

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

455 HAYWARD AVENUE, OAKDALE, MINNESOTA 55082
Phone 651.330.8220 x22 fax 651.330.7747 www.mscwmo.org



Regular Meeting of the Middle St. Croix Watershed Management Organization Bayport Public Library, Bayport, MN Thursday, October 12, 2017 6:00PM

1. Call to Order – 6:00PM
2. Approval of Minutes
 - a. Draft minutes- September 14 , 2017 –**Pages 1-3**
4. Treasurer’s Report
 - a. Report of savings account, assets for October 12, 2017
 - b. Approve payment of bills for October 12, 2017
5. Public Comments
6. Old Business
7. New Business
 - a. St. Croix Master Water Stewards Grant Application **Page 4**
 - b. Washington County Annual Budget Review Materials **Pages 5-9**
 - c. 2018 WCD Fee for Services Agreement **Pages 10-16**
8. Grants and Cost Shares
 - a. Buffering the St. Croix Reimbursement Request, St. Mary’s Point **Page 17**
 - b. Nelson School Townhouse Permeable Paver Application, Stillwater **Page 18**
 - c. Meyer Infiltration Basin, Raingarden, and Bluff Drainage Improvement, Lakeland **Page 19**
9. Plan Reviews/Submittals
 - a. CSAH 14/24 Reconstruction, Baytown Township **Pages 20-29**
 - b. Ecumen Senior Living Facility New Development, Stillwater **Pages 30-39**
10. Administrator’s Report **Pages 40-41**
11. Adjourn

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Minutes of the Middle St. Croix Watershed Management Organization Bayport Public Library, Bayport, MN Thursday, September 14, 2017 6:00PM

Present: Brian Zeller, Lakeland Shores; John Fellegly, Baytown; Mike Runk, Oak Park Heights; Annie Perkins, Afton; Tom McCarthy, Lake St. Croix Beach; Administrator Mike Isensee.

1. Call to Order – 6:10PM

The meeting was called to order by Brian Zeller at 6:10pm.

2. Approval of Minutes

- a) Draft minutes July 13, 2017
Motion to approve the minutes was made by Mike Runk, seconded by Tom McCarthy.
Motion carried.

3. Treasurer's Report

- a. Report of savings account, assets for September 14, 2017
- b. Approve payment of bills for September 14, 2017

June: The remaining checking account balance is \$206,681.25. First State Bank CDs are valued at \$32,094.13. The ending balance in the RBC savings account is \$48,661.43.

Bills to be approved this month are:

Carmen Simonet Design:	\$340.00;
Dragonfly Gardens:	\$500.00;
Helmer Printing:	\$553.60;
Washington Conservation District (Administration July)	\$2,920.00;
Washington Conservation District (Administration August)	\$2,920.00;
Washington Conservation District (Technical Services July)	\$5,723.14;
Washington Conservation District (Technical Services Aug)	\$5,723.14;
Washington Conservation District (Grant Hours);	\$1,750.00;
Washington Conservation District (Lake St. Croix)	\$4,116.36;
Washington Conservation District (Lily Lake)	\$3,802.50;

Total: \$38,105.35

Administrator Isensee provided an overview of the September

Tom McCarthy moved to approve the treasurer's report and pay the bills presented, seconded by Mike Runk, and the motion carried.

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9. Administrator's Report page

- a. Administrator Isensee provided an overview of activities in July and August 2017. The board discussed the next steps in the One Watershed One Plan development process. Encouraged Administrator Isensee to keep the process efficient.

10. Adjourn

The motion to adjourn was made by Brian Zeller, seconded by John Fellegly. The motion carried and the meeting was adjourned at 7:48 p.m.

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MEMORANDUM

TO: Middle St. Croix WMO Board of Managers
FROM: Mikael Isensee, Administrator
DATE: October 12, 2017

7a) St. Croix Master Water Stewards Grant Application

The St. Croix Master Water Stewards Program is accepting applications for up to \$5,000.00 for organizations partnering with Master Waters Stewards on water quality and environmental education, with the goal of dramatically increasing the stewardship ethic and activities in the St. Croix Watershed.

Staff is recommending applying for the grant to establish an Adopt-A-Raingarden program in partnership with Master Water Steward Nancy Anderson and East Metro Water Resource Education Program. If awarded, the funding will be utilized to cover the costs of the development, printing and purchase of materials and development of a volunteer training program.

St. Croix Master Water Stewards Grant Application

Motion by Board Member 1, seconded by Board Member 2, to approve an application of \$5,000.00 to establish an Adopt-A-Raingarden Program.

Middle St. Croix Water Management Organization

Capital Projects

- *Lily Lake Phase III-* In 2014 the MSCWMO received a grant from the BWSR's Clean Water Fund to implement a portion of the projects outlined in the 2010 Lily Lake Subwatershed Assessment study. Design of a gully stabilization and infiltration project in partnership with the City of Stillwater and Stillwater Area Schools is complete. Modeling indicates annual phosphorous reduction of 40.0 pounds per year.
- *Lily Lake Final 45* –In 2017 the MSCWMO received a grant from the BWSR's Clean Water Fund to identify and design projects with community input in the Lily Lake watershed to reduce 45lbs. of total phosphorous. The project is currently underway and the final report guiding the installation of water quality practices through 2022 is anticipated to be completed in July 2018.
- *Lake St. Croix Direct Discharge Phase I-* In 2014 the MSCWMO completed a subwatershed analysis of the areas of Oak Park Heights, Stillwater and Bayport that directly discharge stormwater and pollutants to Lake St. Croix without treatment. The final analysis summarized over 130 prioritized stormwater quality improvement projects ranked by cost/benefit. In 2015 a portion of the Lake St. Croix Direct Phase I Clean Water Fund Grant was utilized in partnership with the City of Oak Park Heights to install 10 bioretention basins in an area directly discharging to Lake St. Croix. In 2016 design and partial installation was completed of an iron enhanced sand filter and bioretention basins at the Stillwater Junior High School.
- *Lake St. Croix Direct Discharge Phase II-* In 2016 the MSCWMO was awarded a Clean Water fund grant to implement phase II of the Lake St. Croix Direct Discharge Subwatershed Analysis. The Analysis included Anderson Windows manufacturing facility in Bayport, MN. The facility has completed plans and planning the installation of a filtration basin in 2018. Additionally, three curb cut bioretention basins were designed in 2016 and will be installed by the City of Stillwater in 2018.
- *Perro Creek Phase I-* In 2017 the MSCWMO received a grant from the BWSR's Clean Water Fund to design and install projects identified in the 2013 Perro Creek Subwatershed Analysis. The WMO in partnership with the Washington Conservation District and City of Bayport are designing and installing approximately 6 water quality improvement projects to reduce phosphorous discharging to Perro Creek, then to Lake St. Croix in 2018.

2018 Program Priorities

- *Water Quality Improvement:* The MSCWMO's top priority is to continue to make significant progress improving the quality of water resources within the boundaries of the watershed. In 2018 we will continue to work collaboratively with Washington County, member communities, and private landowners to identify, prioritize, design and install high quality best management practices that reduce chronic pollution to Lake McKusick, Lily Lake, Perro Creek, and Lake St. Croix.
- *Monitoring:* The WMO will continue to monitor the condition of Lake Mc Kusick, Lily Lake, and Perro Creek. Additionally, targeted monitoring of the outfall of Brick Pond to Lily Lake will continue for a fourth year to demonstrate the highest concentrations of nutrients are contributed from stormwater runoff, not from Brick Pond.
- *Watershed Management Plan:* The MSCWMO will continue implementing its performance standards and water quality best management practices implementation plan in the 2015-2025 Watershed Management Plan. The WMO will also continue collaboration to implement the 2013 County Groundwater Plan through verifying all proposed volume control facilities meet

MN Health Department requirements and by continuing to promote Washington County Low Interest Septic Loan Program.

