Pioneer-
Sarah Creek
Watershed Management Commission
ADMINISTRATIVE OFFICE: 3235 Fernbrook Lane N • Plymouth, MN 55447
763.553.1144 • Fax: 763.553.9326

July 13, 2017

Representatives
Pioneer-Sarah Creek Watershed
Management Commission
Hennepin County, Minnesota

The meeting packet for this meeting may be found on the Commission's website: http://www.pioneersarahcreek.org/minutes--meeting-packets.html

Dear Representatives:

A regular meeting of the Pioneer-Sarah Creek Watershed Management Commission will be held Thursday, July 20, 2017, at 6:00 p.m., at the Discovery Center, 5050 Independence Street, Maple Plain, MN.

A light supper will be served. RSVPs are requested so that the appropriate amount of food is available. At the time of your response, please let us know if you will be eating supper with us.

The Commission will suspend its regular meeting at 6:00 p.m. for the purpose of conducting a public meeting on a proposed Minor Plan Amendment to adopt revisions to its Capital Improvement Program. The regular meeting will resume immediately after the public meeting concludes.

In order to ensure a quorum for this meeting, please telephone 763.553.1144 or email Julia at Julia@JASS.biz to indicate if you or your Alternate will be attending. It is your responsibility to ascertain that your community will be represented at this meeting.

Regards,

Judie A. Anderson
Administrator
JAA:tim

cc: Alternates
Jim Kujawa, HCES
Joel Jamnik, Attorney
Rich Brasch, TRPD
City Clerks
Met Council
official newspapers
Diane Spector, Wenck Associates
MPCA
BWSR
DNR

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Pioneer-Sarah Creek Watershed Management Commission

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763.553.1144 • Fax: 763.553.9326 • judie@jass.biz • www.pioneersarahcreek.org

REGULAR and PUBLIC MEETING AGENDA
July 20, 2017 • 6:00 pm
Maple Plain City Hall @ The Discovery Center
5050 Independence Street, Maple Plain

The meeting packet can be found on the Commission's website:
http://pioneersarahcreek.org/pages/Meetings/

1. Call to Order.
2. Approve Agenda.*
3. Consent Agenda.
   a. June regular meeting minutes.*
   b. Monthly Claims/Treasurers Report.*

[Suspend regular meeting.]

4. Public Meeting for Minor Plan Amendment to Third Generation Plan.
   a. Staff Report.*
   b. Commission discussion.
   c. Open Public Meeting.
   d. Receive comments from cities/reviewing agencies.
   e. Receive comments from public.
   f. Close Public Meeting.
   g. Commission discussion.
   h. Consider Resolution 2017-01.*

[Resume regular meeting.]

5. Action Items.
   a. Approve participation as partner in Medina's Hennepin County Opportunity Grant Application for Lake Ardmore Area BMP Retrofit Projects.*
   b. Approve submittal of CWLA Grant Application for Lake Ardmore Area BMP Retrofit Projects.*
6. Open Forum.
7. Old Business.
   a. Baker Park Reserve Campground Ravine Stabilization Project CWLA Grant Application.*
   b. Updated CIP – Baker.
      1) Moving forward – request for inclusion projects from the member cities.
      2) Consider plan amendment when CIP has been completely updated.
8. New Business.
9. Staff Report.*
10. Watershed-wide TMDL.
11. Education.
12. Communications.
13. Commissioner Reports.
14. Other Business.
15. Adjournment. *(Next scheduled meeting-August 17, 2017)*

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REGULAR MEETING MINUTES
June 15, 2017

1. CALL TO ORDER. A regular meeting of the Pioneer-Sarah Creek Watershed Management Commission was called to order at 6:04 p.m., Thursday, June 15, 2017, by Chair Joe Baker at Maple Plain City Hall, 5050 Independence Street, Maple Plain, MN.

Present: Tom Cook, Greenfield; Joe Baker, Independence; Brenda Daniels, Loretto; John Fay, Maple Plain; Mike McLaughlin, Medina; James Kujawa and Kirsten Barta, Hennepin County Environment and Energy (HCEE); Rich Brasch and Brian Vlach, Three Rivers Park District (TRPD); and Judie Anderson and Amy Juntunen, JASS.

Also present: Rachel Olmanson, Minnesota Pollution Control Agency (MPCA); and Scott Johnson, Medina.

2. AGENDA. Motion by Daniels, second by McLaughlin to approve the revised agenda as presented. *Motion carried unanimously.*

3. CONSENT AGENDA. Motion by Cook, second by Daniels to approve the consent agenda as presented. *Motion carried unanimously.*

a. May 18, 2017 Meeting Minutes.*

b. Monthly Claims/Treasurer's Report.* Monthly claims totaling $3,375.01 plus an additional claim from LSIA for the Lake Sarah CLP treatment in the amount of $15,178.00.

4. ACTION ITEMS.

a. 2017 CAMP Agreement with Metropolitan Council.* This is an annual agreement for the Citizen Assisted Monitoring Program. The agreement this year is for the monitoring of Hafften Lake. The Commission budgeted for CAMP monitoring of two area lakes but was unable to find a volunteer for a second lake. The agreement can be amended to add a second lake if necessary. Staff recommends approval of the agreement. Motion by McLaughlin, second by Fay to approve the 2017 CAMP Agreement. *Motion carried unanimously.*

b. Nonwaiver of monetary limits on tort liability.* This is an annual requirement of the LMCIT insurance policy. Motion by Cook, second by McLaughlin to approve the nonwaiver of monetary limits on tort liability. *Motion carried unanimously.*

c. Call for Public Meeting – Minor Plan Amendment.* A minor plan amendment is required to add and revise projects when the costs exceed 125% of the original estimate. This plan amendment will be specifically to revise the CIP regarding the Baker Park Ravine project only. To complete the amendment, a public meeting is required and will be held during the July regular meeting. After the public meeting the amendment will be forwarded to Hennepin County for review and approval. Motion by Daniels, second by McLaughlin to approve the call for public meeting and schedule the public meeting to occur during the July regular meeting. *Motion carried unanimously.*

d. Baker Park Campground Ravine Stabilization project. At the May meeting, Staff discussed whether to submit the Hennepin County Opportunity grant or the Clean Water Fund (CWF) grant first. After more discussion it has been determined that the Opportunity grant should be submitted during the current cycle. CWF grant dollars must go to either a watershed organization or member city. It is best if the grant applicant is the same for both grants, so the Commission will be the applicant. Much of the information from the Opportunity grant can be used on the CWF grant. The CWF grant is expected to be included in the July meeting packet. The Opportunity grant application deadline is next Tuesday. LICA has also expressed a desire to partner on the project with a $2500 contribution. The grant

**Included in meeting packet.*

applications will be amended to included LICA as a partner at $2500. Motion by Fay, second by McLaughlin to approve submittal of the Hennepin County Opportunity grant including an amendment to include LICA as a partner at $2500. *Motion carried unanimously.*

5. OPEN FORUM. Olmanson introduced herself to Commissioner Fay.

[Cook departed 6:27 p.m.]

6. OLD BUSINESS.

a. Audio Recording Options.* The City of Greenfield has offered to let the Commission meet at their location and use their recording equipment at no cost. The Commissioners did not feel audio recordings of the meeting were necessary since there were very few citizens requesting the recordings. Motion by Fay, second by McLaughlin to continue holding regular Commission meetings at Maple Plain City Hall without audio or video recording. *Motion carried unanimously.*

b. Updated CIP. Baker indicated that this item would be available in July.

7. NEW BUSINESS.

a. BWSR Clean Water Fund Grant Application for Baker Ravine project. Staff suggested reducing the Opportunity Grant amount requested by $2,500 since LICA will contribute that amount and not affect the funding allocations on the CWF grant because LICA cannot be part of the JPA for the project. Baker would like to draft a cover letter to be sent with the application. CWF grants do require a Project Assurance Agreement that designates responsible parties to maintain the improvement and ensure functionality throughout the life of the project. A template is in place used by the Elm Creek Commission on another project.

b. Letter of support from LICA.* The Lake Independence Citizens Association sent a formal letter to indicate their support of the Baker Park Ravine project and financial contribution.

8. STAFF REPORT.*

a. Kujawa noted that member cities should be reminded that any project involving site disturbance of over one acre needs to be submitted to the Commission for review and approval. One application was recently received from Maple Plain re the BNSF culvert replacement project and a wetland delineation request was received yesterday.

b. Barta is currently working with the County's Transportation Operations Department which is updating procedures to make operations more water-friendly and there may be some projects that affect the Pioneer-Sarah Creek watershed. She is also still working with about 25 property owners that are non-compliant with the buffer law which will go into effect on November 1, 2018. Through Barta's efforts, another 25 property owners have become compliant with the buffer law this spring. Barta is currently working on a cost-share project for a windbreak installation on Pioneer Creek.

c. Baker proposed a potential **wetland restoration field day** for interested landowners, possibly in October after the crops are taken in. The invitations for the field day would be county-wide.

d. Brasch provided an update on the **carp study** on Lake Ardmore. The population estimate has started, though the electro-fishing was postponed due to a lot of movement in the tagged carp. Some carp have been observed moving through the channel from Lake Ardmore to Lake Independence. One solution that fits with a recently submitted CIP projects is a step or tier in the channel from Lake Ardmore to Lake Independence, though that project was submitted for erosion control issues. McLaughlin requested that Vlach write up a summary of the carp project for LICA. Studies have shown that carp removal varies on reducing a lake's internal loading by 5-60%. Barta will provide Baker with a study re the impact of carp on sediment disturbance.

9. WATERSHED-WIDE TMDL. Comments were received from BWSR*, MCES*, and MDA*. There were no major issues identified. Comments were also received from member cities during the unofficial comment period

**Included in meeting packet.*

which were mostly questions and points of clarification. Brasch will make a few changes to the report to address the comments and anticipates completion by next week. After that, the WRAPS report must be approved by MPCA, which may take a few weeks. After MPCA approval is received, the WRAPS and TMDL will go to U.S. EPA for approval. It may take up to six months for EPA approval.

10. EDUCATION.

11. COMMUNICATIONS.

12. COMMISSIONER REPORTS.

a. **Fay** mentioned that the Maple Plain council was appreciative of the Commission's stewardship re the 2018 budget.

b. **McLaughlin** noted that Medina is working with Brasch and Kujawa on grant applications for projects in the city. The Lake Independence outlet is clogged with floating bogs and, while the water is flowing through the channel, the lake level remains above the slow/no wake elevation. The area has about 200 linear feet of blockage that can't be accessed by backhoe. McLaughlin will get the name of the person who did the manual cleanout for Lake Sarah from Baker, though it's too deep for waders and that may not be the best option. Baker mentioned that he can inquire whether a Lake Sarah resident would do a drone video of the channel.

c. **Baker** continues to work on wetland restoration projects in Independence.

13. OTHER BUSINESS.

a. Brasch was **recognized for his years of assistance** to the Commission with a plaque. Baker presented Brasch with a Cabela's gift card on behalf of LICA and the Lake Sarah Improvement Association (LSIA). Brasch will be retiring from TRPD on June 30.

b. The **next regular meeting** is scheduled for July 20, 2017.

14. ADJOURNMENT. There being no further business, motion by Daniels, second by McLaughlin to adjourn. *Motion carried unanimously.* The meeting was adjourned at 7:41 p.m.

Respectfully submitted,

Amy A. Juntunen
Recording Secretary
AAJ:tim

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*Included in meeting packet.

Pioneer-Sarah Creek Watershed
Income Statement
Compared with Budget
For the Six Months Ending June 30, 2017

	Current Month Actual	Year to Date Actual	Year to Date Budget	Year to Date Variance
Revenues				
Member Dues	$ 0.00	$ 105,700.00	$ 105,700.00	0.00
Project Review Fees	0.00	0.00	5,000.00	(5,000.00)
WCA Adm Fees	300.00	300.00	500.00	(200.00)
Interest and Dividend Income	162.29	730.20	20.52	709.68
Total Revenues	462.29	106,730.20	111,220.52	(4,490.32)
Operating Expenses				
Engineering/Consulting	0.00	4,555.91	5,750.00	1,194.09
Administrative Expense	2,898.29	18,096.47	18,000.00	(96.47)
Adm-Project Reviews	100.50	118.11	1,000.00	881.89
Adm-CIP Mgmt	66.92	1,473.02	0.00	(1,473.02)
WCA - Admin/Legal Expenses	7.60	54.24	500.00	445.76
Adm - Tech Support	0.00	2.42	750.00	747.58
Legal Expense	0.00	33.96	500.00	466.04
Audit Expense	0.00	0.00	4,080.00	4,080.00
Insurance	0.00	257.00	3,370.00	3,113.00
Total Operating Expenses	3,073.31	24,591.13	33,950.00	9,358.87
Program Deliverables and Education				
Adm - General Programs	0.00	0.00	500.00	500.00
TAC Meetings	0.00	696.29	4,000.00	3,303.71
Education	21.03	615.77	6,120.00	5,504.23
Education-Events	0.00	0.00	500.00	500.00
Grant Writing	0.00	0.00	1,100.00	1,100.00
Plan Amendment	0.00	0.00	1,000.00	1,000.00
Third Gen - Admin	190.67	190.67	0.00	(190.67)
Special Projects	0.00	0.00	5,000.00	5,000.00
Website	90.00	633.70	2,240.00	1,606.30
Total Deliverables and Education	301.70	2,136.43	20,460.00	18,323.57
Fund Revenue/Expenses				
WRAPP Income	0.00	4,336.20	0.00	(4,336.20)
WRAPP Expense	0.00	1,132.13	0.00	(1,132.13)
Total WRAPP Income (Expense)	*0.00*	*3,204.07*	*0.00*	*(3,204.07)*
CIP Income from Dues	0.00	28,000.00	28,000.00	0.00
CIP Income from OTHER	6,410.83	6,410.83	0.00	6,410.83
CIP Expenses	15,178.00	15,178.00	33,000.00	17,822.00
Total CIP Income (Expense)	*(8,767.17)*	*19,232.83*	*(5,000.00)*	*(24,232.83)*
Total Fund Income (Expense)	(8,767.17)	22,436.90	(5,000.00)	(27,436.90)
Total Expenses	12,142.18	4,290.66	59,410.00	(55,119.34)
Net Income	($ 11,679.89)	$ 102,439.54	$ 51,810.52	$ 50,629.02

$15,178 CIP Exp = Lake Sarah CLP Treatment
$6,410.83 CIP Other Inc = TRPD share of CLP treatment

Pioneer-Sarah Creek Watershed
Balance Sheet
June 30, 2017

Item 4

ASSETS

Current Assets			
Cash-Checking-USbank	($	15,178.00)	
Cash-4M Fund		334,062.75	
Accounts Receivable		19,464.75	
Total Assets			$ 338,349.50

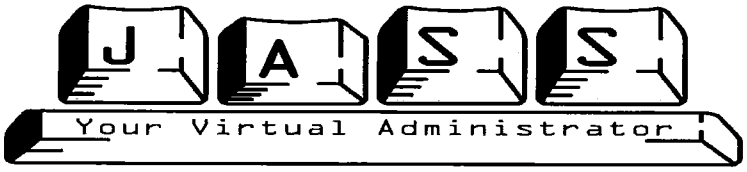
LIABILITIES AND CAPITAL

Total Liabilities			0.00
Capital			
WCA Replacement Guarantee	$	6,850.00	
WCA Monitoring Guarantee		6,816.44	
WCA Administrative Guarantee		696.78	
Third Generation Plan Res		25,000.00	
WRAPP Encumbered		14,023.56	
Retained Surplus		127,292.01	
CIP Fund		55,231.17	
Net Income		102,439.54	
Total Capital			338,349.50
Total Liabilities & Capital			$ 338,349.50

Pioneer-Sarah Creek Watershed
Cash Disbursements Journal
For the Period From Jul 1, 2017 to Jul 31, 2017

Filter Criteria includes: Report order is by Date. Report is printed in Detail Format.

