

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

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



Regular Meeting of the Middle St. Croix Watershed Management Organization Bayport Public Library, Bayport, MN Thursday, November 8, 2018 6:00PM

1. Call to Order – 6:00PM
2. Approval of Minutes
 - a. Draft minutes October 11 , 2018 **pages 1-3**
3. Treasurer's Report
 - a. Report of savings account, assets for November 8, 2018
 - b. Approve payment of bills for November 8, 2018
 - c. Budget Tracker Review
4. Public Comments
5. Old Business
 - a. One Watershed One Plan Policy Committee Update
 - b. Lily Lake Final 45 Project Update
 - c. Stillwater Country Club Water Quality Basin Update
6. New Business
 - a. Oak Park Heights Local Surface Water Management Plan **pages 4-7**
 - b. Lake St. Croix Beach Local Surface Water Management Plan **pages 8-10**
 - c. West Lakeland Local Surface Water Management Plan **pages 11-13**
 - d. Bayport Local Surface Water Management Plan **pages 14-16**
7. Grants
8. Plan Reviews/Submittals
 - a. Villas of Inspiration- Bayport **pages 17-28**
9. Administrator's Report
10. Adjourn

Regular Meeting of the Middle St. Croix Watershed Management Organization
Bayport Public Library, Bayport, MN
Thursday, October 11, 2018
6:00PM

Present: Brian Zeller, Lakeland Shores; Mike Runk, Oak Park Heights; Nancy Karras-Anderson, St. Mary's Point; Tom McCarthy, Lake St. Croix Beach; John Felleggy, Baytown Township; Lakeland; Doug Menikheim, Stillwater; Dan Kylo, West Lakeland Township; Joe Paiement, City of Lakeland; Cameron Blake, WCD; Administrator Mike Isensee.

Call to Order

The meeting was called to order at 6:00PM by Brian Zeller.

Approval of Minutes

A motion to approve the September 13th, 2018 minutes was made by John Felleggy, seconded by Nancy Karras-Anderson. Motion carried.

Treasurer's Report

Report of savings account, assets for October 11, 2018
Approve payment of bills for October 11, 2018

The treasurer's report was presented by Dan Kylo. The remaining checking account balance is \$58,418.47. First State Bank CDs are valued at \$32,094.13. The ending balance in the RBC savings account is \$48,907.30.

Bills to be approved this month are: Minuteman Press: \$168.86; Washington Conservation District (Administration): \$3,182.50; Washington Conservation District (Technical Services): \$2,630.85; Washington Conservation District (Water Monitoring): \$5,076.59; Washington Conservation District (Educator): \$1,500.00; Total: \$12,556.80.

Brian Zeller moved to accept the Treasurer's report and bills, Tom McCarthy seconded, and the motion carried.

Mike Isensee presented the budget tracker, , \$106,000 has been spent so far, and there has been \$265,000 for grant expenditures this year. The MSCWMO is over for budget reviews by \$2,000. Mike Isensee will send a letter and invoice for the Orchards at Cahanes development for \$1,000. Brian Zeller asked what the total cost for the review for Orchards had been so far. Mike Isensee said the review fee was \$3,000.00 and the MSCWMO staff review expenses to date are \$4,224.00. John Felleggy asked if the review fees the MSCWMO were charging are close to the county/state amount. Mike Isensee said they are less.

No public comment

Washington County Budget Presentation Materials

On Tuesday morning, October 23rd, the Washington County Board of Commissioners will hold the Annual County Watersheds and Conservation District Budget presentations during the regularly scheduled county board meeting. Each WMO will share an example project. Mike Isensee will share the Stillwater Jr High IESF project which cost \$123,000, reducing 15 lbs/yr of P to the St. Croix. Brian Zeller asked about budget comparisons and Mike Isensee said the MSCWMO costs for internal services is 27% which only looks large because of the small budget of \$133,000 with \$200,000 of grants. Brian Zeller wants Mike Isensee to mention that at the meeting but believes the county won't be critical given the comparison to the other WMO/WD's budgets.

East Metro Water Resource Education Program 2019-2021 Agreement

The types of programs EMWREP provides to meet the MSCWMO's educational requirements include: the Adopt-A-Raingarden program, Workshop on the Water, AIS and Buckthorn workshops, and lake health for Lake Associations. This 3 year agreement is for \$6,300 a year.

Brian Zeller moved to accept the 2019-2021 EMWREP Agreement for \$6,300 a year, and Mike Runk seconded. The motion carried.