- *Programs:* Continue to promote the Best Management Practices Program that provides assistance and cost share to member communities and residents for implementing, tracking, inspecting and maintaining practices that protect and improve water quality. The WMO will also continue its inspections program that ensures policies and performance standards are being met on construction sites within the WMO. The WMO will continue to be a member of the East Metro Water Resource Education Program and provide funding for the program.
- *Projects:*
 - The WMO will partner with the Washington Conservation District, Lily Lake Association and City of Stillwater to design and install targeted projects to improve water quality for Lily Lake.
 - The WMO will continue to partner with the cities of Oak Park Heights, Stillwater and Bayport to design and install projects that improve water quality for areas discharging stormwater and pollutants directly to Lake St. Croix.
 - The WMO in partnership with a host of other local governments in Washington County will continue the stormwater BMP pilot maintenance program.
 - *Grants:* The WMO will continue to apply for funding to assist with the implementation of water quality improvement projects on Lily Lake and Lake St. Croix

Cooperative Efforts

- Participate in Water Consortium meetings and activities.
- Participate in educational display at Washington County Fair.
- Provide funding for the East Metro Water Resource Education Program.
- Provide funding for Stormwater Best Management Practice Tracking and Inspections Database.
- Provide technical review of qualifying projects for member communities.
- Collaborate to implement best management practice maintenance program in partnership with the Washington Conservation District, Washington County Transportation, and other Watersheds.
- Participate in the development of the Lower St. Croix – One Watershed-One Plan with BWSR & partners

	2017-2018 Comparison					
	2017 Total Budgeted Expenditures	2018 Total Budgeted Expenditures	2017-2018 % Change	2017	2018 Levy*	2017-2018 % Change
Watershed Districts						
Brown's Creek	\$1,510,350			\$981,000		
Carnelian Marine St. Croix	\$714,000			\$482,800		
Comfort Lake-Forest Lake	\$1,898,394			\$998,000		
Ramsey Washington Metro	\$11,137,610			\$6,955,860		
Rice Creek**	\$9,289,099			\$4,383,000		
South Washington***	\$3,998,740			\$993,340		
Valley Branch	\$1,120,500			\$870,000		
Joint Power Water Management Organization****						
Middle St. Croix	\$353,070	\$447,070	26.6%	\$133,070	\$133,070	0.0%

* The levy for multi county watershed districts is the total amount certified to all counties.

** Interest/Fees includes \$XXX special assessments for four active water management districts (WMDs). Carry over /FB budgeted for several previous years in anticipation of implementation of several large regional flood control projects in 2018.

*** A majority of the revenue in 2018 will be collected through a storm water utility fee rather than levy.

**** All revenue comes from communities pursuant to the joint powers agreement.

2018 WMO Internal Services Summary

Watershed Name	BCWD	CMSCWD	CLFLWD	MSCWMO	RWMWD	RCWD	SWWD	VBWD
Annual Budget				\$353,070				
Manager Compensation & Expenses				\$0				
Dues & Publications				\$0				
Accounting/Audit				\$1,900				
Insurance & Bonds				\$3,000				
Administrative Assistant and/or Clerical Costs				\$1,100				
Office Supplies & Equipment				\$750				
Office Space				\$0				
Legal Costs - General				\$1,000				
Staff Engineer Costs - General, not project specific				\$0				
Administrator - General Administration Costs				\$29,200				
Overhead/Benefits for administrative staff				\$0				
Full time admin staff or contract?				Contract				
Total Internal Services Budget from items listed above:	\$0	\$0	\$0	\$36,950	\$0	\$0	\$0	\$0
% of total budget that is internal services	#DIV/0!	#DIV/0!	#DIV/0!	10%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

The county recognizes this is not an all inclusive list of all watershed activities, these are internal services (Administrative) costs only. See definition spreadsheet for additional details about what constitutes internal services costs.

Middle St. Croix WMO



- Greeley Gully Stabilization and Volume Control
- Stillwater, Stillwater Schools, & WCD
- \$139,000
- 2014-2017
- 40 lb. Annual Phosphorus Reduction To Lily Lake

**2018 SERVICE AGREEMENT
BETWEEN
WASHINGTON CONSERVATION DISTRICT
AND MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION**

A. PARTIES

This Agreement is made and entered into by Washington Conservation District, (WCD), and the Middle St. Croix Watershed Management Organization (MSCWMO).

B. PURPOSE

WHEREAS, the MSCWMO has requested assistance from the WCD to implement the policies specified in MINN. STAT. §§ 103A.206 and 103D.201; and

WHEREAS, the WCD is authorized to enter agreements to provide such assistance pursuant to MINN. STAT. §§ 103C.331, SUBD. 3 and 7 and 103D.335, subd. 21.

NOW, THEREFORE, the parties agree as follows:

C. TERM OF CONTRACT

The term of this agreement shall be from January 1, 2017 to December 31, 2017 unless extended or terminated earlier as provided herein.

D. SCOPE OF SERVICES

The WCD will perform all services and furnish and deliver work products generally described the attached Exhibits.

E. COST

In full consideration for services under this agreement, the WCD shall charge the MSCWMO for its services at the rate set forth in Section F. Costs for services for activities detailed in the attached Exhibits include:

Exhibit A: Administrative Services - \$30,300.00

Exhibit B: Technical Services - \$116,000

Exhibit C: Water Monitoring Services - \$20,749.00

TOTAL: \$167,049.00

Any additional costs for special studies or capital projects must be set forth in a written amendment to this Agreement.

F. BILLING RATE AND PAYMENTS

1. Services in Exhibit A and B are billed on an hourly basis at the rate of \$27.00 - \$81.00 per hour, based on personnel and task. Invoices for Exhibits A and B will be sent on a monthly basis and will list specifically the work performed.

AIS Watercraft Inspectors

\$27

Seasonal	\$39
Technician	\$57
Senior Technician/Specialist	\$62
Senior Tech II/Specialist II	\$68
Senior Specialist	\$71
Manager/Administrator/Engineer	\$81

Services for BWSR grants will be billed per the BWSR calculator. Services in Exhibit C are billed on a lump sum basis for services and project expenses. Invoices in Exhibit C will be sent on a quarterly basis.

2. Project expenses will be billed as they are accrued.
3. Invoices are payable by the MSCWMO within 60 days.
4. Office supplies, normal office reproduction expenses, and transportation are included in the hourly rate. Other expenses are to be reimbursed at actual cost.

G. EQUAL EMPLOYMENT OPPORTUNITY- CIVIL RIGHTS

During the performance of this Agreement, the WCD agrees to the following:

No person shall, on the grounds of race, color, religion, age, sex, disability, marital status, public assistance, criminal record, creed or national origin, be excluded from full employment rights in, be denied the benefits of, or be otherwise subjected to discrimination under any program, service, or activity under the provisions of and all applicable federal and state laws against discrimination including the Civil Rights Act of 1964.

H. STANDARDS

The WCD shall comply with all applicable Federal and State statutes and regulations as well as local ordinances now in effect or hereafter adopted. Failure to meet the requirements of the above may be cause for cancellation of this contract effective the date of receipt of the Notice of Cancellation.

I. DATA PRIVACY

All data collected, created, received, maintained, or disseminated, or used for any purpose in the course of the WCD’s performance of the Agreement is governed by the Minnesota Government Data Practices Act, Minnesota 1984, Section 13.01, et seq. Or any other applicable state statutes and state rules adopted to implement the Act, as well as state statutes and federal regulations on data privacy. The WCD agrees to abide by these statutes, rules and regulations and as they may be amended.

J. AUDITS, REPORTS, AND MONITORING PROCEDURES

The WCD will:

1. Maintain records that reflect all revenues, cost incurred and services provided in the performance of the Agreement.
2. Agree that the County, the State Auditor, or legislative authority, or any of their duly authorized representatives at any time during normal business hours, and as often as they may deem reasonably necessary, shall have access to the rights to examine audit, excerpt, and transcribe any books, documents, papers, records, etc., and accounting procedures and practices of the WCD which are relevant to the contract.

K. INDEMNITY

The WCD and the MSCWMO mutually agree, to the fullest extent permitted by law, to indemnify and hold each other harmless for any and all damages, liability or cost (including reasonable attorneys’ fees and costs of defense)

arising from their own negligent acts, errors or omissions in the performance of their services under this agreement, to the extent each party is responsible for such damages and losses on a comparative basis of fault. Parties agree to provide proof of contractual liability insurance upon request. This paragraph does not diminish, with respect to any third party, any defense, immunity or liability limit that the WCD or the MSCWMO may enjoy under law.

L. INDEPENDENT CONTRACTOR

It is agreed that nothing herein contained is intended or should be construed in any manner as creating or establishing the relationship of co-partners between the parties hereto or as constituting the WCD as the agent, representative, or employee of MSCWMO for any purpose or in any manner whatsoever. The WCD is to be and shall remain an independent contractor with respect to all services performed under this Agreement.

The WCD represents that it has, or will secure at its own expense, all personnel required in performing services under this Agreement. Any and all personnel of the WCD or other person, while engaged in the performance of any work or services required by the WCD under this Agreement, shall have no contractual relationship with the MSCWMO and shall not be considered employees of the MSCWMO.

M. MODIFICATIONS

Any material alteration or variation shall be reduced to writing as an amendment and signed by the parties. Any alteration, modification, or variation deemed not to be material by written agreement of the WCD and the MSCWMO shall not require written approval.

