



RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

May 2022 Board Packet

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Agenda

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Regular Board Meeting Agenda

Wednesday, May 4, 2022

6:30 PM

This month's meeting will be held at the District office (2665 Noel Drive, Little Canada, MN) but also via the video conferencing platform Zoom. Board members, staff, consultants, and general public will be able to join in person OR via video and/or phone. In order to continue to be sensitive to the COVID-19 pandemic, we may need to limit the number of public in the board room. The public will be able to listen to meeting but not participate with the exception of the visitor comments portion of the agenda. Instructions for joining in on the Zoom meeting can be found after the agenda.

1. Call to Order – 6:30 PM
2. **Approval of Agenda (pg. 3)**
3. **Ramsey-Washington Metro Watershed District Board Manager Oath of Office (pg. 7)**
4. **Consent Agenda: To all be approved with one motion unless removed from consent agenda for discussion.**
 - A. Approval of Regular Meeting Minutes April 6, 2022 (pg. 13)
 - B. Treasurer's Report and Bill List (pg. 22)
 - C. Permit Program
 - i. 22-13 American Cooperative on Lake Phalen, Maplewood (pg. 31)
 - ii. 22-14 Maplewood Cope Avenue Improvements, Maplewood (pg. 35)
 - iii. 22-15 RWMWD Lake Owasso Shoreline Restoration, Shoreview (pg. 38)
 - iv. 22-16 Maplewood Assisted Living, Maplewood (pg. 41)
 - D. Stewardship Grant Program
 - i. 22-10 CS Montana Avenue, native habitat restoration (pg. 45)
 - ii. 22-11 CS Ryan, native habitat restoration (pg. 47)
 - iii. 22-12 CS Hoffman, rain garden (pg. 49)
 - iv. 22-13 CS Hill Murray, native habitat restoration (pg. 51)
 - v. 22-14 CS Starr, rain garden (pg. 53)
5. Visitor Comments (limited to 4 minutes each)
6. Permit Program
 - A. Applications – see consent agenda
 - B. Enforcement Action Report (pg. 56)
7. Stewardship Grant Program
 - A. Applications – see consent agenda
 - B. Budget Status Update (pg. 59)
8. Action Items
 - A. **Lake Owasso Shoreline Restoration Accept Bids and Order Project (pg. 61)**
 - B. **2022 Targeted Retrofit Accept Bids and Order Projects (pg. 63)**
9. Attorney Report
10. Board Issues, Policies and Operation (for discussion at meeting)
 - A. Administrator Performance Review Closed Meeting Summary
 - B. CAC Meeting

- C. Board Action Log
- D. Fraud Education
- E. Wetlands Policy
- F. West Vadnais Lake Follow-Up Thoughts
- 11. New Reports and/or Presentations
 - A. 2022 Engineering Projects Overview (presentation at meeting)
 - i. New Scope Summaries for Review
 - 1. Flood Risk Reduction: County Ditch 17 Improvements (*pg. 69*)
 - 2. Flood Risk Reduction: Phalen Village (*pg. 72*)
 - 3. Flood Risk Reduction: Ames Lake Technical Assistance (*pg. 75*)
 - 4. South Metro Mississippi River TSS TMDL Compliance (*pg. 78*)
 - 5. Watershed Management Plan Wetlands Update (*pg. 81*)
- 12. Administrator's Report (*pg. 85*)
 - A. Meetings Attended
 - B. Upcoming Meetings and Dates
 - C. Ongoing Project Update
 - D. Right Track YJ2 Intern
 - E. West Vadnais Lake Boundary Change Update
- 13. Project and Program Status Reports (*pg. 120*)
 - A. Interim Emergency Response Planning
 - B. Kohlman Creek Flood Risk Feasibility Study
 - C. Kohlman Creek/Wakefield Lake Diversion Feasibility Study
 - D. County Ditch 17 Improvements Feasibility Study
 - E. Phalen Village Feasibility Study
 - F. Ames Lake Area Flood Risk Reduction Planning Study
 - G. Owasso Basin/North Star Estates Improvements
 - H. Double Driveway Pond Optimization Study
 - I. Annual Water Quality Report Assistance
 - J. Special Project BMP Monitoring
 - K. Kohlman Permeable Weir Test System
 - L. Shallow Lake Aeration Study
 - M. Ryan Drive and Keller Parkway Conveyance Project
 - N. Targeted Retrofit Projects
 - O. Woodbury Target Stormwater Retrofits
 - P. South Lake Emily Filtration BMP
 - Q. Beltline Five Year Inspection
 - R. District Inspection Standardization
 - S. CIP Maintenance and Repair Project 2022
 - T. Natural Resources Program Update
 - U. Public Involvement and Education Program Update
 - V. Communications Program, Website Redesign, & WaterFest Update
 - W. CAC Meeting Update
- 14. Manager Comments and Next Month's Meeting
- 15. **Adjourn**



RAMSEY-WASHINGTON

METRO WATERSHED DISTRICT

NOTICE OF BOARD MEETING

Wednesday, May 4, 2022

6:30 PM

Hybrid Meeting: In-Person and Web Conference

NEW: This month's meeting will be held at the District office (2665 Noel Drive, Little Canada, MN) AND via the video conferencing platform Zoom. Board members, staff, consultants, and general public will be able to join in person OR via Zoom. In order to continue to be sensitive to the COVID-19 pandemic, we may need to limit the number of public in the board room area. The public will be able to listen to meeting but not participate with the exception of the visitor comments portion of the agenda. Visitor comment may be given in person or via Zoom. Instructions for joining in on the Zoom meeting can be found below.

To access the meeting via webcast, please use this link: <https://us02web.zoom.us/j/86939181355?pwd=VnplMFdXWk1jVnRiZ3lDRFo3OEhjUT09>

The meeting room will open at 6:20 pm with the meeting starting at 6:30 pm. To connect to audio you may choose to use your computer audio options or you may use your mobile device to call. The phone access number is **(312) 626-6799**. The Meeting ID is **869 3918 1355**. The meeting password is **310698**. If you have any questions, please contact Tina Carstens at tina.carstens@rwmwd.org.

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Board Manager Oath of Office

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RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
RAMSEY AND WASHINGTON COUNTIES, MINNESOTA

STATE OF MINNESOTA)	
	) ss.	OATH OF OFFICE
COUNTY OF WASHINGTON)	

I, **VAL EISELE**, do solemnly swear that I support the Constitution of the United States, the Constitution of the State of Minnesota, and that I will faithfully, justly, and impartially discharge the duties of the office of Manager of the Ramsey-Washington Metro Watershed District, Ramsey and Washington Counties, Minnesota, to the best of my judgment and ability.

Dated: _____	_____
	Val Eisele

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
RAMSEY AND WASHINGTON COUNTIES, MINNESOTA

STATE OF MINNESOTA)	
	) ss.	OATH OF OFFICE
COUNTY OF WASHINGTON)	

I, **MATT KRAMER**, do solemnly swear that I support the Constitution of the United States, the Constitution of the State of Minnesota, and that I will faithfully, justly, and impartially discharge the duties of the office of Manager of the Ramsey-Washington Metro Watershed District, Ramsey and Washington Counties, Minnesota, to the best of my judgment and ability.

Dated: _____	_____
	Matt Kramer

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
RAMSEY AND WASHINGTON COUNTIES, MINNESOTA

STATE OF MINNESOTA)	
	) ss.	OATH OF OFFICE
COUNTY OF WASHINGTON)	

I, **PAMELA SKINNER**, do solemnly swear that I support the Constitution of the United States, the Constitution of the State of Minnesota, and that I will faithfully, justly, and impartially discharge the duties of the office of Manager of the Ramsey-Washington Metro Watershed District, Ramsey and Washington Counties, Minnesota, to the best of my judgment and ability.

Dated: _____	_____
	Pamela Skinner

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
RAMSEY AND WASHINGTON COUNTIES, MINNESOTA

STATE OF MINNESOTA)	
	) ss.	OATH OF OFFICE
COUNTY OF WASHINGTON)	

I, **LAWRENCE SWOPE**, do solemnly swear that I support the Constitution of the United States, the Constitution of the State of Minnesota, and that I will faithfully, justly, and impartially discharge the duties of the office of Manager of the Ramsey-Washington Metro Watershed District, Ramsey and Washington Counties, Minnesota, to the best of my judgment and ability.

Dated: _____	_____
	Lawrence Swope

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
RAMSEY AND WASHINGTON COUNTIES, MINNESOTA

STATE OF MINNESOTA)	
	) ss.	OATH OF OFFICE
COUNTY OF WASHINGTON)	

I, **DIANNE WARD**, do solemnly swear that I support the Constitution of the United States, the Constitution of the State of Minnesota, and that I will faithfully, justly, and impartially discharge the duties of the office of Manager of the Ramsey-Washington Metro Watershed District, Ramsey and Washington Counties, Minnesota, to the best of my judgment and ability.

Dated: _____	_____
	Dianne Ward

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Consent Agenda

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**Ramsey-Washington Metro Watershed District
Minutes of Regular Board Meeting
April 6, 2022**

The Regular Meeting of April 6, 2022, was held at the District Office Board Room, 2665 Noel Drive, Little Canada, Minnesota, and via Zoom web conferencing, at 6:30 p.m. A video recording of the meeting can be found at <https://youtu.be/6wtwqlm-TYo>. Video time stamps included after each agenda item in minutes.

PRESENT:

Larry Swope, President
Dianne Ward, Vice President
Dr. Pam Skinner, Secretary
Val Eisele, Treasurer
Matt Kramer, Manager

ABSENT:

ALSO PRESENT:

Tina Carstens, District Administrator
Laurann Kirschner, Attorney for District
Lyndsey Provos, Water Monitoring Technician
Nicole Soderholm, Permit Inspector
Bill Bartodziej, Natural Resource Specialist
Angie Malone, Twin Lake Association Board Member

Paige Ahlborg, Project Manager
Matt Doneux, Natural Resources Technician
Brandon Barnes, Barr Engineering
Dave Vlasin, Project Coordinator
Edward Roberts, Lake Owasso resident
Joe Bester, Lake Owasso resident

1. CALL TO ORDER

The meeting was called to order by President Swope at 6:30 p.m.

President Swope introduced newly appointed member Matt Kramer. Matt Kramer introduced himself and stated that he is excited to be a part of the Board. He commented that he was just appointed the day before and did not have an opportunity to review the packet, so he will excuse himself from tonight's meeting.

2. APPROVAL OF AGENDA (6:33)

Motion: Manager Eisele moved, Manager Skinner seconded, to approve the agenda as presented. Motion carried unanimously.

3. CONSENT AGENDA (7:28)

- A. Approval of Minutes from March 2, 2022
- B. Treasurer's Report and Bill List
- C. Permit Program
 - i. 22-08 – SPRWS Soil Staging Site, St. Paul
 - ii. 22-09 – Xcel Energy Lexington to County Road C, Roseville
 - iii. 22-10 – Reuter Walton Apartments, Little Canada
 - iv. 22-11 – St. Pal Wheelock Parkway Improvements, St. Paul
- D. Stewardship Grant Program
 - i. 22-09 CS – Lakewood Hills, White Bear Lake

Motion: Manager Skinner moved, Manager Ward seconded, to approve the consent agenda as presented.

Further discussion: President Swope mentioned an item in the bills and asked for more information.

Motion carried unanimously.

4. VISITOR COMMENTS (9:00)

There were none.

5. PERMIT PROGRAM (9:05)

A. Applications

Permit #22-12: Victoria Shores – Roseville

Nicole Soderholm provided an overview of the activities of the past year related to this request, noting that the final plat was approved by Roseville the previous month. She stated that a variance is being requested for temporary wetland buffer disturbance of the upland buffer in order to install a pipe.

Manager Eisele commented that it sounds like some of the water frontage will be managed by the HOA and asked the type of influence or review the District may have for wetland disturbance. Nicole Soderholm commented that the developer would be doing the buffer disturbance when installing the stormwater facilities and would also install signage near the wetland buffer. She stated that the plat was changed during the EAW process so that the private parcels would not have riparian rights and instead the HOA would own the lakeshore outlot and stormwater facility outlot. She did not believe the developer is installing docks, noting that would be a responsibility of a future HOA. She stated that the agreements related to the buffers and stormwater would go with the land and therefore would be transferred from the developer to the future landowners.

President Swope commented that it is his understanding that three docks could be installed, which equates to one dock per two houses and an HOA dock along with a boardwalk. He received confirmation that there is an average buffer of 75 feet. He asked if the variance would be for the developer to work in the buffer zone and not within the wetlands. Tina Carstens confirmed that work would be within the buffer zone.

Nicole Soderholm stated that the District does not regulate design or criteria for docks, noting that would fall under the DNR, as would the boardwalk. She commented that the District would be regulating the stormwater management and buffer.

President Swope asked if there is a thought related to frequency of inspections. Nicole Soderholm replied that the District has never had a wetland buffer agreement prior to this but could inspect that zone when completing the stormwater maintenance inspection. She stated that the agreement allows for staff to access that area and enforce the agreement and restoration if the agreement is breached.

Laurann Kirschner stated that the stormwater maintenance agreement and wetland buffer agreement would be recorded against each property in the development. She cautioned against including an inspection timeline within the agreement and believed it a better idea to state the District has a right to access and inspect at reasonable times and frequency.

President Swope agreed. He referenced the special provisions recommended which include multiple mentions of the City of Roseville and asked if the District would be working with the City. Nicole Soderholm stated that the stormwater management agreement is signed by the permit applicant, District, and City and that was mimicked in the wetland buffer agreement. She stated that it is helpful to have the participation of the City for enforcement purposes and cooperative efforts.

President Swope stated that the plat was changed and approved by the Roseville City Council and just wanted to ensure that the concerns of residents had been addressed. He asked if the District would be involved in the signage. Nicole Soderholm noted that the District would provide sample language, but the developer would be responsible to submit sign language for review and would be responsible for installation of the signs.

Nicole Soderholm stated that the developer has agreed to all the special provisions as proposed.

Manager Eisele asked if the wetland buffer agreement would be something the District would consider more for future applications. Nicole Soderholm stated that the District rules specify no disturbance in the wetland buffers. Tina Carstens stated that the rules only apply up to construction for buffers, but some cities have stricter requirements. Nicole Soderholm stated that the wetland buffer agreement was driven by this application because it is a unique situation in which people will traverse through the buffer and therefore the District wanted to be clear about what would be allowed or not allowed. She stated that the agreement also made it clear to resident about what would be allowed and not allowed in that area.

Edward Roberts, Lake Owasso resident, applauded the efforts of the District in its unique wetland buffer agreement. He hoped that the District would put in place parameters to ensure inspections occur more frequently until things comfortably settle.

President Swope noted that staff does complete regular inspections during construction of a project. Nicole Soderholm reviewed the inspection process during construction, noting that District staff completes weekly or biweekly inspections along with the City completing inspections. She agreed that it would remain a priority to continue inspections after the permit closes and as the properties change ownership.

Tina Carstens noted that staff completes an inspection form which is shared with the City. She stated that a resident representative could be added to the list to receive those inspection reports as well.

Manager Eisele stated that he is concerned that a homeowner will forget about inspections and asked if the inspection could be conducted from the body of water. Nicole Soderholm stated that she does not inspect by boat, noting that the agreement provides access rights. Tina Carstens commented that the outlot near the water is owned by the HOA and not a private party. She stated that staff is clearly identified with a District vehicle and has the agreement with them when completing inspections.

Manager Skinner commented that perhaps inspection reminders could be mailed to property owners prior to inspections that occur following the closing of the permit. Tina Carstens noted that the notice could be provided to the HOA. Nicole Soderholm stated that people may move in while construction is still underway on other parts of the site which would allow for communication with those new residents.

Mr. Roberts thanked the Board and District staff for their vigilant efforts throughout the past year related to this project and the engagement and communication with the residents on Lake Owasso.

Motion: Manager Eisele moved, Manager Ward seconded, to approve Permit #22-12 with the special provisions and variance request.

Further discussion: Manager Skinner stated that she is sad to see some of the last pristine woods developed but recognized that there is nothing that could be done to prevent that outside of purchasing the land. President Swope commented that he believes the District had an impact on making the development better than originally proposed.

Motion carried unanimously.

B. Monthly Enforcement Report

During March, four notices were sent to address: install/maintain inlet protection (2), install/maintain construction entrance (1), and contain/dispose of liquid and solid waste (1).

President Swope asked for details on the Wetland A trail feasibility study by Ramsey County. Nicole Soderholm stated that they are just bringing partners together to look into options. Tina Carstens commented that there is a design team that has been brought in to look at trail options with the partners. It was noted that there is not a timeline for the project, but it was believed that resident engagement would begin this summer.

6. STEWARDSHIP GRANT PROGRAM (41:12)

A. Applications – See Consent Agenda

B. Budget Status Update

Paige Ahlborg provided an update on the available budget.

7. ACTION ITEMS (43:22)

A. Lake Owasso Shoreline Restoration Project

Paige Ahlborg stated that this project is similar to the other shoreline restoration projects the District has completed on Snail and Twin lakes. She stated that ten residents are participating in the project and provided some general project details. She noted that other residents can apply for assistance through the stewardship grant program as well.

Manager Eisele asked if there are plans to complete shoreline restoration in the park and beach areas. Bill Bartodziej replied that is a major restoration project this year, noting that the shoreline will be addressed from the beach to the boat ramp, a total of 730 feet of shoreline with an average width of 15 feet. He noted that it will create a nice amenity for the park and will also act as a demonstration project to hopefully draw in interest from additional residents for the next phase of the project that will occur in 2023.

Motion: Manager Skinner moved, Manager Eisele seconded, to approve the preliminary design, estimated costs, and proposed project schedule and direct staff to finalize the design and bidding documents and advertise the project for bid. Motion carried unanimously.

B. 2022 Targeted Retrofit Projects

Paige Ahlborg provided details on the two proposed projects, which were identified through the annual field visits. She noted that both partners have been great to work with.

President Swope stated that he appreciated the details as to how the projects were rated and that factors that increased the scores. He asked the timing of the projects. Paige Ahlborg confirmed that the school project would occur during the summer while the church would have more leeway in their schedule.

President Swope asked if it would be possible to incorporate students in the construction. Paige Ahlborg noted that students will be involved in the planting and perhaps maintenance activities. She noted that the District staff also works with the school on curriculum.

Motion: Manager Skinner moved, Manager Ward seconded, to approve the preliminary design, estimated costs, and proposed project schedule and direct staff to finalize the design and bidding documents and solicit bid proposals. Motion carried unanimously.

C. West Vadnais Lake Next Steps

Tina Carstens stated that staff followed the direction of the Board following the meeting with representatives from VLAWMO last month. She stated that she wanted to review this information with the Board prior to distribution to

VLAWMO. She stated that the District is at the point where it should make the decision whether or not to pursue a boundary change.

Manager Ward commented that it seemed that much of the discussion at the last meeting was new to some of the members from VLAWMO. She believed that perhaps the requested information should be provided to VLAWMO, with time for them to review and respond before making that decision.

Manager Eisele stated that it would be wonderful to have more information to provide VLAWMO on the related actions should a boundary change be requested or not requested. He stated that he would propose to change the boundaries and see what the response is.

President Swope commented that when you look through what has been done and the issues that exist now that Grass Lake has been added to the District, it would make sense to add West Vadnais to the District boundaries. He commented that the District is spending money on West Vadnais one way or the other, so it should simply be within the boundaries.

Manager Ward stated that she would be fine with that direction and suggested that the letter include the signature of President Swope.

President Swope commented that he is not as concerned with the investment, but that it is a critical part of the District watershed and should be within the boundary. He noted that the money needed for the projects is more than the annual VLAWMO WVL budget.

The Board and staff discussed potential costs related to West Vadnais and whether they should be included in the communication to VLAWMO.

President Swope stated that part of the issue is related to timing as the District Board meets monthly, whereas VLAWMO meets every other month. He noted that if the information is sent to VLAWMO now, it could be reviewed by their Board at their April meeting.

Motion: Manager Eisele moved, Manager Skinner seconded, to direct staff to notify VLAWMO staff that RWMWD would like to pursue an official boundary change of the West Vadnais Lake subwatershed into the RWMWD boundary. Motion carried unanimously.

8. ATTORNEY REPORT (1:08:27)

Laurann Kirschner stated that the changes made to open meeting law in the last year mostly only apply to a pandemic setting. She stated that if a Manager is going to attend virtually, they must be in a public place and their location must be posted in advance of a regular meeting. She stated that if that notice were not posted in proper time, the Manager could participate in the meeting but could not be part of the quorum.

Tina Carstens asked if a Manager could post their home location if they were willing to open that to the public. Laurann Kirschner commented that she was unsure but noted that the home address would need to be on the notice. She stated that if all the requirements are met (public place, and proper notice) there is no limit on the number of meetings a member can attend virtually. She stated that there are two exceptions that allow a private setting for virtual attendance that would allow up to three times per year (pandemic, and active-duty military).

Manager Eisele asked if a member could still participate in discussion if they were attending virtually but did not meet the requirements to vote. Laurann Kirschner confirmed that the member could participate in discussion but could not vote and would not be counted towards quorum.

Manager Skinner suggested that this topic be brought to MAWD for consideration at the annual meeting. Tina Carstens stated that has already been included in the legislative priorities for MAWD.

9. BOARD ISSUES, POLICIES, AND OPERATION (FOR DISCUSSION AT MEETING) (1:16:58)

A. Meeting Attendance

No additional comments.

B. Action Log

Manager Eisele stated that many suggestions are made during meetings and asked if those proposed actions could be tracked in order to follow up on progress. He stated that if there are obstacles to achieving the action, it would be wonderful for the Board to hear about that as well. He stated that he does like the enhancements to the project and program statuses. He asked if additional ways could be added to share the next milestone and projected end date with the Board.

Manager Ward commented that she likes that idea, noting that perhaps a list could be drafted and included at the end of the minutes or separate document. She noted that if there is a lighter agenda, one of those items could be pulled from the list and added to the agenda.

Tina Carstens stated that she would be open to either option to track those items. She noted that they have started recapping the items to be included on the next agenda at the end of each meeting, which is helpful to ensure nothing is missed.

Manager Skinner commented that she likes the idea of creating a list which would allow the Board to set priorities. Manager Eisele agreed that it is a method of accountability and does not place that burden entirely on staff either.