Washington Conservation District 2019-2020 Agreement

Mike Isensee presented the 2019-2020 agreement with the Washington Conservation District for Administrative, Technical, and Water Monitoring services. The rates and components are the same and the total cost is \$97,593. Brian Zeller asked about the duration of water monitoring. Mike Isensee explained that there was a targeted monitoring effort for 2 years for Lily Lake, but that generally the monitoring was condition monitoring which occurs annually.

Mike Runk moved to accept the Washington Conservation District 2019-2020 Agreement for \$97,593, and John Fellegly seconded. The motion carried.

Country Club Project

Mike Isensee presented an overview of the Country Club project which would use a combination of grant funding and County funding received in lieu of treatment from the 2018 3rd Street reconstruction project. The total budget for design, legal, and installation is \$228,000 with a \$25,000 maintenance fund. The load reduction is predicted by modeling to be at least 25 lbs. of phosphorus per year. Although it appears this is an expensive project, it is cost effective with the amount of load reduction, and the opportunity for other projects in the area is low. As part of the legal agreement negotiations process the Country Club has requested four additional items: : 1. no expiration date on the stormwater credit (currently the agreement stipulates 25 years), 2.add a clause that states the BMP will not be considered a wetland in the future.3., a delineation of the OHW level of the BMP, and 4requesting assistance to clean out accumulated sediment in wetlandslocated on the property and within the MSCWMO boundaries. . Administrator Isensee was supportive of three requests, but due to the budget and timeframe, recommended not expanding the scope of the project to include wetland work at this time. Brian Zeller asked about the benefits to the Country Club of the existing agreement. Mike Isensee said that in exchange for giving up a parcel of land for the project, theclub will save a significant amount of money when it comes time for future redevelopment of their club house and parking lot. Brian Zeller proposed expanding the scope and

cost of the project to clean out the wetland should not be part of the agreement. Isensee will be presenting at the club October members meeting. 50% of the Country Club members will need to vote in favor of the project for it to move forward.

Quinn Native Bluff Stabilization Application, Lakeland

Pamela Quinn is requesting a \$500 water quality improvement grant to install a native shoreline stabilization project at their residence 641 Quixote Avenue, Lakeland. The native slope stabilization replaces invasive species and establishes deep rooted perennial vegetation to reduce soil loss on the native bluff slope on Lake St. Croix and will reduce annual phosphorus discharge by 0.21 pounds per year. Mike Isensee explained to the MSCWMO helps landowners design native restorations and purchase native plants because it results in phosphorus reductions to the St. Croix. Joe Paiement asked what invasive were removed, and Mike Isensee explained buckthorn prevents beneficial native plants from growing under its canopy and leaves the soil bare and prone to erosion. After the removal of buckthorn, the WMO promotes the restoration of native plants to promote sustainable stabilization of the bluffland areas.

Mike Runk motioned to approve the Quinn Water Quality Grant for cost share up to \$500, and Tom McCarthy seconded. This motion carried.

Beanies Marina- Lakeland

Mike Isensee updated the board on the Beanie's Marina project. He visited the marina with Jim Stanton to address the owner's transition from pervious area to impervious. The owner was not aware that this activity would trigger the MSCWMO standards and planned to remove the plastic and rock landscaping they put in. The other part of the project was to transition the class 5 gravel to concrete, without changing any grades, which would not trigger the rules so Mike Isensee approved that element of the project. The owner also added riprap higher than the parking lot but the DNR and Army Corps were ok with that.

Administrator's Report

Mike Isensee reported that the 1W1P meetings were moving along, and that he advocated to keep SSTS as a priority issue as it is a relevant issue for the MSCWMO. He explained that Chisago County required pumping, testing, and replacement of noncompliant systems so they have a good handle on the SSTS's in their county. Doug Menikheim stated that he needed a replacement for the 1W1P meetings because he was not being re-appointed and was leaving the process of retiring from his political life. Mike Isensee reminded the board that it was also Nancy Karras-Anderson's last meeting and that Anne Perkins is still on the board but has a new job that involves a lot of travel.

Adjourn

Brian Zeller adjourned the meeting at 6:47pm.

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

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



November 8, 2018

Eric Johnson, Administrator
City of Oak Park Heights
14168 Oak Park Boulevard North
Oak Park Heights, MN 55082

Dear Mr. Johnson,

In accordance with Minnesota Statutes Section 103B.235, subdivision 3, MSCWMO staff have reviewed the draft Oak Park Heights Local Surface Water Management Plan received September 6, 2018.