N. MERGER

It is understood and agreed that the entire agreement of the parties is contained here, except as modified during the term of the Agreement by a writing under Paragraph M above concerning a non-material change, and that this contract supersedes oral agreements and negotiations between the parties relating to this subject matter. All items referred to in this contract are incorporated or attached and deemed to be part of the contract.

O. TERMINATION

Either the WCD or the MSCWMO may terminate this Agreement with or without cause by giving the other party thirty (30) days written notice prior to the effective date of such termination. If the MSCWMO terminates this Agreement, it may specify work to be performed by the WCD before termination is effective and shall pay the WCD for services performed by the WCD up to the time specified for termination. If the WCD terminates the Agreement, it will not be compensated for part completion of a task except to the extent part completion has value to the MSCMWO.

P. OWNERSHIP OF DOCUMENTS AND INTELLECTUAL PROPERTY

All property of the MSCWMO used, acquired or created in the performance of work under this Agreement, including documents and records of any kind, shall remain the property of the MSCWMO. The MSCWMO shall have the sole right to use, sell, license, publish, or otherwise disseminate any product developed in whole or in part during the performance of work under this Agreement.

**2018 SERVICE AGREEMENT
BETWEEN
WASHINGTON CONSERVATION DISTRICT
AND MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION**

IN TESTIMONY WHEREOF the parties have duly executed this agreement by their duly authorized officers.

APPROVED:

MSCWMO

WCD

BY: _____
Board Chair Date

BY: _____
Board Chair Date

BY: _____
Secretary Date

BY: _____
WCD Manager Date

Approval as to form and execution:

Date

EXHIBIT A

2018 MSCWMO ADMINISTRATIVE SERVICES AGREEMENT

At the request of the MSCWMO the WCD shall furnish the following services under the terms of the AGREEMENT.

TASK 1. Administrative Services

The WCD will provide administrative services to the MSCWMO. A WCD staff member shall serve as the Administrator of the MSCWMO. This staff member will be appointed by the WCD. The Administrator shall act on behalf of the Board of Managers to implement MSCWMO policies and actions. Administrative services will include: agenda and board packet preparation and distribution; receiving and sending official MSCWMO correspondence; submitting official notices for publication; coordination of meetings for the board, committees and other groups as necessary; maintaining the MSCWMO website; maintaining the MSCWMO files (except for projects conducted by the Watershed's Engineer or confidential legal records); directing activities between the MSCWMO, Engineer, Attorney, Recording Secretary, Local and State Units of Government and the public; acting as the primary and first response to inquiries from the public as to programs, projects and written policies or rules and other questions on MSCWMO issues, and other administrative duties as assigned by the MSCWMO Board.

TASK 2. Bookkeeping

The WCD will provide bookkeeping services to the MSCWMO. These services include: administration of accounts receivable and accounts payable including check generation, preparation of invoices for disbursement, and monthly bank reconciliation; coordination of annual audit and preparation of items necessary for audit; preparation of monthly reporting to the Board; preparation of budgets; and coordination of cash investment activities. The MSCWMO Board will direct any changes to accounts or investments.

BUDGET FOR 2018 = \$30,300.00

EXHIBIT B

2018 MSCWMO TECHNICAL SERVICES AGREEMENT

At the request of the MSCWMO the WCD shall furnish the following services under the terms of the AGREEMENT.

TASK 1. Review of Development Plans and Erosion Control Monitoring

The WCD will provide review and comment on development plans on behalf of the MSCWMO. Comments and recommendations for erosion and sediment control, grading, drainage, and wetland protection will be made. Follow-up development site inspections will be performed if deemed appropriate and coordinated with the member communities. Plan Review Fees will offset the cost of this program to the greatest extent possible.

TASK 2. Best Management Practices (BMP) Program Administration

The WCD will act as the primary and first response to inquiries from the public regarding general MSCWMO BMP Program information, program eligibility, and best management practice information. One WCD staff person will be identified as the BMP Program Coordinator. Initial inquiries about general topics and water quality issues, and initial site visits will be responded to as part of the standard WCD programs and not charged under this contact. Specific inquiries regarding MSCWMO cost share, development of site concepts and designs, implementation assistance, receiving and sending official MSCWMO correspondence related to the Program, maintaining the Program files, administering cost-share documents needed as a part of the Program, and follow-up project reviews will be responded to as part of the MSCWMO BMP Program and will be charged as a part of this contract. Overall program coordination, summary reports, and ongoing program evaluation will be provided.

TASK 3. Community Outreach and Education

The WCD will use targeted and broad-based outreach techniques to generate interest in and understanding of the MSCWMO. The techniques used will include participation in local fairs, events, and community group meetings as a representative of the MSCWMO. The WCD will provide technical assistance and information to the citizens and communities of the MSCWMO through this program. This task is separate from but coordinated with the East Metro Water Resource Education Program.

TASK 4. Clean Water Grant Fund Administration and Implementation

The WCD will successfully carryout the work plan items identified in the Clean Water Fund Grants: Lake St. Croix Direct Discharge Phase I and Lake St. Croix Direct Phase II, Perro Creek Phase I, Lily Lake Final 45 grants. The WCD will administer and implement the grants in cooperation with member community staff and in compliance with Board of Water and Soil Resource documentation and reporting requirements.

BUDGET FOR 2018 = \$116,000

EXHIBIT C
2018 MSCWMO WATER MONITORING SERVICES AGREEMENT

TASK 1. Lake Monitoring Services

The WCD will monitor McKusick Lake and Lily Lake 14 times per year, April through October. Surface water quality samples are collected and analyzed for total phosphorus, chlorophyll-a, and total Kjeldahl nitrogen. Other measurements include Secchi disk transparency, dissolved oxygen and temperature profiles, and lake level. The fee includes labor, lab costs, all equipment, vehicles, canoe, ice, storage, etc. that is required to conduct the monitoring.

TASK 2. Brick Pond Flow and Water Quality Monitoring

The WCD will install flow monitoring equipment the outfall of Brick Pond to Lily Lake. Water quality samples will be collected and analyzed for total phosphorus and total suspended solids.

Task 3. Perro Creek Flow and Water Quality Monitoring

The WCD will install flow monitoring equipment at the Perro Creek outfall to Lake St. Croix. Water quality samples will be collected for total phosphorus, total suspended solids, and *E. coli*. *E. coli* samples will also be collected at 9 locations in an attempt to more accurately identify sources.

TASK 3. Water Monitoring Report

A water monitoring report will be generated that will incorporate current and previous years' data.

Budget for 2018 = \$20,749.00

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MEMORANDUM

TO: Middle St. Croix WMO Board of Managers
FROM: Mikael Isensee, Administrator
DATE: October 13, 2017

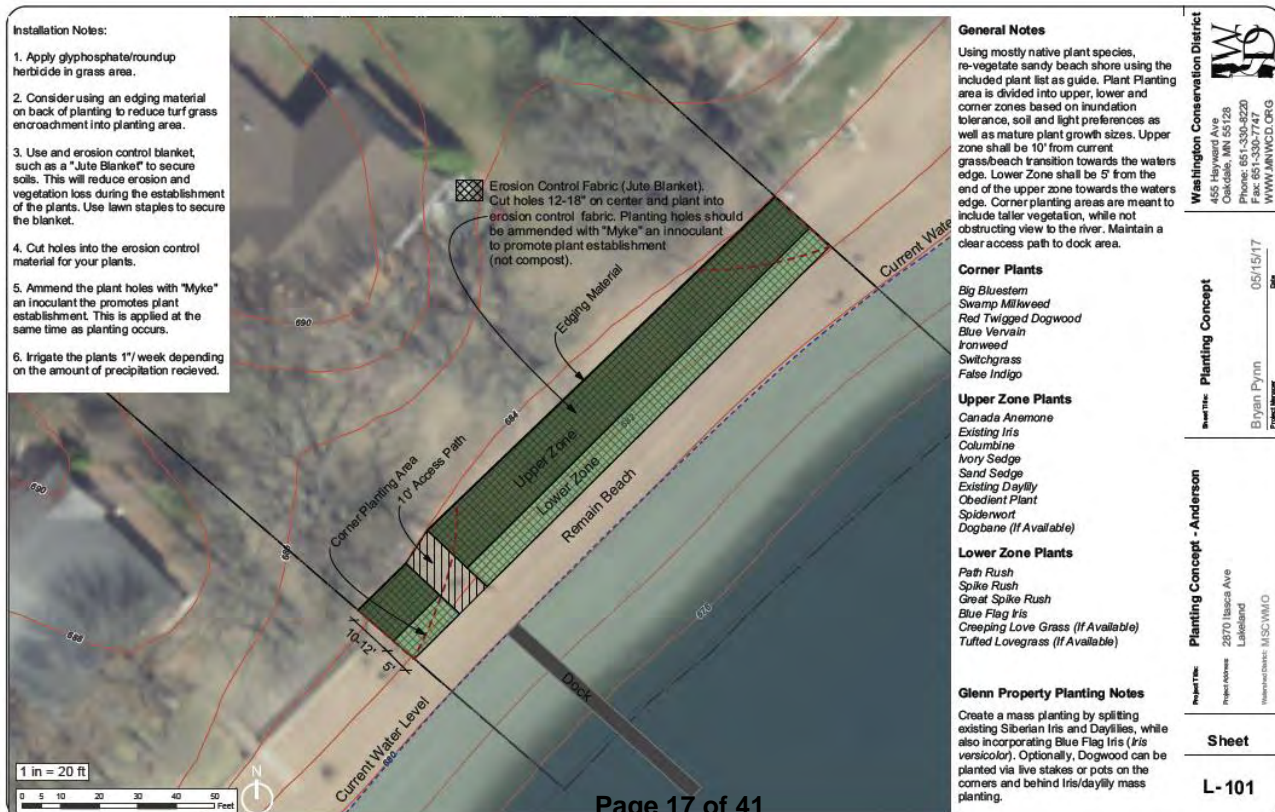
8a) Buffering the St. Croix Grant Reimbursement Request

