

Regular Meeting of the Middle St. Croix Watershed Management Organization
HELD REMOTELY DUE TO COVID -19 PANDEMIC
Thursday, August 13th, 2020
6:00PM

Present: Brian Zeller, Lakeland Shores; John Fellego, Baytown Township; Dan Kylo, West Lakeland Township; Mike Runk, Oak Park Heights; Tom McCarthy, Lake St. Croix Beach; Dawn Bulera, Lake St. Croix Beach, Beth Olfelt-Nelson, St. Mary's Point; Cameron Blake, WCD, Administrator Matt Downing.

Call to Order

The meeting was called to order by Brian Zeller at 6:05 PM after determining there was a quorum present.

Approval of Agenda

Manager Fellego motioned to approve the agenda and Manager McCarthy seconded the motion. The motion passed on a roll call vote with all in favor. Administrator Downing noted that he had an item that would fall under item 12 on the agenda that would require board action.

Approval of Minutes

Manager Olfelt-Nelson motioned to approve the June 11th minutes and Manager Fellego seconded the motion. The motion passed on a roll call vote.

Treasurer's Report

The treasurer's report was presented by Manager Kylo. The remaining checking account balance on August 13th 2020 for the month of June was \$545,896.22 and for the month of July was \$541,649.85. First State Bank CDs were valued at \$38,549.15. The ending balance in the RBC savings account for the beginning of June 2020 was \$64,985.39. The ending balance in the RBC savings account for June 2020 is \$64,849.33.

Bills to be approved this month are: Peterson Company: \$2,900.00; EOR: \$507.00; Washington Conservation District (Administration-June): \$ 2,916.00; Washington Conservation District (Technical Services-June): \$6,531.50; Washington Conservation District (Administration-July): \$ 3,266.00; Washington Conservation District (Technical Services-July): \$6,645.57; Washington Conservation District (EMWREP): \$1,575.00; Washington Conservation District (Water Monitoring-2nd qtr): \$3,830.29; Total: \$28,171.36

Administrator Downing told the board he was still working on a banking issue involving his ability to access the RBC Savings account. This past spring the board approved transferring funds from the savings account to the checking account, related to 2019 water monitoring equipment. The savings account is still under former administrator Isensee's name and some other issues are occurring which are preventing Administrator Downing from having control of the old account. Manager Zeller suggested Administrator Downing set up a conference call with him on it to try and address the issue. Manager Olfelt-Nelson asked why the RBC savings account showed a drop in value. Administrator Downing believes it was due to management fees.

Administrator Downing informed the board that the June/July WCD Tech Services invoices were not correct, and that he would be removing some of the mistaken charges to correct them.

Manager Fellegy moved to accept the treasurer's report and pay the bills with the specification of not exceeding the WCD invoice values Administrator Downing identified. Manager Runk arrived at 6:12pm and joined the roll call vote. Manager Zeller seconded this motion and the motion passed on a roll call vote with all in favor.

Manager Fellegy asked if Administrator Downing had contacted the Baytown Treasurer regarding the 1st half 2020 community contribution. Administrator Downing has contacted them and will be verifying in Quickbooks whether he has received it. Dawn Bulera (alt. Lake St Croix Beach manager) arrived at 6:17pm.

Lily Lake Project Scope

Middle St. Croix Watershed Management Organization (MSCWMO) was awarded a FY20 Clean Water Fund grant from the Board of Water and Soil Resources (BWSR) to implement the Lily Lake Phosphorus Reductions for Delisting project in the amount of \$513,500. The MSCWMO will have a required match amount of \$128,375 (25%) resulting in a total project cost of \$641,875. This grant will fund projects to improve water quality in Lily Lake including alum treatments and the construction of an infiltration basin in Lily Lake Park.

Administrator Downing presented the Scope of Services (SOS) and Work Plan for design, engineering, and construction oversight of the Lily Lake Infiltration Basin. The total estimated cost for the construction phase of the Lily Lake Infiltration Basin Project Work is \$28,600. Manager Zeller motioned to approve the scope and Manager Fellegy seconded the motion. The motion passed on a roll call vote with all in favor.

Administrator Downing presented a work plan, scope, and fee proposal for the Lily Lake Alum Treatment Project. EOR reviewed the June 14, 2018 DRAFT Lily Lake Internal Load Study Technical Memo from Wenck to evaluate options for a lake alum treatment in 2021. EOR recommends that the Middle St. Croix WMO Board of Managers pursue contractor quotes for EOR Alternative 4 to be applied as one treatment in 2021 and approve the associated EOR engineering costs of \$10,675, for a total project cost of \$134,784. Manager Runk motioned to approve the scope and Manager McCarthy seconded the motion. The motion passed on a roll call vote with all in favor.

Lake St. Croix Direct South Phase II CWF Application

The MSCWMO was awarded a \$200,000 grant from the Clean Water Fund in 2019 for the implementation best management practices in the southern end of the watershed directly draining to the St. Croix. The goals of this grant will be accomplished with the Lake St. Croix Beach Bluff Stabilization project that is currently underway and will be closed out by the end of 2020. The basis of the first grant application was the 2014 Stormwater Retrofit Analysis in which 19 practices were identified and ranked according to their benefit to meeting MSCWMO's goal towards the St. Croix TMDL. Since the first phase of grant funding will accomplish that grants' goal with one practice, there is plenty of work to still be performed in this area. Administrator Downing is seeking board approval to submit another CWF application for FY21 for \$158,000 to continue the work that has been started in the south drainage area. If awarded, this grant would require \$39,500 in local match. The communities of Lake St. Croix Beach and Bayport have already expressed interest in potential partnership if awarded.

The board confirmed that the goal would be to not spend MSCWMO funds to meet the match. Manager Olfelt-Nelson asked Administrator Downing if the order of projects was determined and he said that the order was based on a cost:benefit ranking as well as readiness of partnerships. Manager Olfelt-Nelson motioned to approve the submittal of a FY21 Clean Water

Fund grant application for \$158,000, for work to be completed in the Lake St. Croix Direct South drainage area. Manager McCarthy seconded the motion and it passed on a roll call vote with all in favor.