Tina Carstens stated that she has spoken with Barr Engineering about adding the additional details related to next steps of the program and project status report. She noted that although the information is included in the summary scope, that can be difficult to find, therefore it has been proposed to place that information into a chart which makes it much easier to follow.

Tina Carstens will put together a proposal for an action log for the Board to consider.

C. Administrator Review Process

Manager Ward stated that she was able to connect with Cliff Aichinger to receive input on Tina Carstens' performance and the typical review process. She reviewed a draft process she proposes. She stated that she will meet with Tina Carstens on Monday and then a Zoom meeting could be held with the Board members to review performance, compensation, goals, and the future review process. She believed that this process could be completed within the next few weeks.

Laurann Kirschner confirmed that the Board could close a meeting for the purpose of evaluating the performance of an employee, but the meeting would still need to be noticed. She was unsure if the meeting could be held virtually.

D. Audit and Fraud

President Swope stated that Redpath is currently completing the audit and contacted both him and Manager Ward asking if there were any fraud concerns. Tina Carstens noted that it is part of the audit process and board members are contacted every year.

President Swope asked if Redpath could provide a presentation to the Board following the audit. Tina Carstens confirmed that could be done but it should be specified as to whether the Board would like the presentation to focus on the audit or another topic.

President Swope stated that he would like more information or training on the responsibilities of the Board.

Manager Ward commented that she is not interested in a full presentation of the audit but would be interested in more information or training related to fraud prevention.

Tina Carstens clarified that Redpath was not concerned about a specific fraud incident but ask about fraud concerns from a few random Board and staff members as a part of the process. She confirmed that the audit report would be included in the Board packet for the next meeting, and she would also request Redpath to provide additional information on the topic of fraud at the May meeting.

E. Wetlands Policy

President Swope stated that more information will be included on this topic in May.

F. CAC Representation

Tina Carstens noted the previous liaison to the CAC is no longer members of the Board and asked if there was interest from any current Board members to fill that position.

Manager Ward noted that in reviewing the calendar she would only be able to attend two of the four meetings. She suggested that perhaps the members rotate in attending those meetings.

Manager Eisele stated that he could perhaps attend the meetings that Manager Ward is unable to attend.

G. West Vadnais Lake Follow-Up

No additional comments.

10. PRESENTATIONS (1:14:55)

None.

11. ADMINISTRATOR'S REPORT (1:14:57)

A. Meetings Attended

Tina Carstens commented that meeting season has ramped up and highlighted some of the discussions that have occurred at recent meetings she attended. She referenced a project Oakdale is interested in completing in conjunction with the road project but may request that the District provide the funding and Oakdale pays the District back for that work.

Brandon Barnes commented that when the preliminary cost estimate was presented to the Board a few months ago for upsizing the pipe, the MnDOT cost estimate included upsizing the pipe. He noted that the cost mentioned by Tina Carstens would be for replacing the pipe in kind under Hudson Avenue.

Manager Eisele asked if the funds would be expended this calendar year. Tina Carstens commented that a portion of the project will occur in 2023 and the remainder in 2024 and 2025. She noted that the funding would come from the District's flood risk fund.

Brandon Barnes provided an estimate of \$100,000 for the funds that would be fronted by Oakdale for that project.

Motion: Manager Ward moved, Manager Eisele seconded, to direct staff to continue discussions with Oakdale for providing funds for that portion of the project. Motion carried unanimously.

Manager Eisele asked for an update on the flood risk meetings with the cities. Tina Carstens commented that the information was well received and provided an update. Brandon Barnes agreed that Maplewood was very productive as the City is on the same page in working together with the District.

Tina Carstens provided additional updates on recent meetings attended.

B. Upcoming Meetings and Dates

No comments.

C. Ongoing Project Update

No comments.

D. Office COVID Update

Tina Carstens commented that this is the first week and noted that it is nice to have people back in the office working together.

E. Board Appointment Process

No comments.

F. MAWD Updates

No comments.

12. PROJECT AND PROGRAM STATUS REPORTS (2:03:04)

- A. Interim Emergency Response Planning
- B. Kohlman Creek/Wakefield Lake Diversion Flood Risk Feasibility Study
- C. County Ditch 17 Flood Risk Feasibility Study
- D. Phalen Village Flood Risk Feasibility Study
- E. Ames Lake Area Flood Risk Planning Study
- F. Owasso Basin/North Star Estates Flood Risk Improvements
- G. Annual Water Quality Report Assistance
- H. Special Project BPM Monitoring
- I. Shallow Lake Aeration Study
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- L. Woodbury Target Stormwater Retrofits
- M. South Lake Emily Filtration BMP
- N. Beltline Five Year Inspection
- O. District Inspection Standardization
- P. CIP Maintenance and Repair Project 2022
- Q. Natural Resources Program Update
- R. Education Program Update
- S. Communications Program, Website Redesign, and WaterFest Update

Manager Eisele referenced Item F, noting that at the last meeting there was discussion related to definition of flood risk for manufactured homes and asked for an update. Brandon Barnes commented that they are still working on that item, digesting the FEMA guidance and reaching out to manufactured housing builders to determine their specifications, and reviewing City ordinances related to manufactured homes. He stated that the next step would be to engage Little Canada and then engage the Board on how flood risk will be defined within North Star Estates and more broadly in the manufactured home community.

President Swope referenced Item Q, noting that he received a letter about a controlled burn near wetland A and asked why RWMWD is sending the letter rather than Ramsey County. Bill Bartodziej stated that the District is partnering with Ramsey County on the controlled burns. He stated that the District agreed to send out the letters as a partner because of its in experience in doing so.

Manager Eisele asked for details on the total funding request for the Keller regional park restoration. He asked if the Board needs to approve that request. Tina Carstens noted that item was already included in the approved budget.

Manager Skinner also referenced the Keller restoration. She understood that the area is going to be redeveloped into housing and wanted to ensure that the District is not investing money that would be wasted by future development. Tina Carstens clarified that Hillcrest is going to be developed, not Keller.

Manager Eisele referenced Item S, noting that he was part of the website testing. He stated that there seems to be focus on improving the search functionality which would be a benefit. He stated that the direction of the Board has helped to guide the improvements.

13. MANAGER COMMENTS AND NEXT MONTH'S MEETING

No comments.

14. ADJOURN

Motion: Manager Skinner moved, Manager Eisele seconded, to adjourn the meeting at 8:41 p.m. Motion carried unanimously.

RWMWD BUDGET STATUS REPORT

Administrative & Program Budget

Fiscal Year 2022

4/30/2022

Budget Category	Budget Item	Account Number	Original Budget	Budget Transfers	Current Month Expenses	Year-to-Date Expenses	Current Budget Balance	Percent of Budget
Manager	Per diems	4355	\$8,500.00	-	375.00	459.10	\$8,040.90	5.40%
	Manager expenses	4360	4,000.00	-	-	-	4,000.00	0.00%
Committees	Committee/Bd Mtg. Exp.	4365	3,500.00	-	441.72	1,268.72	2,231.28	36.25%
	Sub-Total: Managers/Committees:		\$16,000.00	\$0.00	\$816.72	\$1,727.82	\$14,272.18	10.80%
Employees	Staff salary/taxes/benefits	4010	1,660,000.00	-	193,080.28	551,837.41	1,108,162.59	33.24%
	Employee expenses	4020	15,000.00	-	350.37	1,127.56	13,872.44	7.52%
	District training & education	4350	75,000.00	-	152.01	3,676.65	71,323.35	4.90%
	Sub-Total: Employees:		\$1,750,000.00	\$0.00	\$193,582.66	\$556,641.62	\$1,193,358.38	31.81%
Administration/Office	GIS system maint. & equip.	4170	10,000.00	-	180.00	1,541.02	8,458.98	15.41%
	Data Base/GIS Maintenance	4171	40,000.00	-	-	98.94	39,901.06	0.25%
	Equipment maintenance	4305	3,000.00	-	-	-	3,000.00	0.00%
	Telephone	4310	4,000.00	-	59.34	237.36	3,762.64	5.93%
	Office supplies	4320	7,000.00	-	151.61	1,681.56	5,318.44	24.02%
	IT/Internet/Web Site/Software Lic.	4325	75,000.00	-	6,405.73	25,555.29	49,444.71	34.07%
	Postage	4330	3,000.00	-	237.97	381.52	2,618.48	12.72%
	Printing/copying	4335	5,000.00	-	727.40	1,682.40	3,317.60	33.65%
	Dues & publications	4338	11,000.00	-	-	7,643.94	3,356.06	69.49%
	Janitorial/Trash Service	4341	15,000.00	-	713.05	4,115.90	10,884.10	27.44%
	Utilities/Bldg.Contracts	4342	30,000.00	-	357.17	3,989.84	26,010.16	13.30%
	Bldg/Site Maintenance	4343	150,000.00	-	2,529.46	12,765.77	137,234.23	8.51%
	Miscellaneous	4390	5,000.00	-	-	-	5,000.00	0.00%
	Insurance	4480	55,000.00	-	-	-	55,000.00	0.00%
	Office equipment	4703	150,000.00	-	-	1,500.00	148,500.00	1.00%
	Vehicle lease, maintenance	4810-40	20,000.00	-	-	476.39	19,523.61	2.38%
	Sub-Total: Administration/Office:		\$583,000.00	\$0.00	\$11,361.73	\$61,669.93	\$521,330.07	10.58%
Consultants/Outside Services	Auditor/Accounting	4110	70,000.00	-	5,597.29	12,296.60	57,703.40	17.57%
	Engineering-administration	4121	125,000.00	-	6,043.50	25,168.00	99,832.00	20.13%
	Engineering-permit I&E	4122	10,000.00	-	127.50	127.50	9,872.50	1.28%
	Engineering-eng. review	4123	60,000.00	-	7,295.00	25,754.50	34,245.50	42.92%
	Engineering-permit review	4124	55,000.00	-	3,460.00	18,534.50	36,465.50	33.70%
	Project Feasibility Studies	4129	410,000.00	-	21,859.50	48,782.50	361,217.50	11.90%
	Attorney-permits	4130	10,000.00	-	-	-	10,000.00	0.00%
	Attorney-general	4131	40,000.00	-	1,143.00	6,680.60	33,319.40	16.70%
	Outside Consulting Services	4160	20,000.00	-	-	-	20,000.00	0.00%
	Sub-Total: Consultants/Outside Services:		\$800,000.00	\$0.00	\$45,525.79	\$137,344.20	\$662,655.80	17.17%
Programs	Educational programming	4370	75,000.00	-	4,452.71	8,489.15	66,510.85	11.32%
	Communications & Marketing	4371	50,000.00	-	57.80	157.80	49,842.20	0.32%
	Events	4372	46,000.00	-	5,034.24	11,534.24	34,465.76	25.07%
	Water QM-Engineering	4520-30	180,000.00	-	6,167.23	19,242.15	160,757.85	10.69%
	Project operations	4650	200,000.00	-	1,501.88	2,574.07	197,425.93	1.29%
	SLMP/TMDL Studies	4661	125,000.00	-	576.00	5,437.50	119,562.50	4.35%
	Natural Resources/Keller Creek	4670-72	120,000.00	-	4,024.73	4,336.69	115,663.31	3.61%
	Outside Prog.Support/Weed Mgmt.	44683	57,000.00	-	3,369.33	15,869.33	41,130.67	27.84%
	Research Projects	4695	225,000.00	-	5,575.50	15,236.00	209,764.00	6.77%
	Health and Safety Program	4697	3,000.00	-	-	-	3,000.00	0.00%
	Sub-Total: Programs:		\$1,081,000.00	\$0.00	\$30,759.42	\$82,876.93	\$998,123.07	7.67%
GENERAL FUND TOTAL			\$4,230,000.00	\$0.00	\$282,046.32	\$840,260.50	\$3,389,739.50	19.86%
CIP's	CIP Project Repair & Maintenance	516	1,500,000.00	-	16,498.03	225,257.16	1,274,742.84	15.02%
	Targeted Retrofit Projects	518	1,500,000.00	-	28,698.02	85,389.98	1,414,610.02	5.69%
	Flood Risk Reduction Fund	520	5,200,000.00	-	2,378.15	10,310.08	5,189,689.92	0.20%
	Debt Services-96-97 Beltline/MM/Battle Creek	526	394,710.00	-	-	276,190.20	118,519.80	69.97%
	Stewardship Grant Program Fund	529	1,000,000.00	-	18,103.52	31,945.93	968,054.07	3.19%
	Wetland Restoration Projects	540	500,000.00	-	-	-	500,000.00	0.00%
CIP BUDGET TOTAL			\$10,094,710.00	-	\$65,677.72	\$629,093.35	\$9,465,616.65	6.23%
TOTAL BUDGET			\$14,324,710.00	\$0.00	\$347,724.04	\$1,469,353.85	\$12,855,356.15	10.26%

Current Fund Balances:

Fund:	Unaudited Beginning Fund Balance @ 12/31/21	Fund Transfers	Year to date Revenue	Current Month Expenses	Year to Date Expense	Unaudited Fund Balance @ 04/30/22
101 - General Fund	\$2,382,780.48	-	5,113.15	282,046.32	840,260.50	1,547,633.13
516 - CIP Project Repair & Maintenance	461,820.89	-	118,886.14	16,498.03	225,257.16	355,449.87
518 - Targeted Retrofit Projects	866,004.98	-	46,521.00	28,698.02	85,389.98	827,136.00
520 - Flood Damage Reduction Fund	3,093,746.70	-	240.35	2,378.15	10,310.08	3,083,676.97
526 - Debt Services-96-97 Beltline/MM/Beltline-Battle Creek Tunnel Repair	944,949.78	-	-	-	276,190.20	668,759.58
529 - Stewardship Grant Program Fund	854,748.21	-	-	18,103.52	31,945.93	822,802.28
536 - Stormwater Impact Fund	309,836.56	-	-	-	-	309,836.56
540 - Wetland Restoration Projects	498,035.60	-	-	-	-	498,035.60
580 - Contingency Fund	1,435,341.00	-	-	-	-	1,435,341.00
Total District Fund Balance	\$10,847,264.20	\$0.00	\$ 170,760.64	\$ 347,724.04	\$1,469,353.85	\$9,548,670.99

Ramsey Washington Metro Watershed Dist.
Check Register
For the Period From Apr 1, 2022 to Apr 30, 2022

Check #	Date	Payee ID	Invoice #	Payee	Description	Amount
EFT	03/31/22	del002	Mar 2022	Deluxe for Business	Accounts Payable Checks	\$705.59
EFT	04/01/22	met008	Apr 2022	MetLife-Group Benefits	Employee Benefits	1,759.77
EFT	04/12/22	hea002	Apr 2022	HealthPartners	Employee Benefits	12,563.83
72915	04/13/22	aws001	S1335957	AWS Service Center	Janitorial/Trash Service	468.05
72916	04/13/22	bfq001	1989126-00	BFG Supply Co., LLC	Educational Program	148.00
72917	04/13/22	bro001	15361662-00	Brock White, Inc.	Natural Resources Project	876.00
72918	04/13/22	cro001	47588336	Nutrien Ag Solutions, Inc.	Natural Resources Project	986.29
72919	04/13/22	han008	1785	Hanna Enterprises, LLC	Janitorial/Utilities/Bldg.	245.00
72920	04/13/22	ind002	INV317948	Indelco Plastics Corporation	Water QM Staff-General	305.00
72921	04/13/22	met004	INV20210273	Metro Sales, Inc.	Printing Expense	404.00
72922	04/13/22	nsp001	775649001	Xcel Energy	Project Operations	34.97
72923	04/13/22	pre003	318703910	Premium Waters, Inc.	Utilities/Bldg. Contracts	28.00
72924	04/13/22	sai001	3418	Saint Paul Media	Communications & Marketing	50.00
72925	04/13/22	til002	04/15/22	Joseph S. Tillotson	Employee Payroll	125.60
72926	04/13/22	usb005	468912779	US Bank Equipment Finance	Printing Expense	323.40
72927	04/27/22	att002	287256653401X04252022	AT & T Mobility - ROC	Water QM/IT/Proj.Operations	166.34
72928	04/27/22	bar001	03/19/22-04/15/22	Barr Engineering	March/April Engineering	96,639.34
72929	04/27/22	ben002	108328	Benefit Extras, Inc.	Employee Benefits	90.00
72930	04/27/22	blo001	Apr 2022	Simba Blood	Employee Reimbursement	144.54
72931	04/27/22	cad001	18329360	Allstream	Water QM Staff-General	84.59
72932	04/27/22	chi003	19-06	Christ United Methodist Church	Stewardship Grant Fund	222.50
72933	04/27/22	cit001	007734-000	City of Little Canada	Utilities/Bldg. Contracts	103.18
72934	04/27/22	cit011	230814	City of Roseville	IT/Website/Software	6,264.21
72935	04/27/22	com004	04/16/22	Comcast	Utilities/Bldg. Contracts	81.49
72936	04/27/22	dev001	19-10 MTN	Mark Devine	Stewardship Grant Fund	300.00
72937	04/27/22	don001	Apr 2022	Matthew Doneux	Employee Reimbursement	55.50
72938	04/27/22	emp003	04/08/22	Dept. of Employment & Economic Dev.	MN Unemployment Expense	1,645.82
72939	04/27/22	fit002	Apr 2022	Mary Fitzgerald	Employee Reimbursement	93.51
72940	04/27/22	gal001	04/20/22	Galowitz Olson, PLLC	April Legal Fees	1,143.00
72941	04/27/22	gil001	216443	Gilbert Mechanical Contractors, Inc.	Utilities/Bldg. Contracts	144.50
72942	04/27/22	int001	W22030486	Office of MN, IT Services	Telephone Expense	59.34
72943	04/27/22	kid002	20095-1	KidZibits, Inc.	Construction Imp-Maint. & Rep.	505.00
72944	04/27/22	kor001	Apr 2022	Eric Korte	Employee Reimbursement	156.65
72945	04/27/22	kub001	Apr 2022	Kyle W. Kubitza	Employee Reimbursement	60.34
72946	04/27/22	lea003	14-1005	L. Tracy Leavenworth	Educational Program	2,389.56
72947	04/27/22	mbc001	1129	MB Consulting	Events	5,000.00
72948	04/27/22	mel001	Apr 2022	Michelle L. Melser	Employee Reimbursement	71.61
72949	04/27/22	mel001	Apr 2022	Michelle L. Melser	Employee Reimbursement	94.99
72950	04/27/22	min012	Tillotson	MN Department of Agriculture	Training & Education	10.00
72951	04/27/22	ncp001	Apr 2022	NCPERS Group Life Ins.	Employee Benefits	32.00
72952	04/27/22	nsp001	775682238	Xcel Energy	Project Operations/Bldg Maint.	3,218.40
72953	04/27/22	pac001	22100369746	Pace Analytical Services, Inc.	Water QM Staff-General	2,870.00
72954	04/27/22	pas002	Apr 2022	Sage Passi	Employee Reimbursement	124.13
72955	04/27/22	pit002	1020565540	Pitney Bowes, Inc.	Postage Expense	237.97
72956	04/27/22	qwe001	Apr 2022	CenturyLink	Project Operations	252.41
72957	04/27/22	ram002	PRK-002022	Ramsey County	Stewardship Grant Fund	11,672.73
72958	04/27/22	red002	150469298	Redpath & Company	March Accounting/Year-End	5,385.19
72959	04/27/22	red004	2287	Red Rock Fire	Natural Resources Project	2,162.44
72960	04/27/22	sim001	Apr 2022	Emily Simmons	Employee Reimbursement	67.15
72961	04/27/22	sod001	Apr 2022	Nicole Soderholm	Employee Reimbursement	45.27
72962	04/27/22	til002	Apr 2022	Joseph S. Tillotson	Employee Reimbursement	50.43
72963	04/27/22	tim002	Apr 2022	Timesaver Off-Site Secretarial, Inc.	Committee/Board Meeting Exp.	263.50
72964	04/27/22	tro002	22-4	Cathy Troendle	Educational Program	1,746.69
72965	04/27/22	usb002	Apr 2022	U.S. Bank	April Credit Card	1,074.42
72966	04/27/22	was002	5547	Washington Conservation District	Water QM/Prog.Supp./Stewardship	7,966.08
Total						<u>\$171,718.32</u>

Ramsey Washington Metro Watershed Dist.
Check Register
For the Period From Apr 1, 2022 to Apr 30, 2022

Check #	Date	Payee ID	Invoice #	Payee	Description	Amount
EFT	04/01/22	myp001	04/01/22	April 1st Payroll Fees	4110-101-000	68.10
EFT	04/15/22	myp001	04/15/22	April 15th Payroll Fees	4110-101-000	72.00
EFT	04/29/22	myp001	04/29/22	April 29th Payroll Fees	4110-101-000	72.00
Dir.Dep.	04/01/22	---	Payroll Expense-Net	April 1st Payroll	4010-101-000	28,020.18
EFT	04/01/22	int002	Internal Rev.Serv.	April 1st Federal Withholding	2001-101-000	9,950.20
EFT	04/01/22	mnd001	MN Revenue	April 1st State Withholding	2003-101-000	1,780.10
EFT	04/01/22	per001	PERA	April 1st PERA	2011-101-000	5,977.63
EFT	04/01/22	emp002	Empower Retirement	Employee Def.Comp. Contributions	2016-101-000	2,420.00
EFT	04/01/22	emp002	Empower Retirement	Employee IRA Contributions	2018-101-000	400.00
Dir.Dep.	04/15/22	---	Payroll Expense-Net	April 15th Payroll	4010-101-000	28,479.34
EFT	04/15/22	int002	Internal Rev.Serv.	April 15th Federal Withholding	2001-101-000	10,023.74
EFT	04/15/22	mnd001	MN Revenue	April 15th State Withholding	2003-101-000	1,779.19
EFT	04/15/22	per001	PERA	April 15th PERA	2011-101-000	5,977.63
EFT	04/15/22	emp002	Empower Retirement	Employee Def.Comp. Contributions	2016-101-000	2,420.00
EFT	04/15/22	emp002	Empower Retirement	Employee IRA Contributions	2018-101-000	400.00
Dir.Dep.	04/29/22	---	Payroll Expense-Net	April 29th Payroll	4010-101-000	43,574.00
EFT	04/29/22	int002	Internal Rev.Serv.	April 29th Federal Withholding	2001-101-000	17,293.07
EFT	04/29/22	mnd001	MN Revenue	April 29th State Withholding	2003-101-000	3,209.68
EFT	04/29/22	per001	PERA	April 29th PERA	2011-101-000	9,051.08
EFT	04/29/22	emp002	Empower Retirement	Employee Def.Comp. Contributions	2016-101-000	2,420.00
EFT	04/29/22	emp002	Empower Retirement	Employee IRA Contributions	2018-101-000	400.00
Payroll/Benefits:						<u>\$173,787.94</u>
Total	Accounts Payable/Payroll/Benefits:					<u>\$345,506.26</u>