Date	Check #	Account ID	Line Description	Debit Amount	Credit Amount
7/14/17	1468	51100	Administration	918.53	
		51100	Meetings	1,277.81	
		51100	Bookkeeping/Treasurer's Report/Audit	262.29	
		51100	Annual Budget/Work Plans	173.01	
		58210	Third Gen Plan	242.45	
		51400	Website	62.05	
		51120	Project Reviews	206.28	
		51130	WCA/Wetland	40.71	
		51125	CIPs, BBR	80.76	
		51140	Grant Opportunities/Applications	137.24	
		63200	WRAPS	10.00	
		51125	Baker Ravine	21.92	
		51140	Technical Support	85.36	
		10100	Judie Anderson's Secretarial Service		3,518.41
	Total			**3,518.41**	**3,518.41**



3235 Fernbrook Lane
Plymouth MN 55447

Pioneer-Sarah Creek Watershed Management Commission
3235 Fernbrook Lane Plymouth, MN 55447

July 14, 2017

				Total Project Area	
General Administration					
Administrative	0.51	55.00	28.050		
Administrative	4.79	60.00	287.400		
Administration - PRAP-related		55.00	0.000		
Administration - PRAP-related		60.00	0.000		
Office Support	4.00	60.00	240.000		
Public storage	1.00	114.52	114.520		
Data Processing/File Mgmt	1.00	55.00	55.000		
Archiving	1.01	50.00	50.500		
Reimbursable Expense	143.06	1.00	143.060	918.530	Administration
Meeting packets, attendance, Minutes and Meeting follow-up					
Administrative		50.00	0.000		
Administrative	1.92	55.00	105.600		
Administrative	13.67	60.00	820.200		
Admin - Offsite	3.50	65.00	227.500		
Reimbursable Expense	124.51	1.00	124.510	1,277.810	Meeting related activitie
Bookkeeping					
Bookkeeping	0.42	55.00	23.100		
Bookkeeping, budget, audit requests	2.49	60.00	149.400		
Treasurer's Reports	0.17	60.00	10.200		
Audit Prep	0.58	60.00	34.800		Bookkeeping/TRs
Reimbursable Expense	44.79	1.00	44.790	262.290	Audit Prep
Annual Budget					
Administrative		55.00	0.000		
Administrative	2.84	60.00	170.400		
Administrative - offsite		65.00	0.000		
Reimbursable Expense	2.61	1.00	2.610	173.010	Annual Budget/ Work Plans
3rd Generation Plan and Amendments					
Administrative	0.08	55.00	4.400		
Administrative	3.64	60.00	218.40		
Reimbursable Expense	19.65	1.00	19.65	242.45	Third Gen Plan
Website					
Pages, links, uploads	0.67	55.00	36.850		
Administrative	0.42	60.00	25.200	62.050	Website
Education, Strategic Planning					
Administrative		55.00	0.000		
Administrative		60.00	0.000		
Reimbursable Expense		1.00	0.000	0.000	Education
Project Reviews					
Administrative	1.16	60.00	69.600		
File Management/Archiving	2.59	50.00	129.500		
Reimbursable Expense	7.18	1.00	7.180	206.280	Project Reviews
WCA/Wetland Projects					
Administrative	0.66	60.00	39.600		
Reimbursable Expense	1.11	1.00	1.110	40.710	WCA/Wetland

CIPs, BBR - General Administration					
Administrative	1.27	60.00	76.20		
Reimbursable Expense	4.56	1.00	4.560	80.760	CIPs, BBR
Grant Opportunities/Applications					
Administrative	1.71	60.00	102.600		Grant opportunities/
Reimbursable Expense	34.64	1.00	34.640	137.240	applications
WRAPS					
Administrative		60.00	0.000		
Reimbursable Expense	10.00	1.00	10.000	10.000	WRAPS
Baker Campground Ravine					
Secretarial		50.00	0.000		
Administrative		60.00	0.000		
Reimbursable Expense	21.92	1.00	21.920	21.920	Baker Ravine
Technical Support - General					
Administrative	1.40	60.00	84.000		
Reimbursable Expense	1.36	1.00	1.360	85.360	Technical Support
			3,518.410	3,518.410	

3235 Fernbrook Lane
Plymouth, MN 55447
(763) 553-1144
Fax: (763) 553-9326
judie@jass.biz

To: Pioneer-Sarah Creek Commissioners

From: Judie Anderson

Date: July 14, 2017

Subject: Public Meeting – Minor Plan Amendment

At their June 15, 2017 meeting, the Pioneer-Sarah Creek Watershed Management Commission approved a motion to move forward with a Minor Plan Amendment to its Third Generation Watershed Management Plan to revise the Capital Improvement Program as follows (highlighting added):

Table F.1. Capital Improvement Program

Year	Project	Project Name	Total Cost	Comm Share	Potential funding Sources
2016	GR-3	Dance Hall Creek BMPs	200,000	10,000	PSC, Greenfield, grants
	GR-4	Feedlot improvements: Dance Hall Creek	35,000	1,750	PSC, Greenfield, grants
	GR-9	Buffer strips: Dance Hall Creek	35,000	1,750	PSC, Greenfield, grants
	GR-11	Control carp population: Lake Sarah	10,000	500	PSC, Greenfield, DNR, grants
	GR-11	Control carp population: other lakes	10,000	500	PSC, Greenfield, DNR, grants
	IN-3	Lake Sarah curlyleaf pondweed treatment	32,000	3,200	PSC, Independence, Greenfield, lake assn
	IN-4	Gully restorations: GS50 (design)	120,000	12,000	PSC, Independence, grants completed 2016 $25,000
	ME-4	Lake Ardmore neighborhood projects	80,000	8,000	PSC, Medina, grants
		Subtotal	*$522,000*	*$37,700*	
2019-2020	ME-5	Sediment sampling in Lake Independence	18,500	1,850	PSC, Medina, Independence, 3 Rivers
	IN-8	Sediment sampling in Lake Sarah	12,000	1,200	PSC, Independence, Greenfield
	IN-9	Shoreline restoration – Sarah and Independence	125,000	12,500	PSC, Independence, Medina, Greenfield, property owners, grants
	GR-4	Feedlot improvements	35,000	1,750	PSC, Greenfield, grants
	IN-2	Hydrologic restorations GS50 (install)	520,000 ~~200,000~~	52,000 ~~20,000~~	PSC, Independence, Medina, TRPD, grants
	ME-6	Tomahawk Trail wetland project	230,000	23,000	PSC, Medina, grants
		Subtotal	**$940,500** ~~**$620,500**~~	**$92,300** ~~**$60,300**~~	

IN-4 Gully Restorations
Reduce direct flows and anchor gullies that have occurred near the lake primarily near Baker Regional Park, priority project GS 50, as identified in the Lake Independence and Sarah Subwatershed Assessment. This project would complete field work and design for the proposed improvement. *$120,000 total cost comm. share $12,000 in 2016 COMPLETED 2016 $25,000*

IN-2 Hydrologic Restorations
Restore hydrology to drained wetlands by adding box inlets to existing culverts as identified in the Lake Independence and Sarah Subwatershed Assessment, priority is GS50. *$200,000 total cost comm. share $20,000 in 2019*

The amendment would revise project **IN-2 Hydrologic Restorations** to update the estimated costs of the design and construction phases of the Baker Campground Ravine project. In the CIP those costs are estimated to be $200,000, with the Commission's share being $20,000. The project would be undertaken in 2018 and 2019, assuming sufficient grant funding can be secured to support the project.

At this time the remaining projects on the CIP are unchanged.

A feasibility report (project IN-4 in the CIP) was completed in 2016. As a result of that report, the estimated costs for project IN-2 have been increased to $520,000. This increase necessitates a minor amendment to the Third Generation Plan since it exceeds the 125% cost ceiling approved by the Commission in its Third Generation Plan. . The City of Medina has also been added as a potential funding source. *Adoption of the Minor Plan Amendment does not mean that the Commission has approved this project.*

The Notice of this Public Meeting is attached. As required by MN Statutes, Section 103B, the proposed amendment was transmitted to the state reviewing agencies and Hennepin County for their review and comment. Comments were requested by July 18, 2017.

Hennepin County will be undertaking a parallel process of review and public hearing.

COMMISSION ACTION
The purpose of the public meeting is to present the proposed amendment and to take comment from the member cities and the public. The purpose of the public meeting is NOT to approve going forward with this project. The recommended order of business is as follows:

1. Suspend regular meeting
2. Staff report
3. Commission discussion
4. Open public meeting
5. Take comments from member cities
6. Take comments from public
7. Close public meeting
8. Commission discussion
9. Consider approving Resolution 2017-01
10. Resume regular meeting

COMMENTS RECEIVED THROUGH 10:00 AM, JULY 14, 2017
The **Metropolitan Council** has no comments on the Pioneer-Sarah Creek Watershed Management Commission's proposed minor plan amendment regarding revisions to the Commission's Third Generation Watershed Management Plan CIP.

STAFF RECOMMENDATION
The Technical Advisory Committee has reviewed the proposed revision to the Capital Improvement Program and found it to be consistent with the Commission's requirements. At their June 15, 2017 meeting the Commission approved the revision and directed Staff to move forward with a Minor Plan Amendment. Staff recommends that the Commission approve the amendment and adopt Resolution 2017-01. The Resolution will be effective upon approval of the amendment by the Hennepin County Board of Commissioners.

PIONEER-SARAH CREEK WATERSHED MANAGEMENT COMMISSION

RESOLUTION NO. 2017-01

ADOPTING A MINOR PLAN AMENDMENT TO THE THIRD GENERATION PLAN REVISING THE CAPITAL IMPROVEMENT PROGRAM

WHEREAS, on May 21, 2015, the Pioneer-Sarah Creek Watershed Management Commission (the "Commission") adopted the Pioneer-Sarah Creek Third Generation Watershed Management Plan (the "Plan"); and

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

WHEREAS, the Commission has proposed a Minor Plan Amendment that would revise one project in the CIP to update the estimated costs of the design and construction phases of said project; and

WHEREAS, the updated costs of the project exceed 125% of the costs of the project cited in the Plan, thus requiring a Minor Plan Amendment; and

WHEREAS, the Minnesota Board of Water and Soil Resources on June 8, 2017 did approve proceeding as a Minor Plan Amendment; and

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

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

NOW, THEREFORE, BE IT RESOLVED, by the Board of Commissioners of the Pioneer-Sarah Creek Watershed Management Commission that:

1. The Minor Plan Amendment is approved and adopted, subject to Hennepin County review.

2. Commission staff is directed to notify appropriate parties of the Amendment to the Plan.

Adopted by the Board of Commissioners of the Pioneer-Sarah Creek Watershed Management Commission this twentieth day of July, 2017.

_____

Chair

ATTEST:

_____
Recording Secretary

STATE OF MINNESOTA
COUNTY OF HENNEPIN

I, Amy A. Juntunen, do hereby certify that I am the custodian of the minutes of all proceedings had and held by the Board of the Pioneer-Sarah Creek Watershed Management Commission, that I have compared the above resolution with the original passed and adopted by the Board of said Commission at a regular meeting thereof held on the twentieth day of July, 2017, at 6:00 p.m., that the above constitutes a true and correct copy thereof, that the same has not been amended or rescinded and is in full force and effect.

IN WITNESS WHEREOF, I have hereunto placed my hand and signature this twentieth day of July, 2017.

_____ (NO SEAL)
Amy A. Juntunen
Recording Secretary

Natural Resources “Opportunity” Grant Program

This Natural Resources “Opportunity” Grant Application Form is available at:

http://www.hennepin.us/residents/environment/natural-resources-funding

Guidelines for Submitting Natural Resource "Opportunity" Grants

Please **email** your application to Randy Anhorn at randy.anhorn@hennepin.us or send to :

U.S. Postal Mailing Address:

Hennepin County
Environment and Energy
Attn: Randy Anhorn
701 Fourth Avenue South, Suite 700
Minneapolis, MN 55415-1842

Find out more at http://www.hennepin.us/residents/environment/natural-resources-funding

About the Natural Resources "Opportunity" Grant Program

In an effort to work with partners to preserve, establish and restore our natural resources, reduce erosion and protect and improve water quality, Hennepin County Environment and Energy Department has initiated the *Natural Resources "Opportunity" Grant* program. Through the *Natural Resources "Opportunity" Grant* program, Hennepin County provides funds to potential partners to implement projects that address an identified natural resource management problem or need and/or undertake assessments that directly lead to the identification siting of projects that meet common natural resource management goals.

Questions & technical assistance

Prospective applicants are encouraged to contact the project managers for assistance, including feedback on ideas, suggestions for activities, help with the application or any general questions and concerns.

Hennepin County Project Managers:

Randy Anhorn	612-348-2027	randy.anhorn@hennepin.us
James Kujawa	612-348-7338	james.kujawa@hennepin.us
Tony Brough	612-348-4378	tony.brough@hennepin.us

Selection criteria

The Natural Resources "Opportunity" Grant review committee will evaluate the application based on the following criteria to determine if the project sufficiently meets the threshold for partial funding of the project, assessment and/or project grant application:

- The primary purpose of the proposed must address a natural resource problem or need including:
  - Improving water quality
  - Preserve, establish or restore the County's natural resources (including critical habitats, natural resource corridors and greenways, and designated open spaces.
  - Reduce erosion and sedimentation
- Special consideration is given to applications that are able to leverage resources (e.g., Clean Water Land and Legacy Amendment funds (CWL&L) or other funding sources)
- The proposed meets the goals, objectives and strategies of the Hennepin County Environment and Energy Department Strategic Plan
- Severity of the natural resource problem or need:

  - Relates directly to a TMDL impairment load reduction.
  - Addresses loading to a water resource on the States 303d list of impaired waters
  - Is identified as a priority in the potential partners plan(s) (i.e., watershed management plan, comprehensive plan CIPs, etc…).
- Demonstration projects/assessment that following completion may lead to future leverage of funds (identifies future projects that likely would leverage funds).
- Long-term sustainability
- Environmental importance and scientific feasibility:
  - For natural areas: lack of fragmentation, connectivity of important systems such as to regional parks, high quality natural systems.
  - Addresses a identified high quality natural resource (e.g., not-yet-impaired waters)
  - Aligns with priorities of county and local agencies (e.g., County's natural resources strategic plan, municipal open space and natural resource plans).
- Need for county role
  - Project that include multiple jurisdictions and would benefit from higher level coordination.
  - Project unlikely to happen without county resources.
  - Project is on County property

All contracts recommended by the Hennepin County Environment and Energy Department are subject to approval by the Hennepin County Board of Commissioners.

Program guidelines and requirements

ELIGIBILITY	• The project must be located in Hennepin County • Eligible organizations include: – Local, State or regional governmental units. – Non-profit organization • Landowners
FUNDING	Funding is available to share the costs with eligible applicants to implement water quality projects, to preserve, establish and restore urban, suburban and rural natural resources and to meet common natural resource management goals. Special consideration is given to applications that are able to leverage resources (e.g., Clean Water Land and Legacy Amendment funds (CWL&L))
AWARD AMOUNT	Up to $100,000, per the discretion of the *Natural Resources "Opportunity" Grant* review committee and Hennepin County Administration.
TIMELINES	• *Natural Resources "Opportunity" Grant* requests are non-competitive and applications can be submitted year round, with funds being allocated on a first-come-first-serve basis. • Each application is ranked against a set of criteria and must meet a minimal score in order to be funded. • Funding reimbursement cannot occur before contract approval by Hennepin County. • Semi-annual project progress/summary reports as determined through contract agreement

	• Final report within 2 months after project completion.
REPORTING REQUIREMENTS FOR AWARDED PROJECTS	• Work plan and budget. • Project design and specifications • All invoices for consultant and/or contractor work. • Approval of in-kind contributions prior to work. • Certification that the project was installed according to the approved plans and specifications • Operation and maintenance plans covering the life of the practice.
ACCEPTABLE EXPENSES	Grant funds may be used for materials, supplies, and labor.
PROJECT AGREEMENT	Each project recipient must formally enter into a project agreement with the county. The agreement will address the conditions of the award, including implementation of the project and a final report. The agreement is a legal, binding document. Project recipients are expected to keep accurate financial records of the project which includes documentation of all expenses.
PAYMENTS	Final payment will be provided after the final report is approved by the county project manager. Interim payments can be made on a project by project basis as documented in the project agreement. Interim payments will be based on documentation of expenditures and project stage of completion.

