

While the law doesn't direct BWSR to prescribe alternative practices, many groups (including local governments, legislators, and landowners) have asked our agency to develop and provide examples of common alternative practices scenarios to increase the efficiency of landowner assistance provided by SWCDs. Our goal is common sense options by which the SWCDs can work with landowners to implement a flexible and repeatable approach.

BWSR's common alternative practice examples include:

1. Minnesota Agricultural Water Quality Certification Program
2. USDA Practice Standard Filter Strip (393)
3. Dry – Grassed Waterway
4. Berm with negative slope
5. Buffer plus conservation tillage

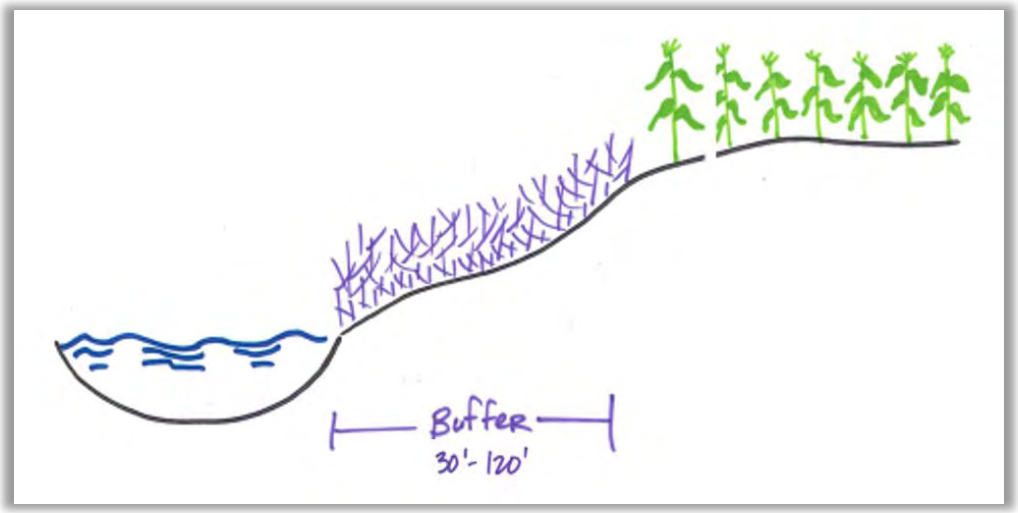
Plus: Local action

These examples are illustrated on the following pages.

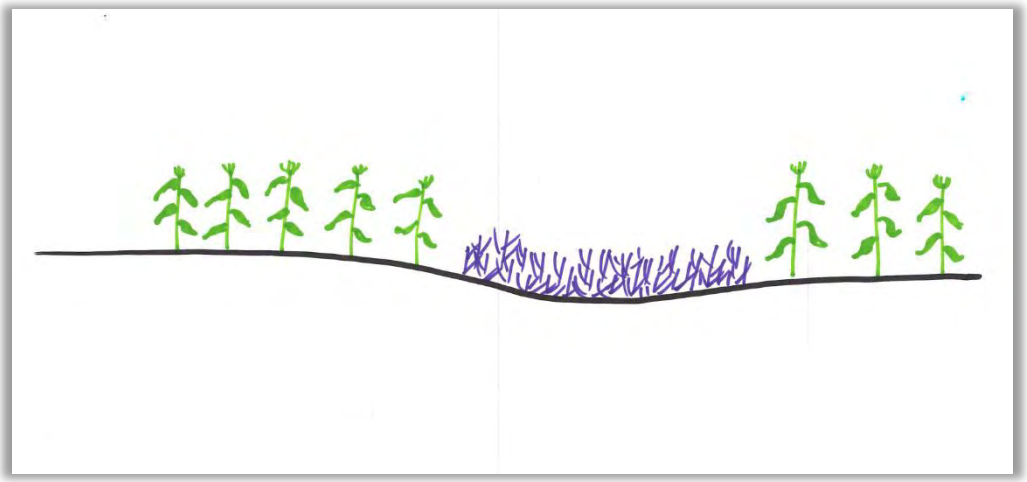
Common Alternative Practice Examples

Minnesota Agricultural Water Quality Certification Program

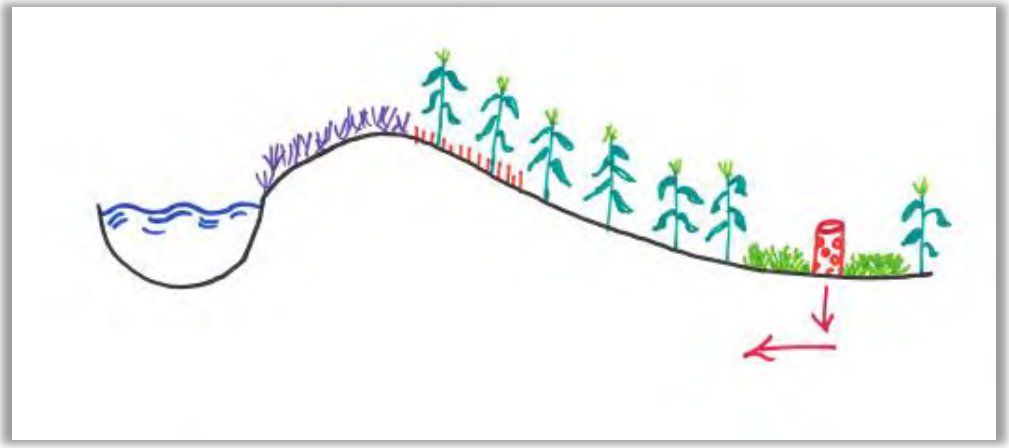
USDA Practice Standard Filter Strips (393)



Dry – Grassed Waterway



Berm with negative slope



Buffer plus conservation tillage

Plus: Local Action

Landowners interested in alternative practices can explore those options immediately and are encouraged to contact their SWCD. Through statute, local Soil and Water Conservation Districts are empowered to work with Field Office Technical Guide practices or combinations of practices that help landowners find alternatives that best fit their land.

An understanding of a landowner's operations and landscapes, and providing options, is key to the successful use of alternative practices.