At its November 8, 2018, meeting, the Middle St. Croix Watershed Management Organization Board of Managers has conditionally approved Oak Park Heights draft Local Surface Water Management Plan (the Plan). Please address the following conditions:

Plan revisions adequately address comments in the Metropolitan Council review transmitted September 12, 2018.

In Section 2.6.1

Add a reference to the Lake St. Croix Completed TMDL (summarized in section 4.6)
Consider adding the following information: In 2014 the MSCWMO completed the Perro Creek Subwatershed Analysis. In 2016 and 2017 the MSCWMO monitored the outfalls from Perro Pond to Lake St. Croix and from Perro Pond at the outfall to Perro Creek and found “TP and TSS concentrations observed leaving Perro Pond were very low and are at acceptable levels for maintaining good water quality. “ Source: <http://www.mscwmo.org/targeted-monitoring>

In Section 7.2.2

Recommend modifying the following policy to improve consistency with MSCWMO standards:
Policy: The City will incorporate the Middle St. Croix Watershed District’s infiltration standard for those projects within their jurisdiction unless [restrictions arise where infiltration is not feasible or advised]. certain hardships exist. The MSCWMO Board will evaluate the validity of hardships [restrictions] during the watershed’s project review process.

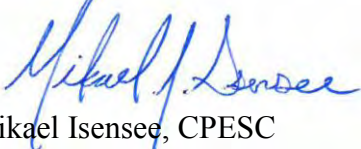
In Section 7.6 Support of Other Agencies

Please add a policy to collaboratively track, inspect and maintain water quality improvement practices so they provide their designated benefits.

Please re-submit the revised draft plan to MSCWMO staff review.

If you have any questions regarding MSCWMO's conditional approval, please feel free to contact me at (651) 330-8220 ext. 22.

Sincerely,



Mikael Isensee, CPESC
Administrator

RESOLUTION 18-02

**MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION
BOARD OF MANAGERS**

**Conditionally Approving the City of Oak Park Heights
Local Water Management Plan**

Chair Zeller offered the following resolution and moved its adoption, seconded by Manager _____:

WHEREAS on September 8, 2015, in accordance with Minnesota Statutes section 103B.231, the Middle St. Croix Watershed Management Organization adopted its fourth-generation Watershed Management Plan (WMP), which details the existing physical environment, land use and development in the watershed and establishes a plan to manage water resources and improve water quality, prevent flooding and otherwise achieve the goals of Minnesota Statutes chapters 103B and 103D;

WHEREAS City of Oak Park Heights provided MSCWMO with a draft local water management plan in November 2016 for informal review, and MSCWMO responded with comments on necessary and recommended changes to the Oak Park Heights Local Surface Water Management Plan to ensure consistency with the WMP;

WHEREAS on September 6, 2018, in accordance with Minnesota Statutes section 103B.235, subdivision 3, Oak Park Heights submitted a final draft local water management plan – the Oak Park Heights Local Water Management Plan (LWMP) – for MSCWMO review and approval;

WHEREAS MSCWMO finds and appreciates that the LWMP includes productive and responsive revisions following from MSCWMO’s informal comments;

WHEREAS the MSCWMO has determined the LSWMP must be revised as outlined and specified in the memo attached to and incorporated into this resolution (the MSCWMO Memo), to meet the requirements for approval set forth in Minnesota Rule 8410 and the WMP

NOW THEREFORE BE IT RESOLVED that the MSCWMO Board of Managers hereby approves Oak Park Height’s Local Water Management Plan on the condition that Oak Park Heights consider and address comments as detailed in the MSCWMO Memo, revise the LSWMP accordingly, and provide a copy of the LSWMP as revised, along with written responses to comments that do not require revisions to MSCWMO;

BE IT FURTHER RESOLVED that the MSCWMO Board of Managers direct the MSCWMO administrator to review comments received from Metropolitan Council on the LSWMP, and directs and delegates to the administrator the authority to amend the MSCWMO Memo as necessary in response to Metropolitan Council’s comments, then timely submit the amended MSCWMO Memo to Oak Park Heights or notify the city administrator that no amendments to the MSCWMO Memo are necessary.