Ramsey Washington Metro Watershed Dist.
Cash Disbursements Journal
For the Period From April 1, 2022 - April 30, 2022

Date	Check #	Vendor ID	Name	Account ID	Account Description	Amount	Check Detail
04/01/22	EFT	del002	Deluxe for Business	4320-101-000	Office Supplies-General	\$705.59	
04/01/22	EFT	met008	MetLife-Group Benefits	4040-101-000	Employee Benefits-General	1,759.77	
04/11/22	EFT	hea002	HealthPartners	4040-101-000	Employee Benefits-General	12,563.83	
04/13/22	72915	aws001	AWS Service Center	4341-101-000	Janitorial/Trash Service	468.05	
04/13/22	72916	bfg001	BFG Supply Co., LLC	4370-101-000	Educational Program-General	148.00	
04/13/22	72917	bro001	Brock White, Inc.	4670-101-000	Natural Resources Project-General	876.00	
04/13/22	72918	cro001	Nutrien Ag Solutions, Inc.	4670-101-000	Natural Resources Project-General	986.29	
04/13/22	72919	han008	Hanna Enterprises, LLC	4341-101-000	Janitorial/Trash Service	245.00	
04/13/22	72920	ind002	Indelco Plastics Corporation	4530-101-000	Water QM Staff-General	305.00	
04/13/22	72921	met004	Metro Sales, Inc.	4335-101-000	Printing-General	404.00	
04/13/22	72922	nsp001	Xcel Energy	4650-101-000	Project Operations-General	34.97	
04/13/22	72923	pre003	Premium Waters, Inc.	4342-101-000	Utilities/Bldg. Contracts	28.00	
04/13/22	72924	sai001	Saint Paul Media	4371-101-000	Communications & Marketing	50.00	
04/13/22	72925	til002	Joseph S. Tillotson	4010-101-000	Salaries-General	125.60	
04/13/22	72926	usb005	US Bank Equipment Finance	4335-101-000	Printing-General	323.40	
04/27/22	72927	att002	AT & T Mobility - ROC			166.34	
				4530-101-000	Water QM Staff-General		27.44
				4325-101-000	IT/Website/Software		54.66
				4650-101-000	Project Operations-General		84.24
04/27/22	72928	bar001	Barr Engineering			96,639.34	
				4121-101-000	Engineering Admin-General Fund		6,043.50
				4123-101-000	Engineering-Review		7,295.00
				4129-101-000	Project Feasability-General		378.00
				4129-101-000	Project Feasability-General		1,975.50
				4129-101-000	Project Feasability-General		2,490.00
				4129-101-000	Project Feasability-General		2,102.50
				4129-101-000	Project Feasability-General		690.00
				4129-101-000	Project Feasability-General		6,441.00
				4129-101-000	Project Feasability-General		1,284.50
				4129-101-000	Project Feasability-General		847.00
				4129-101-000	Project Feasability-General		435.00
				4129-101-000	Project Feasability-General		5,216.00
				4170-101-000	GIS System Maint. & Equipment		180.00
				4520-101-000	Engineering-WQM		321.00
				4520-101-000	Engineering-WQM		1,104.50
				4520-101-000	Engineering-WQM		1,220.00
				4122-101-000	Engineering-Permit I&E		127.50
				4124-101-000	Engineering-Permit Review		3,460.00
				4661-101-000	SLMP/TMDL Studies		576.00
				4695-101-000	Research Projects-General		1,152.00
				4695-101-000	Research Projects-General		1,491.00
				4695-101-000	Research Projects-General		2,932.50
				4650-101-000	Project Operations-General		600.00
				4128-518-000	Engineering-Targeted Retrofit		210.00
				4128-520-000	Engineering-Flood Damage		2,153.50
				4128-518-000	Engineering-Targeted Retrofit		195.00

Ramsey Washington Metro Watershed Dist.
Cash Disbursements Journal
For the Period From April 1, 2022 - April 30, 2022

Date	Check #	Vendor ID	Name	Account ID	Account Description	Amount	Check Detail
				4128-518-000	Engineering-Targeted Retrofit		12,444.00
				4128-518-000	Engineering-Targeted Retrofit		15,849.02
				4682-529-000	Engineering-Stewardship Grant Program		1,432.29
				4128-516-000	Engineering-Maint. & Repair		3,679.60
				4128-516-000	Engineering-Maint. & Repair		1,189.50
				4128-516-000	Engineering-Maint. & Repair		3,188.50
				4128-516-000	Engineering-Maint. & Repair		7,935.43
04/27/22	72929	ben002	Benefit Extras, Inc.	4040-101-000	Employee Benefits-General	90.00	
04/27/22	72930	blo001	Simba Blood			144.54	
				4020-101-000	Employee Expenses-General		87.28
				4365-101-000	Committee/Board Meeting Expense		17.26
				4040-101-000	Employee Benefits-General		40.00
04/27/22	72931	cad001	Allstream	4530-101-000	Water QM Staff-General	84.59	
04/27/22	72932	chi003	Christ United Methodist Church	4682-529-000	Stewardship Grant Fund	222.50	
04/27/22	72933	cit001	City of Little Canada	4342-101-000	Utilities/Bldg. Contracts	103.18	
04/27/22	72934	cit011	City of Roseville	4325-101-000	IT/Website/Software	6,264.21	
04/27/22	72935	com004	Comcast	4342-101-000	Utilities/Bldg. Contracts	81.49	
04/27/22	72936	dev001	Mark Devine	4682-529-000	Stewardship Grant Fund	300.00	
04/27/22	72937	don001	Matthew Doneux			55.50	
				4020-101-000	Employee Expenses-General		15.50
				4040-101-000	Employee Benefits-General		40.00
04/27/22	72938	emp003	Dept. of Employment & Economic Dev.	4032-101-000	MN UC Fund	1,645.82	
04/27/22	72939	fit002	Mary Fitzgerald	4040-101-000	Employee Benefits-General	93.51	
04/27/22	72940	gal001	Galowitz Olson, PLLC	4131-101-000	Attorney General-General	1,143.00	
04/27/22	72941	gil001	Gilbert Mechanical Contractors	4342-101-000	Utilities/Bldg. Contracts	144.50	
04/27/22	72942	int001	Office of MN, IT Services	4310-101-000	Telephone-General	59.34	
04/27/22	72943	kid002	KidZibits, Inc.	4630-516-000	Construction Imp.-Maint & Rep	505.00	
04/27/22	72944	kor001	Eric Korte	4040-101-000	Employee Benefits-General	156.65	
04/27/22	72945	kub001	Kyle W. Kubitza			60.34	
				4040-101-000	Employee Benefits-General		40.00
				4530-101-000	Water QM Staff-General		20.34
04/27/22	72946	lea003	L. Tracy Leavenworth	4370-101-000	Educational Program-General	2,389.56	
04/27/22	72947	mbc001	MB Consulting	4372-101-000	Events	5,000.00	
04/27/22	72948	mel001	Michelle L. Melser	4020-101-000	Employee Expenses-General	71.61	
04/27/22	72949	mel001	Michelle L. Melser	4040-101-000	Employee Benefits-General	94.99	
04/27/22	72950	min012	MN Department of Agriculture	4350-101-000	Training & Education-General	10.00	
				4320-101-000	Office Supplies-General		
04/27/22	72951	nep001	NCPERS Group Life Insurance	4040-101-000	Employee Benefits-General	32.00	
04/27/22	72952	nsp001	Xcel Energy			3,218.40	
				4650-101-000	Project Operations-General		530.26
				4650-520-000	Project Operations-Flood		224.65
				4343-101-000	Bldg/Site Maintenance		2,463.49
04/27/22	72953	pac001	Pace Analytical Services, Inc.	4530-101-000	Water QM Staff-General	2,870.00	
04/27/22	72954	pas002	Sage Passi			124.13	
				4020-101-000	Employee Expenses-General		73.13
				4040-101-000	Employee Benefits-General		51.00
04/27/22	72955	pit002	Pitney Bowes, Inc.	4330-101-000	Postage-General	237.97	

Ramsey Washington Metro Watershed Dist.
Cash Disbursements Journal
For the Period From April 1, 2022 - April 30, 2022

Date	Check #	Vendor ID	Name	Account ID	Account Description	Amount	Check Detail
04/27/22	72956	qwe001	CenturyLink	4650-101-000	Project Operations-General	252.41	
04/27/22	72957	ram002	Ramsey County	4682-529-000	Stewardship Grant Fund	11,672.73	
04/27/22	72958	red002	Redpath & Company, Ltd.	4110-101-000	Auditor/Accounting	5,385.19	
04/27/22	72959	red004	Red Rock Fire	4670-101-000	Natural Resources Project-General	2,162.44	
04/27/22	72960	sim001	Emily Simmons			67.15	
				4020-101-000	Employee Expenses-General		47.15
				4040-101-000	Employee Benefits-General		20.00
04/27/22	72961	sod001	Nicole Soderholm			45.27	
				4040-101-000	Employee Benefits-General		40.00
				4020-101-000	Employee Expenses-General		5.27
04/27/22	72962	til002	Joseph S. Tillotson	4020-101-000	Employee Expenses-General	50.43	
04/27/22	72963	tim002	Timesaver Off-Site Secretarial, Inc.	4365-101-000	Committee/Board Meeting Expense	263.50	
04/27/22	72964	tro002	Cathy Troendle			1,746.69	
				4370-101-000	Educational Program-General		1,592.50
				4370-101-000	Educational Program-General		32.64
				4370-101-000	Educational Program-General		121.55
04/27/22	72965	usb002	U.S. Bank			1,074.42	
				4325-101-000	IT/Website/Software		86.86
				4320-101-000	Office Supplies-General		3.15
				4350-101-000	Training & Education-General		31.78
				4350-101-000	Training & Education-General		69.01
				4350-101-000	Training & Education-General		39.28
				4320-101-000	Office Supplies-General		10.00
				4040-101-000	Employee Benefits-General		97.00
				4040-101-000	Employee Benefits-General		65.90
				4365-101-000	Committee/Board Meeting Expense		160.96
				4370-101-000	Educational Program-General		18.95
				4370-101-000	Educational Program-General		102.60
				4370-101-000	Educational Program-General		19.99
				4530-101-000	Water QM Staff-General		93.61
				4372-101-000	Events		34.24
				4343-101-000	Bldg/Site Maintenance		65.97
				4371-101-000	Communications & Marketing		7.80
				4350-101-000	Training & Education-General		1.94
				4320-101-000	Office Supplies-General		138.46
				4370-101-000	Educational Program-General		14.46
				4370-101-000	Educational Program-General		12.46
04/27/22	72966	was002	Washington Conservation District			7,966.08	
				4530-101-000	Water QM Staff-General		120.75
				4683-101-000	Outside Program Spport		3,369.33
				4682-529-000	Stewardship Grant Fund		4,476.00
Accounts Payable Total:						\$171,718.32	

Ramsey Washington Metro Watershed Dist.
Cash Disbursements Journal
For the Period From April 1, 2022 - April 30, 2022

Date	Check #	Vendor ID	Name	Account ID	Account Description	Amount	Check Detail
EFT	04/01/22	myp001	Payroll Fees	4110-101-000	April 1st Payroll Fees	68.10	
EFT	04/15/22	myp001	Payroll Fees	4110-101-000	April 15th Payroll Fees	72.00	
EFT	04/29/22	myp001	Payroll Fees	4110-101-000	April 29th Payroll Fees	72.00	
Dir.Dep.	04/01/22	---	Payroll Expense-Net	4010-101-000	April 1st Payroll	28,020.18	
EFT	04/01/22	int002	Internal Rev.Serv.	2001-101-000	April 1st Federal Withholding	9,950.20	
EFT	04/01/22	mnd001	MN Revenue	2003-101-000	April 1st State Withholding	1,780.10	
EFT	04/01/22	per001	PERA	2011-101-000	April 1st PERA	5,977.63	
EFT	04/01/22	emp002	Empower Retirement	2016-101-000	Employee Def.Comp. Contributions	2,420.00	
EFT	04/01/22	emp002	Empower Retirement	2018-101-000	Employee IRA Contributions	400.00	
Dir.Dep.	04/15/22	---	Payroll Expense-Net	4010-101-000	April 15th Payroll	28,479.34	
EFT	04/15/22	int002	Internal Rev.Serv.	2001-101-000	April 15th Federal Withholding	10,023.74	
EFT	04/15/22	mnd001	MN Revenue	2003-101-000	April 15th State Withholding	1,779.19	
EFT	04/15/22	per001	PERA	2011-101-000	April 15th PERA	5,977.63	
EFT	04/15/22	emp002	Empower Retirement	2016-101-000	Employee Def.Comp. Contributions	2,420.00	
EFT	04/15/22	emp002	Empower Retirement	2018-101-000	Employee IRA Contributions	400.00	
Dir.Dep.	04/29/22	---	Payroll Expense-Net	4010-101-000	April 29th Payroll	43,574.00	
EFT	04/29/22	int002	Internal Rev.Serv.	2001-101-000	April 29th Federal Withholding	17,293.07	
EFT	04/29/22	mnd001	MN Revenue	2003-101-000	April 29th State Withholding	3,209.68	
EFT	04/29/22	per001	PERA	2011-101-000	April 29th PERA	9,051.08	
EFT	04/29/22	emp002	Empower Retirement	2016-101-000	Employee Def.Comp. Contributions	2,420.00	
EFT	04/29/22	emp002	Empower Retirement	2018-101-000	Employee IRA Contributions	400.00	
Payroll/Benefits						\$173,787.94	
TOTAL:						\$345,506.26	



**Summary of Professional Engineering Services During the Period
March 19, 2022 through April 15, 2022**

	Total Engineering Budget (2022)	Total Fees to Date (2022)	Budget Balance (2022)	Fees During Period	District Accounting Code	Plan Implementation Task Number
Engineering Administration						
General Engineering Administration	\$80,000.00	\$25,168.00	\$54,832.00	\$6,043.50	4121-101	DW-13
RWMWD Health and Safety/ERTK Program	\$2,000.00	\$0.00	\$2,000.00	\$0.00	4697-101	DW-13
Educational Program/Educational Forum Assistance	\$20,000.00	\$1,190.00	\$18,810.00	\$0.00	4129-101	DW-11
Topical Workshop, Education, and Planning	\$25,000.00	\$0.00	\$25,000.00	\$0.00	4129-101	DW-13
Engineering Review						
Engineering Review	\$60,000.00	\$25,754.50	\$34,245.50	\$7,295.00	4123-101	DW-13
Project Feasibility Studies						
Interim emergency response plan funds for top priority District flooding areas	\$30,000.00	\$11,850.50	\$18,149.50	\$378.00	4129-101	DW-19
Groundwater/Surface Water Next Steps	\$50,000.00	\$0.00	\$50,000.00	\$0.00	4129-101	DW-10, DW-16
Hillcrest Golf Course	\$20,000.00	\$72.00	\$19,928.00	\$0.00	4129-101	DW-6
Kohlman Creek flood damage reduction feasibility study	\$75,000.00	\$4,293.50	\$70,706.50	\$1,975.50	4129-101	DW-9, KC-2, BELT-3
Kohlman Creek- Wakefield Lake Diversion Planning and Design	\$111,600.00	\$2,796.00	\$86,010.00	\$2,490.00	4129-101	DW-9, KC-2, BELT-3
Improvements to County Ditch 17	\$20,000.00	\$2,682.50	\$17,317.50	\$2,102.50	4129-101	DW-9, BELT-3
Improvements to Phalen Village	\$20,000.00	\$1,030.00	\$18,970.00	\$690.00	4129-101	DW-9, BELT-3
Ames Lake Technical Assistance and Project Planning with St. Paul	\$25,000.00	\$8,101.50	\$16,898.50	\$6,441.00	4129-101	DW-9, BELT-3
694/494/94 WQ treatment feasibility study	\$30,000.00	\$0.00	\$30,000.00	\$0.00	4129-101	BCL-3
Double Driveway Optimization Study	\$25,000.00	\$1,719.00	\$23,281.00	\$1,284.50	4129-101	FC-2
Carver Pond Improvements Study (Fish Creek Subwatershed)	\$25,000.00	\$1,328.50	\$23,671.50	\$847.00	4129-101	FC-2
Evaluate compliance with South Metro Mississippi River TSS TMDL	\$30,000.00	\$687.00	\$29,313.00	\$435.00	4129-101	MR-2
Owasso Basin area/North Star Estates improvements (with City of Little Canada)	\$50,000.00	\$10,063.00	\$39,937.00	\$5,216.00	4129-101	GC-3
Wetland Restoration Workshop, Education, and Planning	\$5,000.00	\$2,969.00	\$2,031.00	\$0.00	4129-101	DW-8
Contingency*	\$45,000.00	\$0.00	\$45,000.00		4129-101	
GIS Maintenance						
GIS Maintenance	\$5,000.00	\$554.00	\$4,446.00	\$180.00	4170-101	DW-13
Monitoring Water Quality/Project Monitoring						
Lake Water Quality Monitoring (Misc QA/QC)	\$10,000.00	\$0.00	\$10,000.00	\$0.00	4520-101	DW-2
Annual WQ Report Assistance	\$10,000.00	\$5,835.00	\$4,165.00	\$321.00	4520-101	DW-2
Special Project BMP Monitoring	\$25,000.00	\$3,462.16	\$21,537.84	\$1,104.50	4520-101	DW-12
Grass Lake Berm Wetland Monitoring	\$10,000.00	\$1,723.50	\$8,276.50	\$1,220.00	4520-101	DW-5
Permit Processing, Inspection and Enforcement						
Permit Application Inspection and Enforcement	\$10,000.00	\$127.50	\$9,872.50	\$127.50	4122-101	DW-7
Permit Application Review	\$55,000.00	\$18,534.50	\$36,465.50	\$3,460.00	4124-101	DW-7
Lake Studies/TMDL Reports						
2022 Grant Applications	\$40,000.00	\$2,005.50	\$37,994.50	\$0.00	4661-101	DW-13
WMP Updates - Including Implementation Plan Updates if needed	\$20,000.00	\$0.00	\$20,000.00	\$0.00	4661-101	DW-13
Prioritization of water quality projects from subwatershed feasibility studies	\$5,000.00	\$792.00	\$4,208.00	\$576.00	4661-101	DW-13
Cost/Benefit Analysis of Treatment Options for Bennett and Wakefield in 2020 Internal Load Analysis	\$35,000.00	\$570.00	\$34,430.00	\$0.00	4661-101	WL-3, BeL-3
Phalen Chain of Lakes Changes in Water Quality	\$2,500.00	\$2,070.00	\$430.00	\$0.00	4661-101	DW-2, DW-12
Contingency for Lake Studies	\$22,500.00	\$0.00	\$22,500.00	\$0.00	4661-101	
Research Projects						
New Technology Mini Case Studies (average 6 per year)	\$12,000.00	\$1,306.00	\$10,694.00	\$1,152.00	4695-101	DW-12
Kohlman Permeable Weir Test System - Implement Monitoring Plan	\$50,000.00	\$4,008.00	\$45,992.00	\$1,491.00	4695-101	DW-12
Shallow Lake Aeration Study	\$90,000.00	\$9,922.00	\$80,078.00	\$2,932.50	4695-101	DW-12
Project Operations						
2021 Tanners Alum Facility Monitoring	\$15,000.00	\$690.00	\$14,310.00	\$600.00	4650-101	TaL-3
Capital Improvements						
North St. Paul Target	\$160,000.00	\$156,963.80	\$3,036.20	\$0.00	4128-518	DW-6
East St Paul and North St. Paul Target Retrofit Projects	\$5,000.00	\$210.00	\$4,790.00	\$210.00	4128-518	DW-6
Ryan Drive-Keller Parkway Conveyance	\$194,000.00	\$213,275.56	-\$19,275.56	\$2,153.50	4128-520	DW-9, GC-3
Commercial Sites Retrofit Projects 2022 (Targeted Retrofits)	\$45,000.00	\$5,576.00	\$39,424.00	\$195.00	4128-518	DW-6
School Sites Retrofit Projects 2022 (Targeted Retrofits)	\$45,000.00	\$40,975.00	\$4,025.00	\$12,444.00	4128-518	DW-6
Church Sites Retrofit Projects 2022 (Targeted Retrofit)	\$45,000.00	\$35,039.48	\$9,960.52	\$15,849.02	4128-518	DW-6
Stewardship Grant Program: Gen'l BMP Design Assistance and Review (cases where Dist is approached by landowner, or landowner is not commercial, school, church).	\$75,000.00	\$7,802.16	\$67,197.84	\$1,432.29	4682-529	DW-6
Kohlman Creek Storage and Detention	\$200,000.00	\$0.00	\$200,000.00	\$0.00	4128-520	KC-2
Wetland Restoration	\$100,000.00	\$0.00	\$100,000.00	\$0.00	4128-529	DW-8
South Owasso Boulevard East WQ Pond	\$150,000.00	\$0.00	\$150,000.00	\$0.00	4128-520	GC-3
West Industrial Park Berm and associated improvements	\$150,000.00	\$0.00	\$150,000.00	\$0.00	4128-520	GC-3
South Lake Judy Filtration- Regional BMP	\$160,000.00	\$0.00	\$160,000.00	\$0.00	4128-518	LE-3
CIP Project Repair & Maintenance						
Routine CIP Inspection and Unplanned Maintenance Identification	\$125,000.00	\$13,346.10	\$111,653.90	\$3,679.60	4128-516	DW-5
Beltline 5-year Inspection	\$70,000.00	\$45,973.32	\$24,026.68	\$1,189.50	4128-516	BELT-2
District Inspection Standardization	\$34,200.00	\$21,575.00	\$12,625.00	\$3,188.50	4128-516	DW-5
2021 CIP Maintenance and Repairs	\$150,000.00	\$133,265.46	\$16,734.54	\$0.00	4128-516	DW-5
2022 CIP Maintenance and Repairs	\$150,000.00	\$92,044.01	\$57,955.99	\$7,935.43	4128-516	DW-5
2023 CIP Maintenance and Repairs (planning, bidding, and project setup)	\$40,000.00	\$0.00	\$40,000.00	\$0.00	4128-516	DW-5

\$96,639.34

Barr declares under the penalties of Law that this Account,
Claim, or Demand is just and that no part has been paid.