Ballweg Native Planting Cost Share Request

The Ballweg's are applying for the Landscaping for Habitat grant. They would like to install a 500 sq ft native planting on the corner of their property. Their property is located four blocks west of the St. Croix River, making it an ideal location for water quality improvement project. Manager McCarthy motioned, seconded by Manager Kylo, to approve encumbrance of \$250.00 cost share for the installation of the Ballweg native planting. The motion passed on a roll call vote with all in favor.

Plan Review and Submittal Summary/Central Automotive

There were no new plan submittals that were turned in before the August meeting deadline. Administrator Downing wanted to update the board that the Central Automotive project has satisfying the three conditions of approval.

Erosion and Sediment Control Inspection Reports

The group discussed the Stordahl home construction report and the amount of rain causing issues. Administrator Downing noted that they have been very responsive to the assistance the MSCWMO has been giving them, despite the poor condition of the site due to the recent rains. Manager Zeller commented that he felt these sorts of inspections were a good educational tool for property owners to realize the importance of some of the rules around construction projects and permit requirements. Administrator Downing agreed that he felt this helps to show that the MSCWMO requirements are to help prevent issues on their property as well as to protect water resources from the impact of construction.

Administrator Downing commended inspector Aaron DeRusha on keeping the inspections going. Manager Zeller expressed concern about some of the projects at this point in the season and wondered whether they were going to use hydroblanket or seed to stabilize the soil so there will be less of an issue in the spring. Administrator Downing said they are advising them of this, but they are technically in compliance. The community, which is the permitting authority, could try and be more forceful about the issue. Manager Zeller noted that the 2nd Street Commercial Development has had a hard year with lots of public scrutiny.

Manager Olfelt-Nelson discussed the latest climatic report in the 1W1P and how it seemed to prove that there are increased rain events and rainfall. She explained that her community has been resistant to acknowledging the changing weather patterns and she asked Administrator Downing his thoughts on how communities can address this issue. Administrator Downing agreed that there is increasing concern for climate resiliency and said it is up to the managers to decide how proactive vs. reactive they want to be. Manager Olfelt-Nelson asked how quickly new rainfall data informs policy. She said her community is having to make decisions on the development occurring and noted the changes she has seen over the last 5 years. Administrator Downing explained that the newer practice of infiltrating water on site should make a difference with the impact of new development. An area he believes could be improved is the post-construction performance monitoring of the stormwater practices that are put into place. Sometimes the projects don't perform as they should if they are built incorrectly. Some of this is addressed through maintenance but the MSCWMO isn't involved in this for permit required practices. Manager Olfelt-Nelson said she talked to Cameron Blake regarding the maintenance

program and discussed how to address the lack of awareness of the public to what stormwater features are and what benefits they provide after finding out one of the raingardens in St. Mary's Point was mowed and no longer has its original native vegetation. She wondered if signage and better education could occur as these projects are being constructed so that the community can understand and value them. Manager Zeller asked if Administrator Downing could provide a memo that each member of the MSCWMO board could bring back to their member communities at their meetings. Administrator Downing agreed and said this is already occurring at one of his watershed districts.

Staff Report

Most of the recent activities were covered earlier in the meeting. The group discussed the assistance he provided the City of Lakeland regarding the Humphries Park Flood Basin; a plan to address infiltration and flood mitigation. Manager Zeller commended Administrator Downing on his assistance in providing clarity to the requirements and recommendations for this project in the memo he sent the city. Administrator Downing reported that the first Perro Creek E. coli sample was taken and analyzed by the microbial tracking laboratory. The results were positive for human DNA in the last two sites from the creek on the southern end (after the creek flows under the school). There will be one more sampling event to confirm this. The board agreed that this will provide clarity to the source of the impairment and the solution to address it.

1W1P Updates

Manager Fellegly updated the board on the latest 1W1P meeting. The plan is moving forward to review by BWSR. The conversation in the last meeting largely focused on the type of joint powers agreement the committee needed to decide on. The result was a Joint Power's Collaborative, rather than an entity, which is what the MSCWMO board was hoping for. Manager Fellegly wasn't sure what his role will look like in the future. Administrator Downing explained that the 1W1P representatives will need to be re-appointed by their respective entities to stay involved in the 1W1P process and decisions moving forward. No action is needed on this topic now regardless.

Other: 3M PFAS Contamination Groundwater Model Technical Services Reimbursement Request

Our consultant at EOR has been reviewing documents and providing technical input on the development of the water supply groundwater model as part of the 3M PFAS settlement. Staff is requesting reimbursement from MPCA totaling \$507.00 (EOR May). Manager Zeller motioned to approve the reimbursement and Manager Fellegly seconded the motion. The motion passed on a roll call vote with all in favor.

Adjourn

Manager Zeller motioned to adjourn the meeting Manager Fellegly seconded the motion. The motion passed and the meeting adjourned at 7:00pm.

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

455 Hayward Avenue N. Oakdale, MN 55128
Phone 651.330.8220 x22 fax 651.330.7747 www.mscwmo.org



MEMORANDUM

TO: Middle St. Croix WMO Board of Managers
FROM: Matt Downing, Administrator
DATE: August 31st, 2020

RE: 8a.) 2019 Watershed Based Funding Reallocation

The MSCWMO was allocated \$78,760 from the Clean Water Fund in 2019 for the implementation best management practices as identified in its watershed management plan. The Board had previously authorized that half the funding be applied to the Perro Creek infiltration basins that we completed last year, and half for the construction of 2 infiltration basins around Lily Lake. Only one basin was able to be constructed; at the August 2019 meeting the board authorized the (interim) Administrator to identify a new project.

Multiple options for other basins in the Lily Lake sub-watershed were explored and ultimately deemed unfeasible. In light of this I inquired with BWSR about the possibility to move the funding to supplement the Lake St. Croix Beach Bluff project. Although this is outside the original workplan area, BWSR has agreed that the situation warrants a change.

I am seeking board approval to reallocate \$18,079.25 in WBF dollars from the Lily Lake project to supplement the Lake St. Croix Beach Bluff project. This reallocation will allow for more shoreline to be stabilized and a greater impact on the load reduction to Lake St. Croix. The City of Lake St. Croix Beach would be responsible for providing the required 10% match on this funding.