Nancy Anderson, St. Croix Master Water Steward, working in partnership with the MSCWMO was awarded a \$2,535.00 EPA subgrant to design and install a native plant buffer on Lake St. Croix. The final project is now fully installed at 2870 Itasca Avenue in St. Mary's Point. MSCWMO Technical staff have verified the installation and receipts totaling \$1,751.04



Buffering the St. Croix Grant Reimbursement Request

Motion by Board Member 1, seconded by Board Member 2, to approve reimbursement of 1,751.04 for the successful installation of the native shoreline buffer on Lake St. Croix.



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MEMORANDUM

TO: Middle St. Croix WMO Board of Managers
FROM: Mikael Isensee, Administrator
DATE: October 12, 2017

8b) Nelson School Townhouse Permeable Paver Sidewalk

The Nelson School Townhouse homeowner association are requesting cost share to install a 450 square foot permeable paver sidewalk at 1018 First Street South in Stillwater. The project is located within the Lake St. Croix Direct Drainage area. The total project cost is estimate is \$7,620.00 The proposed project qualifies for a landscaping for water quality grant not to exceed \$250.00. Technical staff have reviewed plans and proposals and recommend funding not to exceed \$250.000

Nelson School Townhouse Permeable Paver Sidewalk Grant

Motion by Board Member 1, seconded by Board Member 2, to approve a water quality grant not to exceed \$250.00 for the installation per plans of a 450 square foot permeable paver sidewalk at 1018 First Street South.

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MEMORANDUM

TO: Middle St. Croix WMO Board of Managers
FROM: Mikael Isensee, Administrator
DATE: October 13, 2017

7c) Meyer Infiltration Basin, Raingarden, and Bluff Drainage Improvement

The Meyers have substantially completed a renovation of the property at 453 Quixote Avenue N. in Lakeland. The renovation did not trigger MSCWMO standards. The property receives stormwater runoff from approximately 0.2 acres of from 4th Street in Lakeland. The stormwater from 4th Street flows across the yard and down the bluff causing erosion. The Meyers are requesting cost share assistance to install the following practices on the south side of their property: a turf drainage swale, turf infiltration basin, a small grade stabilization structure, and a down drain. These practices will infiltrate stormwater during small storm events and safely convey water down the bluff during larger events. The Meyers are also seeking cost share assistance to install a large raingarden on the north side of their property that will divert stormwater away from the bluff and infiltrate it into a perennial planting.

The combined estimated reduction in phosphorous to Lake St. Croix is 3.7 pounds per year (from soil loss reduction and infiltration of urban stormwater).

The MSCWMO applied for and received a Lake St. Croix Improvement Grant from the St. Croix River Association for this project.

The project is not complete and technical staff has verified it was constructed per plan. Total receipts for the project were verified at \$8,199.52. Staff recommend reimbursement of \$6,121 from the Lake St. Croix Grant and \$879.00 from the MSCWMO cost share program for a total reimbursement of \$7,000.00.

MSCWMO Participation in the Master Water Stewards Program

Motion by Board Member 1, seconded by Board Member 2, to approve cost share payment of \$7,000.00 for the completion of the Meyer infiltration basin, raingarden and bluff drainage improvement project.

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October 12, 2017

Nancy Healey
Baytown Township
4020 McDonald Dr.
Stillwater, MN 55082

RE: CSAH 24 and CSAH 14 Intersection and Pavement Improvements

Dear Ms. Healey,

The Middle St. Croix Watershed Management Organization (MSCWMO) received revised submittals on September 12 2017, for the proposed CSAH 24 and CSAH 14 Intersection and Pavement Improvements, located within MSCWMO boundaries in the Township of Baytown. The proposed project qualifies for full review under the MSCWMO 2015 Watershed Management Plan (WMP).

The project, as revised, provides sufficient information to determine compliance with applicable Performance Standards contained within Section 7.0 of the 2015 MSCWMO WMP.

The MSCWMO recommends approval with the following conditions:

1. Sediment, trash, debris, and organic materials found in stormwater runoff clog infiltration and filtration best management practices (BMPs). Pretreatment is required, but cannot be credited for infiltration or filtration in the MIDS calculator.
2. The filtration basin design includes a raised underdrain. Please modify this in the MIDS calculator to reflect this design configuration.
3. Submit the biofiltration special provision to the MSCWMO for review.
4. Pretreatment is required for Basin B.
5. Add the following required construction notes: A. Excavation within 2.0 feet of final grade for infiltration/filtration systems is prohibited until contributing drainage areas are constructed and fully stabilized. B. Prior to the release of any remaining fee or security, the permit holder must provide documentation that constructed volume control facilities perform as designed.
6. Provide detail for the spillway stabilization from Basin A pretreatment cell into Basin A filtration basin.
7. Add tabulated quantities for erosion and sediment control to the SWPPP.

The enclosed checklist contains detailed information on project review qualification and the policies and performance standards of the WMP. MSCWMO review process information can be downloaded from www.mscwmo.org. Feel free to contact me at 651-330-8220 x22 or misensee@mnwcd.org if you have any questions regarding these comments.

Sincerely,

Mikael Isensee
Administrator
Middle St. Croix Watershed Management Organization

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

455 HAYWARD AVE. N.
OAKDALE, MINNESOTA 55128
Phone 651.330.8220 x22 fax 651.330.7747 www.mscwmo.org



PROJECT REVIEW

MSCWMO Project Review ID: 17-014

Project Name: CSAH 24 and CSAH 14 Intersection and Pavement Improvements

Applicant: Washington County Transportation

Purpose: Intersection and pavement improvements

Location: CSAH 24 and CSAH 14, Baytown Township

Review date: 10/6/2017

Recommendation: Approval with seven conditions.

1. Sediment, trash, debris, and organic materials found in stormwater runoff clog infiltration and filtration best management practices (BMPs). Pretreatment is required, but cannot be credited for infiltration or filtration in the MIDS calculator.
2. The filtration basin design includes a raised underdrain. Please modify this in the MIDS calculator to reflect this design configuration.
3. Submit the biofiltration special provision to the MSCWMO for review.
4. Pretreatment is required for Basin B.
5. Add the following required construction notes: A. Excavation within 2.0 feet of final grade for infiltration/filtration systems is prohibited until contributing drainage areas are constructed and fully stabilized. B. Prior to the release of any remaining fee or security, the permit holder must provide documentation that constructed volume control facilities perform as designed.
6. Provide detail for the spillway stabilization from Basin A pretreatment cell into Basin A filtration basin.
7. Add tabulated quantities for erosion and sediment control to the SWPPP.

Applicability:

- Any project undertaking grading, filling, or other land alteration activities that involve movement of 100 cubic yards of earth or removal of vegetation on greater than 10,000 square feet of land
- Any project that creates or fully reconstructs 6,000 square feet or more of impervious surface
- All major subdivisions or minor subdivisions that are part of a common plan of development. Major subdivisions are defined as subdivisions with 4 or more lots.
- Any project with wetland impacts
- Any project with grading within public waters
- Any project with grading within buffers

- Any project with grading within 40-feet of the bluff line
- Development projects that impact 2 or more of the member communities
- New or redevelopment projects within the St. Croix Riverway that require a building permit that adds five hundred (500) square feet or more of additional impervious surface
- Any project requiring a variance from the current local impervious surface zoning requirements for the property
- Any land development activity, regardless of size, that the City determines is likely to cause an adverse impact to an environmentally sensitive area or other property, or may violate any other erosion and sediment control standard set by the member community.