On the question was on the adoption of the resolution and there were ___ yeas and ___ nays as follows:

| | Yea | Nay | Absent |
|-----------------|--------------------------|--------------------------|--------------------------|
| FELLEGY | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| GOLDSTON | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| KARRAS-ANDERSON | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| KYLLO | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| MCCARTHY | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| MENIKHEIM | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| PAIEMENT | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| PERKINS | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| RUNK | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ZELLER | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Upon vote, the chair declared the resolution adopted.

Dated: November, 2018

Nancy Karras-Anderson, Secretary

* * * * *

I, Nancy Karras-Anderson, secretary of the Middle St. Croix Watershed Management Organization, do hereby certify that I have compared the above resolution with the original thereof as the same appears of record and on file with the MSCWMO and find the same to be a true and correct transcript thereof.

IN TESTIMONY WHEREOF, I have hereunto set my hand this ____ day of _____, 2018.

Nancy Karras-Anderson, Secretary

MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION

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



November 8, 2018

Dave Engstrom
City Clerk/Administrator
City of Lake St. Croix Beach
16455 20th Street South
Lake St. Croix Beach, MN 55043

Dear Mr. Engstrom,

In accordance with Minnesota Statutes Section 103B.235, subdivision 3, MSCWMO staff have reviewed the draft Lake St. Croix Beach Local Surface Water Management Plan received September 20, 2018.

At its November 8, 2018, meeting, the Middle St. Croix Watershed Management Organization Board of Managers has conditionally approved Lake St. Croix Beach draft Local Surface Water Management Plan (the Plan). The condition of the approval is that Lake St. Croix Beach address the following conditions:

Plan revisions adequately address comments in the Metropolitan Council review transmitted September 12, 2018.

Please re-submit the revised draft plan to MSCWMO staff review.

If you have any questions regarding MSCWMO's conditional approval, please feel free to contact me at (651) 330-8220 ext. 22.

Sincerely,

Mikael Isensee, CPESC
Administrator

RESOLUTION 18-03

**MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION
BOARD OF MANAGERS**

**Conditionally Approving the City of Lake St. Croix Beach
Local Water Management Plan**

Chair Zeller offered the following resolution and moved its adoption, seconded by Manager _____:

WHEREAS on September 8, 2015, in accordance with Minnesota Statutes section 103B.231, the Middle St. Croix Watershed Management Organization adopted its fourth-generation Watershed Management Plan (WMP), which details the existing physical environment, land use and development in the watershed and establishes a plan to manage water resources and improve water quality, prevent flooding and otherwise achieve the goals of Minnesota Statutes chapters 103B and 103D;

WHEREAS City of Lake St. Croix Beach provided MSCWMO with a draft local water management plan in November 2016 for informal review, and MSCWMO responded with comments on necessary and recommended changes to the Lake St. Croix Beach Local Surface Water Management Plan to ensure consistency with the WMP;

WHEREAS on September 6, 2018, in accordance with Minnesota Statutes section 103B.235, subdivision 3, Lake St. Croix Beach submitted a final draft local water management plan – the Lake St. Croix Beach Local Water Management Plan (LWMP) – for MSCWMO review and approval;

WHEREAS MSCWMO finds and appreciates that the LWMP includes productive and responsive revisions following from MSCWMO’s informal comments;

WHEREAS the MSCWMO has determined the LSWMP must be revised as outlined and specified in the memo attached to and incorporated into this resolution (the MSCWMO Memo), to meet the requirements for approval set forth in Minnesota Rule 8410 and the WMP

NOW THEREFORE BE IT RESOLVED that the MSCWMO Board of Managers hereby approves Lake St. Croix Beach’s Local Water Management Plan on the condition that Lake St. Croix Beach consider and address comments as detailed in the MSCWMO Memo, revise the LSWMP accordingly, and provide a copy of the LSWMP as revised, along with written responses to comments that do not require revisions to MSCWMO;

BE IT FURTHER RESOLVED that the MSCWMO Board of Managers direct the MSCWMO administrator to review comments received from Metropolitan Council on the LSWMP, and directs and delegates to the administrator the authority to amend the MSCWMO Memo as necessary in response to Metropolitan Council’s comments, then timely submit the amended MSCWMO Memo to Lake St. Croix Beach or notify the city administrator that no amendments to the MSCWMO Memo are necessary.