Recommended Board Action- Approve the reallocation of \$18,079.25 of FY19 Clean Water Fund Watershed Based Funding for work to be completed in the Lake St. Croix Beach Bluff Stabilization Project.

**Middle St. Croix Watershed Management Organization
Cost Share Assistance Agreement
For Clean Water Fund Grants C19-2910 and P19-3266**

THIS AGREEMENT, is made as of the 31st day of August, 2020 by and between the Middle St. Croix Watershed Management Organization, a Minnesota joint powers organization, 455 Hayward Avenue, Oakdale, MN 55128, (hereinafter referred to as the “MSCWMO”), and the City of Lake Saint Croix Beach, a political subdivision of the State of Minnesota, 16455 20th Street South, Lake Saint Croix Beach, MN 55043, (hereinafter referred to as the “Applicant”).

RECITALS

- A. Applicant will construct up to 515 linear feet of bluff toe stabilization in the 2020 Bluff Toe Stabilization Project (hereinafter referred to as the “Project”). Minimum installation length shall be no less than 300 linear feet.
- B. The Project is located in the City of Lake Saint Croix Beach, along the Saint Croix River as shown in the plans (Exhibit A).
- C. MSCWMO will provide cost share funds in the amount of up to \$198,089.75 to help cover the cost of implementing the Project, which will help to reduce erosion, sediment, and phosphorus from entering the Saint Croix River.
- D. The cost share funding will be supplied by two Clean Water Fund grants (hereinafter referred to as the “Grant/s”), up to the amounts shown below.
 - a. Clean Water Fund C19-2910 = \$180,000.00
 - b. Clean Water Fund P19-3266 = \$18,089.75
- E. The Applicant will provide matching funds for the Grants up to the amounts shown below:
 - a. Clean Water Fund C19-2910 = \$50,000.00
 - b. Clean Water Fund P19-3266 = \$4,000.00
- F. The duration of this Agreement will be 25 years from the date of signature by all parties.

THEREFORE, in consideration of the mutual promises set forth herein and other good and valuable considerations, the MSCWMO and Applicant agree as follows:

- I. Applicant RESPONSIBILITIES:
 - A. Best Management Practices. Applicant will construct its Project in accordance with good engineering practices and generally accepted guidelines for Best Management Practices. Acceptable guidelines include MSCWMO standards

and MPCA guidelines identified in the “Minnesota Stormwater Manual”, and “MnDOT Standard Specifications for Construction (2018)”.

- B. Inspection Access. Applicant will provide access for the MSCWMO to monitor and inspect the Project during project construction and after completion of the project. The purpose of the inspection after construction is to determine the effectiveness of the Project in improving water quality. The inspection program will be annual in frequency (at a minimum) and will continue for the duration of the maintenance requirement (25 years).
- C. Bids and Permits. The Applicant will be responsible at its sole cost and expense to bid, construct, and maintain the Project through the conclusion of the useful life of the Project but which shall not exceed 25 years. The Applicant will obtain at its expense all required permits to complete the Project.
- D. Maintenance. The Project shall be maintained through the conclusion of the useful life of the Project but which shall not exceed 25 years. The Applicant shall maintain the installation according to the following:
 - i. Inspect the Project annually, looking for good rock stability, no rock slippage, stability of bluff above riprap, presence of invasive species, good native vegetation establishment.
 - ii. Remove woody species that are larger than 2” diameter at breast height.
 - iii. Remove invasive species as needed. Use the Minnesota State Noxious Weed List to determine which species need control.
 - iv. If riprap appears to be slipping, if the bluff above the riprap appears unstable, or if weeds are getting out of control, the Applicant will contact the MSCWMO for guidance as soon as an issue is discovered.
 - v. Should the Applicant fail to maintain the Project in a way that would cause the project to be removed or cause it to substantially fail, the Applicant may be liable to return up to 150% of state cost share funds it received for this Project.
- E. Schedule. Applicant will complete the Project within 1 year from the effective date of this agreement. Applicant will submit to the MSCWMO proof of all Project expenditures including installation, engineering, and project coordination. Applicant will supply Supporting documentation to the MSCWMO which includes proof of the contractor’s adherence to prevailing wage standards, notice of termination of permits, and project acceptance and final payment approvals and documentation.

II. Middle St. Croix Watershed Management Organization RESPONSIBILITIES:

- A. Cost-Share Funds. The MSCWMO will reimburse the Applicant for those elements of Project costs designated on Exhibit A up to a total amount not to exceed \$198,089.75.
- B. Payment Schedule. Upon MSCWMO acceptance of the Project’s final completion, the MSCWMO will release to the Applicant 100 percent of its cost-shared amount described above in paragraph II (A). Payment is contingent of fulfilling the obligations of a Final Inspection.

- C. Final Inspection. Will include verification of specified plant materials, soil and riprap quantities, and general project completion (see paragraph I.E), as documented by the Applicant engineer during construction.
- D. Inspections. The MSCWMO will annually evaluate the performance of the BMPs and transmit the results to the Applicant. Data collected as a result of this monitoring effort will be made available to the Applicant. The MSCWMO will inspect the project at least once per year for the duration of the Agreement to ensure vegetation standards and maintenance obligations are being upheld by the Applicant and according to this Agreement.