SUBMITTAL ITEMS:

Electronic submittals are highly encouraged

- A completed and signed project review application form and review fee
- Grading Plan/Mapping Exhibits
 - a. Property lines and delineation of lands under ownership of the applicant.
 - b. Delineation of existing on-site wetlands, shoreland and/or floodplain areas (including any buffers).
 - c. Ordinary High Water (OHW) elevations and datum, as determined by the MDNR (if applicable).
 - d. Existing and proposed site contour elevations related to NAVD 1988 datum (preferred) or NGVD, 1929. Datum must be noted on exhibits.
 - e. Drainage easements covering land adjacent to ponding areas, wetlands, and waterways up to their 100-year flood levels and covering all ditches and storm sewers. Access easements to these drainage easements and to other stormwater management facilities shall also be shown.
 - f. Minimum building elevation for each lot.
 - g. Identification of downstream water body.
- Permanent Stormwater Management System in compliance with the requirements of the NPDES SDS Construction Stormwater Permit and MSCWMO Performance Standards.
 - a. Impervious areas (Pre- and Post-Construction).
 - b. Construction plans and specifications for all proposed stormwater management facilities.
 - c. Location(s) of past, current or future onsite well and septic systems (if applicable).
- Other exhibits required to show conformance to these Performance Standards
- A Stormwater Pollution Prevention Plan in compliance with the requirements of the NPDES SDS Construction Stormwater Permit

- Grading Plan/Mapping Exhibits:
 - a. Delineation of the subwatersheds contributing runoff from off-site, proposed and existing on-site subwatersheds, and flow directions/patterns.
 - b. Location, alignment, and elevation of proposed and existing stormwater facilities.
 - c. Existing and proposed normal water elevations and the critical (the highest) water level produced from the 100-year 24-hour storms.
 - d. Location of the 100-year flood elevation, natural overflow elevation, and lowest floor elevations.

- Hydrologic/Hydraulic Design Exhibits:
 - a. All hydrologic and hydraulic computations completed to design the proposed stormwater management facilities shall be submitted. Model summaries must be submitted. The summaries shall include a map that corresponds to the drainage areas in the model and all other information used to develop the model.
 - b. A table (or tables) must be submitted showing the following:
 - i. A listing of all points where runoff leaves the site and the existing and proposed stormwater runoff rates and volumes.
 - ii. A listing of the normal water levels under existing and proposed conditions and the water levels produced from the storm and runoff events listed above for all on-site wetlands, ponds, depressions, lakes, streams, and creeks.

- NA Dedications or easements for the portions of the property which are adjacent to the facility and which lie below the 100 year flood level. For sites within public right-of-way, no easement is required.

- A proposed maintenance agreement, which may be in the format of Appendix K, or other form approved by the city or township.

HISTORY & CONSIDERATIONS:

SPECIAL OR IMPAIRED WATER

- This site drains to, and is within one mile of special or impaired water and complies with enhanced protections.
 - a. Scenic or Recreational river C.1., C.2., C.3.
 - b. Scientific and Natural area C.1., C.2., C.3.
 - c. Waterbody with a TMDL C.1., C.2.
 - C.1. Stabilization initiated immediately and all soils protected in seven days/provide temp basin for five acres draining to common location.
 - C.2. Treat water quality volume of one inch of runoff by retaining on site unless not feasible due to site conditions (See Part III.D.1. design requirements).
 - C.3. Maintain buffer zone of 100 linear feet from Special Water.

EROSION AND SEDIMENT CONTROL [*A checked box indicates compliance*]

- A Stormwater Pollution Prevention Plan (SWPPP) that meets the National Pollutant Discharge Elimination System (NPDES) requirements.

Narrative

- Identify the person knowledgeable and experienced who will oversee the implementation of the SWPPP; the installation, inspection, and maintenance of the BMPs.
- a. Identifies the person who will oversee the BMP inspection and maintenance.
 - b. Identify the training requirements are satisfied.
 - c. Inspections performed once every 7 days.
 - d. Inspections performed within 24 hours of a rain event greater than 0.5 in/24 hours.
 - e. Inspection and Maintenance records include:
 - i. Date and time of inspection.
 - ii. Name of person(s) conducting inspections.
 - iii. Finding of inspections, including the specific location where corrective actions are needed.
 - iv. Corrective actions taken (including dates, times, and party completing maintenance activities).
 - v. Date and amount of rainfall events greater than 0.5 in/24 hours.
 - vi. Rainfall amounts must be obtained by a properly maintained rain gauge installed onsite, or by a weather station that is within one mile or by a weather reporting system.
 - vii. Requirements to observe, describe, and photograph any discharge that may be occurring during the inspection.
 - viii. All discovered nonfunctional BMPs must be repaired, replaced, or supplemented with functional BMPs within 24 hours after discovery, or as soon as field conditions allow.
- Describes procedures to amend the SWPPP and establish additional temporary ESC BMPs as necessary for site conditions.
- Describes the installation timing for all Erosion Sediment Control (ESC) Best Management Practices (BMPs).
- Describes final stabilization methods for all exposed areas.
- Methods used to minimize soil compaction and preserve topsoil must be described.
- Describes dewatering technique to prevent nuisance conditions, erosion, or inundation of wetlands?
- NA Identifies any specific chemicals and the chemical treatment systems that may be used for enhancing the sedimentation process on the site, and how compliance will be achieved with the permit requirements.
- Describes pollution prevention management measures
- a. Storage, handling, and disposal of construction products, materials, and wastes.

- b. Fueling and maintenance of equipment or vehicles; spill prevention and response.
- c. Vehicle and equipment washing.
- d. No engine degreasing allowed on site.
- e. Containment of Concrete and other washout waste.
- f. Portable toilets are positioned so that they are secure.

Plan sheets

*NA Temporary Sediment Basins required (10 acres draining to common location or 5 acres App. A)
Basin design meets the following criteria:*

- a. Adequately sized – 2-year, 24-hour storm, minimum 1,800 feet/acre; or no calculative minimum 3,600ft³/acre.
- b. Designed to prevent short circuiting.
- c. Outlets designed to remove floating debris.
- d. Outlets designed to allow complete drawdown.
- e. Outlets designed to withdraw water from the surface
- f. Outlets have energy dissipation.
- g. Have a stabilized emergency spillway.
- h. Situated outside of surface waters and any natural buffers.
- Locations and types of all temporary and permanent Erosion Control BMPs.
 - a. Exposed soils have erosion protection/cover initiated immediately and finished within 7 days.
 - b. Wetted perimeters of ditches stabilized within 200 feet of surface water within 24 hours.
 - c. Pipe outlets have energy dissipation within 24 hours of connecting.
- Locations and types of all temporary and permanent Sediment Control BMPs.
 - a. Sediment control practices established on down gradient perimeters and upgradient of any buffer zones.
 - b. All inlets are protected.
 - c. Stockpiles have sediment control and placed in areas away from surface waters or natural buffers.
 - d. Construction site entrances minimize street tracking?
 - e. Plans minimize soil compaction and, unless infeasible to preserve topsoil.
 - f. 50 foot natural buffers preserved or (if not feasible) provide redundant sediment controls when a surface water is located within 50 feet of the project's earth disturbances and drains to the surface water.

- Tabulated quantities of all erosion prevention and sediment control BMPs.
- Stormwater flow directions and surface water divides for all pre- and post-construction drainage areas.
- NA Locations of areas not to be disturbed (buffer zones).
- NA Location of areas where construction will be phased to minimize duration of exposed soil areas.
- NA *Blufflines are protected from construction activities in urban (40 foot buffer) areas and rural areas (100-foot buffer).*

LAKE, STREAM AND WETLAND BUFFERS

- NA A buffer zone of unmowed natural vegetation is maintained or created upslope of all water bodies (wetlands, streams, lakes).
- NA A 50 foot natural buffer or (if a buffer is infeasible) provide redundant sediment controls when a surface water is located within 50 feet of the project's earth disturbances and stormwater flows to the surface water.
- NA If adjacent to a Special or Impaired Water an undisturbed buffer zone of not less than 100 linear feet from the special water is maintained both during construction and as a permanent feature post construction.

STORMWATER MANAGEMENT *[A checked box indicates compliance]*

- Water quality treatment is provided prior to direct discharge of stormwater to wetlands and all other water bodies.