Bradley J. Lindaman, Vice President

Galowitz Olson, PLLC
10390 39th Street North
Lake Elmo, Minnesota 55042
Office: (651) 777-6960
Fax: (651) 777-8937

Ramsey-Washington Metro Watershed District
C/O Tina Carstens
2665 Noel Drive
Little Canada MN 55117

Page: 1
April 20, 2022
File No: 9M

	Balance
General Account	<u>\$1,143.00</u>

Permit Application Coversheet

Date May 04, 2022

Project Name American Cooperative on Lake Phalen

Project Number 22-13

Applicant Name Kathleen Conlan-Joyce, Gramercy Development Companies

Type of Development Residential

Property Description

This project is located north of Lake Phalen and west of East Shore Drive in the City of Maplewood. The applicant is proposing to construct an apartment building with associated utilities and landscaping. The total site area is 2.34 acres. An underground infiltration system and above-ground infiltration basin are proposed to meet stormwater treatment requirements. Pretreatment methods include sumped inlets. A portion of the site is located within the 100-year floodplain. The applicant has demonstrated that there will be no net fill and therefore no loss of flood storage on the landscape. A wetland was delineated offsite to the northwest. The wetland boundary was approved on 9/28/21 (#21-12 WCA). The applicant has demonstrated the site layout meets District wetland buffer requirements of 50' average (25' minimum) for the associated Manage B wetland.

Watershed District Policies or Standards Involved:

- | | |
|--|---|
| <input checked="" type="checkbox"/> <i>Wetlands</i> | <input checked="" type="checkbox"/> <i>Erosion and Sediment Control</i> |
| <input checked="" type="checkbox"/> <i>Stormwater Management</i> | <input checked="" type="checkbox"/> <i>Floodplain</i> |

Water Quantity Considerations

The proposed stormwater management plan is sufficient to handle the runoff from the site.

Water Quality Considerations

Short Term

The proposed erosion and sediment control plan is sufficient to protect downstream water resources during construction.

Long Term

The proposed stormwater management plan is sufficient to protect the long term quality of downstream water resources.

Staff Recommendation

Staff recommends approval of this permit with the special provisions.

Attachments:

- ☒ Project Location Map
- ☒ Project Grading Plan

#22-13 American Cooperative on Lake Phalen



Wetlands

- Manage A
- Manage B
- Manage C
- Lake
- Sediment Pond
- Not Assessed

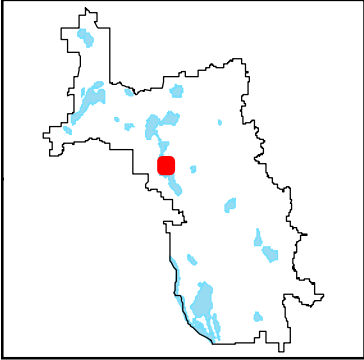
- Flow Arrows
- Major Flow Arrows
- Subwatersheds
- Creeks
- Permits
- Ramsey Co Parcels

Highlighted Areas Represent Active Permit

0 200 400 Feet

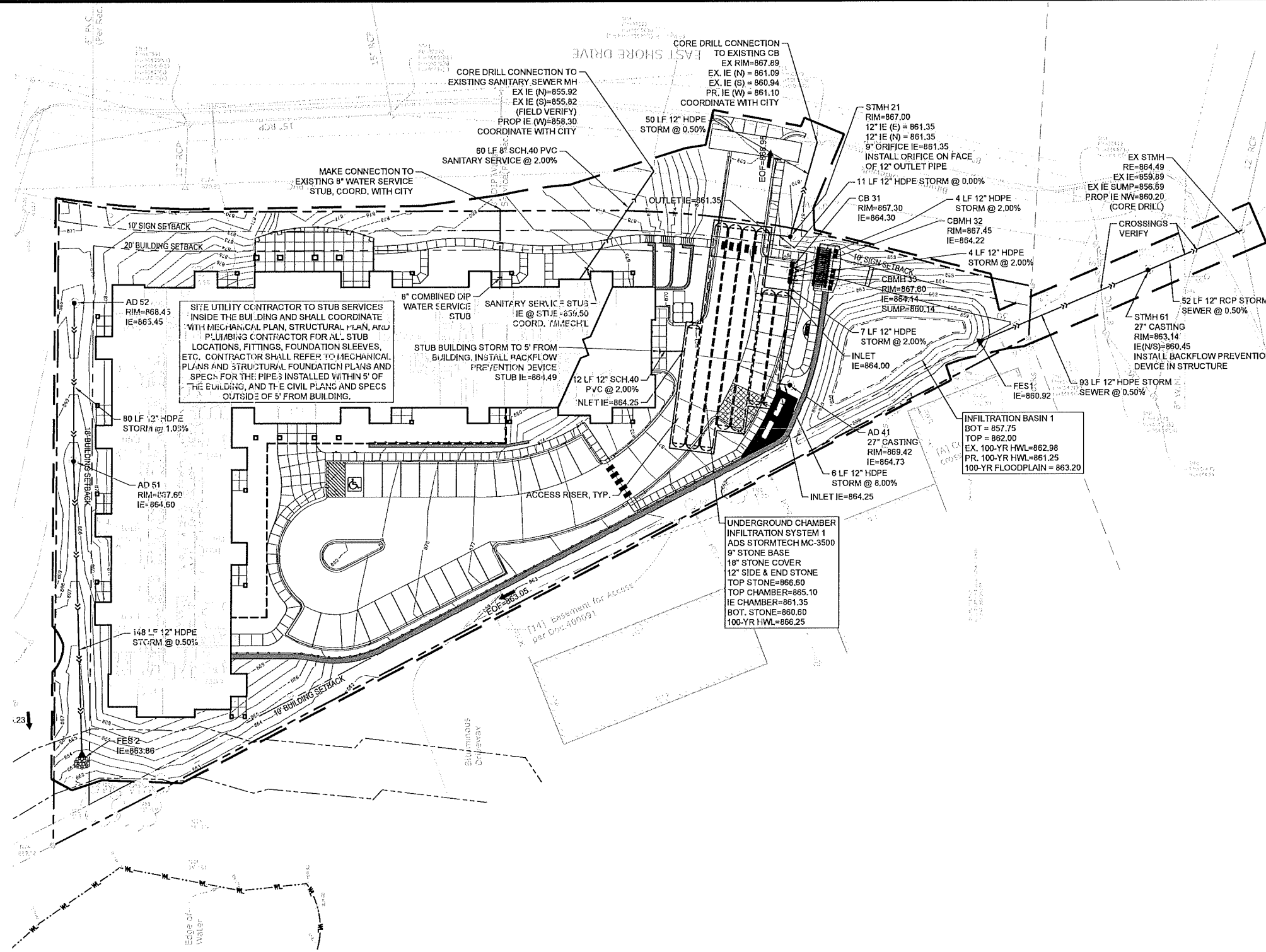
0 0.035 0.07 Miles

N



Special Provisions

1. The applicant shall submit the escrow fee of \$11,700.
2. The applicant shall submit the final, signed plans set.
3. The applicant shall submit the draft, site-specific BMP Operations & Maintenance Plan. A final, as-built O&M Plan will be required prior to permit closure.
4. The applicant shall submit the executed joint stormwater maintenance agreement with the City of Maplewood.
5. The applicant shall submit contact information for the trained erosion control coordinator responsible for implementing the Stormwater Pollution Prevention Plan (SWPPP).
6. The applicant shall submit a copy of the approved Minnesota Pollution Control Agency's NPDES Construction Permit coverage for the project.



GENERAL UTILITY NOTES:

- ALL EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTACT "GOPHER STATE ONE CALL" (651-454-0002 OR 800-252-1166) FOR UTILITY LOCATIONS, 48 HOURS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY UTILITIES THAT ARE DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.
- SEE SITE PLAN FOR HORIZONTAL DIMENSIONS AND LAYOUT.
- CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES AND TOPOGRAPHIC FEATURES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF DISCREPANCIES OR VARIATIONS FROM THE PLANS.
- UTILITY INSTALLATION SHALL CONFORM TO THE CURRENT EDITION OF "STANDARD SPECIFICATIONS FOR WATER MAIN AND SERVICE LINE INSTALLATION" AND "SANITARY SEWER AND STORM SEWER INSTALLATION" AS PREPARED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM), AND SHALL CONFORM WITH THE REQUIREMENTS OF THE CITY AND THE PROJECT SPECIFICATIONS.
- CASTINGS SHALL BE SALVAGED FROM STRUCTURE REMOVALS AND RE-USED OR PLACED AT THE DIRECTION OF THE OWNER.
- ALL WATER PIPE SHALL BE CLASS 52 DUCTILE IRON PIPE (DIP) AWWA C151, ASME B16.4, AWWA C110, AWWA C153 UNLESS OTHERWISE NOTED.
- ALL SANITARY SEWER SHALL BE SDR 26 POLYVINYL CHLORIDE (PVC) ASTM D3034 & F679, OR SCH 40 ASTM D1785, 2665, ASTM F794, 1866) UNLESS OTHERWISE NOTED.
- ALL STORM SEWER PIPE SHALL BE HDPE ASTM F714 & F2306 WITH ASTM D3212 SPEC FITTINGS UNLESS OTHERWISE NOTED.
- PIPE LENGTHS SHOWN ARE FROM CENTER TO CENTER OF STRUCTURE OR TO END OF FLARED END SECTION.
- UTILITIES ON THE PLAN ARE SHOWN TO WITHIN 5' OF THE BUILDING FOOTPRINT. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR THE FINAL CONNECTION TO BUILDING LINES. COORDINATE WITH ARCHITECTURAL AND MECHANICAL PLANS.
- CATCH BASINS AND MANHOLES IN PAVED AREAS SHALL BE SUMPED 0.04 FEET. ALL CATCH BASINS IN GUTTERS SHALL BE SUMPED 0.15 FEET PER DETAILS. RIM ELEVATIONS SHOWN ON THIS PLAN DO NOT REFLECT SUMPED ELEVATIONS.
- A MINIMUM OF 8 FEET OF COVER IS REQUIRED OVER ALL WATERMAIN, UNLESS OTHERWISE NOTED. EXTRA DEPTH MAY BE REQUIRED TO MAINTAIN A MINIMUM OF 18" VERTICAL SEPARATION TO SANITARY OR STORM SEWER LINES. EXTRA DEPTH WATERMAIN IS INCIDENTAL.
- A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION AND 10 FEET OF HORIZONTAL SEPARATION IS REQUIRED FOR ALL UTILITIES, UNLESS OTHERWISE NOTED.
- ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE IN ACCORDANCE WITH CITY STANDARDS AND COORDINATED WITH THE CITY PRIOR TO CONSTRUCTION.
- CONNECTIONS TO EXISTING STRUCTURES SHALL BE CORE-DRILLED.
- COORDINATE LOCATIONS AND SIZES OF SERVICE CONNECTIONS WITH THE MECHANICAL DRAWINGS.
- COORDINATE INSTALLATION AND SCHEDULING OF THE INSTALLATION OF UTILITIES WITH ADJACENT CONTRACTORS AND CITY STAFF.
- ALL STREET REPAIRS AND PATCHING SHALL BE PERFORMED PER THE REQUIREMENTS OF THE CITY. ALL PAVEMENT CONNECTIONS SHALL BE SAWCUT. ALL TRAFFIC CONTROLS SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL BE ESTABLISHED PER THE REQUIREMENTS OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AND THE CITY. THIS SHALL INCLUDE BUT NOT BE LIMITED TO SIGNAGE, BARRICADES, FLASHERS, AND FLAGGERS AS NEEDED. ALL PUBLIC STREETS SHALL BE OPEN TO TRAFFIC AT ALL TIMES. NO ROAD CLOSURES SHALL BE PERMITTED WITHOUT APPROVAL BY THE CITY.
- ALL STRUCTURES, PUBLIC AND PRIVATE, SHALL BE ADJUSTED TO PROPOSED GRADES WHERE REQUIRED. THE REQUIREMENTS OF ALL OWNERS MUST BE COMPLIED WITH. STRUCTURES BEING RESET TO PAVED AREAS MUST MEET OWNERS REQUIREMENTS FOR TRAFFIC LOADING.
- CONTRACTOR SHALL COORDINATE ALL WORK WITH PRIVATE UTILITY COMPANIES.
- CONTRACTOR SHALL COORDINATE CONNECTION OF IRRIGATION SERVICE TO UTILITIES. COORDINATE THE INSTALLATION OF IRRIGATION SLEEVES NECESSARY AS TO NOT IMPACT INSTALLATION OF UTILITIES.
- CONTRACTOR SHALL MAINTAIN AS-BUILT PLANS THROUGHOUT CONSTRUCTION AND SUBMIT THESE PLANS TO ENGINEER UPON COMPLETION OF WORK.
- ALL JOINTS AND CONNECTIONS IN STORM SEWER SYSTEM SHALL BE GASTIGHT OR WATERTIGHT. APPROVED RESILIENT RUBBER JOINTS MUST BE USED TO MAKE WATERTIGHT CONNECTIONS TO MANHOLES, CATCH BASINS, OR OTHER STRUCTURES.
- ALL PORTIONS OF THE STORM SEWER SYSTEM LOCATED WITHIN 10 FEET OF THE BUILDING OR WATER SERVICE LINE MUST BE TESTED IN ACCORDANCE WITH MN RULES, CHAPTER 4714, SECTION 1109.0.
- FOR ALL SITES LOCATED IN CLAY SOIL AREAS, DRAIN TILE MUST BE INSTALLED AT ALL LOW POINT CATCH BASINS 25' IN EACH DIRECTION. SEE PLAN AND DETAIL. INSTALL LOW POINT DRAIN TILE PER PLANS AND GEOTECHNICAL REPORT RECOMMENDATIONS AND REQUIREMENTS.

CITY OF MAPLEWOOD UTILITY NOTES:

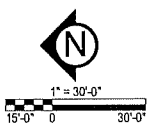
- RESERVED FOR CITY SPECIFIC UTILITY NOTES.

ST. PAUL REGIONAL WATER SERVICES UTILITY NOTES:

- IF RATIO OF DOMESTIC SERVICE SIZE TO FIRE SERVICE SIZE IS LARGER THAN 1:4, THEN SEPARATE SERVICES WILL BE REQUIRED. IF RATIO OF DOMESTIC SERVICE SIZE TO FIRE SERVICE SIZE IS LESS THAN 1:4, THEN COMBINED SERVICES ARE ALLOWED.

UTILITY LEGEND:

- CATCH BASIN
- MANHOLE
- GATE VALVE AND VALVE BOX
- PROPOSED FIRE HYDRANT
- WATER MAIN
- SANITARY SEWER
- STORM SEWER
- FES AND RIP RAP



I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Matthew R. Pavsek
DATE 04/08/22 LICENSE NO. 44263

ISSUE/SUBMITTAL SUMMARY	
DATE	DESCRIPTION
08/20/21	CITY SUBMITTAL
11/24/21	PROGRESS SET
12/01/21	FOR PRELIMINARY SET
02/10/22	FOR PRELIMINARY SET
02/10/22	WATERSHED SUBMITTAL
03/02/22	WATERSHED RESUBMITTAL
04/05/22	WATERSHED RESUBMITTAL

REVISION SUMMARY	
DATE	DESCRIPTION

DRAWN BY: WB, KS REVIEWED BY: MP, RB
PROJECT NUMBER: 21199

UTILITY PLAN

C4.0

Permit Application Coversheet

Date May 04, 2022

Project Name Maplewood Cope Ave Improvements

Project Number 22-14

Applicant Name Tyler Strong, City of Maplewood

Type of Development Linear

Property Description

This project is located on Cope Avenue between English Street and White Bear Avenue in the City of Maplewood. The applicant is proposing to complete a pavement rehabilitation project which will include a full-depth reclamation, narrowing of the roadway, utility and curb and gutter replacement, and a new pedestrian walkway on the north side of Cope Avenue. The total disturbance area is 0.59 acre but triggers Rule F for erosion and sediment control due to the project's proximity to Knucklehead Lake, a DNR public water wetland. A wetland delineation approval was issued on 12/13/21 (#21-20 WCA). Sumped catch basin manholes will be installed to reduce sediment entering the wetland. The project is expected to result in approximately 0.5 acre of impervious surface reduction. The city applied for a District stewardship grant to help with the costs of narrowing the roadway. The project was approved for 75% funding up to \$50,000 at the March 2022 board meeting (#22-07 CS).

Watershed District Policies or Standards Involved:

- | | |
|---|---|
| <input checked="" type="checkbox"/> <i>Wetlands</i> | <input checked="" type="checkbox"/> <i>Erosion and Sediment Control</i> |
| <input type="checkbox"/> <i>Stormwater Management</i> | <input type="checkbox"/> <i>Floodplain</i> |

Water Quantity Considerations

There are no water quantity considerations.

Water Quality Considerations

Short Term

The proposed erosion and sediment control plan is sufficient to protect downstream water resources during construction.

Long Term

There are no long term water quality considerations.

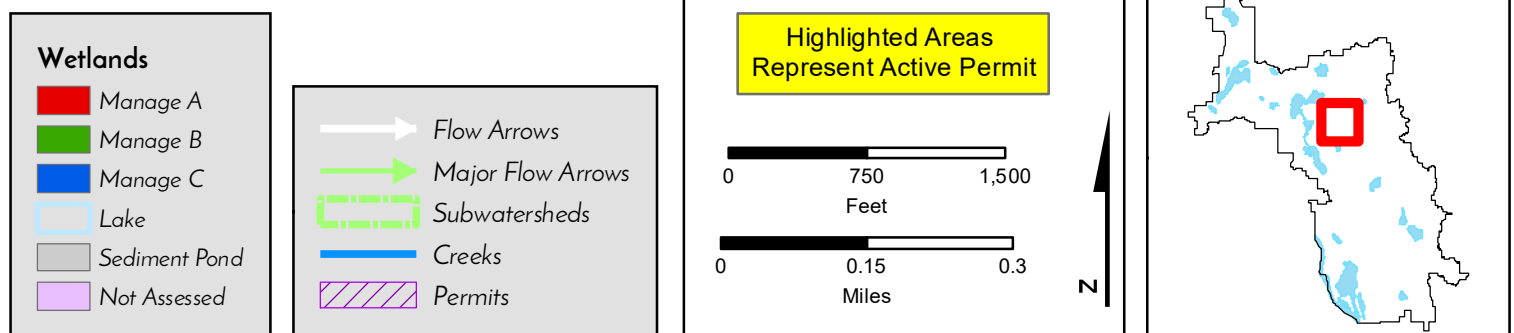
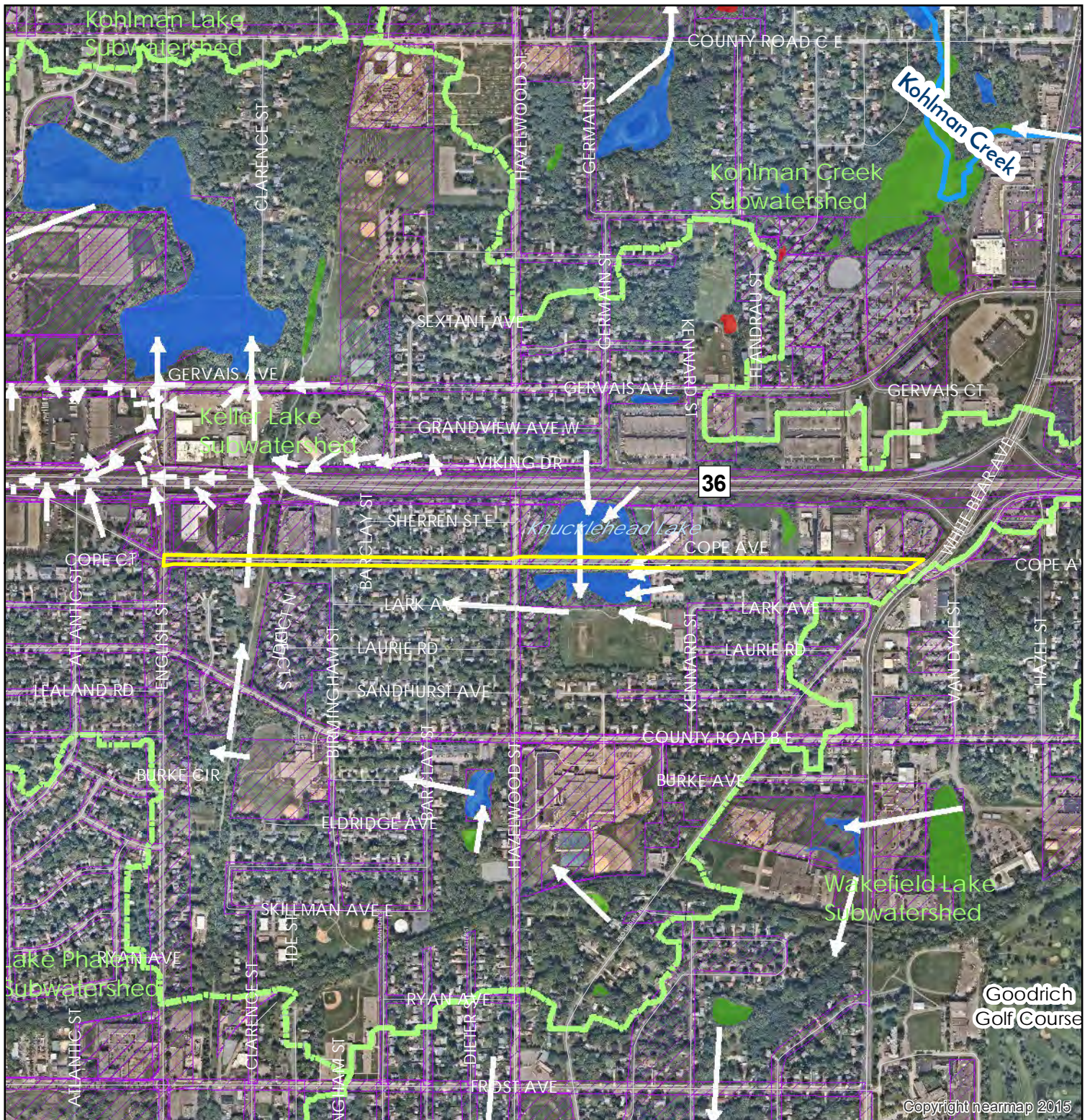
Staff Recommendation

Staff recommends approval of this permit with the special provisions.