Application Instructions

APPLICATION INSTRUCTIONS

The Application

The Natural Resources "Opportunity" Grant application is to be used by local, state or regional governmental units, landowners, and other organizations to seek Natural Resources "Opportunity" Grant program funds from the County. Please complete all required sections of the application. Incomplete applications will not be considered for funding.

Part 1 of the application requests background information on the applicant, the project area, project type, and funding request. Part 2 of the application requests detailed information on the project, natural resources problem or need being addressed, scope of work, and project budget.

Application Resources

An overview of all Hennepin County Natural Resource funding opportunities, programs, guidelines, and applications can be found at http://www.hennepin.us/residents/environment/natural-resources-funding

Hennepin County Environment and Energy Department staff are available to provide clarification and answer questions regarding the funding program, process, and requirements.

Part 1
Natural Resources "Opportunity" Grant Application

Application No. _____

Place the cursor in the gray box at question 1, fill in the answer, and then use the F11 function key to navigate through the remaining questions in the application.

1. PROJECT TITLE:
Lake Ardmore Area BMP Retrofit Projects

2. APPLICANT NAME:
City of Medina

3. APPLICANT SIGNATORY: *(The person whose name is listed here must sign Part 1 -Box 14 of this application)*		
Name: City of Medina, Scott Johnson		
Title: City Administrator	Telephone Number:763-473-4643 Fax Number:	E-Mail Address: scott.johnson@ci.medina.mn.us
Mailing Address Agency: City of Medina Address: 2052 County Road 24 City: Medina State: MN Zip Code: 55340		

4. PROJECT DURATION:
Estimated Start Date: Summer/Fall 2018 Estimated Completion Date: Summer 2019 PROJECT Length: 6-12 months

Part 1
Natural Resources "Opportunity" Grant Application

5. PROJECT TYPE:
☒ 1. Water quality project
☐ 2. Wetland Restoration
☐ 3. Habitat Restoration/Protection
☐ 4. Assessment Identifying Future Projects
☐ 5. Other:

6. FUNDING REQUEST: *(Provide the amount of funding requested to complete your project.)*	
Check for consistency with costs provided in Part 2, Question 2.	**Project Amount:**
Total PROJECT Cost This amount represents the full cost of the PROJECT.	$163,050
Natural Resources "Opportunity" Grant Request	$20,000
Other Match Funds in PROJECT Identify secured source(s) of funds: Funding Source Clean Water Legacy Funding Source PSCWMC Funding Source City of Medina Funding Source _____ Describe the status of the matching funds: Application for CWLA funds will occur in the 2017 round of applications. The City of Medina has dedicated stormwater management funds to this project and the PSCWMC has CIP funds dedicated to this project through its Capital Improvements Program.	$122,000 $10,525 $10,525 $_____

7. APPLICATION CERTIFICATION:	
I CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE INFORMATION IN THIS APPLICATION IS TRUE AND CORRECT AND THAT I AM THE **LEGALLY AUTHORIZED SIGNATORY** OR DESIGNEE FOR THE SUBMITTAL OF THIS INFORMATION ON BEHALF OF THE APPLICANT.	
Printed Name	Signature
Title	Date

Part 1
Natural Resources "Opportunity" Grant Application

THIS CONCLUDES PART 1

Part 2
Natural Resources "Opportunity" Grant Program

This is the rated portion of the application with a total of 200 possible points.
Each question identifies the proportion of available points. Applicants should provide clear and concise information and answers. The Scoring Guide (below each scored question) provides information on what reviewers will look for in a successful application.

EXECUTIVE SUMMARY *(0 points)*

Summarize the overall project and associated water quality problem and how the project will address or solve the problem. (limit your answer to 250 words or less).

The goal of this project is to reduce phosphorus loads into Lake Independence by 8.7 lbs/year and to Lake Ardmore by 1.1 lbs/year by installing 5 best management practices identified in the Lake Ardmore Area Subwatershed Stormwater Retrofit Assessment. These five BMP's are located on property controlled by the City of Medina directly or indirectly through Hennepin County Tax forfeit. Operation and maintenance on these projects will be provided by the City of Medina.

1. SCOPE OF WORK *(up to 50 points)*

Scoring Guide	**Total 50 points**
Clear and concise project description	Up to 10 points
Clear description of project tasks	Up to 10 points
Project deliverables are clearly defined	Up to 10 points
Clearly defined timeline for the project	Up to 10 points
The purpose meets defined shared goals	Up to 10 points

Reviewers award points for a clear, complete, and well thought-out scope that directly address the natural resource management problem/need. The scope demonstrates an understanding of the work required to fully implement and complete the project.

Using the area below, please provide:

- A detailed scope of work for the project that includes clearly defined tasks, deliverables, timelines, and purpose.
    - Describe the intended results (what is the benefit?).
        - Be specific, clear and concise.
    - Describe the project area and provide supporting map(s) and relevant diagrams and or/pictures.

These 5 BMP's are proposed to be installed between the summers of 2018 and 2019. The 5 practices were identified by the Lake Ardmore Subwatershed Retrofit Assessment Study (SWA) done by Hakanson-Anderson and Hennepin County Environment and Energy Department for the City of Medina. The 5 BMPS chosen for this grant were identified by the City as their top priority to begin addressing the SWA recommendations and implementation of the BMP's. The specific BMP's, their costs and phosphorus load estimates along with their locations are provided in Appendix A. As a total they will reduce phosphorus loads to Lake Independence by 8.7 lbs/year and Lake Ardmore by 1.1 lbs/year.

Part 2
Natural Resources "Opportunity" Grant Program

2. PROPOSED BUDGET *(up to 30 points)*

Scoring Guide	**Total 30 points**
Complete project budget is consistent with the scope of work and estimates are clear and reasonable.	Up to 5 points
Project attempts to leverage other resources.	Up to 15 points
The project budget represents a good value for the work and natural resource benefit achieved.	Up to 10 points

Reviewers award points to the cost-effective projects with accurate cost estimates. Points are awarded for a complete, reasonable budget that is consistent with the tasks described in the scope of work.

Using the areas below, please provide:

- A budget for the project including total cost for the project broken down into tasks.
- Identify the match sources.

Proposed Project Budget	
Task elements	**Total Project Cost**
1. GS1 project admin & design cost/ installation cost	$ 4,000/$12,000=$16,000
2. SS1 project admin & design cost/ installation cost	$ $4,000/$8,250= $12,250
3. PD3 project admin & design cost/ installation cost	$ 12,500/$31,800=$44,300
4. ISF1 project admin & design cost/ installation cost	$ 15,000/$58,000=$73,000
5. SR1 project admin & design cost/ installation cost	$ 1,500/&16,000 =$17,500
6.	$ ____
Total costs needed to complete:	$ 163,050

In addition to the proposed budget above, Please provide the following information:

Total Project Cost $ 163,500
Natural Resources "Opportunity" Grant request $ 20,000

Match sources:

List other funding sources and amounts, including local cash matching funds. In-kind contributions are not eligible.

Funding Source: CWL Grant $ 122,000
Funding Source: City of Medina $ 10,525
Funding Source: Pioneer-Sarah Creek WMC $ 10,525

Describe the status of matching funds: CWL funds will be applied for this 2017 sign up period
City of Medina Funds are budgeted for. PSCWMC funds are in the CIP for the Watershed for 2018 funding.

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Natural Resources "Opportunity" Grant Program

3. SEVERITY OF PROBLEM/NEED *(up to 55 points)*

Scoring Guide	**Total 55 points**
Severity of the problem/need is well documented.	Up to 15 points
Project will achieve substantial natural resources benefits.	Up to 20 points
Project success can be measured, and proposed methods to measure success are reasonable.	Up to 10 points
The project/assessment provides long-term sustainability of natural resources benefits (e.g., operation and maintenance, long-term follow-up, natural resources management), and/or identifies additional projects to address specific problems area(s).	Up to 10 points

Reviewers award points for addressing severe natural resource problems and needs, documentation of those problems and needs, and expected protection and/or improvements achieved by the proposed. Projects with measurable improvements receive more points than those with unclear or vague benefits. Reviewers will consider the actual benefit, the level of implementation, and the severity of the problem. Reviewers will consider only changes that can be achieved by the proposed scope of work.

Using the area below, please provide:

- A detailed description of the severity of the problem or need to be addressed by the project.
  - Include how the problem has been documented in a plan or assessment (e.g., TMDL, Capital Implementation Plan, presence on 303 (d) impairment list).
  - Describe how the problem will be addressed by the project and how success will be measured.

The Ardmore Area Subwatershed Stormwater Retrofit Assessment provided BMP recommendations to reduce phosphorus loads to Lake Ardmore and Lake Independence in the City of Medina. Both Lake Ardmore (MNDNR #27015300) and Lake Independence (MNDNR# 27017600) are included on the MPCA's 303(d) list as impaired for aquatic recreation due to excessive nutrients. Lake Independence had a total daily maximum load (TMDL) study completed by the Pioneer-Sarah Creek Watershed Management Commission and approved by the MPCA and EPA in 2007. The Lake Ardmore TMDL has been submitted to the MPCA and is under review and comment as part of the PSWMC WRAPS study. The TMDL studies identified external loading as comprising 50% (269 lbs/year) of the nutrient loads impairing Lake Ardmore. The Lake Independence TMDL identified external loading as comprising 71% (1699 lbs/year) of nutrient loads impairing the lake. Lake Ardmore has an allowable external load allocation of 22.3 lbs/year (a 92% reduction) and Lake Independence has an external load allocation of 872 lbs/year (a 50% reduction). Both studies identify and recommend watershed BMP's as the primary target to achieve the MPCA water quality standards.

The goal of this project is to reduce phosphorus loads into Lake Independence by 8.7 lbs/year and to Lake Ardmore by 1.1 lbs/year by installing 5 best management practices identified in the Lake Ardmore Area Subwatershed Stormwater Retrofit Assessment. These five BMP's are located on property controlled by the City of Medina directly or indirectly through Hennepin County Tax forfeit. Operation and maintenance on these projects will be provided by the City of Medina.

The City of Medina will be the project lead (grant applicant). It will be done in partnership with the Pioneer-Sarah Creek Watershed Management Commission and the Hennepin County Environment and Energy Department. These efforts are supported of the Lake Independence Citizens Association, the Lake Ardmore Association, the Pioneer-Sarah Creek WMC, Hennepin County Environment and Energy Department and Three Rivers Park District.

Part 2
Natural Resources "Opportunity" Grant Program

4. PROJECT TEAM *(up to 10 points)*

Scoring Guide	**Total 10 points**
Team members' roles and responsibilities are well defined and expected contributions to the project are adequate for the scope of work.	Up to 5 points
Team members' qualifications and past experiences are relevant.	Up to 5 points

Reviewers will award points based on skills, qualifications, and experience of the project team members.

Using the area below, please provide:

- List contact information for the partners, staff and volunteers who will implement the project
- Briefly describe their relevant skills, qualifications and past experiences, and expected contributions in the project (*do NOT submit resumes*).

Scott Johnson, City of Medina Administrator. Primary contact, will be the administrator of the contract
Steve Scherer, City of Medina Public Works Director, Secondary contact, will oversee the projects and process to ensure the City of Medina's interests and standards are followed.
James Kujawa, Hennepin Co. Dept. of Env. & Energy, Secondary contact, will also represent the PSCWMC and ensure project design and implementation follow Hennepin County and PSCWMC requirements
Hakanson-Anderson Engineering, One of the engineering firms that will be requested submit bids to design and oversee the instillation of the projects
WSB Engineering, One of the engineering firms that will be requested submit bids to design and oversee the instillation of the projects

5. PROJECT DEVELOPMENT PROCESS/ LOCAL COMMITMENT *(up to 30 points)*

Scoring Guide	**Total 30 Points**
A comprehensive decision making process was used to arrive at the proposed project.	Up to 10 pts.
The level of local support and commitments from project partners is documented.	Up to 10 pts.
A collaborative process will be implemented to execute the project.	Up to 10 pts.

Reviewers award points based on project development and implementation efforts and commitments from project partners. Provide documentation as appropriate.

Using the area below, please provide:

- Describe the decision making process used to select project (why was this project chosen over other solutions)

Part 2
Natural Resources "Opportunity" Grant Program

- List where the proposed project is identified as a priority by a local, State, or Federal unit of government that manages natural resources (e.g., state approved watershed management plan).
- Describe how you have involved and fostered local, regional, and statewide partnerships for the success of the project.

Lakes Independence and Ardmore are priority resources in both the PSCWMC 3rd Generation Plans and in the PSCWMC WRAPS/TMDL. Lake Independence is considered the top priority water-based recreational resource in the watershed because of its excellent accessibility to the public and the wide range of recreational activities it supports, including fishing, boating, swimming, camping, group camps and nature trail/viewing. The following information is pertinent to Lake Independence and Lake Ardmore in the local comprehensive plans;

1) Pioneer-Sarah Creek Watershed Management Commission 3rd Generation Management Plan.
a. Section 2.4.1, pages 2-15 to 2-18
b. Section 4.2.2, page 4-4
c. Section 4.3, pages 4-9, 4-12 and 4-14

2) Pioneer-Sarah Creek Watershed Management Commission, Lake Independence Phosphorus TMDL, and TMDL Implementation Plans dated January 2007 and March 12, 2007 respectively.

3) Pioneer-Sarah Creek Watershed Management Commission Draft TMDL (April 2017)
a. Section 3-2
b. Section 8
c. Appendix C, page 79
d. Appendix D, pages 187-189
e. Appendix E, Internal Phosphorus Loading and Alum Dosage Considerations for Lakes in the Pioneer Creek Watershed, Minnesota
f. Appendix F, Implementation cost estimates.

4) Pioneer-Sarah Creek Watershed Management Commission Draft Subwatershed Watershed Restoration and Protection Strategy Report (April 2017)
a. Section 2.3 to 2.5, tables 2-4 and 2-5 pages 16 to 19.
b. Section 3, prioritizing and implementation, pages 22 to 47.

5) Ardmore Area Subwatershed Stormwater Retrofit Assessment, March 2016
a. Streambank Stabilization Project SS1, pages 17-18
b. Gully Stabilization Project GS1, pages 19-20
c. Shoreline Restoration Project SR1-pages 21-22
d. Pond Excavation-Expansion Project PD3, page 26
e. Iron Enhanced Sand Filter Project ISF1, pages 31-32

The five projects proposed will go toward the waste load reductions called for as part of the TMDL and WRAPS studies for these two lakes. Grouping all five projects together will provide economics of scale and assist with the incremental decrease in the watershed loadings to Lake Independence and Lake Ardmore. The projects will be managed by the City of Medina in cooperation with the Pioneer-Sarah Creek Watershed Management Commission.

6. **READINESS TO PROCEED** *(up to 25 points)*

Scoring Guide	**Total 25 Points**
Project elements are in place for the project to proceed and documentation is provided (e.g. planning, design, permits).	Up to 25 pts.

Reviewers will award points based on how soon a project can begin construction.

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Natural Resources "Opportunity" Grant Program

Using the area below, please provide:

- Describe the steps you have taken to proceed immediately with the project. Provide information and documentation on project elements such as status of designs, permits, inter-local agreements, landowner agreements, easements, other secured funding, staff, or agency approvals.

Discussions have been held between the City, the PSCWMC, Hennepin County and the Lake Association on the Lake Ardmore Area study and the City plans to move forward on implementation. All parties have been favorable and strongly support the project. Application for a Clean Water Legacy Grant will be made this cycle (2017) requesting $122,000. If approved, the City will proceed with design and instillation when all the contracts are executed. The City of Medina has two engineering consulting firms under contract that specialize in the design and implementation of these types of BMP projects. No special permits or conditional uses are expected. Preliminary discussions have been held with the adjacent landowners with no concerns expressed.