On the question was on the adoption of the resolution and there were ___ yeas and ___ nays as follows:

| | Yea | Nay | Absent |
|-----------------|--------------------------|--------------------------|--------------------------|
| FELLEGY | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| GOLDSTON | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| KARRAS-ANDERSON | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| KYLLO | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| MCCARTHY | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| MENIKHEIM | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| PAIEMENT | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| PERKINS | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| RUNK | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ZELLER | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Upon vote, the chair declared the resolution adopted.

Dated: November 8, 2018

Nancy Karras-Anderson, Secretary

* * * * *

I, Nancy Karras-Anderson, secretary of the Middle St. Croix Watershed Management Organization, do hereby certify that I have compared the above resolution with the original thereof as the same appears of record and on file with the MSCWMO and find the same to be a true and correct transcript thereof.

IN TESTIMONY WHEREOF, I have hereunto set my hand this ____ day of _____, 2018.

Nancy Karras-Anderson, Secretary



November 8, 2018

Stephen Ebner
Supervisor West Lakeland Township
P.O. Box 447
Lake Elmo, MN 55042

Dear Mr. Ebner,

In accordance with Minnesota Statutes Section 103B.235, subdivision 3, MSCWMO staff have reviewed the draft West Lakeland Township Local Surface Water Management Plan received September 24, 2018.

At its November 8, 2018, meeting, the Middle St. Croix Watershed Management Organization Board of Managers has conditionally approved Lake St. Croix Beach draft Local Surface Water Management Plan (the Plan). Please address the following conditions:

Plan revisions adequately address comments in the Metropolitan Council review transmitted September 24, 2018.

Plan revision recommendations provided directly to the Township and necessary to conform with the standards and policies of the MSCWMO Watershed Management Organization.

Please re-submit the revised draft plan to MSCWMO staff review.

If you have any questions regarding MSCWMO's conditional approval, please feel free to contact me at (651) 330-8220 ext. 22.

Sincerely,

A handwritten signature in blue ink that reads "Mikael Isensee".

Mikael Isensee, CPESC
Administrator

RESOLUTION 18-04

**MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION
BOARD OF MANAGERS**

**Conditionally Approving the City of West Lakeland Township
Local Water Management Plan**

_____ offered the following resolution and moved its adoption, seconded by Manager _____:

WHEREAS on September 8, 2015, in accordance with Minnesota Statutes section 103B.231, the Middle St. Croix Watershed Management Organization adopted its fourth-generation Watershed Management Plan (WMP), which details the existing physical environment, land use and development in the watershed and establishes a plan to manage water resources and improve water quality, prevent flooding and otherwise achieve the goals of Minnesota Statutes chapters 103B and 103D;

WHEREAS City of West Lakeland Township provided MSCWMO with a draft local water management plan in November 2016 for informal review, and MSCWMO responded with comments on necessary and recommended changes to the West Lakeland Township Local Surface Water Management Plan to ensure consistency with the WMP;

WHEREAS on September 6, 2018, in accordance with Minnesota Statutes section 103B.235, subdivision 3, West Lakeland Township submitted a final draft local water management plan - the West Lakeland Township Local Water Management Plan (LWMP) - for MSCWMO review and approval;

WHEREAS MSCWMO finds and appreciates that the LWMP includes productive and responsive revisions following from MSCWMO's informal comments;

WHEREAS the MSCWMO has determined the LSWMP must be revised as outlined and specified in the memo attached to and incorporated into this resolution (the MSCWMO Memo), to meet the requirements for approval set forth in Minnesota Rule 8410 and the WMP

NOW THEREFORE BE IT RESOLVED that the MSCWMO Board of Managers hereby approves West Lakeland Township's Local Water Management Plan on the condition that West Lakeland Township consider and address comments as detailed in the MSCWMO Memo, revise the LSWMP accordingly, and provide a copy of the LSWMP as revised, along with written responses to comments that do not require revisions to MSCWMO;

BE IT FURTHER RESOLVED that the MSCWMO Board of Managers direct the MSCWMO administrator to review comments received from Metropolitan Council on the LSWMP, and directs and delegates to the administrator the authority to amend the MSCWMO Memo as necessary in response to Metropolitan Council’s comments, then timely submit the amended MSCWMO Memo to West Lakeland Township or notify the city administrator that no amendments to the MSCWMO Memo are necessary.

On the question was on the adoption of the resolution and there were ___ yeas and ___ nays as follows:

| | Yea | Nay | Absent |
|-----------------|--------------------------|--------------------------|--------------------------|
| FELLEGY | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| GOLDSTON | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| KARRAS-ANDERSON | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| KYLLO | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| MCCARTHY | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| MENIKHEIM | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| PAIEMENT | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| PERKINS | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| RUNK | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ZELLER | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Upon vote, the chair declared the resolution adopted.