Attachments:

- ☒ Project Location Map
- ☐ Project Grading Plan

#22-14 Maplewood Cope Ave Improvements



Special Provisions

1. The applicant shall revise plans to include the delineated wetland line.
2. The applicant shall include the Normal Water Levels and 100-year High Water Levels on the plans for Knucklehead Lake.
3. The applicant shall specify redundant perimeter control adjacent to Knucklehead Lake.
4. The applicant shall label the location(s) for the specified rock construction entrances on the erosion control plan.
5. The applicant shall include construction details for the erosion control practices specified.
6. The applicant shall submit the final, signed plans set.
7. The applicant shall submit contact information for the trained erosion control coordinator responsible for implementing the Stormwater Pollution Prevention Plan (SWPPP).

Permit Application Coversheet

Date May 04, 2022

Project Name RWMWD Lake Owasso Shoreline Restoration Project Number 22-15

Applicant Name Paige Ahlborg, RWMWD

Type of Development Park/Green Space/BMP

Property Description

This project is located at various residences on the north side of Lake Owasso in the City of Shoreview. The District is proposing to complete shoreline restorations at 10 residential properties on the lake. The total disturbance area is 0.31 acre but triggers District Rules D for flood control and F for erosion and sediment control. Due to existing erosion in some areas, there will be some grading in the 100-year floodplain. No net fill is proposed in order to maintain existing flood storage on the landscape. The District will be responsible for directing additional site work including management of invasive species, soil stabilization, and native seed/plugs. Long-term monitoring and maintenance is proposed through the 2024 growing season. Final plans and project specifications were presented at the April 2022 board meeting and subsequently approved.

Watershed District Policies or Standards Involved:

- | | |
|---|---|
| <input type="checkbox"/> <i>Wetlands</i> | <input checked="" type="checkbox"/> <i>Erosion and Sediment Control</i> |
| <input type="checkbox"/> <i>Stormwater Management</i> | <input checked="" type="checkbox"/> <i>Floodplain</i> |

Water Quantity Considerations

The proposed grading will result in no net fill within the 100-year floodplain.

Water Quality Considerations

Short Term

The proposed erosion and sediment control plan is sufficient to protect downstream water resources during construction.

Long Term

There are no long term water quality considerations.

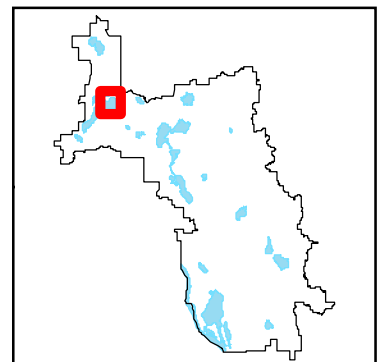
Staff Recommendation

Staff recommends approval of this permit.

Attachments:

- ☒ Project Location Map
- ☐ Project Grading Plan

#22-15 RWMWD Lake Owasso Shoreline Restoration



22-15

Special Provisions

None

Permit Application Coversheet

Date May 04, 2022

Project Name Maplewood Assisted Living

Project Number 22-16

Applicant Name Maixia Vang,

Type of Development Residential

Property Description

This project is located at 1744 County Road D East, northwest of Maplewood Mall. The applicant is proposing to construct an assisted living residential building, parking lots, and drive aisles. The total site area is 2 acres. Two infiltration basins are proposed to meet water quality treatment requirements. Pretreatment will include vegetated filter strips and sumped catch basins. Rate control was partially provided for in a previously approved common plan of development (Permit #04-37). The applicant has submitted calculations to demonstrate the downstream pond system is adequately sized for the proposed development using Atlas 14 rainfall depths.

Watershed District Policies or Standards Involved:

- | | |
|--|---|
| <input type="checkbox"/> <i>Wetlands</i> | <input checked="" type="checkbox"/> <i>Erosion and Sediment Control</i> |
| <input checked="" type="checkbox"/> <i>Stormwater Management</i> | <input type="checkbox"/> <i>Floodplain</i> |

Water Quantity Considerations

The proposed stormwater management plan is sufficient to handle runoff from the site.

Water Quality Considerations

Short Term

The proposed erosion and sediment control plan is sufficient to protect downstream water resources during construction.

Long Term

The proposed stormwater management plan is sufficient to protect the long term quality of downstream water resources.

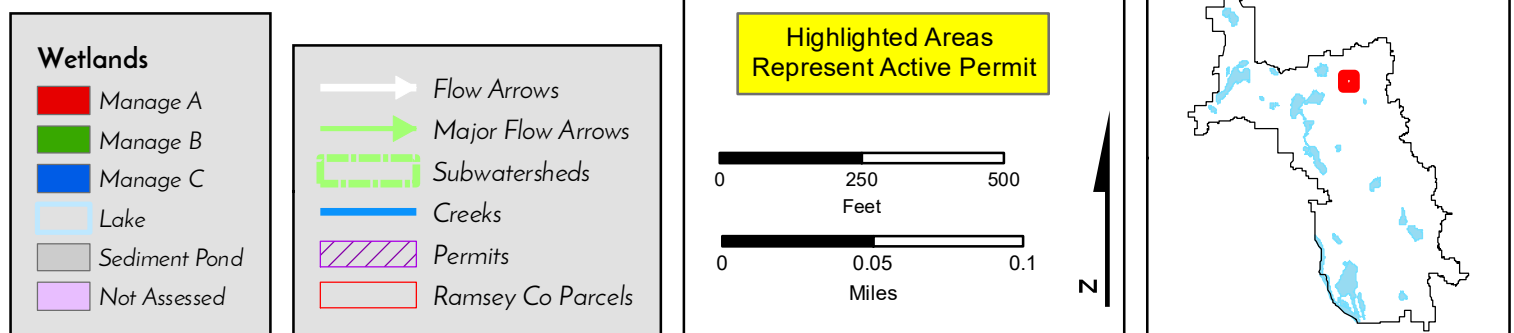
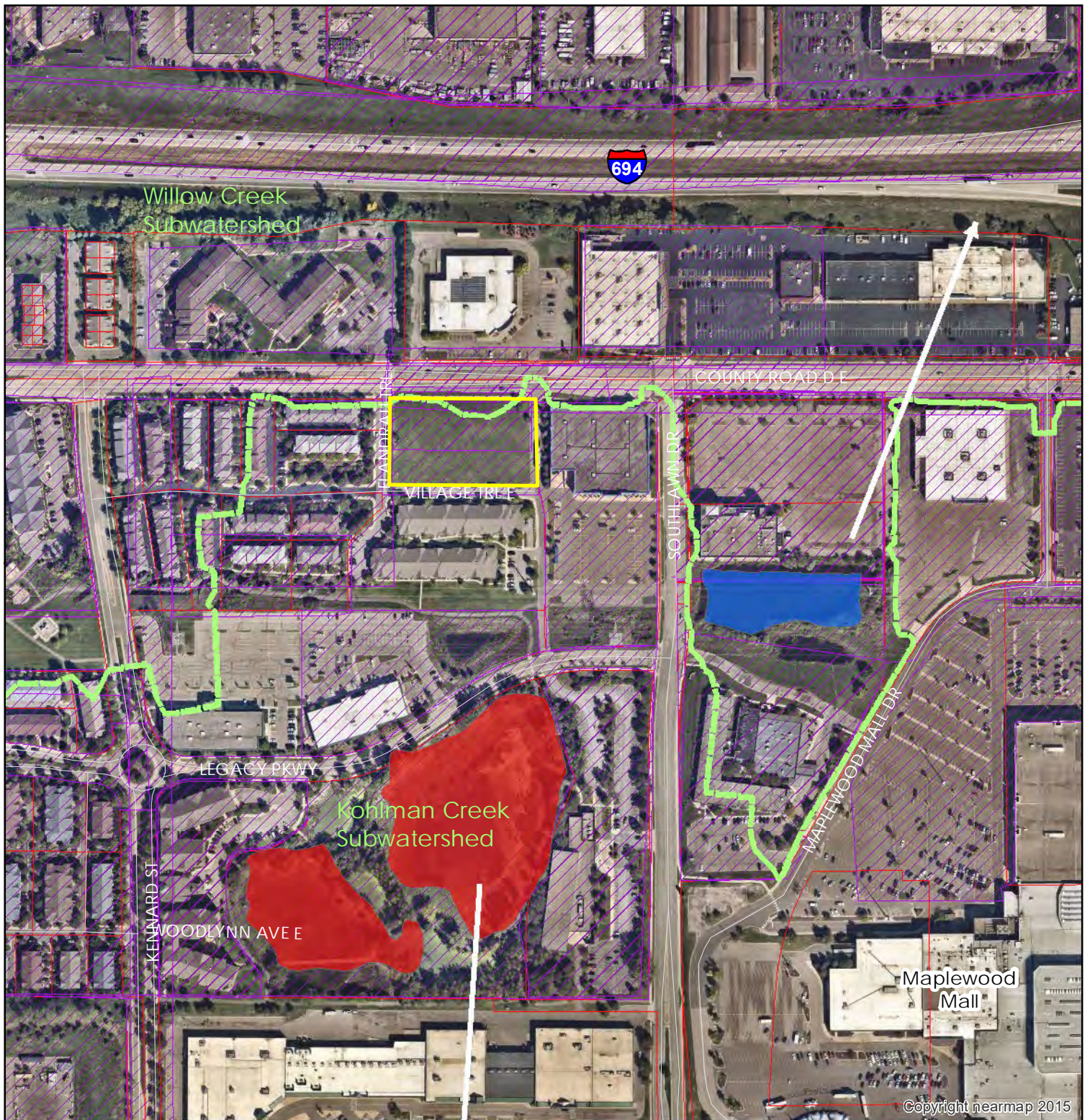
Staff Recommendation

Staff recommends approval of this permit with the special provisions.

Attachments:

- ☒ Project Location Map
- ☒ Project Grading Plan

#22-16 Maplewood Assisted Living



Special Provisions

1. The applicant shall submit the escrow fee of \$10,000.
2. The applicant shall add inlet protection to the proposed erosion control plan and legend. Enlarge construction entrance symbology such that it's closer to the scale of application.
3. The applicant shall submit construction details for the erosion and sediment control practices specified.
4. The applicant shall submit the final, signed plans set.
5. The applicant shall submit a joint, executed stormwater maintenance agreement with the City of Maplewood.
6. The applicant shall submit a draft, site-specific BMP Operations & Maintenance (O&M) Plan. A final, as-built O&M Plan will be required upon permit closure.
7. The applicant shall submit contact information for the trained erosion control coordinator responsible for implementing the Stormwater Pollution Prevention Plan (SWPPP).
8. The applicant shall submit a copy of the approved Minnesota Pollution Control Agency's NPDES Construction Permit coverage for the project.

LEGEND

GRADING AND EROSION CONTROL PLAN
MAPLEWOOD ASSISTED LIVING

COUNTY ROAD "D"

BITUMINOUS

RM=933.7
RV=911.8 (EW)
RW=913.8 (S)

SILT FENCE (TYP)

378.01

N89°44'58"E

POND 1P
TOP = 933.0
BOT = 928.0
HWL = 932.0
10' OUTLET @ 932.5

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRELIMINARY

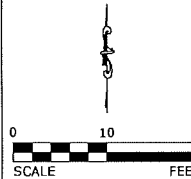
KRYSTLE L. BLOCH
4-20-2022
DATE

49893
LIC. NO.

MAPLEWOOD ASSISTED LIVING

1744 CO RD D
MAPLEWOOD, MN

OWNER: MAIXIA VANG



BLOCH
ENGINEERING

BLOCH ENGINEERING, PLLC
blochengineering.com
32210 XEON ST NW
CAMBRIDGE, MN 55008
krystle@blochengineering.com

DRAWN BY: KLB

CHECKED BY: KLB

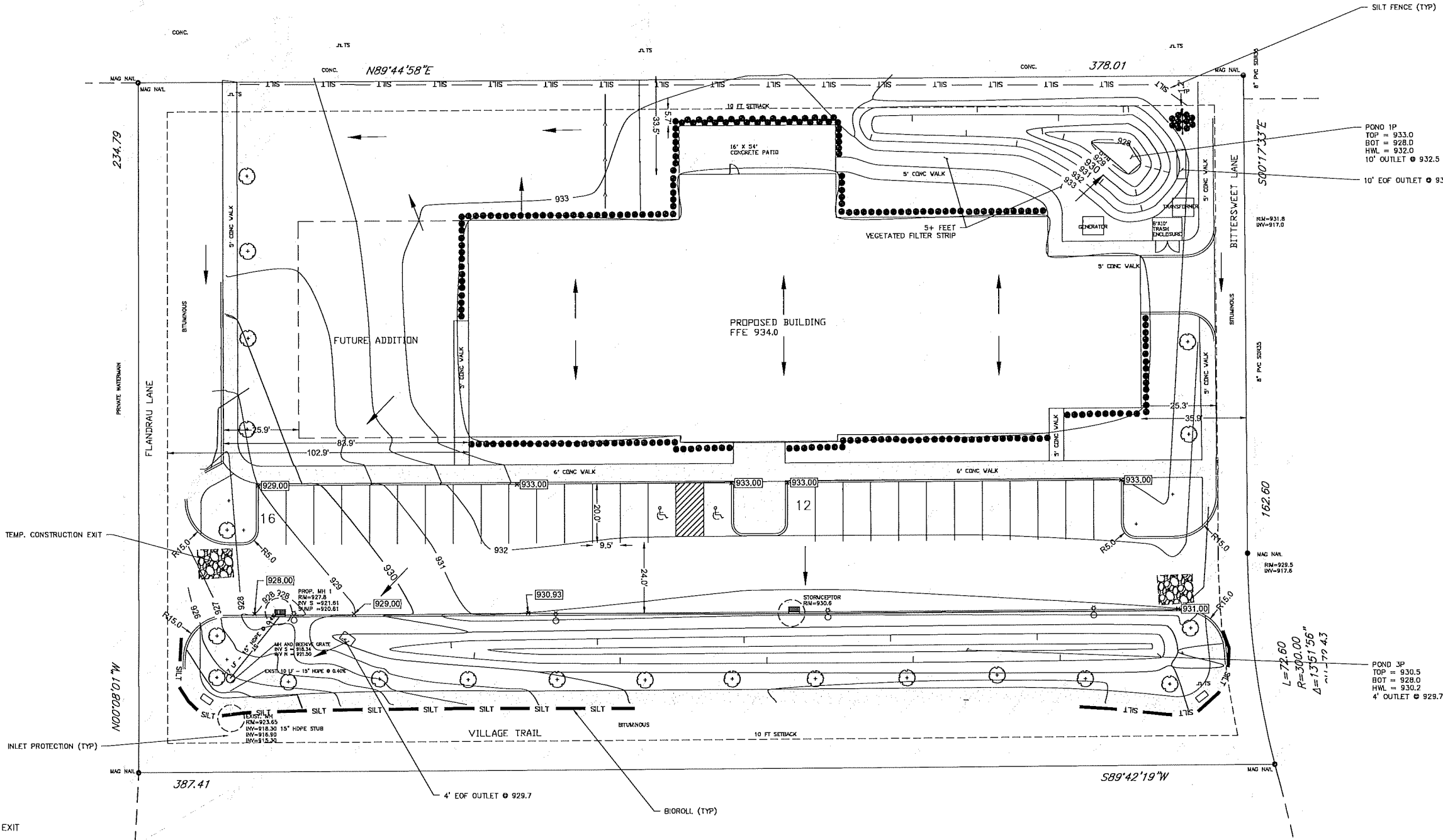
DESIGNED BY: KLB

JOB NO. 22-04

DATE: 4-20-22

SHEET
C4

SHEETS
7



L=72.60
R=300.00
Δ=1351.55°
Δ=170.43

POND 3P
TOP = 930.5
BOT = 928.0
HWL = 930.2
4' OUTLET @ 929.7

INFILTRATION POND TYPICAL SECTION
(NOT TO SCALE)

TOP = SEE POND NOTES ABOVE
HWL = SEE POND NOTES ABOVE
BOTTOM = SEE POND NOTES ABOVE

VARIES

- SITE GRADING NOTES:
1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL VERIFY THE FIELD LOCATION OF ALL PUBLIC AND PRIVATE UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT (651) 454-0002.
 2. ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
 3. EXISTING GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT INTERVALS (TOPOGRAPHIC/SURVEY SHOT-BASED SURFACE).
 4. PROPOSED GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT INTERVALS.
 5. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
 6. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED/GRAVEL AREAS.
 7. TOPOGRAPHIC INFORMATION TAKEN FROM A TOPOGRAPHIC SURVEY BY LAND SURVEYORS, IF CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, HE SHALL HAVE MADE, AT HIS EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR AND SUBMIT TO THE OWNER FOR REVIEW.
 8. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
 9. ALL PROPOSED SPOT ELEVATIONS ARE FLOWLINE UNLESS OTHERWISE NOTED.
 10. MINIMIZE COMPACTION IN INFILTRATION AREAS.

- EROSION CONTROL NOTES:
1. ALL DISTURBED AREAS TO BE SEEDED AND MULCHED. 4IN MIN TOPSOIL.
 2. MULCH TYPE 1 (DISK ANCHORED) IN DISTURBED AREAS
 3. SEED MNDOT TYPE 35-221, AT A RATE OF 36.5 LB/AC
 4. ALL SLOPES STEEPER THAN 4:1, SHALL BE RESTORED WITH SEED AND PROTECTED WITH EROSION CONTROL BLANKET PER MNDOT SPEC. 3885.1 OR SODDED AND STAKED.
 5. INFILTRATION BASINS SHALL BE PROTECTED FROM SEDIMENTATION THROUGHOUT CONSTRUCTION.
 6. INLET PROTECTION DEVICES SHALL BE INSTALLED ON ALL EXISTING AND PROPOSED ONSITE STORM SEWER UNTIL ALL EXPOSED SOILS ARE STABILIZED.
 7. PUBLIC AND PRIVATE DRIVES AND ROADWAYS SHALL BE SWEEPED AS NEEDED TO KEEP THE PAVEMENT CLEAR OF SEDIMENT AND CONSTRUCTION DEBRIS.
 8. EROSION CONTROL BLANKET SHALL BE BIODEGRADABLE MATERIAL, AND MAY NOT BE NYLON, PLASTIC, OR OTHER PERSISTING MATERIAL.

Stewardship Grant Application Summary

Project Name: Montana Ave Restoration

Application Number 22-10 CS

Board Meeting Date: 5/4/2022

Applicant Name: Michael Koopmeiners

Residential ☒

Commercial/Government ☐

Project Overview:

This project is located off Montana Ave and Sterling St N in the City of Maplewood. Three adjoining neighbors have collaborated to remove significant amounts of buckthorn along a wetland that abuts their properties. The property owners are requesting grant funds to add native plants to the wetland buffer. They are proposing to use a native savanna and woodland edge seed mix and a sedge meadow mix. They plan to hire the same contractor to perform at least 3 years of maintenance after installation is complete.

This project is eligible for 50% coverage up to \$15,000.

BMP type(s):

Native Habitat Restoration(3)

Grant Request:

\$7,000.00

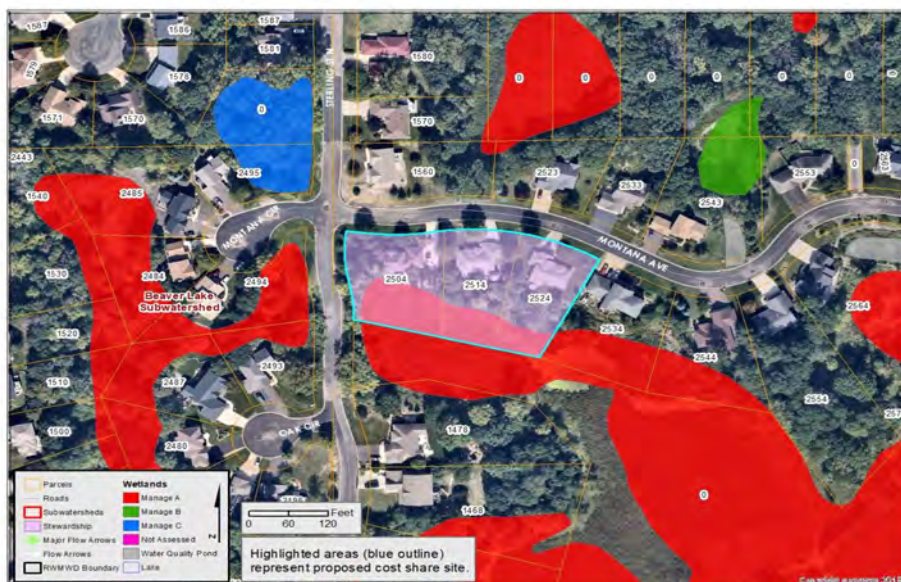
Recommendation:

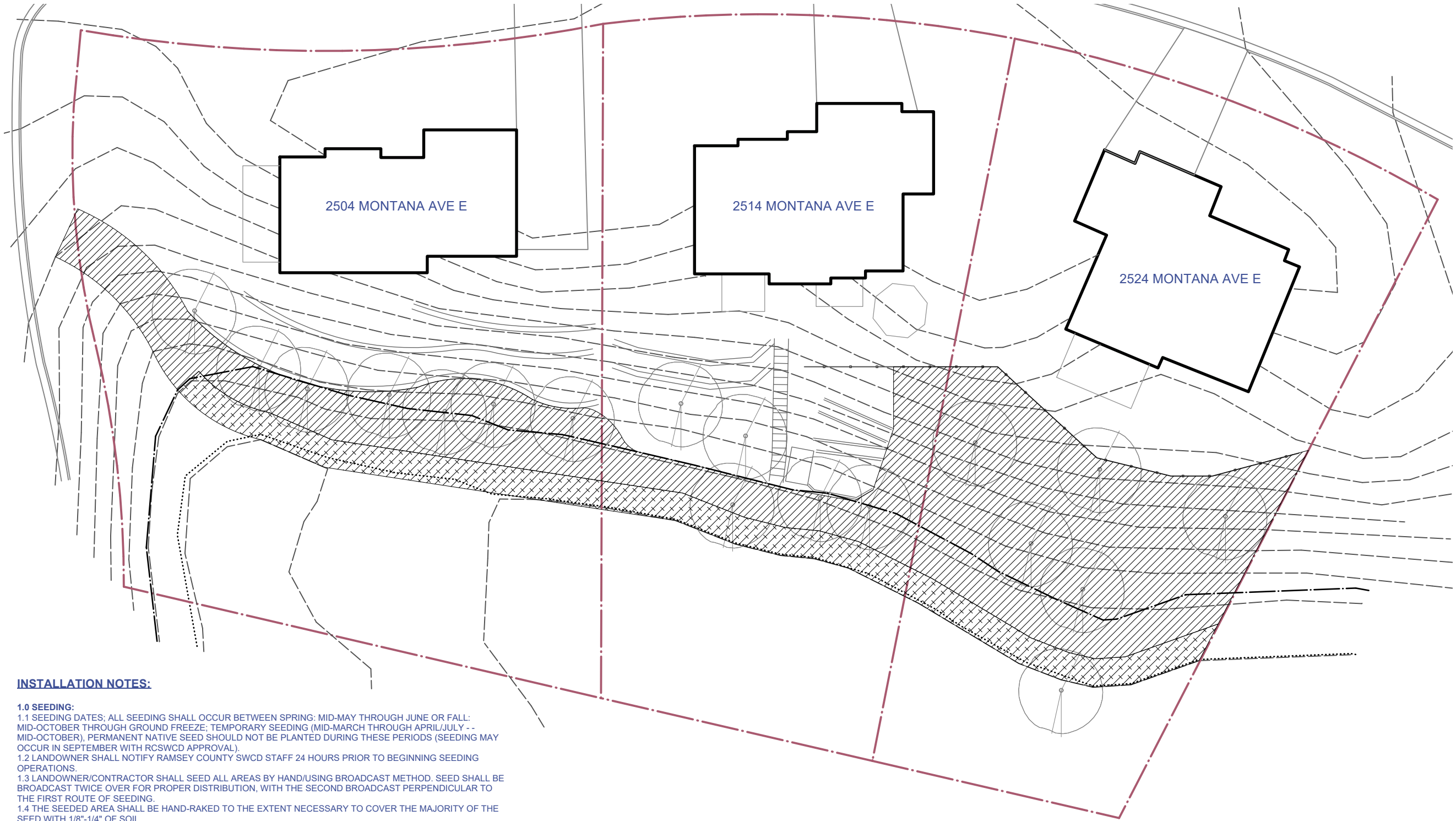
Staff recommends approval of this application.