THIS CONCLUDES PART 2

Figure 2U: Proposed BMP exhibit within parcels

Gully Stabilization

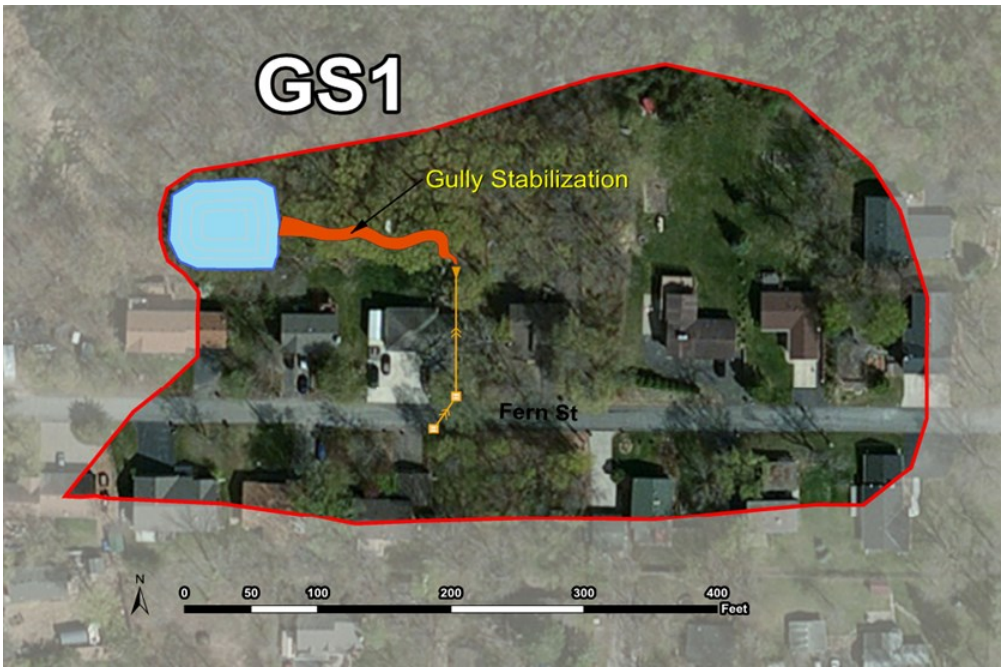
GS1

The gully north of Fern Street receives concentrated flow via a storm sewer pipe. Field measurements showed that the gully is approximately 120 feet long. The largest width measurement was recorded as five-feet, and the largest depth measurement was recorded as four-feet. In total, it is estimated that 1,390 cubic feet or 50 tons of sediment has been eroded to date. The BWSR Pollution Reduction Estimator worksheet was utilized to estimate the phosphorous load that the gully is producing. Stabilizing the gully could reduce the TP load by 100%.

Table 7U. Site Summary – GS1	
Model Used	BWSR worksheet
Erosion Length	120 ft
Erosion Area	600 sq ft
Estimated TP Removal	3.4 lbs/yr
Installation Cost	$12,000
Design/Admin	$4,000
Maintenance Cost	$150
Total 20 Year Cost	$18,850
$/lb-TP removal /yr	$277

Figure 11U: Left— Erosion to the eastern side of the gully. Right - West side of the gully, eventually flowing into wetland connected to Lake Independence.

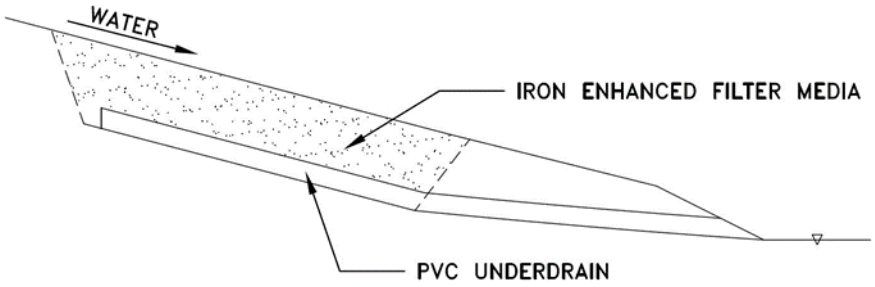
Figure 12U: Drainage area and location map



Iron Enhanced Sand Filters (MN Filter)

In order for iron enhanced sand filters to be effective, they must be designed to drain after a storm event in order to prevent hypoxic conditions.

Figure 31U: Schematic of iron enhanced sand filter



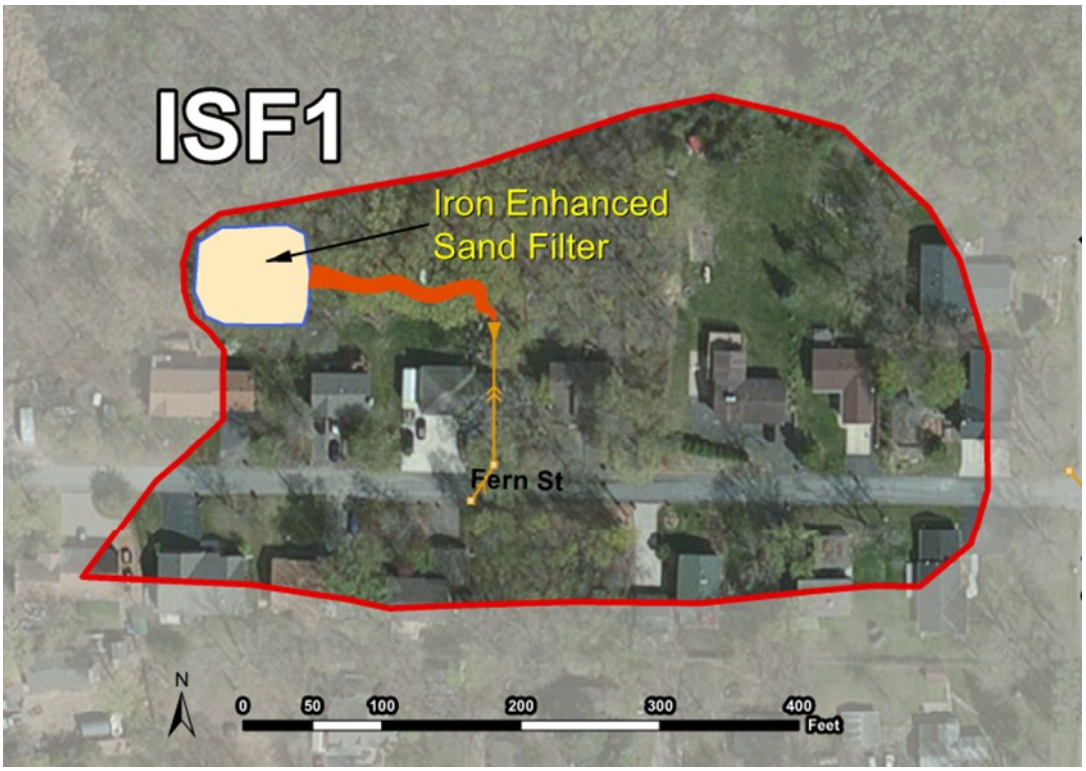
There is one iron enhanced sand filter (ISF1) proposed in this watershed, which is in the same location as PD2. Only one BMP should be considered at this site; therefore, if an iron enhanced sand filter is utilized, pond PD2 would not be constructed.

Figure 32U: Iron enhanced sand filter; Source: BWSR

Figure 33U: Location of the proposed ISF1

Table 15U. Site Summary –ISF1	
Model Used	N/A
Drainage Area	4.1 ac
Proposed Pond Area	5,400 sq ft
Estimated TP removal	3.1 lbs/yr
Installation Cost	$58,000
Design/Admin	$15,000
Maintenance Cost / yr	$500
Total 30 Year Cost	$87,500
$/lb-TP removal /yr	$941

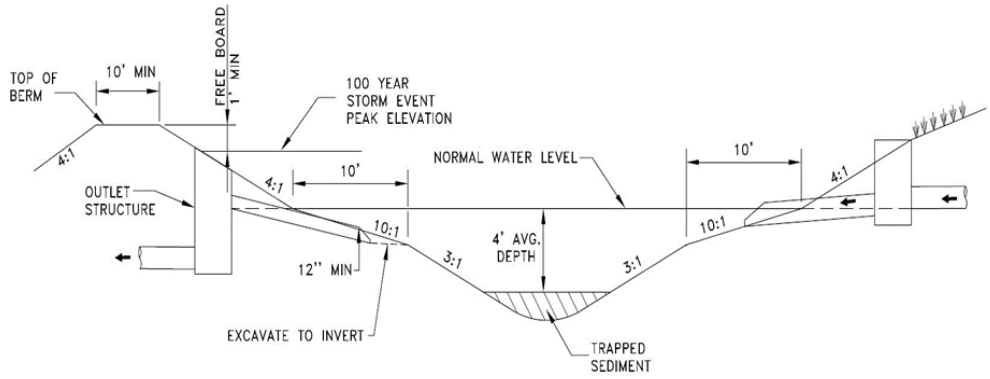
Figure 34U: Drainage area and location map



Pond Excavation

The third pond (PD3) would be an expansion of an existing pond east of Aspen Avenue and south of Maple Street. Visual observations have determined that this pond requires maintenance to remove sediment. Removal of sediment and expansion of the pond is proposed to increase pollutant removal efficiency. The pond is proposed to be expanded westward as to not impact surrounding wetlands.

Figure 17U: Stormwater treatment basin

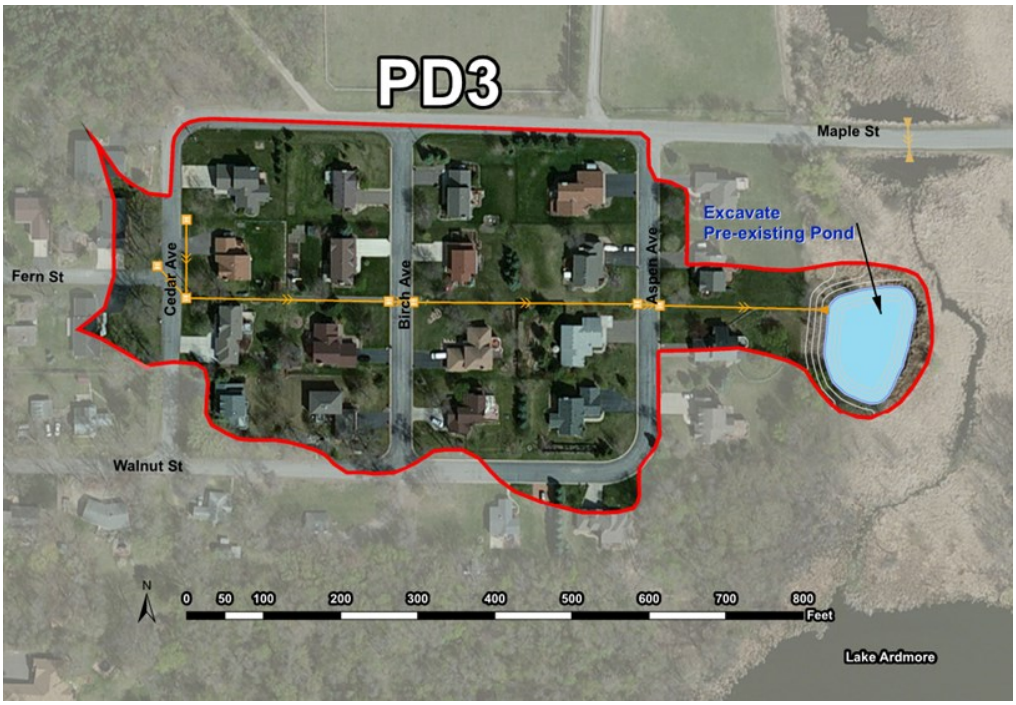


PD3

Table 11U. Site Summary – PD3	
Model Used	MIDS
Drainage Area	8.0 ac
Existing Pond Area	8,700 sq ft
Proposed Pond Area	14,000 sq ft
Estimated TP removal	1.1 lbs/yr
Installation Cost	$31,800
Design/Admin	$12,500
Maintenance Cost/yr	$250
Total 30 Year Cost	$51,550
$/lb-TP removal /yr	$1,562

Figure 22U: Purple outline shows proposed enlarged pond for PD3. Above– view looking south. Below– view looking west.

Figure 23U: Drainage area and location map



Shoreline Restoration

Shoreline erosion is also a source of phosphorus. All of the sediment created by shoreline erosion is directly deposited into the lake with no chance for treatment. Visual observations revealed that shoreline erosion is occurring near Lakeshore Park on either side of the boat ramp. The erosion is approximately 160 ft. long and is estimated to contribute 2 lbs/yr of phosphorus to Lake Independence. This phosphorus load could be greatly reduced by stopping the erosion and restoring the shoreline.

Figure 13U: Photo of shoreline stabilization; Source: MN DNR

SR1

Table 8U. Site Summary - SR1	
Model Used	BWSR worksheet
Eroding Shoreline	160 ft
Estimated TP Removal	2.0 lbs/yr
Installation Cost	$16,000
Design/Admin	$1,500
Maintenance Cost / yr	$240
Total 20 Year Cost	$22,000
$/lb-TP removal /yr	$550

Figure 14U: Close up of the shoreline erosion

Figure 15U: The erosion exists on both sides of the boat launch. It extends approximately 120 ft. to the right of the launch and 40 ft. to the left.

Figure 16U: Drainage area and location map

Stream Stabilization

Erosion from streams releases sediment and transports it directly into the lake. Since particulate phosphorous is adhered to the soil particles, this results in direct phosphorus loading as well as a reduction of water clarity. The stream on the south side of Lake Ardmore that flows into Lake Independence is experiencing moderate erosion in the area between Ardmore Avenue and Lakeshore Avenue. The moderate erosion is occurring at a sharp natural meander point in the stream. Sharp curves encourage erosion because water on the outside of the curve has to move faster than the water on the inside of the curve to cover more distance in the same amount of time. The force of the accelerated stormwater along the stream bank is greater than the cohesive force of the soil. It is recommended that moderate stream bank erosion is corrected sooner rather than later; as left unrepaired, it will continue to erode the bank and deposit phosphorous rich sediment into the lake.

We measured the volume of the moderate erosion to be approximately 40 cubic feet. The BWSR Pollution Reduction Estimator estimated 0.2 lbs/yr of phosphorus export from this area. Repairing the stream bank erosion would cease its TP loading. Repair and stabilization of this area may be accomplished by placement of toe boulders, brush bundles, or geo-synthetic mats. Native vegetation with deep root systems also helps stabilize these areas but may be difficult to establish in this location due to the extensive tree cover.

Although the remaining portions of the channel are un-vegetated and may be susceptible to erosion, BMPs are not proposed at this time. Active erosion was not observed during field reconnaissance, and similar to the area above, stabilization by establishing a vegetated stream bottom would be extremely difficult due to the extensive tree cover. If observations at a later date determine stream bed erosion to be a concern, this segment should be re-evaluated.

SS1

Table 6U. Site Summary – SS1	
Model Used	BWSR Calculator
Erosion Length	70 ft
Erosion Area	110 sq ft
Estimated TP Removal	0.2 lbs/yr
Installation Cost	$8,250
Design/Admin	$4,000
Maintenance Cost / yr	$50
Total 20 Year Cost	$13,200
$/lb-TP removal /yr	$3,300

Figure 8U: Erosion seen looking southeast

Figure 9U: Drainage area and location map

Projects and Practices Application

Grant Name - Lake Ardmore Area BMP Retrofit Projects
Grant ID – ??
Organization – City of Medina

Allocation	**Projects and Practices 2018**	**Grant Contact**	**Scott Johnson**
Total Grant Amount Requested	$122,000	**County(s)**	Hennepin
Grant Match Amount	$41,050	**12 Digit HUC(s)**	070102060103
Required Match %	25%	**Applicant Organization**	City of Medina
Calculated Match %	25%	**Application Submitted Date**	
Other Amount			
Project Abstract	The Ardmore Area Subwatershed Stormwater Retrofit Assessment provide BMP recommendations to reduce phosphorus loads to Lake Ardmore and Lake Independence in the City of Medina. Both Lake Ardmore (MNDNR #27015300) and Lake Independence (MNDNR# 27017600) are included on the MPCA's 303(d) list as impaired for aquatic recreation due to excessive nutrients. Lake Independence had a total daily maximum load (TMDL) study completed by the Pioneer-Sarah Creek Watershed Management Commission and approved by the MPCA and EPA in 2007. The Lake Ardmore TMDL has been submitted to the MPCA and is under review and comment as part of the PSWMC WRAPS study. The TMDL studies identified external loading as comprising 50% (269 lbs/year) of the nutrient loads impairing Lake Ardmore. The Lake Independence TMDL identified external loading as comprising 71% (1699 lbs/year) of nutrient loads impairing the lake. Lake Ardmore has an allowable external load allocation of 22.3 lbs/year (a 92% reduction) and Lake Independence has an external load allocation of 872 lbs/year (a 50% reduction). Both studies identify and recommend watershed BMP's as the primary target to achieve the MPCA water quality standards. The goal of this project is to reduce phosphorus loads into Lake Independence by 8.7 lbs/year and to Lake		

	Ardmore by 1.1 lbs/year by installing 5 best management practices identified in the Lake Ardmore Area Subwatershed Stormwater Retrofit Assessment. These five BMP's are located on property controlled by the City of Medina directly or indirectly through Hennepin County Tax forfeit. Operation and maintenance on these projects will be provided by the City of Medina. The City of Medina will be the project lead (grant applicant). It will be done in partnership with the Pioneer-Sarah Creek Watershed Management Commission and the Hennepin County Environment and Energy Department. These efforts are supported of the Lake Independence Citizens Association, the Lake Ardmore Association, the Pioneer-Sarah Creek WMC, Hennepin County Environment and Energy Department and Three Rivers Park District.