Dated: November 8, 2018

Nancy Karras-Anderson, Secretary

* * * * *

I, Nancy Karras-Anderson, secretary of the Middle St. Croix Watershed Management Organization, do hereby certify that I have compared the above resolution with the original thereof as the same appears of record and on file with the MSCWMO and find the same to be a true and correct transcript thereof.

IN TESTIMONY WHEREOF, I have hereunto set my hand this ____ day of _____, 2018.

Nancy Karras-Anderson, Secretary



November 8, 2018

Sara Taylor
City Planner
City of Bayport
294 North Third Street
Bayport, MN 55003

Dear Ms. Taylor,

In accordance with Minnesota Statutes Section 103B.235, subdivision 3, MSCWMO staff have reviewed the draft Lake St. Croix Beach Local Surface Water Management Plan received September 20, 2018.

At its November 8, 2018, meeting, the Middle St. Croix Watershed Management Organization Board of Managers has conditionally approved the Bayport draft Local Surface Water Management Plan (the Plan). Please address the following conditions:

Plan revisions adequately address comments in the Metropolitan Council review transmitted September 12, 2018.

If you have any questions regarding MSCWMO's conditional approval, please feel free to contact me at (651) 330-8220 ext. 22.

Sincerely,

Mikael Isensee, CPESC
Administrator

RESOLUTION 18-05

**MIDDLE ST. CROIX WATERSHED MANAGEMENT ORGANIZATION
BOARD OF MANAGERS**

**Conditionally Approving the City of Bayport
Local Water Management Plan**

_____ offered the following resolution and moved its adoption, seconded by Manager _____:

WHEREAS on September 8, 2015, in accordance with Minnesota Statutes section 103B.231, the Middle St. Croix Watershed Management Organization adopted its fourth-generation Watershed Management Plan (WMP), which details the existing physical environment, land use and development in the watershed and establishes a plan to manage water resources and improve water quality, prevent flooding and otherwise achieve the goals of Minnesota Statutes chapters 103B and 103D;

WHEREAS City of Bayport provided MSCWMO with a draft local water management plan in November 2016 for informal review, and MSCWMO responded with comments on necessary and recommended changes to the Bayport Local Surface Water Management Plan to ensure consistency with the WMP;

WHEREAS on September 6, 2018, in accordance with Minnesota Statutes section 103B.235, subdivision 3, Bayport submitted a final draft local water management plan – the Bayport Local Water Management Plan (LWMP) – for MSCWMO review and approval;

WHEREAS MSCWMO finds and appreciates that the LWMP includes productive and responsive revisions following from MSCWMO’s informal comments;

WHEREAS the MSCWMO has determined the LSWMP must be revised as outlined and specified in the memo attached to and incorporated into this resolution (the MSCWMO Memo), to meet the requirements for approval set forth in Minnesota Rule 8410 and the WMP

NOW THEREFORE BE IT RESOLVED that the MSCWMO Board of Managers hereby approves Bayport’s Local Water Management Plan on the condition that Bayport consider and address comments as detailed in the MSCWMO Memo, revise the LSWMP accordingly, and provide a copy of the LSWMP as revised, along with written responses to comments that do not require revisions to MSCWMO;

BE IT FURTHER RESOLVED that the MSCWMO Board of Managers direct the MSCWMO administrator to review comments received from Metropolitan Council on the LSWMP, and directs and delegates to the administrator the authority to amend the MSCWMO Memo as necessary in response to Metropolitan Council’s comments, then timely submit the amended MSCWMO Memo to Bayport or notify the city administrator that no amendments to the MSCWMO Memo are necessary.

On the question was on the adoption of the resolution and there were ___ yeas and ___ nays as follows:

| | Yea | Nay | Absent |
|-----------------|--------------------------|--------------------------|--------------------------|
| FELLEGY | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| GOLDSTON | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| KARRAS-ANDERSON | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| KYLLO | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| MCCARTHY | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| MENIKHEIM | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| PAIEMENT | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| PERKINS | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| RUNK | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ZELLER | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Upon vote, the chair declared the resolution adopted.

Dated: November 8, 2018

Nancy Karras-Anderson, Secretary

* * * * *

I, Nancy Karras-Anderson, secretary of the Middle St. Croix Watershed Management Organization, do hereby certify that I have compared the above resolution with the original thereof as the same appears of record and on file with the MSCWMO and find the same to be a true and correct transcript thereof.