III. MISCELLANEOUS:

- A. Relationship of Parties. Nothing contained in this agreement is intended or shall be construed in any manner as creating or establishing a partnership, joint venture, or agency relationship between the parties.
- B. Employees. The Applicant represents that it has, or will secure at its own expense, all personnel and/or contractors required for the performance of this agreement. Any and all personnel, contractors of the Applicant shall not have any contractual relationship with the MSCWMO and shall not be considered employees of the MSCWMO.
- C. Liability. Except if arising from or out of MSCWMO's fault or negligence, the Applicant, subject to the limitations contained in Minn. Stat. 466.04, agrees to indemnify and defend the MSCWMO, its successors, and assigns against and will hold harmless the MSCWMO, its successors and assigns from any claims, expenses or damages, including attorneys' fees, arising from the Applicant performance of this agreement.
- D. Assignment, Modification and Cancellation. This agreement shall be binding upon and inure to the benefit of the Applicant and the MSCWMO, and neither party may assign this agreement without the prior written consent of the other. Any modification, alteration, amendments, deletions, or waivers of the provisions of this agreement will be valid only when mutually agreed upon in writing by both parties. The Applicant must notify the MSCWMO of the cancellation of the agreement in writing. The MSCWMO will acknowledge the notice with a written confirmation back to the Applicant. Cancellation notices must be received by the MSCWMO prior to any cost share funds are distributed to the Applicant.
- E. This agreement will be effective as of the date stated in the first paragraph of this Agreement. This Agreement shall terminate after the expiration of the 25 year period referenced in paragraph I.D. above.

City of Lake Saint Croix Beach

**Middle St. Croix Watershed
Management Organization**

Dave Engstrom, City Administrator, Date

Brian Zeller, Chair Date

City Clerk Date

Middle St. Croix Watershed Management
Organization Board of Managers

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

455 Hayward Avenue N. Oakdale, MN 55128
Phone 651.330.8220 x22 fax 651.330.7747 www.mscwmo.org



MEMORANDUM

TO: Middle St. Croix WMO Board of Managers
FROM: Bryan Pynn, WCD Staff
DATE: September 3, 2020
RE: Nelson Native Plantings - Cost Share Application

Brad Nelson is requesting a MSCWMO Water Quality grant to install up to 400 square feet of native plantings to augment his existing front yard prairie installation and reduce runoff from his roof and driveway. The site is located at 428 Greeley Ave N in Stillwater. The site was previously considered a great retrofit location based on the Lake St Croix Direct – North SWA due to its direct drainage to the Mulberry Ravine and the St Croix River. A cost estimate was not prepared by the landowner, but WCD staff sees an installation cost range of \$300-\$600, depending on plant choices and final area of installation.

Staff recommend approval.

Example Motion

Motion Board Manager 1, second Board Manager 2 to approve a cost share award not to exceed \$500.00 for the Nelson Native Plantings.

ative seeding areas.



MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

455 Hayward Avenue OAKDALE, MINNESOTA 55128
Phone 651.275.1136 x22 www.mscwmo.org



Landscaping for Habitat and Water Quality Grant Application Form

1. Contact Information

Name Brad Nelson		
Address 428 Greeley St N		
City Stillwater	State Mn	Zip Code 55082
Project Location (if different than above)		
Lake or Stream (if applicable) Lake McKusick	Previous Grant Recipient? What Project? No	
Home Phone 515-689-433	Work or Cell Phone	
Email Address banelson11@gmail.com	Other Contact Info N/A	

2. Project Type Raingarden Native Slope Stabilization Native Shoreline - Native Planting

3. Source of Runoff Roof Driveway Other (specify) _____

4. Project Measurements

Size of Runoff Area (square feet) 2300	Size of Raingarden / Native Slope Stabilization / Native Shoreline (square feet) 350
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5. Attach Project Plans and Completed Cost Estimate Worksheet.

I certify to the best of my knowledge that the information included in this application is true, complete, and accurate. I acknowledge that if approved, cost share funding expires on **November 30, 2020**, unless an extension is granted by the MSCWMO prior to the expiration.

Signature of Applicant/Contact <i>Bradley Nelson</i>	Date 8/24/2020	Signature of Property Owner <i>Bradley Nelson</i>	Date 8/24/2020
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Grants Policy

- Eligible project types are limited to native slope stabilization, raingardens and native shoreline stabilizations that demonstrate compliance with MSCWMO technical recommendations.
- Grant applicants must successfully complete an East Metro Watershed Education Program presentation and submit a grant application, project plan and cost estimate for the watershed to review and approval prior to beginning the installation. (Grant is not retroactive)
- Watershed staff will review applications, select grant recipients, verify completed projects and distribute grants in accordance to program policy.
- Applications requesting grant approval will be reviewed in two application rounds. Application must be received by a round's start date and awarded grants automatically expire if the project is not completed by the end date of the round it was awarded in.
- The Landscaping for Habitat Grant amount is limited to \$250.00 per approved application.
- The Landscaping for Water Quality amount is limited to \$500.00 per approved application. Qualifying projects must be raingardens or native shoreline restorations within the direct discharge areas of Lily Lake, Lake McKusick, Lake St. Croix or Perro Creek.
- Only one grant allowed per applicant per year. Applications not approved in a preceding round may be resubmitted for review in following rounds.
- Staff will prioritize grant awards based on watershed location, proximity to water resources and potential to provide water quality benefits.

9. Grants are subject to funding availability and may be discontinued or subject to policy revisions by the Board as it determines to be appropriate.

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

1380 WEST FRONTAGE ROAD, HIGHWAY 36
STILLWATER, MINNESOTA 55082
Phone 651.275.1136 x22 fax 651.275.1254 www.mscwmo.org



Landscaping for Habitat and Water Quality Grant Application Steps

Step 1:

Attend a workshop and/or schedule an onsite visitation with a WCD landscape designer to develop site-specific project plans.

Step 2:

Submit application, project plans, and cost estimate to the Middle St. Croix Watershed Management Organization for approval prior to beginning installation.

Step 3:

Schedule an on-site meeting with MSCWMO design staff prior to beginning installation. Call Gopher State One Call (800-252-1166) to have utilities located before the on-site meeting.

Step 4:

Schedule an on-site meeting with MSCWMO design staff prior to beginning installation. Call Gopher State One Call (800-252-1166) to have utilities located before the on-site meeting.

Step 5:

Install your project and contact MSCWMO staff (mdowning@mnwcd.org or 651-330-822 Ext. 22) to provide technical assistance during the installation and verify completion of the project.

Step 6:

Receive grant from the MSCWMO once the project is complete.

Note:

Grant will automatically expire if the project is not completed by the completion date.