Narrative

Questions & Answers
What organization will serve as the Fiscal Agent for this grant?
City of Medina
Did your organization receive CWF grant dollars in FY 2014, FY 2015 and/or FY 2016? If less than 50% of the total grant amount awarded from FY 2014, FY 2015 and FY 2016 grants have been spent, please explain your organization's capacity (including available FTEs or contracted resources) to effectively implement additional Clean Water Fund dollars.
No.
Water Resource of Concern: Identify the water resource of concern the proposed project is targeting.
Lake Independence (MNDNR# 27017600) and Lake Ardmore (MNDNR #27015300)
Project Description: 1. (5 points) A) What nonpoint pollution concerns will be the focus of this action(s)? B) Describe the public benefits of this action(s) to the water resource of concern from a local and state perspective. C) Describe how the resource of concern aligns with at least one of the statewide priorities referenced in the "Projects and Practices" section of the RFP.
1) The focus of this work will be to limit the phosphorus loads that are negatively affecting the trophic status of Lakes Independence and Ardmore and their suitability to support aquatic recreational uses such as swimming and fishing. 2) Lake Independence is 851 acres is size, used extensively for boating, fishing, swimming and aesthetic viewing by the entire Twin Cities regional area. The south shoreline of the lake is within the Baker Park Reserve operated by the Three Rivers Park District. It contains two public swimming beaches, a campground, an ADA accessible fishing pier, numerous picnic areas and a boat launch. Lake Ardmore is 15 acres in size and is more local in nature. It is used by the surrounding neighborhood residents for aesthetic and recreational activities. Lake Independence and Baker Park Reserve along with the local communities are dependent upon visitors and landowners engaging directly in water based recreational activities on the lake. Lake Ardmore drains directly into Lake Independence. Reducing nutrients in Lake Ardmore will directly affect Lake Independence nutrient loads. 3) From a state priority, these BMP projects will assist in a) restoring state waters to meet state water quality standards. The mean 10 year summer average phosphorus values for Lake Independence is 55 ug/l compared to the state standard of 40 ug/l in the North Central Hardwood Forest ecoregion and b) restore and protect water resources for public use and public health, including drinking water. These projects will help to restore and protect the long term

Questions & Answers
water quality of both lakes. Lake Independence is a prime public recreational resource serving the 7-county Metro area and beyond.
Relationship to Plan: 2a. (15 points) Describe why the water resource of concern was identified in the plan as a priority resource. For the proposed project, identify the specific water management plan reference by plan organization (if different from the applicant), plan title, section, and page number. In addition to the plan citation, provide a brief narrative description that explains: whether this application fully or partially accomplishes the referenced activity, the estimated scale of impact that the activity in the plan has on the problem identified and the estimated scale of impact of the proposed project.
Lakes Independence and Ardmore are priority resources in both the PSCWMC 3rd Generation Plans and in the PSCWMC WRAPS/TMDL. Lake Independence is considered the top priority water-based recreational resource in the watershed because of its excellent accessibility to the public and the wide range of recreational activities it supports, including fishing, boating, swimming, camping, group camps and nature trail/viewing. The following information is pertinent to Lake Independence and Lake Ardmore in the local comprehensive plans; 1) Pioneer-Sarah Creek Watershed Management Commission 3rd Generation Management Plan. a. Section 2.4.1, pages 2-15 to 2-18 b. Section 4.2.2, page 4-4 c. Section 4.3, pages 4-9, 4-12 and 4-14 2) Pioneer-Sarah Creek Watershed Management Commission, Lake Independence Phosphorus TMDL, and TMDL Implementation Plans dated January 2007 and March 12, 2007 respectively. 3) Pioneer-Sarah Creek Watershed Management Commission Draft TMDL (April 2017) a. Section 3-2 b. Section 8 c. Appendix C, page 79 d. Appendix D, pages 187-189 e. Appendix E, Internal Phosphorus Loading and Alum Dosage Considerations for Lakes in the Pioneer Creek Watershed, Minnesota f. Appendix F, Implementation cost estimates. 4) Pioneer-Sarah Creek Watershed Management Commission Draft Subwatershed Watershed Restoration and Protection Strategy Report (April 2017) a. Section 2.3 to 2.5, tables 2-4 and 2-5 pages 16 to 19. b. Section 3, prioritizing and implementation, pages 22 to 47. 5) Ardmore Area Subwatershed Stormwater Retrofit Assessment, March 2016 a. Streambank Stabilization Project SS1, pages 17-18 b. Gully Stabilization Project GS1, pages 19-20 c. Shoreline Restoration Project SR1-pages 21-22 d. Pond Excavation-Expansion Project PD3, page 26 e. Iron Enhanced Sand Filter Project ISF1, pages 31-32 The five projects proposed will go toward the waste load reductions called for as part of the TMDL and WRAPS studies for these two lakes. Grouping all five projects together will provide economics of scale and assist with the incremental decrease in the watershed loadings to Lake Independence and Lake Ardmore. The projects will be managed by the City of Medina in cooperation with the Pioneer-Sarah Creek Watershed Management Commission.
Relationship to Plan: 2b. Provide web links to all referenced plans.

Questions & Answers
https://www.pca.state.mn.us/sites/default/files/wq-ws4-32a.pdf https://www.pca.state.mn.us/water/tmdl/lake-independence-excess-nutrients-tmdl-project https://www.pca.state.mn.us/sites/default/files/wq-iw8-03e.pdf http://www.pioneersarahcreek.org/uploads/5/8/3/0/58303031/ardmore_subwatershedassessment_april2016.pdf
Targeting: 3. (18 points) Describe the methods used to identify, inventory, and target the most critical pollution sources or threats (root cause) done to date and describe any additional efforts that will be completed prior to installing projects or practices.
The PSCWMC TMDL and WRAPS studies include analysis of phosphorus sources to Lakes Independence and Ardmore. Both studies show significant external loads of phosphorus enter the lakes from the surrounding subwatersheds. The TMDL studies identified external loading as comprising 50% (269 lbs/year) of the nutrient loads impairing Lake Ardmore. The Lake Independence TMDL identified external loading as comprising 71% (1699 lbs/year) of nutrient loads impairing the lake. Lake Ardmore has an allowable external load allocation of 22.3 lbs/year (a 92% reduction) and Lake Independence has an external load allocation of 872 lbs/year (a 50% reduction). Both studies identify and recommend watershed BMP's as the primary target to achieve the MPCA water quality standards. Additionally the City of Medina funded a subwatershed assessment for the Lake Ardmore region of the Lake Independence Watershed. This study identified all five (5) proposed projects in the urbanized area of the watershed as BMP retrofits in their project ranking table (table 2U, page 12) This study utilized the Urban Stormwater Retrofit Practices Manual (Center for Watershed Protection-2007). Both studies identify upland BMP's as the primary target for reducing external phosphorus loads to the lakes.
Targeting: 4. (7 points) A) How does this application advance an overall groundwater, watershed protection, and/or restoration strategy implemented by your organization and your partners? Listing in a plan does not necessarily constitute an overall strategy. B) Describe activities other than those funded by this application that you and other partners have or will implement that affect the water resource of concern including but not limited to: other financial assistance or incentive programs, easements, regulatory enforcement, or community engagement activities that are indirectly related to this proposal.
These projects are recommended in the PSCWMC TMDL and WRAPS studies and are included in the PSCWMC Capital Improvements Program and the City of Medina stormwater management plans. The City of Medina has been instrumental in supporting and funding efforts in their community to reduce the external nutrient loads into Lakes Independence and Ardmore. Their efforts include adopting a model nutrient management ordinance that meets the U of MN manure and pasture recommendations for all new livestock facilities. Medina was a major contributing partner to; a) the PSCWMC for the Lake Independence Nutrient Management Program approved by the State Legislature in 2007, that reduced external loads into Lake Independence by 67.2 lbs, and b) the Lake Independence MEP Grant Water Quality Project, which installed approximately 5 rain gardens in the Lake Ardmore area. Medina received $35,000 in grant money from the State Board of Water and Soil Resources Clean Water Legacy funds between 2008 and 2010. They created a shoreland restoration program that provided 75% matching funds to homeowners for Lake Independence shoreline restoration projects with a budget of $110,000 (City, $50,000, Landowners $25,000, CWG $35,000). Medina also co-sponsored the Loretto Creek Water Quality Improvement Project that reduced nutrient loads into the Creek by 95 lbs/year. This Creek drains to Lake Sarah. As part of the PSCWMC, Medina is part of the Watersheds overall strategy education and outreach program.
Measureable Outcomes: 5. (10 points) A) What pollutant(s) of concern (For groundwater: bacteria, untreated sewage, nitrate, pesticides, etc.; For surface water: dissolved phosphorus, nitrogen, sediment, etc.) does this project specifically address? B) Has there been a pollutant reduction goal set in relation to that pollutant of concern or the water resource of concern that is the subject of this application? C) If so, what is that goal and what process was used to set this goal? If no pollutant reduction goal has been set, describe the water quality trends or other management goals that have been established. D) For protection projects, indicate measurable outputs such as acres of protected land, number of potential contaminant sources removed or managed, etc.

Questions & Answers
A) The project will reduce phosphorus loads that affect the water quality of Lakes Independence and Ardmore. B&C) The TMDL studies identified external loading as comprising 50% (269 lbs/year) of the nutrient loads impairing Lake Ardmore. The Lake Independence TMDL identified external loading as comprising 71% (1699 lbs/year) of nutrient loads impairing the lake. Lake Ardmore has an allowable external load allocation of 22.3 lbs/year (a 92% reduction) and Lake Independence has an external load allocation of 872 lbs/year (a 50% reduction). D) The goal of this project is to reduce phosphorus loads into Lake Independence by 8.7 lbs/year and to Lake Ardmore by 1.1 lbs/year by installing 5 best management practices identified in the Lake Ardmore Area Subwatershed Stormwater Retrofit Assessment.
Measureable Outcomes: 6. (15 points) A) Describe how this project directly addresses the water resource of concern or potential pollution sources and how much effect the project will have on the root cause of the most critical pollution problems or threats. B) What is the annual reduction in pollutant(s) that will be achieved or avoided for the water resource of concern after this project is completed?
A) The Lake Ardmore TMDL study identified external loading as comprising 50% (269 lbs/year) of the nutrient loads impairing the lake. The Lake Independence TMDL identified external loading as comprising 71% (1699 lbs/year) of nutrient loads impairing the lake. Both studies identify and recommend watershed BMP's as the primary target to achieve the MPCA water quality standards. B) This project will reduce phosphorus loads into Lake Independence by 8.7 lbs/year and to Lake Ardmore by 1.1 lbs/year by installing 5 best management practices identified in the Lake Ardmore Area Subwatershed Stormwater Retrofit Assessment.
Measureable Outcomes: 7. (10 points) Will the overall project have additional specific secondary benefits, including but not limited to measured or estimated hydrologic benefits, enhancement of aquatic and terrestrial wildlife species, drinking water protection, enhancement of pollinator populations, or protection of rare and/or native species? If so, specifically describe, or quantify if possible, what those benefits will be.
Habitat; Four of the projects will reduce localized and area wide sediment loads and establish vegetation where little or none exists. Restoration and stabilization of these areas will assist in terrestrial and aquatic habitat development on site and into the overall Lake Independence and Ardmore system. Reducing phosphorus loads will also improve water clarity and improve conditions for the aquatic habitat of the lake. Aesthetic and recreational opportunities will be improved because of less frequent and severe algae blooms due to the decrease in nutrient concentrations. The City of Medina will promote the projects and their effects on the area lakes. The City and the PSCWMC are also undertaking various opportunities to increase the public's awareness on the cause and effects of their land use decisions on the area lakes and streams.
Cost Effectiveness: 8. (5 points) Describe why the proposed project(s) is considered to be the most cost effective and reasonable means to attain water quality improvement or protection benefits. Consider such factors as, but not limited to BMP effectiveness, timing, site feasibility, practicality, and public acceptance. If any, what other alternatives were considered to achieve the same type and amount of benefit outlined in the proposed project?
These projects were identified and ranked in the urbanized area assessment of the Lake Ardmore Area Subwatershed Stormwater Retrofit Assessment. They are located on land owned and controlled by the City of Medina. The City of Medina was the driving force in the study and identification of the projects they would like to immediately move forward on from the study. They are committed to integrating stormwater BMP's on the land they are in control of, when they are practical and feasible. These five projects were considered as such in the Lake Ardmore Area SWA completed in 2016. The City of Medina wishes to progress from the study to implementation. The project were ranked #1 (GS1), #2 (SR1), #4 (ISF1), #10 (PD3) and #11 (SS1) out of 12 projects recommendations based on the cost of the project per pound of phosphorus reduction in the urban area of the watershed assessment study. The cost per

Questions & Answers
pound of TP reductions are as follows; GS1=$277/lb. SR1=$550/lb. ISF1=$941/lb. PD3=$1,562/lb. SS1=$3,300/lb. The average weighted cost for all 5 projects together will be $750/lb. For a developed area these costs are considered very reasonable. Acceptance of the projects is high with strong local participations on the part of the City of Medina, the PSCWMC and the Lake Independence Citizens Association. Hennepin County and the PSCWMC support the projects as well as evidenced by their financial contributions ($20,000 and $10,525 respectively) and their roles in the grant application process. All five sites have been inspected and deemed desirable for their respective BMP's. The City of Medina has control and access to all of the BMP areas.
Project Readiness: 9. (8 points) Describe steps and actions already taken to ensure that project implementation can begin soon after grant award including preliminary discussions with permitting authorities (if applicable) and the status of any state, federal or local permits that may be required for the project (Conditional use, NPDES, WCA, EAW, USACE, Public Waters, archeological surveys, etc.). Also describe any preliminary discussions with landowners/occupiers, status of agreements/contracts, contingency plans, and other project development activities to date that will ensure a smooth start to the project and minimize administrative or other critical delays.
Discussions have been held between the City, the PSCWMC, Hennepin County and the Lake Association on the Lake Ardmore Area study and the City plans to move forward on implementation. All parties have been favorable and strongly support the project. Application to Hennepin County for a $20,000 Opportunity Grant occurred in June 2017. The County has approved said grant contingent upon the City leveraging CWL and other local funds to achieve full funding. The City of Medina has two engineering consulting firms under contract that specialize in the design and implementation of these types of BMP projects. No special permits or conditional uses are expected. Preliminary discussions have been held with the adjacent landowners with no concerns expressed.
Project Readiness: 10. (2 points) Newsletters, signs and press releases are standard communication tools. Beyond those basics, describe any additional project activities that would be added to the grant workplan aimed at engaging your local community on the need, benefits, and long term impacts of this project.
The City of Plymouth, PSCWMC, Lake Independence Citizens Association and Hennepin County all maintain web sites and newsletters that have water-related resources elements. Creating a website information page and/or newsletter articles specific to the grant and the projects would be expected and pursued. .
BBR: 11. (5 points) Did your organization submit a Biennial Budget Request (BBR) to BWSR in 2014?
No. The City of Medina deferred to the PSCWMC BBR for this project.
The Constitutional Amendment requires that Amendment funding must not substitute traditional state funding. Briefly describe how this project will provide water quality benefits to the State of Minnesota without substituting existing funding.
All project, non-grant funding will come from local sources. No other state funding is being pursued.