IN TESTIMONY WHEREOF, I have hereunto set my hand this ____ day of _____, 2018.

Nancy Karras-Anderson, Secretary



November 8, 2018

Adam Bell, Administrator
City of Bayport
294 3rd Street North
Bayport, MN 55003

RE: Villas of Inspiration

Dear Mr. Bell,

The Middle St. Croix Watershed Management Organization (MSCWMO) received required submittal items on October 15, 2018 and revised stormwater calculations November 1, 2018 for the proposed Villas of Inspiration, located at Inspiration Parkway S., within MSCWMO boundaries and in the City of Bayport. The proposed project qualifies for full review under the MSCWMO 2015 Watershed Management Plan (WMP).

The project, as revised, meets most applicable Performance Standards contained within Section 7.0 of the 2015 MSCWMO WMP. The MSCWMO recommends approval with fifteen conditions:

1. Correct the existing conditions model to include the existing natural depression in E2 and the existing outlet pipe crossing Inspiration Parkway South.
2. Correct or justify the time of concentration in the existing conditions model subcatchment E2. The existing condition time of concentration is shorter than the proposed condition.
3. Provide updated/corrected models and rate summaries.
4. Correct the required and proposed retention volume calculations in the drainage report
5. Submit a maintenance agreement approved by the City of Bayport.
6. Revise the SWPPP to indicate the site is within 1 mile of, and drains to the St. Croix River.
7. Revise note 11 on the SWPPP to indicate 7 day stabilization timeframe.
8. Revise page 9 item 1: remove 14 day stabilization timeframe.
9. Amend SWPPP inspection form to include location for rainfall depth.
10. Provide narrative for methods used to minimize soil compaction and preserve topsoil.
11. Raise lowest floor elevation of lot 1 (block 2) and lot 1 (block 1) to provide a minimum of 2.0' elevation between the low floor elevation and the 100 year elevation of basins. Note the vertical datum used in the construction plans.
12. Provide soil boring results.
13. Verify basin in Outlet A meets the 48 hour drawdown requirement based on design infiltration rates determined by the soil boring results. Currently the drawdown time from the HWL to the permanent pool elevation of 820 exceeds 100 hours utilizing an assumed infiltration rate of 0.8 inches per hour.
14. Add requirement to submit as build survey and provide a method to demonstrate infiltration facilities are functioning.

15. Add note to construction plans that excavation within 2.0 feet of final grade for infiltration/filtration systems is prohibited until contributing drainage areas are constructed and fully stabilized. Modify note 9 on grading plan which currently indicates 1-ft, revise to 2-ft.
16. Add note to construction plans that rigorous sediment and erosion controls planned to divert runoff away from the system. SWPPP specifies that the infiltration basin area is to be established and the site stabilized prior to connection to the main pond (of Outlot A). Specify how the infiltration basin on Outlot B is to remain offline.
17. Add note to construction plans that 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.
18. Add note to construction plans that 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.
19. Add note to construction plans that prior to the release of any remaining fee or security, the permit holder must provide documentation that constructed volume control facilities perform as designed.

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

Sincerely,



Mikael Isensee
Administrator
Middle St. Croix Watershed Management Organization

Middle St. Croix Watershed Management Organization

MEMBER COMMUNITIES:

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455 HAYWARD AVE. N.
OAKDALE, MINNESOTA 55128
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PROJECT REVIEW

MSCWMO Project Review ID: 18-019

Project Name: Villas of Inspiration

Applicant: Landucci Homes

Purpose: New Development

Location: Inspiration Parkway South, Bayport

Review date: 11/02/2018

Recommendation: Approve with X Conditions

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. **Plans do not identify datum.**
 - 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. **Plans do not identify downstream receiving water.**
- 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. **Soil borings are needed.**
- A Stormwater Pollution Prevention Plan in compliance with the requirements of the NPDES SDS Construction Stormwater Permit **Submitted. Minor additions/corrections needed.**
- 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.