Subwatershed:

Beaver Lake



Location Maps:





INSTALLATION NOTES:

- 1.0 SEEDING:**
1.1 SEEDING DATES; ALL SEEDING SHALL OCCUR BETWEEN SPRING: MID-MAY THROUGH JUNE OR FALL: MID-OCTOBER THROUGH GROUND FREEZE; TEMPORARY SEEDING (MID-MARCH THROUGH APRIL/JULY -- MID-OCTOBER). PERMANENT NATIVE SEED SHOULD NOT BE PLANTED DURING THESE PERIODS (SEEDING MAY OCCUR IN SEPTEMBER WITH RCSWCD APPROVAL).
1.2 LANDOWNER SHALL NOTIFY RAMSEY COUNTY SWCD STAFF 24 HOURS PRIOR TO BEGINNING SEEDING OPERATIONS.
1.3 LANDOWNER/CONTRACTOR SHALL SEED ALL AREAS BY HAND/USING BROADCAST METHOD. SEED SHALL BE BROADCAST TWICE OVER FOR PROPER DISTRIBUTION, WITH THE SECOND BROADCAST PERPENDICULAR TO THE FIRST ROUTE OF SEEDING.
1.4 THE SEEDED AREA SHALL BE HAND-RAKED TO THE EXTENT NECESSARY TO COVER THE MAJORITY OF THE SEED WITH 1/8"-1/4" OF SOIL.
1.5 WITHIN 12 HOURS, IF CONDITIONS PERMIT OR AS SOON THEREAFTER AS PRACTICAL, THE CONTRACTOR SHALL COVER ALL SEEDED AREAS WITH SPECIFIED EROSION CONTROL BLANKET. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING PERMANENT/TEMPORARY EROSION CONTROL MEASURES WITHIN PRESCRIBED PLANTING AREAS UNTIL SEEDED VEGETATION HAS PROPERLY GERMINATED/BEEN APPROVED FOR PROJECT CLOSEOUT.
1.6 LANDOWNER/CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL MEASURES WITHIN PRESCRIBED PLANTING AREAS
1.7 NO FERTILIZER SHALL BE APPLIED TO ANY SEEDED AREAS FOR ANY REASON
- 2.0 LIVE PLANT MATERIAL**
2.1 RECOMMENDED SPECIS FOR THIS PROJECT BASED ON ELEVATION, ANTICIPATED SOIL & HYDROLOGIC CONDITIONS (SUBSTITUTIONS WITH APPROVAL)
2.2 THE PLANTING LOCATIONS & LAYOUTS SHOWN IN THE PLAN ARE APPROXIMATE
2.3 ALL PLANTING DATES SHALL BE PERFORMED DURING SPRING (MID-MAY THROUGH JUNE) OR FALL (MID-SEPTEMBER THROUGH MID-OCTOBER)
2.4 LIVE PLANT MATERIAL INSTALLATION SPECIFIED FOR AREAS IN COMBINATION WITH SEEDING ACTIVITIES, SHALL OCCUR AFTER ALL SEEDING ACTIVITIES HAVE BEEN COMPLETED PER UNIT
2.5 IT IS RECOMMENDED THAT ALL LIVE PLANTS BE INSTALLED IN LARGE CLUSTERS OR GROUP COUNTS OF LIKE SPECIES FOR IDENTIFICATION AND MAINTENANCE EASE
2.6 INSTALL NATIVE PERENNIALS 36" ON CENTER
- 3.0 HERBIVORE EXCLUSION FENCING**
3.1 IF USED, HERBIVORE EXCLUSION FENCING SHALL BE INSTALLED IMMEDIATELY SURROUNDING THE ENTIRE PROJECT PERIMETER ONCE PLANTING OPERATIONS HAVE BEGUN.
3.2 IT IS RECOMMENDED THAT ALL EXCLUSION FENCING SHALL REMAIN FOR THE DURATION OF THE ESTABLISHMENT PERIOD (3 YEARS)

-  SAVANNA & WOODLAND EDGE MIX (+/- 9,700 SF);
LIVE PLANT MATERIAL (2" PLUG / 600 QTY.) SHALL
MATCH APPROVED SEED MIX SPECIES, OR
APPROVED EQUAL; SC150BN EROSION BLANKET
(1,078 SY)
- SEE SHEET L400 FOR DETAIL
-  SEDGE MEADOW MIX (+/- 2,400 SF);
LIVE PLANT MATERIAL (2" PLUG / 150 QTY.) SHALL
MATCH APPROVED SEED MIX SPECIES, OR
APPROVED EQUAL; SC150BN EROSION BLANKET
(267 SY)
- SEE SHEET L400 FOR DETAIL



RAMSEY COUNTY SWCD
2015 VAN DYKE ST N
MAPLEWOOD, MN 55109
651-266-7274
www.ramseycounty.us

PROJECT: MONTANA AVE E WETLAND
LOCATION:
2504-2524 MONTANA AVE E

WATERSHED DISTRICT:



RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

DESIGNER: MPS
DATE: 08/17/2021
REVISION:
REVISION:
REVISION:
REVISION:
CHECKED BY:
TAA:

NOTES:
PROJECT AREA AND SHAPE MAY
VARY WITH APPROVAL ONLY

ALL SUBSTITUTIONS TO DESIGN,
LAYOUT, MATERIALS, SPECIES AND
QUANTITIES SHALL RECEIVE APPROVAL
BY RCSWCD STAFF PRIOR TO INSTALL

ORIGINAL SHEET SIZE: 11" x 17"

SCALE: 1"=30'0"

SITE LAYOUT PLAN

L300



N

Stewardship Grant Application Summary

Project Name: Ryan

Application Number 22-11 CS

Board Meeting Date: 5/4/2022

Applicant Name: Kelly Ryan and Paul de Cordova

Residential ☒

Commercial/Government ☐

Project Overview:

This project is located off Victoria St and Transit Ave in the City of Roseville. The applicant is proposing to remove all turf grass in their backyard and plant native plants. Their goals are to create a habitat for native wildlife and pollinators as well as decrease environmental damages from mowing, watering, and fertilizing in an effort to be good environmental stewards. They plan to hire a contractor who will use a mixture of native plugs and native seed mixes.

This project is eligible for 50% coverage up to \$15,000.

BMP type(s):

Native Habitat Restoration(1)

Grant Request:

\$5,200.00

Recommendation:

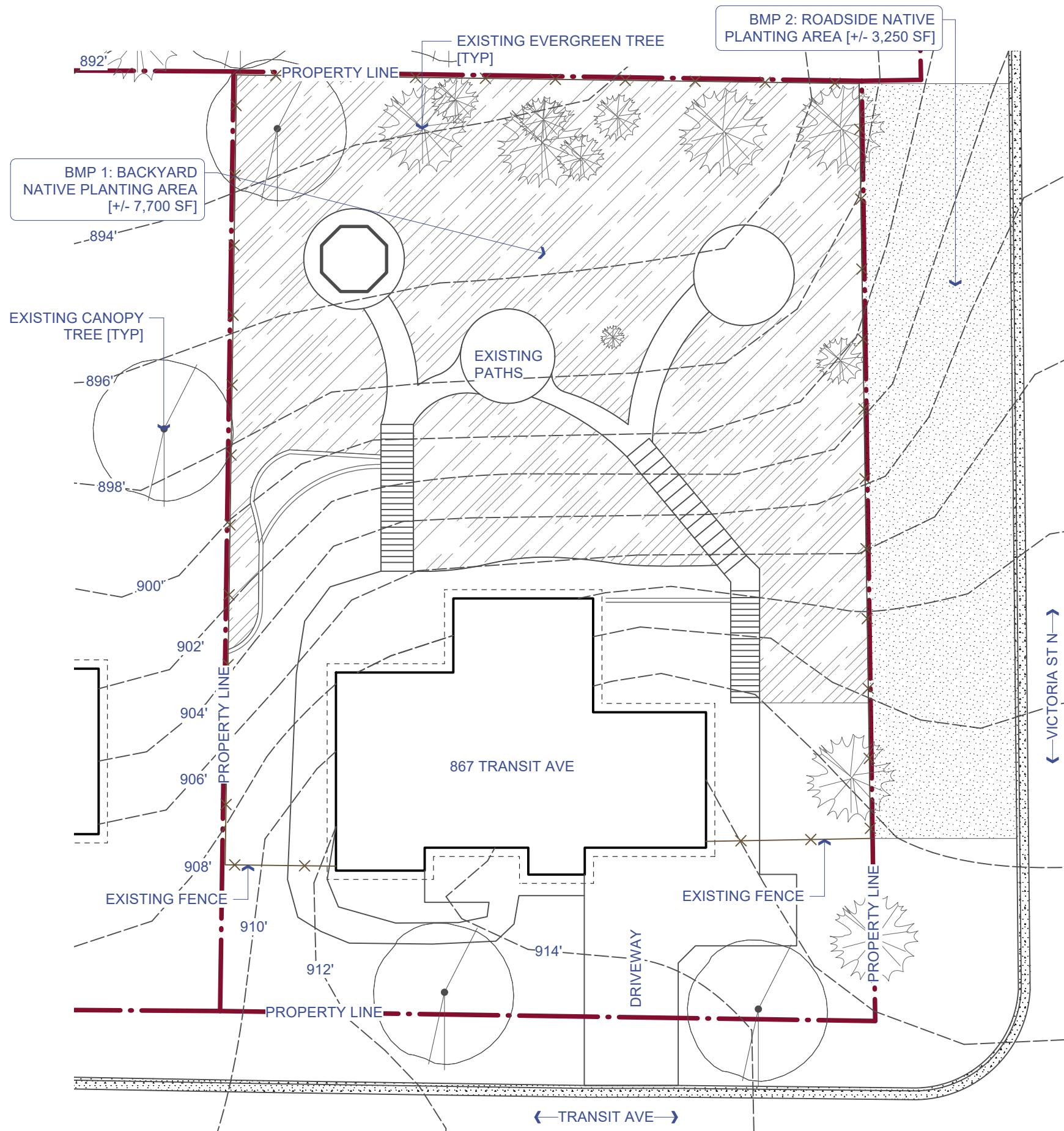
Staff recommends approval of this application.

Subwatershed:

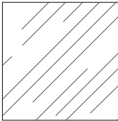
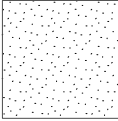
Lake Owasso

Location Maps:





SHEET LEGEND

-  - SHORT-GRASS SAVANNA / WOODLAND EDGE SEED MIX [7,700 SF]
 - 2" PERENNIAL PLUGS [847 QTY] 36-INCHES ON CENTER
 - SC150BN EROSION BLANKET INSTALLED PER MANUFACTURERS SPECIFICATIONS
-  - ROADSIDE PRAIRIE SEED MIX [3,250 SF]
 - 2" PERENNIAL PLUGS [358 QTY] 36-INCHES ON CENTER
 - SC150BN EROSION BLANKET INSTALLED PER MANUFACTURERS SPECIFICATIONS

SITE PREPARATION NOTES:

1. VEGETATION REMOVAL & CLEAN-UP [10,950 SF TOTAL]; CHEMICAL HERBICIDE APPLICATION [1-2 APPLICATIONS MINIMUM]
2. Before soil preparation and planting activities commence, the Contractor shall flush the existing seed bank within project area, and shall control and eliminate all competing vegetation located within the project limits; designated per plan; or as not to remain by Ramsey County SWCD Staff, including but not limited by: all native and non-native; annual, biennial or perennial; lawn and turfgrass-type species, etc. **No noxious weed or non desirable plant species shall be allowed to recolonize and go to seed at any point during the contract period.**
3. At least 14 days prior to seeding and planting in areas shall be a foliar spray of glyphosate, to be added in areas with large numbers of broadleaf and turfgrass species present. Ramsey County SWCD Staff will approve seeding and plant installation after site has been herbicided and all woody and herbaceous plants are dead/removed.
4. The primary herbicides for herbaceous invasive vegetation used shall be a broad-spectrum non-selective post-emergent systemic formulation such as "Rodeo" (Glyphosate) manufactured by Monsanto company or an approved equal. Alternatives or additional herbicides necessary shall be submitted by contractor for approval by SWCD Staff.
5. The primary herbicides for woody invasive stump treatment shall be "Garlon 3A" (triclopyr) manufactured by DOW or an approved equal.
6. Timing Activity- (2) weeks before seeding or planting: Herbicide Application 1: Broadcast Spray Herbicide all areas; (5-7) days after herbicide Application 1 Mow/Cut (As Necessary), Mow/Cut all areas to height 4-6"; (2) weeks after beginning of site preparation begin seeding and planting if no unacceptable species are visible within 14 days of herbicide application; otherwise apply herbicide again as directed until complete.
7. The contractor shall provide adequate surface preparation and soil treatment required to facilitate maximum germination and growth success for plants. Site shall be relatively free of debris, large soil clumps or depressions before planting. All soil preparation prior/post planting activities will be conducted on the contour to reduce erosion. In areas of exposed soils, Contractor must allow all soil to effectively settle before planting.
8. Dead turf can remain for soil stabilization and erosion control practices prior to installation of erosion control blanket or mulch cover.

SITE SEEDING & PLANTING NOTES:

1.0 SEEDING

- 1.1 SEEDING DATES; ALL SEEDING SHALL OCCUR BETWEEN SPRING (MID-MAY THROUGH JUNE) OR FALL (MID-OCTOBER THROUGH GROUND FREEZE); TEMPORARY SEEDING (MID-MARCH THROUGH APRIL/JULY - - MID-OCTOBER), PERMANENT NATIVE SEED SHOULD NOT BE PLANTED DURING THESE PERIODS.
- 1.2 LANDOWNER SHALL NOTIFY RAMSEY COUNTY SWCD STAFF 24 HOURS PRIOR TO BEGINNING SEEDING OPERATIONS.
- 1.3 LANDOWNER/CONTRACTOR SHALL SEED ALL AREAS BY HAND/USING BROADCAST METHOD. SEED SHALL BE BROADCAST TWICE OVER FOR PROPER DISTRIBUTION, WITH THE SECOND BROADCAST PERPENDICULAR TO THE FIRST.
- 1.4 THE SEEDED AREA SHALL BE HAND-RAKED TO THE EXTENT NECESSARY TO COVER THE MAJORITY OF THE SEED WITH 1/8"-1/4" OF SOIL
- 1.5 WITHIN 12 HOURS OR AS SOON AS PRACTICAL, THE CONTRACTOR SHALL COVER ALL SEEDED AREAS WITH SPECIFIED EROSION CONTROL BLANKET. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING PERMANENT/ TEMPORARY EROSION CONTROL MEASURES UNTIL SEEDED VEGETATION HAS PROPERLY GERMINATED/BEEN APPROVED FOR PROJECT CLOSEOUT.
- 1.6 NO FERTILIZER SHALL BE APPLIED TO ANY SEEDED AREAS FOR ANY REASON

2.0 LIVE PLANT MATERIAL

- 2.1 THE PLANTING LOCATIONS & LAYOUTS SHOWN IN THE PLAN ARE APPROXIMATE
- 2.2 ALL PLANTING DATES SHALL BE PERFORMED DURING SPRING (MID-MAY THROUGH JUNE) OR FALL (MID-SEPTEMBER THROUGH MID-OCTOBER)
- 2.3 LIVE PLANT MATERIAL INSTALLATION SPECIFIED FOR AREAS IN COMBINATION WITH SEEDING ACTIVITIES, SHALL OCCUR AFTER ALL SEEDING ACTIVITIES HAVE BEEN COMPLETED.
- 2.4 IT IS RECOMMENDED THAT ALL LIVE PLANTS BE INSTALLED IN LARGE CLUSTERS OR GROUP COUNTS OF LIKE SPECIES FOR IDENTIFICATION AND MAINTENANCE EASE
- 2.5 INSTALL NATIVE PERENNIALS 36" ON CENTER.



RAMSEY COUNTY SWCD
2015 VAN DYKE ST N
MAPLEWOOD, MN 55109
651-266-7274
www.ramseycounty.us

PROJECT: RYAN RESIDENCE
LOCATION:
867 TRANSIT AVE
ROSEVILLE, MN 55113
WATERSHED DISTRICT:



DESIGNER: BTO
DATE: 1/31/2022
REVISION:
REVISION:
REVISION:
REVISION:
CHECKED BY:
TAA:

NOTES:

SUBSTITUTIONS TO CONSTRUCTION DESIGN, LAYOUT & MATERIALS SHALL RECEIVE APPROVAL BY RCSWCD STAFF PRIOR TO PURCHASE OR INSTALL

CONTRACTOR MUST ACQUIRE ALL NECESSARY PERMITS

ORIGINAL SHEET SIZE: 11" x 17"

SCALE: 1"=20'-0"

SITE PLAN



L100

Stewardship Grant Application Summary

Project Name: Hoffman

Application Number 22-12 CS

Board Meeting Date: 5/4/2022

Applicant Name: Rosemary Hoffman

Residential ☒

Commercial/Government ☐

Project Overview:

This project is located off Radatz Ave and Southlawn Dr in the City of Maplewood. The applicant is proposing to install a rain garden in the front yard to capture roof and driveway runoff. Their goal is to alleviate drainage issues on their property as well as decrease mowed areas of their yard and increase pollinator habitat through the use of native plants.

This project is eligible for 75% coverage up to \$15,000.

BMP type(s):

Rain Garden(1)

Grant Request:

\$12,750.00

Recommendation:

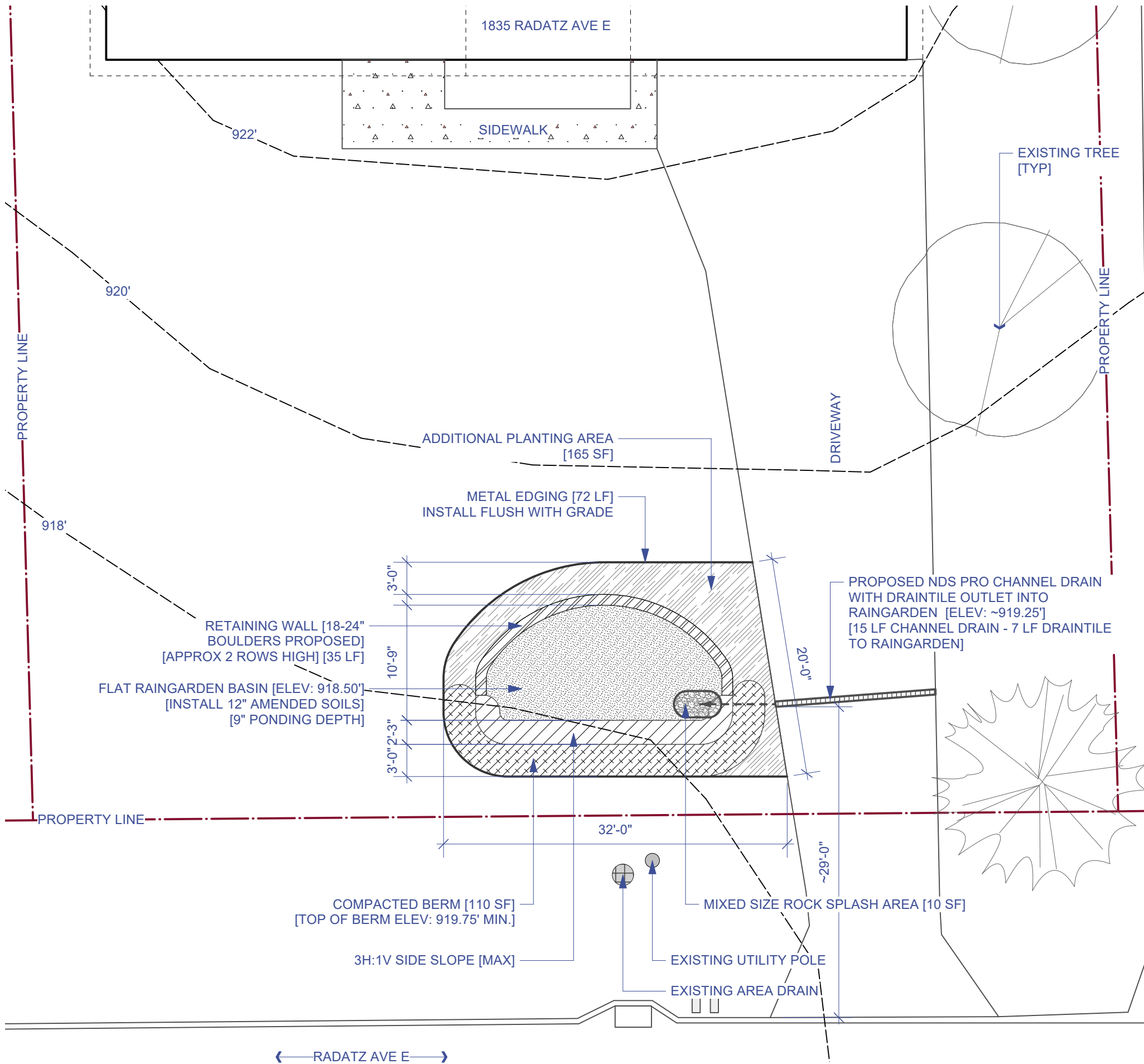
Staff recommends approval of this application.