Application Budget

Activity Name	Activity Description	Category	State Grant $ Requested	Activity Lifespan (yrs)
Lake Ardmore Area BMP Retrofit Projects	Install 5 best management practices identified in the 2016 Urban Area section of the Lake Ardmore Subwatershed Retrofit Assessment Study.	STRUCTURAL BEST MANAGEMENT PRACTICES	$122,000	20

Proposed Activity Indicators

Activity Name	Indicator Name	Value & Units	Waterbody	Calculation Tool	Comments
Lake Ardmore Area BMP Retrofit Projects	PHOSPHORUS (EST. REDUCTION)	9.8 LBS/YR	Lake Independence and Lake Ardmore	NURP, P8, MIDS, BWSR Pollution Reduction Calculator.	1 project with 5 separate BMPs and locations

Activity Details

Activity Name	Question	Answer
Lake Ardmore Area BMP Retrofit Projects	Are you interested in applying for CWP Loans for this project?	No
Lake Ardmore Area BMP Retrofit Projects	Dollar amount requested for Ag BMP Loan Program:	N/A

Application Image

Map Image

##

Projects and Practices Application

Grant Name - Baker Park Reserve Campground Ravine Stabilization, Lake Independence, Hennepin County
Grant ID - C18-9941
Organization - Pioneer-Sarah Creek WMC

Allocation	**Projects and Practices 2018**	**Grant Contact**	**Brian Vlach**
Total Grant Amount Requested	$416,000.00	**County(s)**	Hennepin
Grant Match Amount	$104,000	**12 Digit HUC(s)**	070102050703
Required Match %	25%	**Applicant Organization**	Pioneer-Sarah Creek WMC
Calculated Match %	25%	**Application Submitted Date**	
Other Amount			
Project Abstract	Lake Independence (MDNR #27-0176) is a highly valued resource located in western Hennepin County within the jurisdictional boundaries of the Pioneer-Sarah Creek Watershed Management Commission (PSCWMC). The lake is 851 acres with a maximum depth of 58 feet, and has a watershed drainage area of 7,600 acres. Baker Park Reserve, owned and operated by Three Rivers Park District (TRPD), provides over 4,500 feet of publically accessible shoreline on Lake Independence, which includes two swimming beaches, a public watercraft access, an ADA-accessible fishing pier, numerous picnic areas, and a campground. The lake was listed as impaired for excessive nutrients by the Minnesota Pollution Control Agency (MPCA) in 2002. The Lake Independence Total Maximum Daily Load study (TMDL) approved in 2007 identified phosphorus loads from the watershed as the main cause of the impairment. A total phosphorus load reduction of 1,081 lbs./yr. was identified in the TMDL in which 872 lbs./yr. (80%) of load reduction was to come from the watershed. Recent studies identified 2,200 feet of eroding channel within Baker Park Reserve that contributes in an average year 300 tons of sediment and 277 lbs. of phosphorus to Lake Independence. The most cost-effective approach to address the major source of pollutant loading from the ravine is to install a series of rock grade control structures throughout the main and two tributary		

	channels to control the elevation grade as well as armoring the channel with rounded field stone/angular rip-rap to the expected 10-year flood elevation. Average annual phosphorus loads to Lake Independence would be reduced by an estimated 134 lbs. at a cost of $130/lb. of phosphorus load reduction over the estimated project life of 30 years. This reduction in annual phosphorus load would accomplish 15% of the total watershed phosphorus load reduction called for in the TMDL.
Proposed Measurable Outcomes	The project will result in an average annual load reduction of 134 pounds of phosphorus per year.

Narrative

Questions & Answers
Does your organization have any active CWF grants? If so, specify FY and percentage spent. Also, explain your organization's capacity (including available FTEs or contracted resources) to effectively implement additional Clean Water Fund grant dollars.
Pioneer-Sarah Creek Watershed Management Commission does not have any active Clean Water Fund Grants.
Water Resource: Identify the water resource the application is targeting for water quality protection or restoration.
Lake Independence (MDNR #27-0176)
Overall Project Description 1. (5 points) : A) What nonpoint pollution concerns will be the focus of this application and how do you intend to address those concerns? B) Describe how the resource of concern aligns with at least one of the statewide priorities referenced in the "Projects and Practices" section of the RFP. C) Describe the public benefits resulting from this proposal from both a local and state perspective.
A.) The non-point pollution concern is severe erosion from 2,200 linear feet of channel located within Baker Park Reserve that delivers 300 tons of sediment and 277 lbs. of phosphorus to Lake Independence. The project proposes to stabilize the two tributaries and the main channel by installing a series of rock grade control structures as well as armoring the channels with rounded field stone/angular rip-rap to the expected 10-year flood elevation. **B.) State Priority 1: Restore those waters that are closest to meeting state water quality standards-The Lake Independence average June-September total phosphorus concentration from 2010 through 2016 was 56 µg/L with values ranging from 46 to 62 µg/L. The in-lake concentration varies considerably relative to the deep lake state standard of 40 µg/L (North Central Hardwood Forest Ecoregion). Management measures are necessary to meet the in-lake water quality standard.** **B.) State Priority 2: Restore and protect water resources for public use and public health-Lake Independence is an important amenity to the 3,200 acre Baker Park Reserve that is owned and operated by Three Rivers Park District. Water-based features of the Park include two swimming beaches, an ADA-accessible fishing pier, the main public boat access on the lake, and a non-motorized boat rental facility. Other amenities include a campground located within 1/4 mile of the lakefront, a children's play area, extensive trail system, and picnic areas/shelters.** **C.) The proposed project estimated phosphorus load reduction (134 lbs.) would accomplish 15% of the total watershed phosphorus load reduction called for in the TMDL to meet state water quality standards. Water quality improvements would benefit the estimated 212,000**

Questions & Answers
visitors using Baker Park Reserve. It is estimated that 30,000 visitors are directly engaged in water-based recreation activities and an additional 54,000 stay at the campground connected to the nearby lakefront.
Relationship to Plan: 2a. (15 points) Describe why the water resource was identified in the plan as a priority resource. For the proposed project, identify the specific water management plan reference by plan organization plan title, section, and page number. In addition to the plan citation, provide a brief narrative description that explains whether this application fully or partially accomplishes the referenced activity.
Lake Independence is considered a priority resource in the watershed due to its size and depth, public accessibility, and wide range of recreational activities. The lake is located in close proximity to the Twin Cities metro area, is the third largest recreational lake in Hennepin County, and is a popular fishing and boating destination. The plan information pertinent to Lake Independence is below: 1.)PSCWMC's Watershed Management Plan 3rd generation (approved February 2015) Executive summary (pg.ES-4 Goal F.2; pg.ES-5, TMDL Implementation) Sec.2.3.3-Water-Based Recreation (pg.2-14) Sec.2.4.2-Lakes (pg.2-16) Table2.8-Major Lakes and Streams in Pioneer-Sarah Creek Watershed (pg.2-17) Table 2.16-Lakes in the PSC watershed designated as Public Waters (pg.2-21) Sec.3.4-Assessment of 2nd Generation Plan Performance (pg.3-8) Sec.4.2.2-Water Quality (pg.4-4) Sec.4.3.2-Monitoring Program (pg.4-11) Sec.4.3.4-TMDL Implementation (pgs.4-12, 4-13) 2.)Lake Independence TMDL (approved 2007, prepared by PSCWMC and TRPD) 3.)PSCWMC's WRAPS (May 2017 Public Review Draft) Sec.1-Watershed Background and Description (pg.9) Table2.2-Assessment Status of Lakes in the Pioneer-Sarah Creek Watershed (pg.13) Table2.3-Point Sources in the Pioneer-Sarah Creek Watershed Project Area (pg.15) Section2.4-TMDL Summary (pg.18) Table3.5-Strategies and Actions for the Pioneer Creek Watershed (pg.41) Section4-Monitoring Plan (pg.48) The channel stabilization project will account for 15% of the 872 lbs./yr. watershed phosphorus load reduction and will account for 12% of the 1,081 lbs./yr. total phosphorus load reduction (watershed & Internal) identified in the approved TMDL. The load reduction generated by the project will almost double the estimated watershed load reductions (150 lbs./yr.) that has been accomplished since the Lake Independence TMDL was approved in 2007. This project is a significant step in moving Lake Independence into compliance with the approved TMDL.
Relationship to Plan: 2b. Provide web links to all referenced plans.
Pioneer-Sarah Creek Watershed Management Commission - Management Plan 3rd Generation http://www.pioneersarahcreek.org/third-generation-plan.html

Questions & Answers
Lake Independence TMDL **https://www.pca.state.mn.us/water/tmdl/lake-independence-excess-nutrients-tmdl-project** **Pioneer-Sarah Creek Watershed Management Commission WRAPS** **http://www.pioneersarahcreek.org/wraps.html** **https://www.pca.state.mn.us/water/tmdl/pioneer-sarah-creek-watershed-restoration-and-protection-strategy-tmdl-project**
Targeting Procedure: 3. (15 points) Describe the methods used to identify, inventory, and target the most critical pollution sources or threats (root cause) and describe any additional efforts that will be completed prior to installing the projects or practices identified in this proposal.
A phosphorus source assessment was completed for the Lake Independence TMDL. Watershed and in-lake monitoring data was used to calibrate models to accurately estimate the sources of phosphorus load to Lake Independence. The sources of phosphorus identified in the TMDL included watershed 65% (1,699 lbs./yr.), internal 26% (682 lbs./yr.), and atmospheric 9% (224 lbs./yr.) loads. The watershed load was identified as the primary source affecting surface water quality in Lake Independence. **A subwatershed assessment (Lake Sarah and Lake Independence Stormwater Retrofit Analysis) was completed in May 2014 (Independence & Anoka County Conservation District). The assessment identified Baker Park Reserve Campground Ravine as a significant source of phosphorus and sediment loading to Lake Independence. A feasibility study (Baker Park Reserve Campground Ravine and Subwatershed Assessment) completed in December 2016 estimated the eroding channel annually contributes 300 tons of sediment and 277 lbs. of phosphorus load to Lake Independence (PSCWMC, Medina, Independence, TRPD and Wenck). The feasibility study also assessed the cost-effectiveness of multiple watershed and ravine management options to decrease loads to Lake Independence. The most cost-effective approach was to stabilize 1,800 linear feet of the main channel and an additional 400 linear feet in two tributary ravines adjacent to the Baker Park Reserve campground. A series of rock grade control structures would be installed throughout the main ravine and two tributary ravines to control the channel grade as well as armoring the channel reaches with rounded field stone/angular rip-rap to the expected 10-year flood elevation. It was estimated annual phosphorus loads would be reduced by 134 pounds at a cost of $130 per pound of phosphorus removed for the 30 year life expectancy of the project. There are currently no additional efforts to reduce phosphorus loading prior to implementation of the project.**
Targeting: 4. (10 points) A) How does this proposal make progress toward an overall groundwater, watershed protection, and/or restoration strategy being implemented by your organization and your partners? Listing an activity in a plan does not necessarily constitute an overall strategy. B) Describe activities other than those in this proposal that you and other partners have or will implement that affect the same water resource including but not limited to: other financial assistance or incentive programs, easements, regulatory enforcement, or community engagement activities that are indirectly related to this proposal.
A.) A Pioneer-Sarah Creek TMDL/WRAPS has recently been completed in 2017 to address the other nutrient impairments within the watershed. The most recent PSC WRAPS plan supports the recommended phosphorus management strategies identified in the Lake Independence TMDL/Implementation Plan approved in 2007. Both documents identify implementing urban/suburban stormwater management projects as an important management strategy to improving water quality. The phosphorus load reductions of 134 lbs. from the Baker Ravine Stabilization Project would be considered significant progress toward the overall watershed protection/restoration strategy implemented by the PSCWC and local partners.

Questions & Answers
B). Other Lake Independence watershed activities include. **1. Lake Independence shoreline stabilization project within Baker Park Reserve was completed. There has also been multiple stormwater BMP's installed in the developed portion of the Park (ponds, filtration basins, pervious pavement, and rainwater gardens).** **2. Reaching a negotiated settlement with a private cattle operation located within the shoreland impact zone of Lake Independence to decrease animal units, provide a buffer, and implement a manure management plan to reduce pollutant loadings.** **3. PSCWMC completed a watershed-wide TMDL in 2017 that included four upstream lakes (Ardmore, Peter, Spurzem, and Half Moon) that discharge to Lake Independence. Implementation of these TMDLs will improve the quality of inflows from those tributary drainages.** **4. The City of Medina has adopted non-production livestock density and manure management standards. There have also been stormwater improvement projects implemented by Medina in the suburban portion of the Lake Independence watershed.** **5. The PSCWMC has adopted its 3rd generation watershed management plan, which includes more stringent rules and standards for managing runoff rates/volumes and requiring nutrient/sediment reductions.**
Measureable Outcomes: 5. (10 points) A) What pollutant(s) (For groundwater: bacteria, untreated sewage, nitrate, pesticides, etc.; For surface water: dissolved phosphorus, nitrogen, sediment, etc.) does this application specifically address? B) Has there been a pollutant reduction goal set (via TMDL or other study) in relation to that pollutant or the water resource that is the subject of this application? C) If so, please state that goal (as both an annual pollution reduction AND overall percentage reduction, not as an in-stream or in-lake concentration number) and identify the process used to set the goal. If no pollutant reduction goal has been set, describe the water quality trends associated with the water resource or other management goals that have been established. D) For protection projects, indicate measurable outputs such as acres of protected land, number of potential contaminant sources removed or managed, etc
A. The project seeks to reduce watershed phosphorus loading affecting surface water quality in Lake Independence. The proposed project will achieve 12% of the total (watershed and internal) phosphorus load reductions and 15% of the watershed phosphorus load reductions called for in the TMDL. **B. A total phosphorus load reduction has been identified in the Lake Independence TMDL approved in 2007.** **C. The TMDL identifies a total phosphorus load reduction of 1,081 lbs./yr. (of which 872 lbs was to come from the watershed) in order for Lake Independence to achieve the MPCA water quality standards for deep lakes in the NCHF ecoregion. The phosphorus load reduction goal requires a 45% decrease in the total phosphorus load to Lake Independence. The phosphorus load reduction goal was derived from a calibrated in-lake response model (BATHTUB). Watershed phosphorus loading input into the BATHTUB model was derived from monitoring data through FLUX modeling analysis and was estimated for sub-watersheds without monitoring data using land use unit-area loads. The BATHTUB model was calibrated to monitored in-lake water quality conditions. The in-lake load response model in BATHTUB was used to determine the phosphorus load reduction necessary to achieve the MPCA water quality standards. Modeling methods and assumptions used to estimate the existing loads and define the lake's response to loading reductions are described in the TMDL report.** **D. Baker Park Reserve is approximately 2,700 acres and represents 36% of the Lake Independence total watershed area. The TRPD has a policy (80/20) that only allows 20% of the Baker Park Reserve to be developed while maintaining the other 80% within it natural condition. A significant portion of Baker Park Reserve maintained within its natural condition provides water quality benefits to Lake Independence.**
Measureable Outcomes: 6. (10 points) A) Describe the effects this proposed project will have on the root cause of the most critical pollution problems or threats. B) Please quantify the water quality benefits that would result from this proposal. Where applicable, identify the annual reduction in pollutant(s) that will be achieved or avoided for the water resource after this project is completed?
A). The TMDL for Lake Independence (2007) identified a total phosphorus load reduction of 1,081 lbs./yr. was necessary for the lake to meet the MPCA in-lake water quality standard (40 µg/L). The TMDL indicated that watershed phosphorus loading has been the primary loading