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- 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. **Existing conditions model not does not include the existing natural depression in E2 or the existing outlet pipe crossing Inspiration Parkway South. The existing conditions model subcatchment E2 also has a time of concentration shorter than the proposed condition which should be corrected or justified with more detailed calculations/exhibits. Updated/corrected models and rate summaries are needed.**
 - 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. **Volume comparison not provided.**
 - ii. A listing of the normal water levels under existing and proposed conditions and the water levels produced from the storm and runoff events listed above for all on-site wetlands, ponds, depressions, lakes, streams, and creeks. **NA**
- Dedications or easements for the portions of the property which are adjacent to the facility and which lie below the 100 year flood level. For sites within public right-of-way, no easement is required.
- A proposed maintenance agreement, which may be in the format of Appendix K, or other form approved by the city. **Not provided.**

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. **St. Croix River**
 - b. Scientific and Natural area C.1., C.2., C.3.
 - c. Waterbody with a TMDL C.1., C.2. **St. Croix River (Impairment for Nutrient/Eutrophication Biological Indicators)**
 - C.1. Stabilization initiated immediately and all soils protected in seven days/provide temp basin for five acres draining to common location. **Note 11 on the Erosion Control Plan should be revised to "...no later than 7 days". Page 9 item 1 of the SWPPP indicates both 7 and 14 day time frames. Should remove the 14 day time frame.**
 - 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]*

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- 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. **Provide location to record rainfall depth on inspection report/log.**
 - 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. **Note on inspection report/log.**
 - vii. Requirements to observe, describe, and photograph any discharge that may be occurring during the inspection. **Note on inspection report/log.**
 - 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. **No narrative provided.**
- Describes dewatering technique to prevent nuisance conditions, erosion, or inundation of wetlands?
- NA Identifies any specific chemicals and the chemical treatment systems that may be used for enhancing the sedimentation process on the site, and how compliance will be achieved with the permit requirements.
- Describes pollution prevention management measures
- a. Storage, handling, and disposal of construction products, materials, and wastes.
 - b. Fueling and maintenance of equipment or vehicles; spill prevention and response.

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- c. Vehicle and equipment washing.
- d. No engine degreasing allowed on site.
- e. Containment of Concrete and other washout waste.
- f. Portable toilets are positioned so that they are secure.

Plan sheets

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

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

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- 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. **Updated/corrected models and rate summaries are needed.**
- 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.

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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. **Overflow of Outlot B infiltration basin is 822.9' and lowest basement floor elevation of lot 1 (Block 2) of 824.0' does not provide two feet of freeboard. Outlot A basin HWL is 823.39' and the lowest basement floor elevation of lot 1 (block 1) of 824.5 does not provide two feet of freeboard.**

Volume Control Standards

- Calculations/computer model results indicate stormwater volume is controlled for new development and redevelopment requirements per the MSCWMO Design Standards. **Note that required and proposed retention volume calculations in report are incorrect.**
 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.) | |
|--|-------------------------------------|----------------------|
| 118,680 sf * 1.1" * (1'/12") = 10,879 cf | BMP | Volume |
| | BMP #1 | 42,481 cu. ft. |
| | BMP #2 | 5,820 cu. ft. |
| Total Required | Total Proposed | 48,301 cu.ft. |
| 10,879 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

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- 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. **Sump structures and wet pond with permanent pool upstream of Outlot A infiltration basin. Runoff to Outlot B infiltration basin routes through a grassed swale.**

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. **The outlot A infiltration basin does not meet the 48 hour drawdown requirement. The peak HWL occurs at 12.63 hours and the basin does not drawdown to an elevation of 820 until 106.2 hours for a total drawdown time of 93.6 hours.**
- 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. **No soil borings were submitted.**

- 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

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- b. Soil borings extend a minimum of five feet below the bottom of the infiltration practice. If fractured bedrock is suspected, the soil boring goes to a depth of at least ten feet below the proposed bottom of the volume control facility.
- c. A minimum of three feet of separation to the seasonal water table and/or bedrock.
- d. Identify unified soil classification.

The least permeable soils horizon identified in the soil boring dictated the infiltration rate. **No soil borings were submitted.**

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

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

NA Filtration system 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. **Not Provided.**

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. **Note 9 on grading plan indicates 1-ft, revise to 2-ft.**
- b. Rigorous sediment and erosion controls planned to divert runoff away from the system. **SWPPP specifies that the infiltration basin area is to be established and the site stabilized prior to connection to the main pond (of Outlot A). Plans and SWPPP do not specify how the infiltration basin on Outlot B is to remain offline.**
- 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. **A note is needed on the construction plans.**
- 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. **A note is needed on the construction plans.**
- 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. **A note is needed on the construction plans or in SWPPP.**

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.

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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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