Rate and Flood Control Standards

- The peak rate of stormwater runoff from a newly developed or redeveloped site shall not exceed the 2-, 10-, and 100-year 24-hour storms with respective 2.8, 4.2, and 7.3-inch rainfall depths with MSCWMO approved time distribution based on Atlas 14 for existing and proposed conditions. The runoff curve number for existing agriculture areas shall be less than or equal to the developed condition curve number. The newly developed or redeveloped peak rate shall not exceed the existing peak rate of runoff for all critical duration events, up to and including the 100-year return frequency storm event for all points where discharges leave a site during all phases of development.
- Predevelopment conditions assume "good hydrologic conditions" for appropriate land covers as identified in TR-55 or an equivalent methodology. Runoff curve numbers have been increased where predevelopment land cover is cropland:
 - Hydrologic Soil Group A: Runoff Curve Number 56
 - Hydrologic Soil Group B: Runoff Curve Number 70
 - Hydrologic Soil Group C: Runoff Curve Number 79
 - Hydrologic Soil Group D: Runoff Curve Number 83
- Computer modeling analyses includes secondary overflows for events exceeding the storm sewer systems level-of-service up through the critical 100-year event.

- NA In sub-areas of a landlocked watershed, the proposed project does not increase the predevelopment volume or rate of discharge from the sub-area for the 10-year return period event.
- NA Flowage easements up to the 100-yr flood level have been secured for stormwater management facilities (such as ditches and storm sewers).
- NA Lowest floor elevations of structures built adjacent to stormwater management features and other water bodies are a minimum of two feet above the 100-year flood elevation and a minimum of two feet above the natural overflow of landlocked basins.

Volume Control Standards

- Calculations/computer model results indicate stormwater volume is controlled for new development and redevelopment requirements per the MSCWMO Design Standards.
Sites with Restrictions- Indicators of karst have been found. Flexible treatment options documentation has been provided.

Volume Retention Required (cu. ft.)		Volume Retention Provided (cu. ft.)	
Previous		BMP	Volume
New 78,843 sf *.55" = 3,613 cu. ft.		3A (Inf B)	1,717 cu. Ft.
Or if 1.1" = 7,227		Basin A	2,905 cu. Ft.
		Swales	662 cu. Ft.
Total Required	3,613 cu. ft.	Total Proposed	5,284 cu.ft.

Flexible Treatment Options (when applicable)

- Applicant demonstrated qualifying restrictions as defined in Section 7.2.2 (4) of the 2015 MSCWMO Watershed Management Plan that prohibits the infiltration of the entire required volume.
- MIDS calculator submission demonstrates retention of 0.275" of runoff from the proposed impervious surfaces and removes 75% of the annual total phosphorous. **75% and 62%**

Infiltration/Filtration Design Standards

- Proposed stormwater management features meet or exceed NPDES General Construction Permit requirements are designed in conformance with the most recent edition of the State of Minnesota Stormwater Manual.
- None of the following conditions exist that prohibit infiltration of stormwater on the site
 - a. Areas where vehicle fueling and maintenance occur.
 - b. Areas with less than three (3) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock.
 - c. Areas where industrial facilities are not authorized to infiltrate industrial stormwater under an National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Industrial Stormwater Permit issued by the MPCA.

- d. Areas where contaminants in soil or groundwater will be mobilized by infiltrating stormwater.
- e. Areas of Hydrologic Soil Group D (clay) soils
- f. Areas within 1,000 feet up-gradient, or 100 feet down-gradient of active karst features unless allowed by a local unit of government with a current MS4 permit.

Minimum setbacks from the Minnesota Department of Health for infiltration practices are met

Setback	Minimum Distance (ft)
Property line	10
Building foundation*	10
Private well	35
Public water supply well	50
Septic system tank/leach field	35
*Minimum with slopes directed away from the building	

Pretreatment devices(s) remove at least 50% of sediment loads. **Pretreatment required for Basin B.**

Water quality volume will be discharged through infiltration or filtration media in 48 hours or less.

a. For bioretention (biofiltration and bioinfiltration) volume control management facilities above ground with vegetation the period of inundation shall be calculated using the maximum water depth below the surface discharge elevation and the soil infiltration rate.

b. For infiltration basin volume control management facilities the period of inundation shall be calculated using the maximum water depth below the surface discharge elevation and the soil infiltration rate.

Appropriate soil borings have been conducted that meet the minimum standards.

a. A minimum of one boring was conducted at the location of the infiltration facility for facilities up to 1,000 ft²; between 1,000 and 5,000 ft², two borings, between 5,000 and 10,000 ft², three borings and greater than 10,000 ft² 4 borings plus an additional boring for every 2,500 ft² beyond 12,500 ft²

b. Soil borings extend a minimum of five feet below the bottom of the infiltration practice. If fractured bedrock is suspected, the soil boring goes to a depth of at least ten feet below the proposed bottom of the volume control facility.

c. A minimum of three feet of separation to the seasonal water table and/or bedrock.

d. Identify unified soil classification.

The least permeable soils horizon identified in the soil boring dictated the infiltration rate.

Additional flows are bypassed and are routed through stabilized discharge points.

NA Filtration basin demonstrates a basin draw down between 24 hours and 48 hours.

NA Filtration system designed to remove at least 80% of total suspended solids

NA Filtration system Iron Enhanced Sand Filter is sized to bind soluble phosphorous removal for 30 year functional life of the system using the published value of 17lbs.phosphorous removal per 20 yards of 5% by weight iron filings to 95% sand.

Construction plans provide adequate construction guidance to prevent clogging or compaction and demonstrate performance.

- a. Excavation within 2.0 feet of final grade for infiltration/filtration systems is prohibited until contributing drainage areas are constructed and fully stabilized.
- b. Rigorous sediment and erosion controls planned to divert runoff away from the system.
- c. Installation of volume control facilities must occur in dry soil conditions. Excavation, soil placement and rapid stabilization of perimeter slopes must be accomplished prior to the next precipitation event.
- d. Excavation shall be performed by an excavator with a toothed bucket. Use excavator bucket to place materials. Construction equipment shall not be allowed into the basin.
- e. Prior to the release of any remaining fee or security, the permit holder must provide documentation that constructed volume control facilities perform as designed.

There is a way to visually verify the system is operating as designed.

A minimum 8.0' maintenance access is provided to all stormwater facilities.

WETLAND PERFORMANCE STANDARDS

NA Direct discharge of stormwater to wetlands and all other water bodies without water quality treatment is prohibited.

NA Any potential changes to the hydrology of the wetland (i.e. changes to the outlet elevation or contributing drainage area) must be reviewed to evaluate the impact of both the existing and proposed wetland conditions and approved by the MSCWMO.

NA Land-altering activities shall not increase the bounce in water level or duration of inundation from a 2.0-inch 24-hour storm for any downstream wetland beyond the limit specified in Table 7.2 for the individual wetland susceptibility class.

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

455 HAYWARD AVENUE OAKDALE, MINNESOTA 55128
Phone 651.330.8220 x22 fax 651.330.7747 www.mscwmo.org



October 13, 2017

Ms. Abbi Jo Wittman
City of Stillwater
406 Fourth Street North
Stillwater, MN 55082

RE: Ecumen Senior Living Facility

Dear Ms. Wittman:

The Middle St. Croix Watershed Management Organization (MSCWMO) received required submittal items on September 29, 2017 for the proposed Ecumen Senior Living Facility, located within MSCWMO boundaries and in the City of Stillwater. The proposed project qualifies for full review under the MSCWMO 2015 Watershed Management Plan (WMP).

The project, as submitted, did not provide sufficient information to determine compliance with the Policies and Performance Standards contained within Section 7.0 of the 2015 MSCWMO WMP. Please revised the plans to include the following information and resubmit for staff level review:

1. Remove the underground filtration basin cross section on sheet C 5.1 and add a cross section for the biofiltration basins.
2. Reconfigure biofiltration basins to bypass high flows when the basins are full. High flows are currently routed through the basins.
3. Add pretreatment to remove at least 50% of sediment loads prior to discharge to biofiltration basins.
4. Add the biofiltration basin construction guidance (listed in the enclosed checklist) to the grading plan sheet.
5. Add biofiltration basin media specifications. For filtration devices, media must contain less than 30 mg/kg of phosphorous.
6. Submit a proposed maintenance agreement, which may be in the format of Appendix K, or other form approved by the City of Stillwater.
7. Amend the SWPPP to include amendment procedures.
8. Submit documentation of easements up to the 100 year flood level for stormwater facilities.
9. Modify the design to achieve 75% TP reduction.