Questions & Answers
source degrading Lake Independence water quality. Consequently, the TMDL targeted 81% of the total phosphorus load reduction (872 lbs./yr.) to come from watershed sources. The Baker Park Reserve Campground Ravine and Subwatershed Assessment (December 2016) indicated that the eroded channel annually contributes 277 lbs. of phosphorus loading to Lake Independence. **B). The proposed Baker Campground Ravine stabilization project would decrease the watershed phosphorus loading by 134 lbs./yr. Since the ravine discharges directly to Lake Independence, the projected reduction translates directly to the same magnitude load reduction to the lake. This load reduction is 12% of the total phosphorus load reduction and 15% of the watershed load reduction required by the TMDL to meet the MPCA in-lake water quality standard. The phosphorus load reduction anticipated for this project alone is almost equal to the estimated watershed load reduction achieved since the TMDL was approved in 2007. The proposed project is the most cost-effective of the numerous options identified to control this source of phosphorus loading to Lake Independence with a cost per pound of phosphorus load reduction of $130/lb. based on a project life of 30 years.**
Measureable Outcomes: 7. (10 points) Will the overall project have additional specific secondary benefits, including but not limited to measured or estimated hydrologic benefits, enhancement of aquatic and terrestrial wildlife species, drinking water protection, enhancement of pollinator populations, or protection of rare and/or native species? If so, specifically describe, (quantify if possible), what those benefits will be.
Secondary benefits from the project include the following: **1. Habitat: The project will be an important step forward in improving lake water clarity, which will improve conditions for native aquatic plant vegetation and enhance habitat for fish and other aquatic species. Increased water clarity should expand the depth to which rooted aquatic plants can grow (i.e., increase the effective littoral zone of the lake) which should in turn increase the resiliency of the system to the effect of periodic large runoff events anticipated in the future as climate change occurs.** **2. Aesthetic/recreational: Reduced phosphorus concentrations will result in less frequent and severe algae blooms and better water clarity, which will improve swimming conditions, fishing conditions, and aesthetic viewing activities. Lower nutrient concentrations should also decrease the potential for blue green algal blooms in the lake, which is expected to reduce the potential threat to human and animal health due to blue green algal-generated toxins.** **3. Educational: Baker Park Reserve receives approximately $212,000 visitors each year from nearby residential areas as well as from other parts of the Metro area and Minnesota. TRPD has the capacity and willingness to use the proposed project as an educational opportunity for Park programs. In addition, the Lake Independence Citizen's Association (LICA) as well as the cities of Medina and Independence are undertaking various initiatives toward environmental stewardship in storm water management that will increase awareness for watershed residents and the broader public.**
Cost Effectiveness: 8. (15 points) Describe why the proposed project(s) in this application are considered to be the most cost effective and reasonable means to attain water quality improvement or protection benefits within the proposed project area. Has any analysis been conducted to help substantiate this determination? Factors to consider include, but are not limited to: BMP effectiveness, timing, site feasibility , practicality, and public acceptance. If your application is proposing to use incentive payments to landowners, please include incentive rates and the rationale why this approach is seen to have a high cost-benefit.
This project provides the most cost-effective approach to decrease watershed phosphorus loading to Lake Independence. The TMDL study identified watershed loading as the primary source of phosphorus impacting in-lake water quality. A sub-watershed assessment identified the ravine as a significant source of phosphorus loading to the lake, and a feasibility study identified the proposed project as the most cost effective approach. The most cost-effective approach is to install a series of rock grade control structures throughout the main and two

Questions & Answers
tributary ravines to control the channel grade as well as armoring the entire channel with rounded field stone/angular rip-rap to the expected 10-year flood elevation. The estimated cost of the proposed project is $520,000. Average annual phosphorus loads to Lake Independence would be reduced by 134 lbs. at a cost of $130/lb. of phosphorus removed for the expected 30 year life of the project. The feasibility of other projects evaluated included construction of ponds, infiltration & filtration basins, and storm water diversions. The cost-effectiveness of these alternative scenarios ranged from $300 to $4000/lb. of phosphorus removed, and were considered less cost-effective than the recommended option. **Public acceptability for the project has strong local participation from Independence & Medina as well as LICA as evidenced by their funding commitments (Cities -$10,500 each; LICA-$2,500). The PSCWMC (applicant) and TRPD (lead) also support the project through financial contributions ($10,500 each). Hennepin County will also be a partner through the Natural Resources Opportunity Grant Program ($59,500) if the project is selected for Clean Water Grant Funds.** **The project area lies entirely within TRPD's Baker Park Reserve. Access to the construction area can be provided entirely from within the Park without having to access private land. There are also areas within the park that can be used as staging areas.**
Project Readiness: 9. (8 points) Describe steps and actions already taken to ensure that project implementation can begin soon after grant award. This may include: preliminary discussions with permitting authorities (if applicable) and the status of any state, federal or local permits that may be required for the project (Conditional use, NPDES, WCA, EAW, USACE, Public Waters, archeological surveys, etc.). Also, describe any preliminary discussions with landowners/occupiers, status of agreements/contracts, contingency plans, and other project development activities to date that will ensure a smooth start to the project and minimize administrative or other critical delays.
1). A cooperative effort among all of the partners for this project (PSCWMC, Medina, Independence, and TRPD) contributed to the work that resulted in the recommended approach to address phosphorus loading from the Baker Campground Ravine. The partners initiated the sub-watershed assessment (Lake Sarah and Lake Independence Stormwater Retrofit Analysis) and feasibility study (Baker Park Reserve Campground Ravine and Subwatershed Assessment) that resulted in the recommended project of which this grant application is based. Each partner has shown a commitment to implementing the project by providing financial support (each paying a quarter) for the completion of the studies and providing technical input on the final product. **2). Another project partner – Hennepin County Environmental Services – has committed to providing grant funding for the project through its Natural Resources Opportunity Grant Fund program to help meet the local cost-share requirement for this project. This grant funding is contingent upon the award of the Clean Water Fund grant.** **3). All entities that will provide local cost-share funds for this project have further supported the project by including their cost-share contributions in their Capital Improvement Programs for 2018.** **4). The proposed project is entirely within the Baker Park Reserve (owned and operated by TRPD). The project location is easily accessible through the Baker Park Reserve so land owner cooperation is assured.** **5). TRPD staff just completed a similar project in Carver Park Reserve which lies within the Minnehaha Creek Watershed District. The experience gained from that project will be instructive in guiding this project through the permitting, design, bidding, and construction management process. As with the Carver Park Reserve ravine stabilization project, the services of a qualified and experienced engineering consultant will be secured and will play a major role in project execution.**
Project Readiness: 10. (2 points) Newsletters, signs and press releases are standard communication tools. In addition to these basics, describe additional project activities that would be added to the grant work plan aimed at engaging your local community on the need, benefits, and long term impacts of this project.

Questions & Answers
All of the partners (PSCWMC, TRPD, Independence, Medina, and LICA) maintain web sites that either have or can include water resources-related elements. Creating an information page specific to this project component could easily be added to each of the web sites.
The Constitutional Amendment requires that Amendment funding must not substitute traditional state funding. Briefly describe how this project will provide water quality benefits to the State of Minnesota without substituting existing funding.
All of the non-grant funding comes from local sources so there is no potential for state general fund substitution.

Application Budget

Activity Name	Activity Description	Category	State Grant $ Requested	Activity Lifespan (yrs)
Channel Stabilization in Baker Park Reserve	Baker Park Reserve Campground Ravine Stabilization Project	STREAMBANK OR SHORELINE PROTECTION	$416,000.00	30

Proposed Activity Indicators

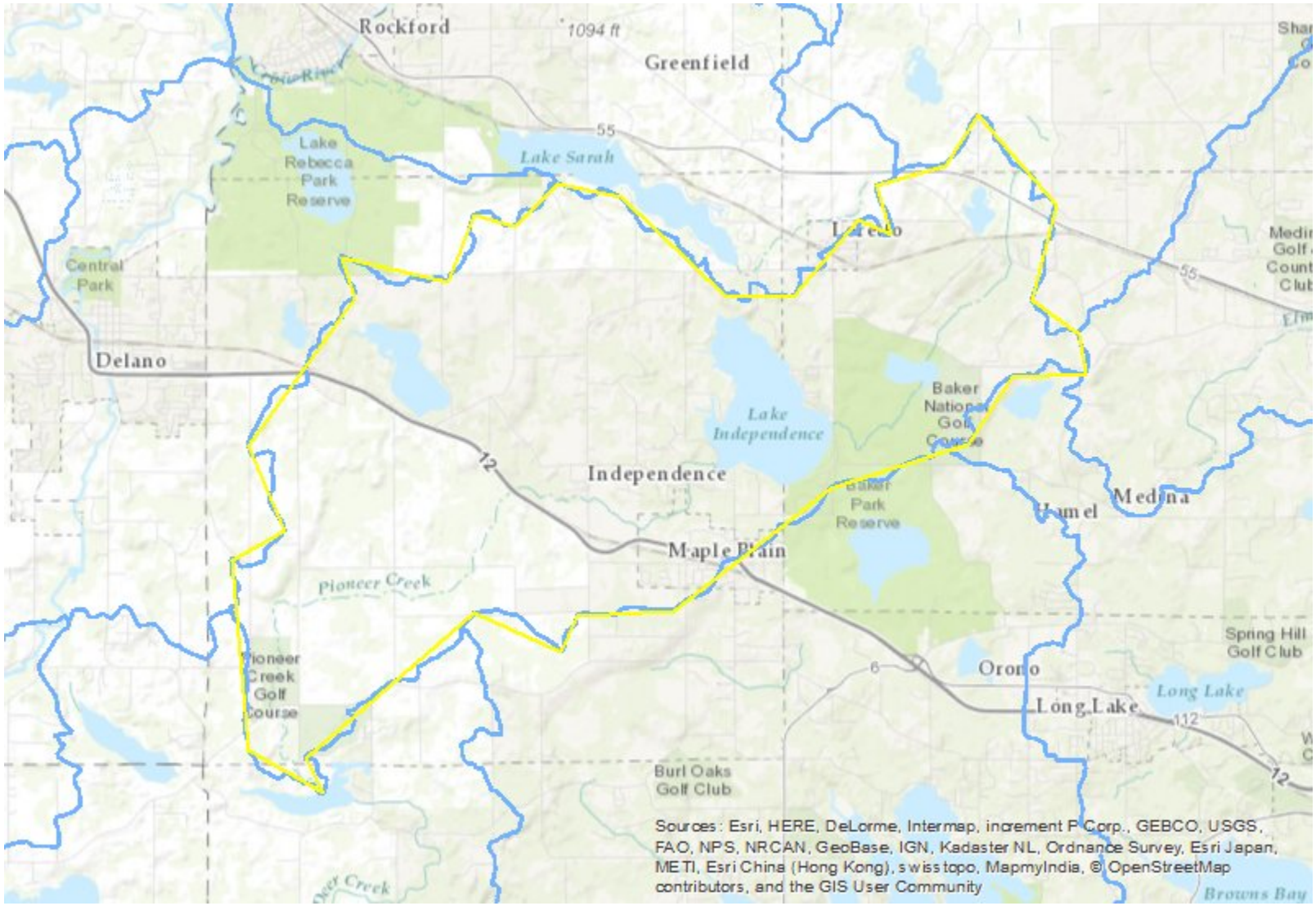
Activity Name	Indicator Name	Value & Units	Waterbody	Calculation Tool	Comments
Channel Stabilization in Baker Park Reserve	PHOSPHORUS (EST. REDUCTION)	134 LBS/YR	Lake Independence	BWSR CALC (GULLY STABILIZATION)	Ravine Stabilization

Activity Details

Activity Name	Question	Answer
Channel Stabilization in Baker Park Reserve	Are you interested in applying for CWP Loans for this project?	No
Channel Stabilization in Baker Park Reserve	Dollar amount requested for Ag BMP Loan Program:	Not Entered

Application Image

Map Image


Rockford
1094 ft
Greenfield
Lake Rebecca Park Reserve
Lake Sarah
55
Central Park
Delano
Lake Independence
Baker National Golf Course
Independence
12
Maple Plain
Medina
Pioneer Creek
Pioneer Creek Golf Course
Spring Hill Golf Club
Orono
Long Lake
Burl Oaks Golf Club
Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
Browns Bay

MEMORANDUM

TO: **Pioneer-Sarah Creek Watershed Management Commission**
FROM: **James Kujawa, Hennepin County Dept. of Environment and Energy**
DATE: **July 13, 2017**
SUBJECT: **Staff Report**

2013-04 Franklin Hills Second Addition, Independence. At their September 2013 meeting, the Commission approved site plans with three conditions. These conditions have been met with the exception of the Commission's receipt of the final O&M plan recorded document. The developer and City are still working on finalizing the plat and recording of all documents, including the O&M plan. The City stated they will be recording the document and will provide a copy to the Commission. No new information has been received.

2016-05 Proto Labs Parking Lot Expansion, Maple Plain. The Commission approved this project contingent upon three conditions. One condition remains open: Receipt of an Operation and maintenance agreement on the biofiltration basin per Staff findings dated September 6, 2016. No new information has been received.

DaLuge Wetland Violation, 4890 Woodland Trail, Greenfield. Staff met with Warren DaLuge and came to an agreement for him to voluntarily remove any fill placed in the wetland on his farmstead by December 1, 2017.

2017-01W Salem Lutheran Church Wetland Delineation, Greenfield. The church is looking to purchase 3.3 acres directly west of their existing property. They submitted a wetland delineation for the local government unit (LGU) review and decision. The Commission is the LGU for the Wetland Conservation Act (WCA) for the City of Greenfield. Staff noticed the application for public comments up to July 17. A field review of the delineation found the delineation to be accurate. One wetland, 0.11 acres in size, was delineated in a drainage swale in the northeast corner of the lot. Once the public comment period expires, Staff will approve the delineation and notice per WCA requirements.

2017-02 BNSF RR Culvert 32.5 Replacement, Maple Plain.* BNSF is proposing to replace this culvert located between Tri-K Sports and the Day Distribution Warehouse. This culvert has a 193 acre watershed area draining to it. The existing culvert was a brick arch culvert (circa 1900) that extended into a newer rectangle box (circa 1950) culvert when the RR was widened. They are going to slip a new corrugated metal pipe into the old culverts and grout the remaining voids with concrete. Because the new culvert won't have the water conveyance capacity of the old culvert, they will jack a 48" culvert adjacent to, but 1.6' higher than the new culvert to match the existing flows. Staff has reviewed the hydrology information, modeling the old culvert conveyance vs. the two new culvert conveyance and recommends the Commission approve the culvert replacement per their findings dated July 1`4, 2017.

PIONEER-SARAH CREEK WATERSHED-WIDE TMDL AND WRAPS

The 30-day public review for both the WRAPS Plan and TMDL study ended May 31, 2017. Both reports are available on the Commission's website, http://www.pioneersarahcreek.org/wraps.html, and the MPCA website at https://www.pca.state.mn.us/water/tmdl/pioneer-sarah-creek-watershed-restoration-and-protection-strategy-tmdl-project. Comments were received from Metropolitan Council Environmental Services (MCES), the Minnesota Dept. of Agriculture (MDA), and the Board of Water and Soil Resources (BWSR) and were outlined in the June Staff Report. The Technical Team has responded to the comments and they will be mailed July 17. Staff will receive copies for inclusion in the next meeting packet.

The WRAPS and TMDL reports have been finalized and are being routing internally right now for approval. The WRAPS will be approved by the MPCA – hopefully in the next couple of weeks. Once the TMDL gets final approval from MPCA management it will be sent to EPA for final approval, which could take anywhere from 1-6 months.

LOCAL WATER PLANS.

Per the amended MN Rule 8410.0105, subp. 9, and 8410.0160, subp. 6, Local Water Plans must be prepared by metropolitan cities and towns and must become part of their local comprehensive plans. They must be revised essentially once every ten years in alignment with the local comprehensive plan schedule. A municipality has two years prior to its local comprehensive plan being due to adopt its local water plan. The next local comprehensive plans are due December 31, 2018; thus all cities and towns in the seven-country metropolitan area must complete and adopt their local 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. The Commission's Third Generation WMC was approved by BWSR on January 28, 2015.

The City of Loretto's Local Plan was approved by the Commission at its April 20, 2017 meeting.

The City of Medina submitted their draft plan on May 1, 2017. Staff will provide their review at the Commission's July meeting. No other draft plans have been received.