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MEMORANDUM

TO: Middle St. Croix WMO Board of Managers
FROM: Bryan Pynn, WCD Staff
DATE: September 3, 2020
RE: Fix Bluff Planting - Cost Share Application

Grace Fix is requesting a MSCWMO Water Quality grant to install a 2,200 square foot native planting on the east side of her property (1975 Quant Avenue in West Lakeland Township). This project will restore bluff slopes that were recently cleared of buckthorn and which drain directly to the St Croix River.

Staff recommend approval.

Example Motion

Motion Board Manager 1, second Board Manager 2 to approve a cost share award not to exceed \$500.00 for the Fix Bluff Planting.

Cost Estimate

MIDDLE SAINT CROIX WATERSHED DISTRICT
MSCWMO Cost-Share

Middle St. Croix Watershed
 Management Organization
 c/o Washington Conservation District
 455 Hayward Ave
 Oakdale, MN 55128
 phone: 651.275.1136 ext 22



Landowner: Grace Fix
 Project Address: 1975 Quant Ave N
 Mailing Address: Same

8/11/20

Job Description	Cost Summary	
Native planting on slope above St Croix	Project Cost = \$ 1,133.50	Phosphorus Reduction (lbs/yr) TP= 1.00
	Cost Share = \$ 500.00	

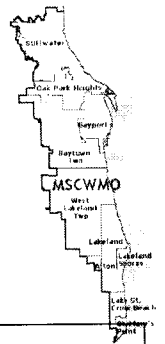
Job Estimate					
Erosion Control Materials	Qty	Unit	Unit Cost		Amount
EC Blanket S-150BN Bionet	3	roll	\$ 137.50	\$	412.50
Securing Staples (6", 1000/ctn)	2	carton	\$ 35.00	\$	70.00
Erosion Control Subtotal				\$	482.50
Seed					
MNDOT 35221	3	1,000 sq ft	\$ 45.00	\$	135.00
				\$	-
Seed				\$	135.00
Plants, Shrubs, and Trees					
Native plug	180	each	\$ 1.20	\$	216.00
Shrub #1	10	each	\$ 15.00	\$	150.00
Plants Subtotal				\$	366.00
Misc					
Plant and blanket delivery	1	job	\$ 150.00	\$	150.00
Misc Subtotal				\$	150.00
ADDITIONAL NOTES					PROJECT SUBTOTALS
				Materials	\$ 1,133.50
				Materials Estimate	\$ 1,133.50
Project Estimate				\$	1,133.50

Cost Share estimate available	Cost-Share	\$500.00
MSCWMO Cost-Share		
MSCWMO pays 50% of BMP installation cost (up to \$500 grant award) or a \$250 Blue Thumb Plant Grant		

Summary	Project Cost	Phosphorus Removed	Cost Share Grant
MSCWMO Cost-Share	\$1,133.50	TP= 1.00	\$ 500.00

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

455 Hayward Avenue OAKDALE, MINNESOTA 55128
Phone 651.275.1136 x22 www.mscwmo.org



Landscaping for Habitat and Water Quality Grant Application Form

1. Contact Information

Name Grace Fix			
Address 1975 Quant Ave N			
City Stillwater		State MN	Zip Code 55082
Project Location (if different than above)			
Lake or Stream (if applicable) St Croix River		Previous Grant Recipient? What Project?	
Home Phone 651 300 0764		Work or Cell Phone	
Email Address GPCHAND@YAHOO.COM		Other Contact Info 425-270-5810	

2. Project Type Raingarden Native Slope Stabilization Native Shoreline

3. Source of Runoff Roof Driveway Other (specify) Buckthorn created bare slopes. BACKYARD RUN OFF.

4. Project Measurements

Size of Runoff Area (square feet) 2200 SQ FT	Size of Raingarden / Native Slope Stabilization / Native Shoreline (square feet) 2200 SQ FT	
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5. Attach Project Plans and Completed Cost Estimate Worksheet.

I certify to the best of my knowledge that the information included in this application is true, complete, and accurate. I acknowledge that if approved, cost share funding expires on November 30, 2020, unless an extension is granted by the MSCWMO prior to the expiration.

Signature of Applicant/Contact <i>Grace Fix</i>	Date 8/5/20	Signature of Property Owner <i>Grace Fix</i>	Date 8/5/20
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MEMORANDUM

TO: Matt Downing, MSCWMO Administrator
FROM: Rebecca Nestingen, PE
DATE: September 4th, 2020

RE: 9a) Plan Reviews/Submittals

The following is a summary of recent activity on projects submittals which qualify for plan review under the MSCWMO 2015 Watershed Management Plan (WMP):

- **Central Automotive.** The construction of a new automotive repair shop is proposed at 59th St and Osgood Ave N in Oak Park Heights. A project application for review was received on April 14th, 2020. A revised submittal was received August 18, 2020 revising the facility BMP to a NURP pond to an infiltration basin since the site was determined to be located just outside the DWSMA. The project applicant added a skimmer structure to the pretreatment device since the infiltration basin is downstream of a potential pollutant hotspot and satisfied the one condition for recommendation of approval. *Staff recommend approval of the revised project.*
- **Stillwater Riverbank Stabilization.** The City of Stillwater proposes to stabilize a section of riverbank and construct a new trail for public recreation along the St. Croix River from south of Dock Café and north of Shoddy Mills. The project will create 0.26 acres of new linear impervious surface. The MSCWMO received the application and materials for project review on August 23rd, 2019. Revisions and a resubmittal were received on October 18th, 2019 and August 10th, 2020. *Staff recommends approval with four remaining items including hydrologic model revisions to demonstrate rate control standards are satisfied.*
- **Locke Residence.** A proposed single-family residential project is proposed at 1868 Redwing Ave in Lake St. Croix Beach. A project application for review and review materials were received on August 24th, 2020. The project will create/reconstruct 3,723 square feet of impervious and provide 355 cubic feet of volume control meeting the MSCWMO volume control performance standard. *Staff recommends project approval with four conditions.*

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



May 1, 2020 June 5, 2020 August 26, 2020

Eric Johnson, Administrator
City of Oak Park Heights
14168 Oak Park Blvd. N.
Oak Park Heights, MN 55082

RE: Central Automotive, Oak Park Heights

Dear Mr. Johnson,

The Middle St. Croix Watershed Management Organization (MSCWMO) received an application for project review on April 14th, 2020 for the proposed Central Automotive development, located within MSCWMO boundaries and in the City of Oak Park Heights. Revised submittal materials were received May 20th, June 2nd, July 23rd, August 5th, and August 18th, and August 26th, 2020. The proposed project qualifies for full review under the MSCWMO 2015 MSCWMO Watershed Management Plan (WMP). The revised submittals contain sufficient information to determine compliance with the performance standards identified in Section 7.0 of the MSCWMO Watershed Management Plan. The MSCWMO recommends ~~revision and resubmittal to address the following comments approval with the following one condition:~~ without any conditions.