The enclosed checklist contains detailed information on project review qualification and the policies and performance standards of the WMP. MSCWMO review process information can be downloaded from www.mscwmo.org. Please contact me at 651-275-1136 x22 or misensee@mnwcd.org if you have any questions regarding these comments.

Sincerely,

Mikael Isensee
Administrator

Middle St. Croix Watershed Management Organization **Page 30 of 41**

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PROJECT REVIEW

MSCWMO Project Review ID: 17-016

Project Name: Ecumen Senior Living

Applicant: Anne Stanfield- Ecumen

Purpose: New Development of a Senior Living facility on an existing vacant lot.

Location: 114 Brick Street, Stillwater

Review date: 10/3/17

Recommendation: Amend the plans and resubmit.

Please address the following issues and resubmit the plans for review:

1. Remove the underground filtration basin cross section and an C 5.1 and add a cross section for the biofiltration basins.
2. Biofiltration design must bypass high flows when the basins are full. High flows are currently routed through the basins.
3. Add pretreatment to remove at least 50% of sediment loads prior to discharge to biofiltration basins.
4. Add the biofiltration basin construction guidance (highlighted below) to the grading plan sheet.
5. Add biofiltration basin media specifications. For filtration devices, media must contain less than 30 mg/kg of phosphorous.
6. Submit a proposed maintenance agreement, which may be in the format of Appendix K, or other form approved by the city.
7. Amend the SWPPP to include amendment procedures.
8. Submit documentation of easements up to the 100 year flood level for stormwater facilities.
9. Modify the design to achieve 75% TP reduction.

Applicability:

- Any project undertaking grading, filling, or other land alteration activities that involve movement of 100 cubic yards of earth or removal of vegetation on greater than 10,000 square feet of land
- Any project that creates or fully reconstructs 6,000 square feet or more of impervious surface
- All major subdivisions or minor subdivisions that are part of a common plan of development. Major subdivisions are defined as subdivisions with 4 or more lots.
- Any project with wetland impacts
- Any project with grading within public waters

- Any project with grading within buffers
- Any project with grading within 40-feet of the bluff line
- Development projects that impact 2 or more of the member communities
- New or redevelopment projects within the St. Croix Riverway that require a building permit that adds five hundred (500) square feet or more of additional impervious surface
- Any project requiring a variance from the current local impervious surface zoning requirements for the property
- Any land development activity, regardless of size, that the City determines is likely to cause an adverse impact to an environmentally sensitive area or other property, or may violate any other erosion and sediment control standard set by the member community.

SUBMITTAL ITEMS:

Electronic submittals are highly encouraged

- A completed and signed project review application form and review fee
- Grading Plan/Mapping Exhibits
 - a. Property lines and delineation of lands under ownership of the applicant.
 - b. Delineation of existing on-site wetlands, shoreland and/or floodplain areas (including any buffers).
 - c. Ordinary High Water (OHW) elevations and datum, as determined by the MDNR (if applicable).
 - d. Existing and proposed site contour elevations related to NAVD 1988 datum (preferred) or NGVD, 1929. Datum must be noted on exhibits.
 - e. Drainage easements covering land adjacent to ponding areas, wetlands, and waterways up to their 100-year flood levels and covering all ditches and storm sewers. Access easements to these drainage easements and to other stormwater management facilities shall also be shown.
 - f. Minimum building elevation for each lot.
 - g. Identification of downstream water body.
- Permanent Stormwater Management System in compliance with the requirements of the NPDES SDS Construction Stormwater Permit and MSCWMO Performance Standards.
 - a. Impervious areas (Pre- and Post-Construction).
 - b. Construction plans and specifications for all proposed stormwater management facilities.
 - c. Location(s) of past, current or future onsite well and septic systems (if applicable).
- Other exhibits required to show conformance to these Performance Standards

- A Stormwater Pollution Prevention Plan in compliance with the requirements of the NPDES SDS Construction Stormwater Permit
 - Grading Plan/Mapping Exhibits:
 - a. Delineation of the subwatersheds contributing runoff from off-site, proposed and existing on-site subwatersheds, and flow directions/patterns.
 - b. Location, alignment, and elevation of proposed and existing stormwater facilities.
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 - i. A listing of all points where runoff leaves the site and the existing and proposed stormwater runoff rates and volumes.
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 - c. Waterbody with a TMDL C.1., C.2.
 - C.1. Stabilization initiated immediately and all soils protected in seven days/provide temp basin for five acres draining to common location.

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- C.3. Maintain buffer zone of 100 linear feet from Special Water.

EROSION AND SEDIMENT CONTROL [*A checked box indicates compliance*]

- A Stormwater Pollution Prevention Plan (SWPPP) that meets the National Pollutant Discharge Elimination System (NPDES) requirements.

Narrative

- Identify the person knowledgeable and experienced who will oversee the implementation of the SWPPP; the installation, inspection, and maintenance of the BMPs.
 - a. Identifies the person who will oversee the BMP inspection and maintenance.
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 - d. Outlets designed to allow complete drawdown.
 - e. Outlets designed to withdraw water from the surface
 - f. Outlets have energy dissipation.
 - g. Have a stabilized emergency spillway.
 - h. Situated outside of surface waters and any natural buffers.
- Locations and types of all temporary and permanent Erosion Control BMPs.
 - a. Exposed soils have erosion protection/cover initiated immediately and finished within 7 days.
 - b. Wetted perimeters of ditches stabilized within 200 feet of surface water within 24 hours.
 - c. Pipe outlets have energy dissipation within 24 hours of connecting.
 - Locations and types of all temporary and permanent Sediment Control BMPs.
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 - b. All inlets are protected.
 - c. Stockpiles have sediment control and placed in areas away from surface waters or natural buffers.
 - d. Construction site entrances minimize street tracking?
 - e. Plans minimize soil compaction and, unless infeasible to preserve topsoil.

f. 50 foot natural buffers preserved or (if not feasible) provide redundant sediment controls when a surface water is located within 50 feet of the project's earth disturbances and drains to the surface water.

- Tabulated quantities of all erosion prevention and sediment control BMPs.
- Stormwater flow directions and surface water divides for all pre- and post-construction drainage areas.
- Locations of areas not to be disturbed (buffer zones).
- NA Location of areas where construction will be phased to minimize duration of exposed soil areas.
- NA *Blufflines are protected from construction activities in urban (40 foot buffer) areas and rural areas (100-foot buffer).*

LAKE, STREAM AND WETLAND BUFFERS

- A buffer zone of unmowed natural vegetation is maintained or created upslope of all water bodies (wetlands, streams, lakes).
- A 50 foot natural buffer or (if a buffer is infeasible) provide redundant sediment controls when a surface water is located within 50 feet of the project's earth disturbances and stormwater flows to the surface water.
- NA If adjacent to a Special or Impaired Water an undisturbed buffer zone of not less than 100 linear feet from the special water is maintained both during construction and as a permanent feature post construction.

STORMWATER MANAGEMENT *[A checked box indicates compliance]*

- Water quality treatment is provided prior to direct discharge of stormwater to wetlands and all other water bodies.

Rate and Flood Control Standards

- The peak rate of stormwater runoff from a newly developed or redeveloped site shall not exceed the 2-, 10-, and 100-year 24-hour storms with respective 2.8, 4.2, and 7.3-inch rainfall depths with MSCWMO approved time distribution based on Atlas 14 for existing and proposed conditions. The runoff curve number for existing agriculture areas shall be less than or equal to the developed condition curve number. The newly developed or redeveloped peak rate shall not exceed the existing peak rate of runoff for all critical duration events, up to and including the 100-year return frequency storm event for all points where discharges leave a site during all phases of development.
- Predevelopment conditions assume "good hydrologic conditions" for appropriate land covers as identified in TR-55 or an equivalent methodology. Runoff curve numbers have been increased where predevelopment land cover is cropland:
 - Hydrologic Soil Group A: Runoff Curve Number 56
 - Hydrologic Soil Group B: Runoff Curve Number 70
 - Hydrologic Soil Group C: Runoff Curve Number 79
 - Hydrologic Soil Group D: Runoff Curve Number 83

Computer modeling analyses includes secondary overflows for events exceeding the storm sewer systems level-of-service up through the critical 100-year event.

NA In sub-areas of a landlocked watershed, the proposed project does not increase the predevelopment volume or rate of discharge from the sub-area for the 10-year return period event.

Flowage easements up to the 100-yr flood level have been secured for stormwater management facilities (such as ditches and storm sewers).