From: Kirsten Barta, Rural Conservationist

General:

1. Three buffer projects are being put in the ground in partnership with transportation operations – mostly protects the Crow River, but is taking place in Greenfield along Co Rd 10. Will take place once the crops come off in fall. Unrelated to the Buffer Law, purely voluntary actions.
2. Horse owner demonstration day will be taking place with UMN Extension on August 5th to demonstrate best practices for water quality. Happening in Elm Creek Watershed, but PSC landowners certainly welcome to attend. Flyer is included in the meeting packet.*
3. Moving forward with a Cost Share project design in Independence. Stream tributary relocated itself to a field road during a heavy, multi –day rain event and is causing a lot of erosion. Stream will be relocated to its original bed and remediation to the bank will take place.
4. Three publications in the works for helping large lot residential and rural landowners make good choices on their property for soil and water health. Landowner guide and landscaping guide (both updates), and a horse owner guide (new). Target is end of 2017 for updated publications and spring 2018 for horse owner guide.
5. Hennepin County Library system is interested in partnering on getting some information together that they can have available for residents regarding water quality, ag concerns, etc. Will work with library staff in rural portions of county to find out what exactly residents are interested in, and the best way to distribute information.
6. Improvements to the County's website are under discussion to better serve residents looking for traditional SWCD information. Outreach to cities to help them direct residents to the correct staff are also underway. This will include newsletter information as well as possible (city) website updates.
7. There has been interest from the Boy Scouts in conservation project ideas that they can have Scouts volunteer at. One of the Eagle Scout required badges has a required number of hours that must be spent working on a conservation project. Probably could get interested landowners (free labor) if projects were identified.
8. Per commissioner request, a carp tutorial is in progress. Targeted September completion.

Buffers:

1. Cost share funding is being made available to SWCDs for installation of buffers. It is yet unclear how much funding Hennepin County will get, but once that is known, a letter will go out to all residents with pending buffer issues.
2. No change in the status of any parcels from last month's count.
3. Calculations on buffer impacts being made for presentation to the Hennepin County Board will be made available to PSC Commissioners once it has been presented to the County.

Barta will be available at the July meeting to answer Commissioner questions.

Z:\Pioneer-SarahCreek\TechMemos\Tech Memos 2017\July Tech Memo.docx

Pioneer-Sarah Creek Watershed Management Commission

ADMINISTRATIVE OFFICE: 3235 Fernbrook Lane N • Plymouth, MN 55447
763.553.1144 • Fax: 763.553.9326 • Email: judie@jass.biz
TECHNICAL OFFICE: 701 Fourth Street South, Suite 700, Minneapolis, MN 55415-1600 Phone: 612.348.7338 • Fax: 612.348.7338 • Email: james.kujawa@co.hennepin.mn.us

BNSF Culvert 32.5 Replacement
Maple Plain, Project #2017-02

Project Overview: .BNSF is proposing to replace this culvert located between Tri-K Sports and the Day Distribution Warehouse in Maple Plain. This culvert has a 193 acre watershed area draining to it. The existing culvert was a brick arch culvert (circa 1900) that extended into a newer rectangle box (circa 1950) culvert when the RR was widened. They are proposing to slip a new corrugated metal pipe into the old culverts and grout the remaining voids with concrete. Because the new culvert won't have the water conveyance capacity of the old culvert, they will jack a 48" culvert adjacent to, but 1.6' higher than the new culvert to match the existing flows.

Applicant: BNSF Railway Company, Attn. Mr. Josh Sommerfeld, 4515 Kansas Avenue, Kansas City, Kansas 66106. Phone: 913-551-4104. Email: josh.sommerfeld@bnsf.com

Agent/Engineer: TKDA, Attn. Mr. Patrick McLarnon, 444 Cedar Street, Suite 1500, Saint Paul, MN 55101. Phone; 651-292-4545. Email: Patrick.mclarnon@tkda.com

Exhibits:

1) PSCWMC Request for Plan Review, received July 5, 2017.
2) Fees for drainage alterations and exemption application. $400.00
3) Joint Application for Activities Affecting Water Resources in MN, dated June 7, 2017.
4) Hydraulic Evaluation Report, Culvert 32.5 (L.S. 0022) by TKDA, dated June 27, 2017.

Findings;

1) A complete application was received July 5, 2017. The initial 60-day review period, per MN Statute 15.99, expires September 3, 2017.
2) Per Appendix C, Rule H. Bridge and Culver Crossings, No person or political subdivision shall construct or improve a road, driveway or utility crossing across any public waters watercourse or county ditch without submitting to the Commission and receiving approval of a project review.
3) The applicant proposes to slip a new corrugated metal pipe into the old culverts and grout the remaining voids with concrete. The new culvert (66” diameter CMP) won't have the water conveyance capacity of the old culvert. The RR proposes to jack a 48" culvert adjacent to, but 1.6' higher than the new culvert to match the existing flows.
4) Pre and post construction flow meet the Commission standard. They are as follows;

	1 yr (cfs)	2-yr (cfs)	50-yr (cfs)	100-yr (cfs)
Pre-Development Rates	50.5	65.0	206.4	250.6
Post-Development Rates	51.0	65.0	206.0	251.0

5) Scour protection will be placed below the north end of the culvert at its outlet. It will consist of two feet of 9" -14" rip rap. No detail of the scour protection plan was provided with the plans submitted. A detail must be provided for the Commission's review.
6) The project assumed that the waterway channel is a wetland area. It further assumes there will be temporary impact of 0.09 acres (4,000 sq. ft.) during the construction activities. The applicant proposes to restore any temporary impact back to the original conditions and elevations. This would make the project eligible for a no-loss determination from the LGU, (the PSCWMC is the LGU in this area of Maple Plain).
    a. NOTE: If scour protection occurs in the wetland areas, this would be considered a permanent impact. A de minimis would be available for up to 1,000 sq. ft. of impacts for this work.
7) The applicant proposes perimeter erosion control protection and restoration of the project area with erosion control blankets and MN seed mix 25-141 (general roadside seed mix). Project notes state, the site shall be stabilized within 7 days after construction activity has temporarily or permanently ceases. These items meet the Commission's E&SC Standards.

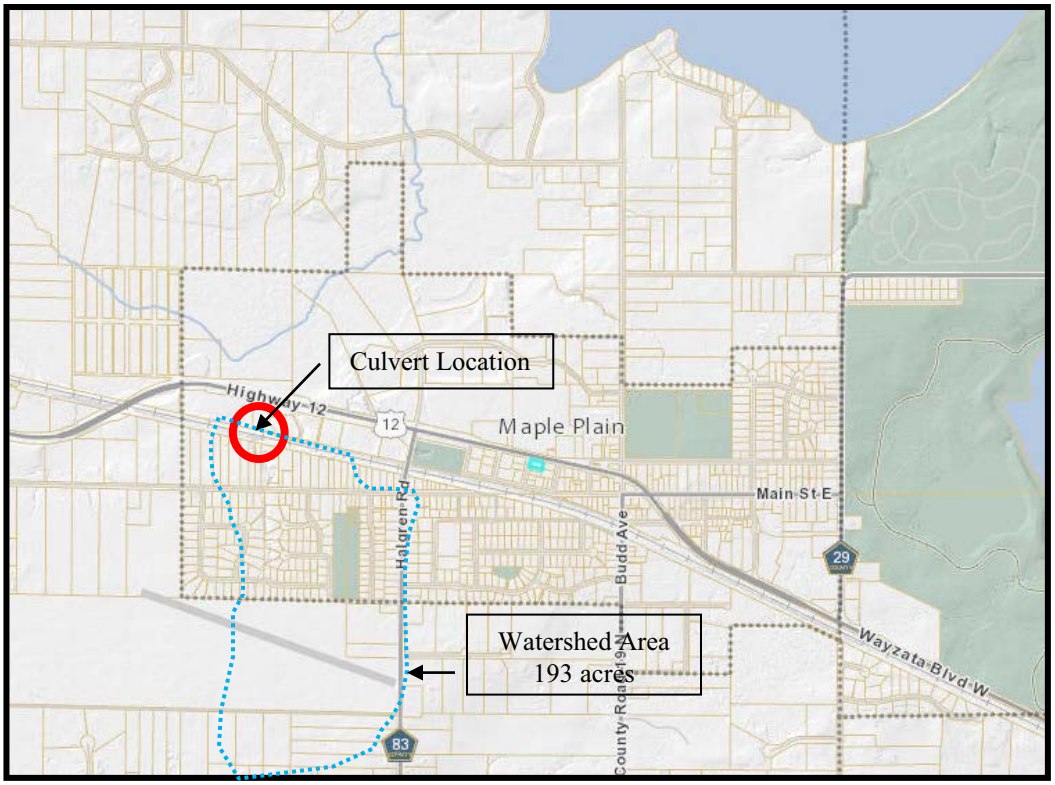
Recommendation: Approval pending receipt of scour protection details per item 5 and 7.

Hennepin County Department of Environmental Services
Advisor to the Commission

James C. Kujawa,
Water Quality Specialist

July 13, 2017
Date

Location Map



BNSF Culvert 32.5 Replacement
2017-02r
July 14, 2017

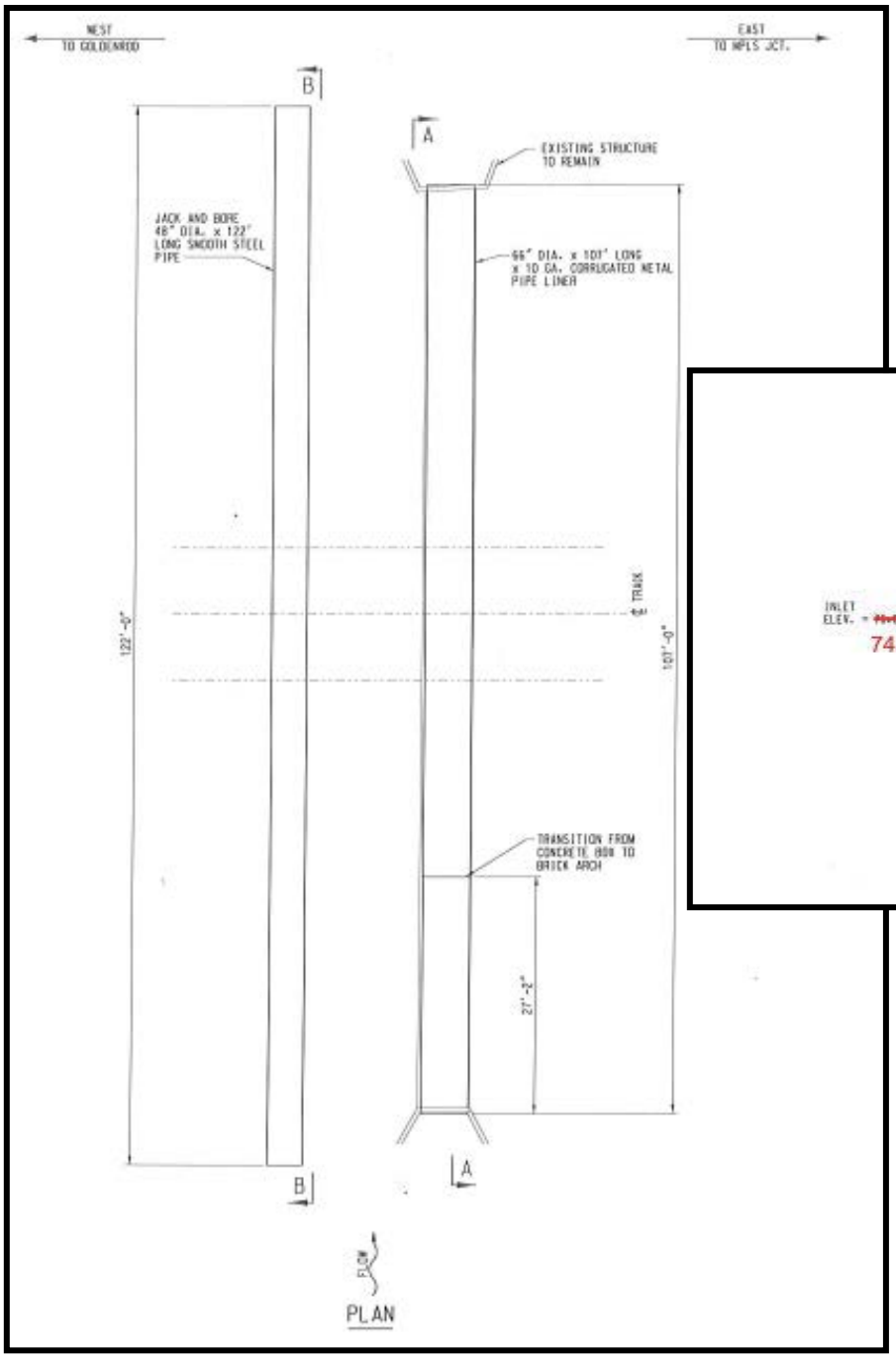
Location Map

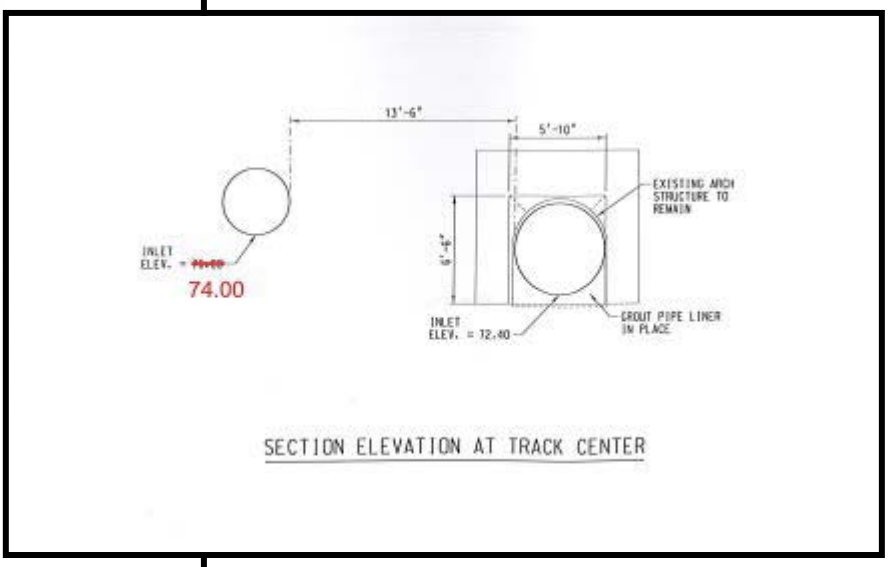
Existing Culvert

Culvert Shape Transition Looking to the North

BNSF Culvert 32.5 Replacement
2017-02r
July 14, 2017

Plan Views





Horse Stable Redesign for Water Quality and Animal Health Field Day

10:00 AM to 12:30 PM ☼ Saturday August 5th 2017

At the Foxwood Farm of Joanie Stene



15120 So. Diamond Lake Road
Dayton, MN 55327 (Ctl+ Click on link)
(763) 576-9608

You are invited to a field day about managing horse stables and pastures to reduce polluted runoff and make the life of the equine enthusiast easier. A number of projects --including clean water diversions, gutters, tiled waterway and composting facilities have been installed at this poorly drained site. It will be informal and informative with plenty of time for discussion and interaction. Meet fellow horse enthusiasts --*a great networking opportunity!* Light refreshments provided. This is a free event but please **RSVP by August 2nd to Karl Hakanson, University of MN Extension-Hennepin County: 612.624.7948 / khakanso@umn.edu**

AGENDA

10:00 to 10:15: Welcome and Introductions

10:15 to 10:30: We All Live in a Watershed
… and we can all take responsibility for the water running off our property!
Opening remarks by **Karl Hakanson, U of MN Extension Hennepin County.**

10:30 – 11:00: Natural Resources and Horses in Hennepin County
A review of the issues surrounding horse operations and water quality in Hennepin County with **Kirsten Barta, Rural Conservationist, Hennepin Co. Environment & Energy Dept.**

11:00 to 11:30: Pasture & Manure Management for Horse, Water and Wallet Health
Presentation by **UMN PhD. candidate Michelle DeBoer** on taking full advantage of pasture and manure assets to provide economical forage for your horses.

11:30 to 12:30: How we improved infrastructure and management on a difficult situation
Owner Joanie Stene and **Jim Kujawa, Surface Water Resource Specialist, Hennepin Co. Environment & Energy Dept.**, will highlight the water quality and stable management improvement process.

12:30: Adjourn