~~1. SWPPP is incomplete~~

~~a. Inspection and Maintenance records shall include:~~

- ~~i. 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.~~
- ~~ii. Requirements to observe, describe, and photograph any discharge that may be occurring during the inspection.~~

~~2. Demonstrate rate control with the following model corrections~~

- ~~a. Use separate pervious/impervious runoff calculations~~
- ~~b. Use appropriate CN to represent wooded conditions~~
- ~~c. Tc for S-22 does not seem reasonable because it is a smaller drainage area yet the time is longer than the existing Tc. There will not be much sheet flow for this DA, mostly shallow concentrated or channel flow.~~

~~3. The maximum ponding depth allowed for infiltration is 18".~~

~~4. The site is located in a high vulnerability Drinking Water Source Management Area (DWSMA) and Wellhead Protection Area (WHPA) therefore infiltration is probated.~~

~~5. Dedications or easements are needed over the stormwater facility~~

~~6. Maintenance agreement is required.~~

~~1. Enhanced pretreatment (i.e. skimmer or alternative technologies targeting hydrocarbon removal) is required due to the infiltration facility being located downstream of a potential stormwater hotspot.~~

The enclosed checklist contains detailed information on project review and the policies and performance standards of the WMP. Feel free to contact me at 651-330-8220 x22 or mdowning@mnwcd.org if you have any questions regarding these comments.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Downing', with a long horizontal stroke extending to the right.

Matt Downing
MSCWMO, Interim Administrator

Enclosure

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:

Afton, Bayport, Baytown Township, Lakeland, Lakeland Shores, Lake St. Croix Beach, Oak Park Heights, St. Mary's Point, Stillwater and West Lakeland Township

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PROJECT REVIEW

MSCWMO Project Review ID: 20-006

Project Name: Central Automotive

Applicant: Anderson Engineering

Purpose: Construction of a new automotive repair shop

Location: 59th St and Osgood Ave N, Oak Park Heights, MN

Review date: ~~05/01/20~~ ~~06/04/20~~ ~~08/03/20~~ 08/26/20

Recommendation: Approval ~~with three conditions~~ ~~Revise and resubmit.~~ See red items in checklist and the following comments:

- ~~1. SWPPP is incomplete (see checklist for required items)~~
 - ~~a. Inspection and Maintenance records include:~~
 - ~~i. 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.~~
 - ~~ii. Requirements to observe, describe, and photograph any discharge that may be occurring during the inspection.~~
- ~~2. Demonstrate rate control with the following model corrections~~
 - ~~a. Use separate pervious/impervious runoff calculations~~
 - ~~b. Use appropriate CN to represent wooded conditions~~
 - ~~c. Tc for S-22 does not seem reasonable because it is a smaller drainage area yet the time is longer than the existing Tc. There will not be much sheet flow for this DA, mostly shallow concentrated or channel flow.~~
- ~~3. The maximum ponding depth for infiltration allowed is 18".~~
- ~~4. The site is located in a high vulnerability Drinking Water Source Management Area (DWSMA) and Wellhead Protection Area (WHPA) therefore infiltration is prohibited.~~
- ~~2. Dedications or easements are needed over the stormwater facility~~
- ~~3. Maintenance agreement is required.~~

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).

Middle St. Croix Watershed Management Organization

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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.
- 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.

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.

Middle St. Croix Watershed Management Organization

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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?

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:

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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.

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:

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- 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).
- 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

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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.)	
22250 sf *1.1" = 2040 cu. ft.	BMP	Volume
	BMP #1	3086 cu. ft.
Total Required	Total Proposed	3086 cu.ft.
2040 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.
- MIDS calculator submission removes 60% of the annual total phosphorous.

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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.

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

Middle St. Croix Watershed Management Organization

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- 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.

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

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

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

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 17 lbs phosphorous removal per 20 yards of 5% by weight iron filings to 95% sand.

Identify as build survey and method to demonstrate infiltration or filtration basin is functioning.

NA 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.

Middle St. Croix Watershed Management Organization

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- 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.

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MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

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



~~September 13, 2019~~ ~~November 6, 2019~~ September 3, 2020

Mr. Shawn Sanders
City of Stillwater
406 Fourth Street North
Stillwater, MN 55082

RE: Stillwater Riverbank Stabilization and Trail

Dear Mr. Sanders:

The Middle St. Croix Watershed Management Organization (MSCWMO) received required submittal items on August 23rd, 2019 for the proposed Stillwater Riverbank Stabilization and Trail, located within MSCWMO boundaries and in the City of Stillwater. Revised submittal items were received on October 18th, 2019 and August 10th, 2020. The proposed project qualifies for full review under the MSCWMO 2015 Watershed Management Plan (WMP).