Subwatershed:

Kohlman Creek

Location Maps:





NOTES:

1. INSTALL CHANNEL DRAIN IN DRIVEWAY PER MANUFACTURERS SPECIFICATIONS.
2. INSTALL SOLID DRAINTILE FROM CHANNEL DRAIN TO OUTLET INTO RAINGARDEN. INSTALL LEAF GUARD AT PIPE EXIT INTO RAINGARDEN.
3. INSTALL SPLASH ROCK AT DRAINTILE EXIT. 2-6" CLEAN WASHED RIVER ROCK OR EQUIVALENT. INSTALL NON-WOVEN GEOTEXTILE BETWEEN ROCK AND SOIL.
4. INSTALL 18-24" NATURAL FIELD STONE BOULDER WALL OR EQUIVALENT REATINING WALL TO CREATE FLAT RAINGARDEN BASIN AREA. TOP OF WALL: ~919.75' - BOTTOM OF WALL: ~918.00'. [~102 SF TOTAL RETAINING WALL]
5. INSTALL 12" AMENDED SOILS IN RAINGARDEN BASIN. RIP UDERLYING SOILS ADDITIONAL 6-12".
6. INSTALL NATURAL NETTING EROSION CONTROL BLANKET ON COMPACTED BERM AREA. [110 SF] STAKE WITH BIODEGRADABLE STAKES.
7. BERM HEIGHT TO BE 919.75' OR MINIMUM OF 0.5' ABOVE CHANNEL DRAIN. CHANNEL DRAIN TO SERVE AS PRIMARY OVERFLOW ELEVATION FOR RAINGARDEN.
8. INSTALL METAL EDGING SURROUNDING ENTIRE PLANTING AREA. [72 LF] INSTALL FLUSH WITH SURROUNDING GRADE.



Stewardship Grant Application Summary

Project Name: Hill-Murray Restoration

Application Number: 22-13 CS

Board Meeting Date: 5/4/2022

Applicant Name: Brent Johnson

Residential ☐

Commercial/Government ☒

Project Overview:

This project is located at the Hill-Murray school campus off Larpenteur Ave in the City of Maplewood. They currently have three rain gardens onsite and are interested in adding plants to those as well as converting two turf grass areas into native prairie areas. They will be working with a contractor for installation and 5 years of ongoing maintenance to ensure the prairie establishes properly.

This project is eligible for 50% coverage up to \$15,000.

BMP type(s):

Native Habitat Restoration(2)

Grant Request:

\$13,000.00

Recommendation:

Staff recommends approval of this application.

Subwatershed:

Beaver Lake, Kohlman Creek

Location Maps:





A. Company Background:

Prairie Restorations, Inc. (PRI) has been dedicated to the restoration and management of native plant communities for over 40 years. We are fortunate to have worked with thousands of clients on a wide variety of projects in both the public and private sectors throughout the Upper Midwest.

The PRI staff currently consists of 54 full-time professionals and about an equal number of seasonal employees which operate out of 6 Minnesota locations. Most of the staff has B.S. degrees in natural resource related fields such as biology, forestry, horticulture, or wildlife. As a full-service restoration company, PRI can provide our clients expertise and service in all facets of native landscape restoration. Along with consulting, design, installation, and land management services, we also produce our own local ecotype seed and plant materials which are used on all of our projects.

The PRI Team is committed to and passionate about protecting and enhancing our valuable natural resources. It is this dedication that is brought to every one of our projects. We are proud to offer the best expertise, services, and products available in the industry and appreciate the opportunity to provide you with this proposal.

Stewardship Grant Application Summary

Project Name: Starr

Application Number 22-14 CS

Board Meeting Date: 5/4/2022

Applicant Name: Ann Starr

Residential ☒

Commercial/Government ☐

Project Overview:

This project is located on the west side of Lake Owasso in the City of Roseville. The applicant is proposing to install a rain garden and dry creek bed to direct runoff from the house to avoid erosion and help filter runoff before entering Lake Owasso. The applicant is also proposing to remove existing turf grass around the new rain garden and replace with a shade tolerant pollinator turf mix.

The rain garden is eligible for 75% coverage and the pollinator turf is eligible for 50% coverage up to \$15,000.

BMP type(s):

Bee Lawn(1), Rain Garden(1)

Grant Request:

\$12,375.00

Recommendation:

Staff recommends approval of this application.

Subwatershed:

Lake Owasso

Location Maps:



Actual plant placement may vary depending on site conditions once project commences.

Pennsylvania sedge
Carex pennsylvanica

10

Shade tolerant pollinator turf
mix

#22-14 CS-B

- 11 Dwarf Crested Iris
Iris cristata
- 15 Strawberry
Fragaria sp.
- 6 Hot Lips Turtlehead
Chelone lyonii 'Hot Lips'
- 15 Wild Leek
Allium tricoccum
- 8 Common Wood Sedge
Carex blanda
- 9 Poke Milkweed
Asclepias exaltata
- 5 Drooping Coneflower
Ratibida pinnata
- 11 Jacob's Ladder
Polemonium reptans
- 13 Big-Leaved Aster
Aster macrophyllus
- 1 Leatherwood
Dirca palustris

- Bloodroot
Sanguinaria canadensis
- 5
- Wild Ginger, Canadian Wildginger
Asarum canadense
- 13
- Wild Geranium
Geranium maculatum
- 7
- Spring Beauty
Claytonia virginica
- 16
- Oehme Variegated Palm Sedge
Carex muskingumensis 'Oehme'
- 9
- False Solomon's Seal
Smilacina racemosa
- 10
- Blue Cohosh
Caulophyllum thalictroides
- 5
- American spikenard
Aralia racemosa
- 1
- Heart Leaved Aster
Symphyotrichum cordifolium
- 8
- Northern Maidenhair
Adiantum pedatum
- 11
- Wild Columbine
Aquilegia canadensis
- 31
- Black Cohosh
Actaea racemosa
- 7

1 Rain Garden Planting
7 Scale: 3/32" = 1'-0"



****Notes****

- Existing residential structures and property edge based on measurements taken in February 2022.
- Property boundary is approximate. Easement location approximate, double check property setback requirements. Site survey to be completed prior to project installation for any areas adjacent to property edge (locate corner posts.)
- Tree canopy on layout is approximate. Plant selections based on shade and canopy observations.
- Infiltration rates calculated on infiltration information sheets for area impacting proposed rain garden area only. Additional information for infiltration of entire property to be completed at later date.
- HabAdapt Landscape Design assumes no liability for any existing landscape or structural features.
- Certain aspects of plan may change depending on grade changes completed during hardscape installation.

Colors shown on plan are intended for visual representation only, and may not represent actual color of materials installed.



Client / Project
Ann Starr
2986 W Owasso Blvd
Roseville, MN 55113

Designer
HabAdapt
Daniel A. Peterson, MAg.
P.O. Box 22424
Robbinsdale, MN 55422

Project Title
Landscape Design

Drawing Title
Rain Garden
Planting Layout

Date
February 28, 2022

Scale
See Design

Drawing No.
7
----of----
10 Total Sheets

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Permit Program

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RAMSEY-WASHINGTON

METRO WATERSHED DISTRICT

MEMORANDUM

Date: May 4, 2022

To: Board of Managers and Staff

From: Nicole Soderholm, Permit Coordinator
Mary Fitzgerald, District Inspector

Subject: April Enforcement Action Report

During April 2022:

Number of Violations:	6
Install/Maintain Perimeter Control	1
Stabilize Exposed Soils	2
Remove Discharged Sediment	2
Protect/Maintain Permanent BMPs	1

Activities and Coordination Meetings:

Permitting assistance to private developers and public entities, miscellaneous resident inquiries, ongoing ESC inspections/reporting, WCA administration, new permit review with Barr Engineering, initial SWPPP meetings with contractors, EAW discussion with City of Woodbury, Confined Space Entry training, introductory sit-down with board member Kramer, underground BMP inspection transition meeting with Barr, annual performance reviews, PCU Pond staff cleanup, Central Park coordination meeting with City of Woodbury, transplanting help at Ramsey County Corrections

Project Updates:

#21-11 North High School Addition (North St. Paul)

North High School's campus remodel began in the month of April. This remodel will include two new building additions, parking reconfiguration, sidewalks, and two underground filtration systems. Staff conducted an initial erosion control walk-through on April 15th with the general contractor and earthwork contractor. They discussed erosion/sediment control installation and permit requirements. After walking throughout the site, staff noted that inlet protection was missing in two catch basins near the south entrance. Staff also noted that mobile

perimeter control (i.e biologs) should be placed in front of construction entrances at the end of each work day to prevent sediment-laden run-off during non-operational hours. Onsite contractors confirmed these items would be installed promptly.

#22-04 Maplewood Gardens Garage and Parking (Maplewood)

Once complete, the Maplewood Gardens existing housing development will feature new parking lots, sidewalks, garage, and playground. For stormwater treatment, the site will install an iron-enhanced filtration basin with a sediment forebay and Rain Guardian turret. Staff conducted an initial erosion control walk-through on April 18th with the general contractor and earthwork contractor. While onsite, staff observed tree removal but no grading activity had begun. The general contractor noted that much of the project will be interior work, and they hope to keep land disturbance to a minimum. During the walk-through, staff noted three catch basins along McKnight Road that needed protection. Contractors confirmed this would be installed.

#21-29 Lower Afton Apartments (Maplewood)

Similar to the projects above, Lower Afton Apartments has started to mobilize in the month of April. Demolition of an existing fire station is complete, and grading activity has begun for the future apartment building with associated parking and utilities. Staff attended an initial erosion control walk-through with contractors on April 19th. While walking the site, staff noted several items including: adding redundant protection to interior site catch basins near exposed soil, adding mobile perimeter control across construction entrances at the end of each work day, repairing torn silt fence at the low end of the site, and installing inlet protection in two roadway catch basins. Contractors confirmed repairs and installations would be made quickly. Staff will continue to inspect the site biweekly through project completion.

#20-13 Menard's Remodel (Maplewood)

The Menard's store in Maplewood has begun a large renovation project which will feature a new store, warehouse, garden center and parking when complete. Staff attended an initial erosion and sediment control walk-through on April 12th with Menard's representatives and the demolition contractor. The demolition contractor was in the process of installing erosion and sediment control measures during the meeting, but it was not yet complete. Staff revisited the site on April 20th to verify installation completion. Demolition of the existing building is expected to take several weeks. Staff will inspect the site through this process, and into construction of the new building and associated features.

Single Lot Residential Permits Approved by Staff:

None

Permits Closed:

18-10 Maplewood 2018 SIP (Maplewood)
20-06 Johnson Parkway Trail (St. Paul)

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Stewardship Grant Program

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Stewardship Grant Program Budget Status Update

May 4, 2022

Homeowner	Coverage	Number of Projects: 7	Funds Allocated
Habitat Restoration and rain garden w/o hard surface drainage	50% Cost Share \$15,000 Max	4	\$16,500*
Rain garden w/hard surface drainage, pervious pavement, green roof	75% Cost Share \$15,000 Max	3	\$33,125*
Master Water Steward Project	100% Cost Share \$15,000 Max	0	\$0
Shoreland Restoration	100% Cost Share \$15,000 Max	0	\$0

Commercial, School, Government, Church, Associations, etc.	Coverage	Number of Projects: 8	Funds Allocated
Habitat Restoration	50% Cost Share \$15,000 Max	2	\$20,500*
Shoreland Restoration (below 100-year flood elevation w/actively eroding banks)	100% Cost Share \$100,000 Max	1 (Lake Owasso)	\$160,000*
Priority Area Projects	100% Cost Share \$100,000 Max	4	\$328,540
Non-Priority Area Projects	75% Cost Share \$50,000 Max	1	\$50,000
Public Art	50% Cost Share \$15,000 Max	0	\$0
Aquatic Veg Harvest/LVMP Development	50% Cost Share \$15,000 Max	0	\$0

Maintenance	50% Cost Share \$5,000 Max for 5 Years	62	\$46,025
Consultant Fees			\$24,400
Total Allocated			\$666,715

2022 Stewardship Grant Program Budget	
Budget	\$1,000,000
Total Funds Allocated	\$679,090
Total Available Funds	\$320,910

*Includes projects pending approval at the May 4, 2022 board meeting.

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Action Items

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Request for Board Action

Board Meeting Date: May 4, 2022

Agenda Item No: 8A

Preparer: Tina Carstens, Administrator
Paige Ahlborg, Watershed Project Manager

Item Description: Lake Owasso Shoreline Restoration Project Bid Award

Background:

This project involves the shoreline buffer restoration of 10 residential properties along the Lake Owasso shoreline. Combined, the total restoration area is approximately 0.39 acres, with individual sites ranging from 855 square feet to 3,270 square feet, with an average project size of 1,681 square feet.

Last month the board reviewed the project documents and directed staff to go out for bid. The estimate of probable cost for this project was \$169,112. Bids were received on April 26, 2022. Four bids were received as shown in the table below. We have worked with all four contractors in various capacities recently. District staff feels comfortable with a recommendation to award the contract to the low bidder based on a thorough review of the bid documents which included narratives of project understanding, general approaches and process overview.

Contractor Name	5% Bid Bond	Bid Signed	Successful Bidder Affidavit	Base Bid Amount	Order
Landbridge Ecological, Inc	Yes	Yes	Yes	\$158,496.56	1
Sunram Construction, Inc	Yes	Yes	Yes	\$172,088.00	2
RES Great Lakes, LLC	Yes	Yes	Yes	\$236,520.24	3
Davey Resource Group, Inc	Yes	Yes	Yes	\$272,182.25	4

Applicable District Goal and Action Item:

Goal: Achieve healthy ecosystems- The District will manage water and related natural resources to create and preserve healthy ecosystems.

Action Items: Lead ecological restoration projects to improve water resources and associated upland habitat.

Staff Recommendation:

Staff recommends the board award the project to Landbridge Ecological, Inc.

Financial Implications:

The Lake Owasso Shoreline Restoration Project budget is included in the 2022 Stewardship Grant Program budget.

Board Action Requested:

Accept the bids and award the Lake Owasso Shoreline Restoration Project to Landbridge Ecological, Inc. Direct staff to prepare and mail the notice of award, prepare the agreements, and review the required submittals.

Request for Board Action

Board Meeting Date: May 4, 2022

Agenda Item No: 8B

Preparer: Tina Carstens, Administrator
Paige Ahlborg, Watershed Project Manager

Item Description: 2022 Targeted Retrofit Projects Bid Award

Background:

At the April 2022 meeting, the board was presented with the plans and cost estimate for the 2022 Targeted Retrofit Projects for St. Pascal Baylon Church and Mounds Park Academy. The board directed staff to finalize the design and bidding documents and solicit bid proposals. The engineer's opinion of the probable cost for the construction of the project was \$529,000.

The virtual public bid opening was held on April 26, 2022, and the bid results are compiled in the table below and described in more detail in the attached memo.

Contractor Name	5% Bid Bond	Bid Signed	Successful Bidder Affidavit	Base Bid Amount	Order
Shoreline Landscaping	Yes	Yes	Yes	\$477,624.50	1
Urban Companies	Yes	Yes	Yes	\$489,406.00	2
Sunram Construction, Inc	Yes	Yes	Yes	\$519,284.00	3
Pember Companies, Inc.	Yes	Yes	Yes	\$599,871.30	4
Parkstone Contracting, LLC	Yes	Yes	Yes	\$682,180.00	5

The managers should consider awarding the project to the lowest responsive and responsible bidder. Assuming the required bonds, insurance documentation, and other submittals meet contract requirements and provided that permits and approvals are in place, the project will be started this spring with a fall completion.

Applicable District Goal and Action Item:

Goal: **Achieve quality surface water** – The District will maintain or improve surface water quality to support healthy ecosystems and provide the public with a wide range of water-based benefits.

Action Item: Implement retrofit water quality improvement projects.

Staff Recommendation:

Staff recommends the board award the project to Shoreline Landscaping.

Financial Implications:

This project will be funded through the Targeted Retrofit Fund where there are sufficient funds available.

Board Action Requested:

Accept the bids and award the 2022 Targeted Retrofit project to Shoreline Landscaping. Direct staff to prepare and mail the notice of award and prepare the agreements, and review the required submittals.

Memorandum

To: RWMWD Board of Managers
From: Marcy Bean, Andrea Wedul, Andrew Papke-Larson and Erin Anderson Wenz
Subject: 2022 Targeted Retrofit Projects- Recommendation to Award Project
Date: April 27, 2022
c: Paige Ahlborg and Tina Carstens

The purpose of RWMWD's Targeted Retrofit program is to design, provide bid assistance for, and oversee the construction of BMP retrofits on previously identified commercial, school, and faith-based properties throughout the district. The 2022 Targeted Retrofit Projects being considered for construction are described below:

St. Pascal Baylon Church/Regional Catholic School (Saint Paul): A 3.5-acre site with significant impervious surfaces, a tree trench and small rain garden will be constructed to retrofit a portion of the existing parking lot. By reorienting a few parking spaces and working with the existing drainage of the site, the tree trench treatment has been maximized while minimizing impacts on the parking lot's function. The owner looks forward to additional trees on site.

Mounds Park Academy (Maplewood): This opportunity results from years of outreach collaboration between school and watershed staff and work with students. A portion of unused parking lot will be removed to construct a rain garden to treat runoff before it enters the school's pond. The school is interested in funding the creation of an outdoor learning space alongside the rain garden.

The RWMWD Board of Managers authorized bidding for these projects' construction at their April 2022 meeting. Following the Board's authorization, the project was bid for two weeks between April 11 and April 26. An advertisement for bid was circulated in local publications and on Quest Construction Data Network (CDN). Bids were opened on April 26, 2022 at a virtual bid opening. Five bids were received and are listed below in Table 1.

Table 1. Summary of Bids Received for the 2022 Targeted Retrofits Project

Bidder	Total Base Bid Entered on the Bid Form
Shoreline Landscaping	\$477,624.50
Urban Companies	\$489,406.00
Sunram Construction, Inc	\$519,284.00
Pember Companies, Inc.	\$599,871.30
Parkstone Contracting, LLC	\$682,180.00
Engineer's opinion of probable cost was \$529,000 (including 20% contingency)	

Barr staff have requested information on Shoreline Landscaping's past project experience and references and will be reviewing this information prior to the May 4 Board meeting.

If Barr deems this information satisfactory by the May 4 Board meeting, Shoreline Landscaping will have met the bidding requirements and will be considered the apparent lowest responsible and responsive bidder and Barr will recommend that the RWMWD Board of Managers:

- Consider a motion that awards the project to Shoreline Landscaping. at the bid price of \$477,624.50 and direct staff to request the required bonds and insurance information and execute the contract for the work.
- Once the necessary submittals are received and reviewed, and the contract is signed by all parties, a required preconstruction meeting will be held and a formal "Notice-to-Proceed" will be issued.

Next Steps

If the Board of Managers approves the motion the following would be completed:

- An Authorized Representative signs the Notice of Award to be sent to the successful bidder
- Successful bidder provides the following information:
 - Fully executed Form of Agreement
 - Performance Bond and Payment Bond
 - Certificate of Insurance verifying adequate insurance per the bidding documents
- Barr Engineering and Galowitz-Olsen will review the submittals and, if necessary, request modifications
- Barr Engineering will coordinate with the successful bidder regarding the construction schedule and schedule a preconstruction meeting
- The Form of Agreement will be signed by all parties
- Notice to Proceed is anticipated to be issued in May at or short after the preconstruction meeting

- Mounds Park Academy has requested that construction be completed during the summer months, with substantial completion before the fall session starting August 24, 2022.
- All work shall be substantially completed by October 31, 2022, with plant warranty extending one year after plantings are approved.

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Presentations

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Project work plan

Original Date: April 25, 2022

Updated: April 25, 2022

Project: Flood Risk Reduction: County Ditch 17 Improvements
Project # 23/62-1200.22 003

Project team

RWMWD staff: Tina Carstens (project manager), Paige Ahlborg

Barr staff: Erin Anderson Wenz, Gabrielle Campagnola, Lulu Fang, Brandon Barnes

Scope of work

The purpose of this project is to identify system modifications that would remove habitable structures along County Ditch 17 from the 100-year floodplain. The project will allow Ramsey-Washington Metro Watershed District (RWMWD) to identify cost-effective system modifications and plan for final design for system modifications.

Atlas 14 modeling updates in 2015 identified several flood prone structures along County Ditch 17 upstream of Wakefield Lake. A desktop study revealed that 11 homes are located within the 100-year floodplain. The Beltline Resiliency study identified modifications to the storm sewer system could be implemented to reduce flood-risk within this area.

This study will evaluate the benefit-cost relationships of possible pipe alignments, utility conflicts, permitting issues, and related design as well as construction and long-term maintenance costs associated with each alternative. The outcome of this study will identify the most cost-effective alternative as a possible next step in flood management for the area. Cost estimates will allow the RWMWD to budget accordingly should the board choose to move forward with the final design, permitting, bidding, and construction.