Lowest floor elevations of structures built adjacent to stormwater management features and other water bodies are a minimum of two feet above the 100-year flood elevation and a minimum of two feet above the natural overflow of landlocked basins.

Volume Control Standards

- Calculations/computer model results indicate stormwater volume is controlled for new development and redevelopment requirements per the MSCWMO Design Standards.
1. New Nonlinear Development 1.1" * new impervious surfaces
 2. Reconstruction/Redevelopment Projects 1.1" * reconstructed impervious surfaces
 3. Linear Projects 0.55" * new and/or fully reconstructed impervious surface and 1.1" from net increase in impervious area
 4. **Sites with Restrictions- flexible treatment options documentation has been provided.**

Volume Retention Required (cu. ft.)	Volume Retention Provided (cu. ft.)	
88378 sf *1.1" = x cu. ft.	BMP	Volume
118839 sf *1.1" = 10,893.6 cu. ft.	BMP #1	6,417 cu. ft.
	BMP #2	8,107 cu. ft.
Total Required	Total Proposed	14,524 cu.ft.
10,894 cu. ft.		

Flexible Treatment Options (when applicable)

Applicant demonstrated qualifying restrictions as defined in Section 7.2.2 (4) of the 2015 MSCWMO Watershed Management Plan that prohibits the infiltration of the entire required volume.

MIDS calculator submission removes 75% of the annual total phosphorous. **72%**

Infiltration/Filtration Design Standards

Proposed stormwater management features meet or exceed NPDES General Construction Permit requirements are designed in conformance with the most recent edition of the State of Minnesota Stormwater Manual.

None of the following conditions exist that prohibit infiltration of stormwater on the site

- a. Areas where vehicle fueling and maintenance occur.
- b. Areas with less than three (3) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock.
- c. Areas where industrial facilities are not authorized to infiltrate industrial stormwater under an National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Industrial Stormwater Permit issued by the MPCA.
- d. Areas where contaminants in soil or groundwater will be mobilized by infiltrating stormwater.
- e. Areas of Hydrologic Soil Group D (clay) soils
- f. Areas within 1,000 feet up-gradient, or 100 feet down-gradient of active karst features unless allowed by a local unit of government with a current MS4 permit.

Minimum setbacks from the Minnesota Department of Health for infiltration practices are met

Setback	Minimum Distance (ft)
Property line	10
Building foundation*	10
Private well	35
Public water supply well	50
Septic system tank/leach field	35
*Minimum with slopes directed away from the building	

Pretreatment device(s) remove at least 50% of sediment loads. If downstream from a potential hot spot, a skimmer is in place to facilitate cleanup.

Water quality volume will be discharged through infiltration or filtration media in 48 hours or less.

- a. For bioretention (biofiltration and bioinfiltration) volume control management facilities above ground with vegetation the period of inundation shall be calculated using the maximum water depth below the surface discharge elevation and the soil infiltration rate.
- b. For infiltration basin volume control management facilities the period of inundation shall be calculated using the maximum water depth below the surface discharge elevation and the soil infiltration rate.

Appropriate soil borings have been conducted that meet the minimum standards.

- a. A minimum of one boring was conducted at the location of the infiltration facility for facilities up to 1,000 ft²; between 1,000 and 5,000 ft², two borings, between 5,000 and 10,000 ft², three borings and greater than 10,000 ft² 4 borings plus an additional boring for every 2,500 ft² beyond 12,500 ft²
- b. Soil borings extend a minimum of five feet below the bottom of the infiltration practice. If fractured bedrock is suspected, the soil boring goes to a depth of at least ten feet below the proposed bottom of the volume control facility.
- c. A minimum of three feet of separation to the seasonal water table and/or bedrock.
- d. Identify unified soil classification.

The least permeable soils horizon identified in the soil boring dictated the infiltration rate.

Additional flows are bypassed and are routed through stabilized discharge points.

Filtration basin demonstrates a basin draw down between 24 hours and 48 hours.

NA Filtration system designed to remove at least 80% of total suspended solids

NA Filtration system Iron Enhanced Sand Filter is sized to bind soluble phosphorous removal for 30 year functional life of the system using the published value of 17lbs.phosphorous removal per 20 yards of 5% by weight iron filings to 95% sand.

Construction plans provide adequate construction guidance to prevent clogging or compaction and demonstrate performance.

a. Excavation within 2.0 feet of final grade for infiltration/filtration systems is prohibited until contributing drainage areas are constructed and fully stabilized.

b. Rigorous sediment and erosion controls planned to divert runoff away from the system.

c. Installation of volume control facilities must occur in dry soil conditions. Excavation, soil placement and rapid stabilization of perimeter slopes must be accomplished prior to the next precipitation event.

d. Excavation shall be performed by an excavator with a toothed bucket. Use excavator bucket to place materials. Construction equipment shall not be allowed into the basin.

e. Prior to the release of any remaining fee or security, the permit holder must provide documentation that constructed volume control facilities perform as designed.

There is a way to visually verify the system is operating as designed.

A minimum 8.0' maintenance access is provided to all stormwater facilities.

WETLAND PERFORMANCE STANDARDS

Direct discharge of stormwater to wetlands and all other water bodies without water quality treatment is prohibited.

Any potential changes to the hydrology of the wetland (i.e. changes to the outlet elevation or contributing drainage area) must be reviewed to evaluate the impact of both the existing and proposed wetland conditions and approved by the MSCWMO.

Land-altering activities shall not increase the bounce in water level or duration of inundation from a 2.0-inch 24-hour storm for any downstream wetland beyond the limit specified in Table 7.2 for the individual wetland susceptibility class.

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

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Administrator's Report- September 2017

Administration

- Lake St. Croix Improvement Funds Reimbursement Request
- MN 95 Bridge and Union Pacific Gully Communications
- Adopt A Raingarden Coordination

Project Reviews

- CSAH 14/24 Reconstruction, West Lakeland
- Ecumen Senior Housing, Stillwater
- Mulberry Harbor Yacht Club Dock Replacement Communications, Stillwater
- St. Croix Crossings Cadet Infiltration Basin Communications, Stillwater
- Palmer Station Preliminary Request, Oak Park Heights
- Miller Farms Phase VI Meeting, Baytown Township
- CSAH 24 60% Plans Comments, Stillwater

Conservation Project Technical Assistance and Cost Share

- Beth Meyer final documentation and reimbursement requests.

Managing Existing Projects

St. Croix Watershed Improvement Grant

Description: ~~\$40,000 grant from St. Croix River Association with a goal to monitor phosphorous discharge to target the location for future phosphorous reduction best management practices (2015-2017).~~

Activities This Month: COMPLETED!!

Lake St. Croix Direct Discharge Grant

Description: \$142,000 grant for stormwater quality improvements in Oak Park Heights, Stillwater and Bayport (2014-2018).

Activities This Month: Communication with contractor. Grant extension request to the Board of Water and Soil Resources.

Lily Lake Phase III Grant

Description: \$109,000 for stormwater quality improvements for areas discharging to Lily Lake (2014-2017)

Activities This Month: Construction oversight. Completion by October 31st.

South Beach Flood Damage Repair Grant

Description: ~~\$40,000 grant to incorporate native vegetation into a soil filled rip-rap shoreline stabilization project on Lake St. Croix in St. Croix Beach (2014-2016)~~

Activities This Month: COMPLETED!

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South Lake St. Croix Direct Discharge Subwatershed Analysis Grant

Description: \$10,000 grant to investigate and prioritize water quality improvement projects in the South MSCWMO (2016).

Activities This Month: No action.

Lake St. Croix Direct Discharge Phase II

Description: \$151,000 grant for stormwater quality improvements in Oak Park Heights, Stillwater and Bayport (2015-2018).

Activities This Month: No action.

Lily Lake Final – 45

Description: \$65,000 grant to identify and partially design stormwater practices to reduce phosphorous discharges to Lily Lake by at least 45 lbs. per year.

Activities This Month: Completed subwatershed analysis, met with steering committee, engaged consultants (EOR Inc.) to start BMP location and type evaluation.

Perro Creek Water Quality Improvements Phase I

Description: \$63,000 grant to design and install stormwater quality practices to reduce nutrients and bacteria discharging directly into Perro Creek and then to Lake St. Croix.

Activities This Month: Met with the City of Bayport Staff, evaluated utility location adjacent to high priority sites, developed design concepts, coordinated second meeting with City Staff.

Meetings

- Lily Lake Association Annual Meeting
- Washington Conservation District 75th Anniversary Picnic
- Green Corps Orientation Meeting
- Washington County Community Resiliency Workshop
- Minnesota Pollution Control Agency Iron Enhanced Sand Filter Stormwater Manual Update Meeting