The MSCWMO has reviewed the project and recommends approval with four conditions:

- ~~1. SWPPP must describe methods used to minimize soil compaction and preserve topsoil.~~
2. Grading and erosion sediment control note 5 stabilization timeframe should be revised to 7 days, not 14, because the side discharges to a special or impaired water.
3. Redundant sediment controls must be provided when a surface water is located within 50 feet of the project's earth disturbances.
4. Linear projects are not exempt from rate and flood control standards. Provide hydrologic and hydraulic computations and tables summarizing peak discharges for the 2-, 10-, and 100-year 24-hour storms.
 - ~~a. Modelled storage areas do not match construction plans (e.g. depth of rock is shown as 1.8' on plans and as 3.2' in model, side slopes shown as 0.5:1 in plans and 2:1 in model)~~
 - ~~b. Model contains routing errors and storage range exceedance. Run the model using the Dyn Sto Ind method and correct storage range errors.~~
 - ~~c. Proposed 100-year peak discharges exceed existing~~
- ~~5. Volume control requirements are not met. Please demonstrated qualifying restrictions of why infiltration is not feasible or advised. Soils shown in soil boring logs appear to be suitable for infiltration. Options considered and presented shall examine the merits of relocating project elements to address varying soil conditions and other constraints across the site.~~
- ~~6. Provide further evidence and support of the drainage area and impervious surface treated. The ribbon curb does not appear to have sufficient volume or depth to capture the impervious surface runoff volume and significant cross flow would occur. Please also provide evidence of sufficient inlet capacity to route the flow from the ribbon curb into the filter.~~
- ~~7. Provide updated calculations of filtration volume provided. The trapezoidal cross section of the sand filter between the perforated pipes appears to be 8 square feet, not 13 square feet as indicated in the report.~~
- ~~8. Demonstrate the filter drawdown time is less than 48 hours.~~
- ~~9. Filtration devices must have pretreatment which removes 50% of the TSS load. Provide documentation that the sumps are sufficient to remove 50% of the TSS load.~~

10. Identify as-built survey or test method to demonstrate the sand filter is performing as designed prior to the release of any surety.

MSCWMO review process information can be downloaded from www.mscwmo.org. The project review checklist is attached. Please contact me at 651-330-8220 x22 or mdowning@mnwcd.org if you have any questions regarding these comments.

Sincerely,



Matt Downing
Interim Administrator
Middle St. Croix Watershed Management Organization

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

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PROJECT REVIEW

MSCWMO Project Review ID: 19-011

Project Name: Stillwater Riverbank Stabilization and Trail

Applicant: City of Stillwater

Purpose: Improve riverbank stabilization and provide a new trail for public recreation along the riverfront

Location: Along St. Croix River south of Dock Café and north of Shoddy Mills

Review date: ~~September 5, 2019~~ ~~November 6, 2019~~ September 2, 2020

Recommendation:

Revise and resubmit. Please address the following in a resubmittal:

- ~~1. SWPPP must describe methods used to minimize soil compaction and preserve topsoil.~~
2. **General erosion and sediment control note 5** stabilization timeframe should be revised to 7 days, not 14, because the side discharges to a special or impaired water.
3. Redundant sediment controls must be provided when a surface water is located within 50 feet of the project's earth disturbances. **(i.e. redundant perimeter controls/silt fence)**
4. Linear projects are not exempt from rate and flood control standards. Provide hydrologic and hydraulic computations and tables summarizing peak discharges for the 2-, 10-, and 100-year 24-hour storms.
 - ~~a. Modelled storage areas do not match construction plans (e.g. depth of rock is shown as 1.8' on plans and as 3.2' in model, side slopes shown as 0.5:1 in plans and 2:1 in model)~~
 - ~~b. Model contains routing errors and storage range exceedance. Run the model using the Dyn-Sto-Ind method and correct storage range errors.~~
 - c. **Proposed 100-yr peak discharges exceed existing**
- ~~5. Volume control requirements are not met. Please demonstrated qualifying restrictions of why infiltration is not feasible or advised. Soils shown in soil boring logs appear to be suitable for infiltration. Options considered and presented shall examine the merits of relocating project elements to address varying soil conditions and other constraints across the site.~~
- ~~6. Provide further evidence and support of the drainage area and impervious surface treated. The ribbon curb does not appear to have sufficient volume or depth to capture the impervious surface runoff volume and significant cross flow would occur. Please also provide evidence of sufficient inlet capacity to route the flow from the ribbon curb into the filter.~~
- ~~7. Provide updated calculations of filtration volume provided. The trapezoidal cross section of the sand filter between the perforated pipes appears to be 8 square feet, not 13 square feet as indicated in the report.~~
- ~~8. Demonstrate the filter drawdown time is less than 48 hours.~~
9. **Filtration devices must have pretreatment which removes 50% of the TSS load. Provide documentation that the sumps are sufficient to remove 50% of the TSS load.**

10. Identify as-built survey or test method to demonstrate the infiltration practice is performing as designed prior to the release of any surety.

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).

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- 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.

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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.

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

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).

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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?
- 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 ft³/acre; or no calculative minimum 3,600 ft³/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.

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- 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.
- Locations of areas not to be disturbed (buffer zones).
- Location of areas where construction will be phased to minimize duration of exposed soil areas.
- 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.
- 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.

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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.
 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.

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Volume Retention Required (cf)	Volume Retention Provided (cf)
1.1 in x 0.26 ac x 43560 sf/ac x (1 ft / 12 in) = 1038 cf	Underground Infiltration system 1043 cu. ft.
Total Required 1038 cu. ft.	Total Proposed 1043 cu.ft.

Flexible Treatment Options (when applicable)

- NA 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.
- NA MIDS calculator submission removes 75% of the annual total phosphorous.

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.

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

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- 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.

NA 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 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.

Identify as build survey and method to demonstrate infiltration or filtration basin is functioning.

NA 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.

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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.

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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



September 2, 2020

Dave Engstrom
City of Lake St. Croix Beach
16455 20th Street South
Lake St. Croix Beach, MN 55403

RE: 1868 Redwing Ave – Locke Residence

Dear Mr. Engstrom,

The Middle St. Croix Watershed Management Organization (MSCWMO) received required submittal items for the proposed Locke residence construction project located at 1868 Redwing Ave within MSCWMO boundaries and in the City of Lake St. Croix Beach. The proposed project qualifies for full review under the MSCWMO 2015 Watershed Management Plan (WMP).

The MSCWMO has reviewed the project and recommends approval with 4 conditions:

1. Identify types, quantity and location of erosion control practices and a construction note requiring stabilization of soil within 7 days from when construction activities in the area have temporarily or permanently ceased.
2. Include construction notes for erosion and sediment control inspection and maintenance timing/frequency and contact information for individual responsible for erosion and sediment control inspection and compliance.
3. Describes pollution prevention management measures required in construction notes.
4. Provide construction notes for rain garden construction requirements.

This recommended approval is based on the technical review of MSCWMO performance standards and does not constitute approval by the City of Lake St. Croix Beach. The enclosed checklist contains detailed information on project review qualification and the policies and performance standards of the WMP (see red text for conditional approval items). MSCWMO review process information can be downloaded from www.mscwmo.org. Please contact me at 651-330-8220 x22 or m Downing@mnwcd.org if you have any questions regarding these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Matt Downing".

Matt Downing
MSCWMO Administrator



MSCWMO PROJECT REVIEW- SINGLE LOT RESIDENTIAL SUBMITTAL ITEMS

This document is for guidance. Applicants should consult the MSCWMO Watershed Management Plan for specific requirements. MSCWMO may request other items during the review process in addition to those listed.

ALL SUBMITTALS MUST CONTAIN THE FOLLOWING ITEMS:

- 1. Review Fee: Single lot residential \$350 fee
- 2. Grading plan showing grading limits, existing and proposed contours related to NAVD88 datum (preferred) or NGVD 1929
- 3. Location of existing and proposed permanent structures
- NA 4. Ordinary High Water (OHW) elevations and location of all existing water bodies.
- NA 5. Location of all bluff lines
- 6. Lowest floor elevations of structures built adjacent to stormwater management features and other water bodies must be a minimum of two feet above the 100-year flood elevation
- 7. Delineation of existing wetland, shoreland, ordinary high water levels, drain tiling, and floodplain areas.
- NA 8. Details of proposed buffer upslope of water resources including size and vegetation characteristics (when applicable).
- 9. Erosion/sediment control plan demonstrating locations, specifications, and details of the following items:
 - i. Erosion Prevention
 - i. Stabilize all exposed soil areas (including stockpiles) with temporary erosion control (seed and mulch or blanket) within 7 days after construction activities in the area have temporarily or permanently ceased.
 - ii. Identify location, type and quantity of temporary erosion prevention practices.
 - iii. Identify permanent vegetation.

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

4 5 5 H a y w a r d A v e n u e , O a k d a l e , M N 5 5 1 2 8
P h o n e 6 5 1 . 3 3 0 . 8 2 2 0 x 2 2 f a x 6 5 1 . 3 3 0 . 7 7 4 7 w w w . m s c w m o . o r g



ii. Sediment Control

- i. Sediment control practices will be placed down-gradient before up-gradient land disturbing activities begin.
- ii. Identify the location, type and quantity of sediment control practices.
- iii. Vehicle tracking practices must be in place to minimize track out of sediment from the construction site. Streets must be cleaned if tracking practices are not adequate to prevent sediment from being tracked onto the street.

iii. Inspections and Maintenance

- i. Applicant must inspect all erosion prevention and sediment control practices once every 7 days or after a ½" rain event to ensure integrity and effectiveness. All nonfunctional practices must be repaired, replaced or enhanced the next business day after discovery.
- ii. Plans shall include contact information including email and a phone number of the person responsible for inspection and compliance with erosion and sediment control.

iv. Pollution Prevention

- i. Solid waste must be stored, collected and disposed of in accordance with state law.
- ii. Provide effective containment for all liquid and solid wastes generated by washout operations (concrete, stucco, paint, form release oils, curing compounds).
- iii. Hazardous materials that have potential to leach pollutants must be under cover to minimize contact with stormwater.

v. Final Stabilization

- i. For residential construction only, individual lots are considered final stabilized if the structures are finished and temporary erosion protection and downgradient sediment control has been completed.
- ii. Grading and landscape plans shall include soil tillage and soil bed preparation methods that are employed prior to landscape installation to a minimum depth of 8" and incorporate amendments to meet Minnesota State Stormwater Manual predevelopment soil type bulk densities.
 1. Observe minimum setbacks for areas within the dripline of existing trees, over utilities within 30 in of the surface, where compaction is required by design and inaccessible slopes.

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10. Details of proposed structural stormwater practices (Meets Minnesota Stormwater Manual guidelines)

- A. Stormwater flows are diverted away from bluffs whenever feasible.
- B. Volume control facilities must drain down within 48 hours, as required by the MPCA NPDES Construction Stormwater Permit.
 - i. The period of inundation shall be calculated using the maximum water depth below the surface discharge elevation and the soil infiltration rate.
- C. The maximum water depth for volume control facilities is 1.5 feet.
- D. Planting plan identified vegetation suitable for the hydrology of the basin
- E. Separation from seasonally saturated soils or bedrock is 3 feet or more for bioretention and infiltration practices.
- F. Volume control facilities meet the following setback requirements:

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

G. Volume control is provided for the first 1.1 inch of runoff for all impervious:

Volume Retention Required (cu. ft.)	Volume Retention Provided (cu. ft.)
3727 sf * 1.1"/12 = 342 cf	BMP #1 Volume = 222 cf BMP #2 Volume = 133 cf Total = 355 cf

H. Construction Standards

- i. To prevent soil compaction, the proposed volume control facility must be **staked off and marked during construction to prevent heavy equipment and traffic from traveling over it.**
- ii. **Facilities may not be excavated within 2.0 feet of final grade until the contributing drainage area has been constructed and fully stabilized.**
- iii. **Facilities are in-place during construction activities, all sediment and runoff must be diverted away the facility, using practices such as pipe capping or diversions.**
- iv. **Facilities installation must occur in dry soil conditions. Excavation, soil placement and rapid stabilization of perimeter slopes must be accomplished prior to the next precipitation event.**

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- v. 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.
- vi. Prior to the release of any remaining fee or security, the owner must provide documentation that constructed volume control facilities perform as designed.

I. Details

- i. Include a standard cross section of the infiltration device similar to those identified in the Minnesota Stormwater Manual http://stormwater.pca.state.mn.us/index.php/Bioretention_plan_and_section_drawings
- ii. The cross section must detail the infiltration media used in the device. Typically, devices use Mix B as described in the Minnesota Stormwater Manual: A well-blended, homogenous mixture of 70 to 85 percent washed construction sand; and 15 to 30 percent [MnDOT Grade 2 compost](#).