Barr proposes the following tasks:

Work tasks

- **Task 1. data collection:** This task includes reviewing recent updates to the city storm sewer GIS files, gathering utility information which may conflict with proposed system modifications, and if needed collection of survey information for elevations near low homes or missing elevations for the storm sewer system.
- **Task 2. evaluation of flood-risk reduction options:** This task includes using the RWMWD stormwater model to evaluate flood-risk reduction options. We anticipate that the following options will be evaluated, and that additional options may be identified during the feasibility study. In many instances, a combination may be required to reduce flood risk in the area.
 - Storm sewer modifications along the County Ditch 17 alignment.

- Storm sewer modifications to divert high flows along Frost Avenue and Prosperity Road.
- **Task 3. stakeholder outreach:** This task includes up to two coordination meetings with the City of Maplewood to review inundation extents, identify upcoming opportunities and city projects, discuss conflicts that could prevent system modifications, and review results.
- **Task 4: permit requirements:** This task includes identifying applicable permitting requirements for each design alternative. We will review requirements for local, state, and federal governmental units with permitting jurisdiction. Permitting requirements will be summarized in the final documentation.
- **Task 5: documentation:** This task includes preparing a draft documentation report summarizing the methodology, alternatives, estimated costs, and permitting requirements. The report will identify the most cost-effective option evaluated. This task also includes presenting the findings of the feasibility study to the RWMWD board of managers.

Budget

The approximate cost for Barr to complete the work outlined above is **\$20,000**.

Schedule

The draft report will be provided to the RWMWD board for review and comment at the August 2022 board meeting. After addressing the board's comments, the report will be finalized by September 15th, for use in 2023 budgeting.

Milestones

Task	Anticipated Completion Date
Task 1. Data Collection	April 2022
Task 2. Evaluation of Flood-Risk Reduction Options	June 2022
Task 3. Stakeholder Outreach	June 2022
Task 4. Permit requirements	July 2022
Task 5. Documentation	September 2022

Project tracking

Monthly updates

Month	Budget spent (\$/%)
May 2022	
June 2022	
July 2022	
August 2022	
September 2022	

Project work plan

Original Date: April 25, 2022

Updated: April 25, 2022

Project: Flood Risk Reduction: Phalen Village
Project # 23/62-1200.22 004

Project team

RWMWD staff: Tina Carstens (project manager), Paige Ahlborg

Barr staff: Erin Anderson Wenz, Jay Hawley, Brandon Barnes

Scope of work

The purpose of this project is to identify system modifications to remove habitable structures near Parkview Court Apartments on E Shore Drive, north of Lake Phalen, from the 100-year floodplain. The project will allow Ramsey-Washington Metro Watershed District (RWMWD) to identify cost-effective system modifications and plan for final design for system modifications.

Atlas 14 modeling updates in 2015 identified several flood prone structures north of Lake Phalen. The Beltline Resiliency study identified modifications to the storm sewer system could be implemented to reduce flood-risk within this area.

This study will evaluate the benefit-cost relationships of possible pipe alignments or underground storage BMPs, including consideration of utility conflicts, permitting issues, and construction and long-term maintenance costs associated with each alternative. The outcome of this study will identify the most cost-effective alternative as a possible next step in flood management for the area. Cost estimates will allow the RWMWD to budget accordingly should the board choose to move forward with the final design, permitting, bidding, and construction.

Barr proposes the following tasks:

Work tasks

- **Task 1. data collection:** This task includes reviewing recent updates to the city storm sewer GIS files, gathering utility information which may conflict with proposed system modifications, review of Maplewood's recently updated CIP, and if needed collection of survey information for elevations near low homes or missing elevations for the storm sewer system.
- **Task 2. evaluation of flood-risk reduction options:** This task includes using the RWMWD stormwater model to evaluate flood-risk reduction options. We anticipate that the following options will be evaluated, and that additional options may be identified during the feasibility study. In many instances, a combination may be required to reduce flood risk in the area.
 - Storm sewer modifications to convey drainage across E Shore Drive into Lake Phalen.
 - Storm sewer modifications to store water north of Frost Avenue or in Gloster Park.

- **Task 3. stakeholder outreach:** This task includes up to two coordination meetings with the City of Maplewood to review inundation extents, identify upcoming opportunities and city projects, discuss conflicts that could prevent system modifications, and review results.
- **Task 4: permit requirements:** This task includes identifying applicable permitting requirements for each design alternative. We will review requirements for local, state, and federal governmental units with permitting jurisdiction. Permitting requirements will be summarized in the final documentation.
- **Task 5: documentation:** This task includes preparing a draft documentation report summarizing the methodology, alternatives, estimated costs, and permitting requirements. The report will identify the most cost-effective option evaluated. This task also includes presenting the findings of the feasibility study to the RWMWD board of managers.

Budget

The approximate cost for Barr to complete the work outlined above is **\$20,000**.

Schedule

The draft report will be provided to the RWMWD board for review and comment at the August 2022 board meeting. After addressing the board's comments, the report will be finalized by September 15th, for use in 2023 budgeting.

Milestones

Task	Anticipated Completion Date
Task 1. Data Collection	April 2022
Task 2. Options Evaluation and Optimization	June 2022
Task 3. Stakeholder Outreach	June 2022
Task 4. Permit requirements	July 2022
Task 5. Documentation	September 2022

Project tracking

Monthly updates

Month	Budget spent (\$/%)
May 2022	
June 2022	

Month	Budget spent (\$/%)
July 2022	
August 2022	
September 2022	

Project work plan

Original Date: January 29, 2020

Updated: April 17, 2020

Project: Ames Lake Technical Assistance and Project Planning with Saint Paul
Project # 23/62-1200.20 007

Project team

RWMWD staff: Tina Carstens (project manager), Paige Ahlborg
Barr staff: Erin Anderson Wenz, Lulu Fang, Brandon Barnes, Parker Brown

Scope of work

The purpose of this project is to identify strategies or combination of strategies and system modifications to remove habitable structures near Ames Lake from the 100-year floodplain. The project will allow the Ramsey-Washington Metro Watershed District (RWMWD) to identify whether a detailed feasibility study should be completed, or whether flood-risk reduction strategies are best implemented by the City of Saint Paul. The goal of this study is to enable the RWMWD to plan and budget accordingly should the board choose to move forward with a feasibility study for this area.

Atlas 14 modeling updates in 2015 revealed that the Ames Lake area downstream of Lake Phalen and northeast of Johnson Parkway and Magnolia Avenue is a significant flood-prone area. A desktop study revealed that 26 homes and businesses may be located within the flood zone, and that an additional 13 homes and businesses are very near it. The Beltline resiliency study (2019 draft) showed that an option for mitigating flood risk includes a combination of regional stormwater ponds and several local system modifications such as storm sewer modifications and additional catch-basin inlet capacity. Many system modifications may be more consistent with the types of projects that municipalities typically complete, such as additional catch-basin inlets, improvements to the municipal storm-sewer system, and local flood storage expansion.

This study will evaluate the benefit-cost relationships through a review of possible pipe alignments, land acquisition costs, utility conflicts, permitting issues, and related design as well as construction and long-term maintenance costs associated with each alternative that achieves the project objective to remove habitable structures from the floodplain. The outcome of this study will identify potential system modifications to reduce flood-risk that should be further evaluated as part of a feasibility study.

Barr proposes the following tasks:

Task 1: data collection: This task includes surveying low habitable structures identified as potentially flood-prone. The survey will include collecting information for the low opening and low adjacent grade for each structure. We will also request current storm-sewer information from the city and complete a survey to verify critical elevations or missing information. We will also gather utility information, which may conflict with proposed system modifications.

Task 2: evaluate flood-risk reduction options: This task includes using the RWMWD stormwater model to evaluate flood-risk reduction options. We anticipate that the following options will be evaluated, and that additional options may be identified during the feasibility study. In many instances, a combination may be required to reduce flood risk in the area.

- Construct regional stormwater ponds south of Phalen Boulevard and east of Johnson Trail
- Expand Hoyt Pond
- Modify storm sewer system near Ames Lake and the wetland south of East Magnolia Avenue
- Develop emergency response plan
- Purchase flood-prone properties

Task 3: stakeholder engagement: This task includes up to two coordination meetings with the City of Saint Paul to review inundation extents, identify upcoming opportunities and city projects, discuss conflicts that could prevent system modifications, and review results.

Task 4: system modification concepts: This task includes reviewing the findings of tasks 2 and 3 to develop options for reducing flood risk near Ames Lake. As part of this task, we will develop planning-level opinions of cost for design, construction, and permitting of each alternative.

Task 5: permit requirements: This task includes identifying applicable permitting requirements for each design alternative identified in task 5. We will review requirements for local, state, and federal governmental units with permitting jurisdiction. Permitting requirements will be summarized in the final documentation.

Task 6: documentation: This task includes preparing a draft documentation report summarizing the methodology, alternatives, estimated costs, and permitting requirements. The report will identify the most cost-effective option evaluated. This task also includes presenting the findings of the feasibility study to the board.

Budget

The approximate cost for Barr to complete the work outlined above is **\$25,000**.

Schedule

The draft report and related presentation will be provided to the RWMWD board for review and comment at the July board meeting. After addressing the board's comments, the report will be finalized by the September board meeting for used in 2023 budgeting.

Project tracking

Project milestones

Milestone	Estimated date	Actual date
Project start	January 2020	
Task 1: data collection	May 2022	
Task 2: evaluate flood-risk reduction options	July 2022	

Milestone	Estimated date	Actual date
Task 3: stakeholder engagement	August 2022	
Task 4: design alternatives	August 2022	
Task 5: permit requirements	August 2022	
Task 6: documentation	September 2022	

Monthly updates

Month	Budget spent (\$/%)
March 2020	\$627 / 1%
April 2020	\$1,117 / 2%
May 2022	
June 2022	
July 2022	
August 2022	
September 2022	

Project Work Plan

Original Date: April 27, 2022

Updated: April 27, 2022

Project: South Metro Mississippi River TSS TMDL Compliance

Project Team

District Staff: Tina Carstens (Project Manager), Eric Korte

Barr Staff: Tyler Olsen (Project Manager)
Erin Anderson Wenz

Scope of Work

This project involves the evaluation of the Ramsey-Washington Metro Watershed District's (District) compliance with the South Metro Mississippi River total suspended solids (TSS) Total Maximum Daily Load (TMDL). As a regulated municipal separate storm sewer system (MS4), the district is required to meet the waste load allocation (WLA) of 154 pounds of TSS per acre per year. The WLA is applicable to the district for the St. Paul Beltline (Beltline) and its contributing drainage area, as the district owns and operates the infrastructure. The Beltline drains approximately 25,456 acres within the RWMWD, which is equivalent to approximately 61% of the district's jurisdictional area. Because this WLA was developed as a standard for all urbanized MS4s within the Twin Cities metro area that discharge to the Mississippi River, district member cities will be responsible for meeting the WLA for other areas within the district outside of the Beltline drainage area. These requirements were confirmed during conversations between the Minnesota Pollution Control Agency (MPCA) and Barr staff on April 14, 2022. The TMDL will require compliance reporting from regulated MS4s starting in the summer of 2023.

To prepare for the reporting deadline, this scope of work will include a review of data from the Watershed Outlet Monitoring Program (WOMP) to determine the current TSS loading from the Beltline drainage area. The loads will be calculated from the monitoring data based on flow rates and TSS concentrations. Additionally, compliance with the TMDL may be evaluated using modeling software such as P8 to define watershed loading, and associated removals with BMPs installed since the approval date of the TMDL (April 2016). These BMPs are tracked through the district's project database.

Barr will prepare the necessary documentation to submit for reporting in the summer of 2023. If the district is not currently meeting the WLA, an estimate of the necessary reductions and potential implementation strategies will be developed.

The purpose of this effort is to evaluate compliance with the South Metro Mississippi River TMDL and ensure the district will meet all reporting requirements and deadlines.

The deliverable for the work will be a memorandum summarizing the methodology and results used to determine compliance with the TMDL. Additionally, all documentation necessary for reporting to the MPCA will be prepared under this scope of work.

More specifically the work will involve the following tasks:

Task 1 – Coordination with MPCA

This task will include necessary coordination with MPCA staff on reporting requirements, questions, and other conversations. Barr staff will contact MPCA staff as needed throughout the project. It is assumed that one kickoff meeting with MPCA staff will be held.

Task 2 – Calculation of TSS loading

As part of the TMDL's reporting requirements, either monitoring data or modeling can be used to prove that an MS4 is meeting its WLA as defined by the TMDL. The first step of Task 2 will be to review the available Watershed Outlet Monitoring Program (WOMP) data for the St. Paul Beltline to determine average annual TSS loading. This analysis will determine if the TMDL WLA is currently being met.

If the monitoring data is insufficient to determine the current TSS load, the District's P8 models will be used to evaluate watershed loading. Additionally, pollutant removal information included in the District's project database will be evaluated for reduction in the TSS load.

Task 3 – Reporting

This task will include compilation of appropriate documentation for the TMDL reporting requirements. At this time, the MPCA is creating guidance for reporting, which will not be published until the end of 2022.

Task 4 – TSS Reduction Strategy Identification

The final task of this scope of work will be to identify strategies to reduce TSS loading if the current WLA is not being met. This may include identifying locations for BMP retrofit opportunities, reducing erosion in creeks/ravines throughout the district, and other practices identified by Barr or district staff. These strategies can be compiled into a formal implementation plan (if warranted) as a subsequent phase of this project.

Budget

Barr will complete the work outlined above on a time and expense basis for an estimated \$30,000.

We propose the following milestone schedule:

Milestone	Estimated Date	Actual Date
Project Start	April 2022	April 2022
Task 1 complete	Ongoing	Ongoing
Task 2 complete	May 2022	
Task 3 complete	June 2023	
Task 4 complete	June 2023	

Project Budget Tracking

Project Tasks	Estimated Budget
001	\$5,000
002	\$10,000
003	\$5,000
004	\$5,000
Contingency	\$5,000
Total	\$30,000

Monthly Updates

Month	Budget Spent \$ / %
April 2022	
May 2022	
June 2022	
July 2022	
August 2022	
September 2022	

Project work plan

Original Date: April 28, 2022

Updated: April 28, 2022

Project: Watershed Management Plan Wetlands Update
Project # 23/62-1006.00 010

Project team

RWMWD staff: Tina Carstens (project manager) and Nicole Soderholm

Barr staff: Karen Wold, Greg Williams, Erin Anderson Wenz

Scope of work

RWMWD's current Watershed Management Plan (Plan) was adopted in April, 2017, and remains active until 2026 when it will be formally updated. Until then, the Plan can be amended through a process defined by the Minnesota Board of Water and Soil Resources (BWSR) if the managers and RWMWD's stakeholders deem it important to do so.

The following excerpt is taken from BWSR's website:

Common reasons a watershed district (WD) may initiate an amendment are because new information or issues arise that need to be incorporated into the plan, or a BWSR order approving the original plan requires an update of the goals, objectives and action items, often called a five-year amendment or five year focus plan. When the amendment is being pursued to address requirements in the BWSR order approving the original plan, the amendment will include an update of the action items, and the goals and objectives if necessary. The amendment will also include a revision to the executive summary, as appropriate. An amendment to the implementation section of the plan may also be required by BWSR, in conjunction with a request for an extension of the plan.

The Plan amendment process is defined in detail on MN BWSR's website at the following address:

<https://bwsr.state.mn.us/amendments-and-extensions>

The purpose of this project is to review the sections of RWMWD's Plan pertaining to wetlands in order to revisit how the Plan describes RWMWD's wetland policies, goals and action items and to determine whether a Plan amendment is warranted before RWMWD's next Plan update cycle.

This effort involves the following sections of the RWMWD WMP:

- Strategic Overview
- Executive Summary
- Section 1.0 District-Wide Inventory and Assessment (specifically Section 1.11: Wetlands)
- Section 3.0 Purpose, Roles and Responsibilities
- Section 4.0 District Operations and Implementation

For example, one aspect of the current Plan that may warrant an amendment includes more robust definitions for frequently used terms when referring to RWMWD's wetland work such as:

- restoration
- quality
- quantity
- preserve
- protect
- reset
- no-net loss

This scope also includes investigation into what other Twin Cities Metro Area Watershed Management Organizations are doing in terms of wetland management, a presentation of findings to the Board and a facilitated Board discussion about what changes (if any) should be made to the RWMWD Plan to better reflect the priorities of the Board and its stakeholders.

Barr proposes the following tasks:

Work tasks

Task 1. Review of current RWMWD wetland policies, rules, implementation items and definitions of current terms

This task involves a presentation to the Board at the July Board meeting, including discussion of current wetland policies, rules and definitions of terms.

Task 2. Review of other TCMA WMO wetland policies, rules, implementation items and definitions

This task involves a presentation to the Board at the August Board meeting, including discussion

Task 3. Discussion of RWMWD Board perspectives on wetland policies, rules, implementation items and definitions

This task involves a facilitated discussion with RWMWD managers at their September meeting or a separate workshop to discuss their potential proposed changes to RWMWD's wetland policies, rules, and definitions, including the goals for and urgency of these changes. The ultimate goal of this meeting is to determine whether a Plan amendment should be pursued further with BWSR.

Task 4: Consult with BWSR on anticipated Plan update process for desired updates

This task will be pursued if desired by the Board after the September Board meeting

Task 5: Begin the Plan update process

If ultimately pursued, this task will be scoped in more detail.

Budget

The approximate cost for Barr to complete the work outlined above is **\$20,000**.

Schedule

We propose that tasks 1 through 4 will be completed by October 2022, at which time the Board of Managers will be asked whether a plan amendment is desired. If it is, staff will consult with BWSR on the level of effort and timeline that the desired amendments will require, and will discuss next steps with the board at their November meeting.

Milestones

Task	Anticipated Completion Date
Task 1. Review of current policy/definition of current terms	July 2022 (Board meeting)
Task 2. Review of other approaches	August 2022 (Board meeting)
Task 3. Board discussion	September 2022 (Board meeting)
Task 4. Consult with BSWR	October 2022
Task 5. Begin the Plan amendment process (if applicable)	November 2022

Project tracking

Monthly updates

Month	Budget spent (\$/%)
May 2022	
June 2022	
July 2022	
August 2022	
September 2022	
October 2022	
November 2022	

* * * * *

Administrator's Report

* * * * *

MEMO

TO: Board of Managers and Staff
FROM: Tina Carstens, Administrator
SUBJECT: April Administrator's Report
DATE: April 28, 2022

A. Meetings Attended

Monday, April 4	ALL DAY	Back to the Office Day
Tuesday, April 5	9:00 AM	MAWA Executive Committee
	11:30 AM	Met with Manager Eisele
	1:00 PM	MnDOT/Gold Line Agreement Meeting
Wednesday, April 6	10:00 AM	Met Council Priority Waters
	12:30 PM	New Board Member Introduction
	2:00 PM	Bailey Nursery Redevelopment Update
	6:30 PM	Board Meeting
Thursday, April 7	8:00 AM	Water Resources Conference Planning
Monday, April 11	1:00 PM	Met with Manager Ward
Tuesday, April 12	10:00 AM	Met with Oakdale re: Hudson Road pipe
Thursday, April 13	8:00 AM	Manager Kramer Orientation
Monday, April 18	8:00 AM	MAWD Board Meeting
	10:00 AM	Ramsey County Public Works Stormwater
Tuesday, April 19	7:00 PM	Metro MAWD
Wednesday, April 20	8:00 AM	Manager Kramer Orientation
	1:00 PM	Hodgson Road Permit Meeting
	5:30 PM	Closed Board Meeting
Thursday, April 21	9:30 AM	Earth Day PCU Pond Clean Up
Monday, April 25	9:00 AM	Mississippi River East Impaired Waters Meeting
Tuesday, April 26	2:00 PM	Metro-INET Board Meeting
	6:30 PM	CAC Meeting

B. Upcoming Meetings and Dates

June Board Meeting	June 1, 2022
WaterFest	June 4, 2022
CAC Meeting	June 14, 2022
July Board Meeting	July 6, 2022
Metro MAWD Meeting	July 19, 2022
August Board Meeting	August 2, 2022
MAWD Summer Tour	August 24, 2022

C. Ongoing Project Update

Board Action Log – I haven't drafted this log of items, but I understand this is the "parking lot" for the board for issues and topics of interest. If you have items that you want to be sure are included in this log, please send them to me. I will place this list in a cloud location.

Audit and Fraud Education – The audit has not been completed in time for the May meeting. Instead, it will be presented at the June meeting, and a Redpath representative will attend the meeting to talk with you about fraud prevention.

Wetland Policies – The scope summary is included in this board packet.

D. Right Track YJ2 Intern

Right Track is a youth employment program started in 2014 by Mayor Carter and is the City of St. Paul's initiative for building a strong, diverse future workforce. Right Track engages nearly 1,000 young people from cost-burdened homes throughout St. Paul in various internships. Through internships and professional development opportunities, the Right Track program connects youth to positions within hundreds of organizations, government agencies, and businesses.

RWMWD applied for and was accepted to host a Right Track YJ2 intern in 2022. Right Track YJ2 provides employer-paid internships and skills training. Paige will act as the intern supervisor with assistance from other staff. The intern will be assisting with various tasks throughout the summer to help them gain experience. Intern hiring and placement are handled by Right Track staff, but Paige participated in some of the student interviews held in March. The intern's primary focus will be permit BMP inspections but will assist natural resources, water quality, and education staff regularly. A supervisor training and orientation will be held at the end of May, with intern placement happening in early June. The intern will begin work at the end of June until mid-August unless their schedule allows them to stay on longer.

E. West Vadnais Lake Boundary Change Update

Last month, you directed staff to prepare a memo for Manager Swope's signature to be sent to the Vadnais Lake Area Watershed Management Organization's (VLAWMO) board of directors indicating our desire to pursue a boundary change for the West Vadnais Lake subwatershed. The VLAWMO administrator has received the letter and indicated that he would be sharing it with his board as well as the City of Vadnais Heights for review and comment. The letter is attached for your information.



RAMSEY-WASHINGTON

METRO WATERSHED DISTRICT

TO: Vadnais Lake Area Watershed Management Organization Board of Directors
SUBJECT: West Vadnais Lake (WVL) Management
DATE: April 20, 2022

This letter is a follow-up to the discussion that the RWMWD Board of Managers had at its regular meeting on March 2, 2022, with a subcommittee of the VLAWMO Board of Directors. After that discussion, RWMWD indicated we would provide information to the full VLAWMO Board of Directors regarding the management of WVL to date and the rationale for a boundary change. The RWMWD board again discussed this at their April 6 meeting. It directed me to contact you regarding the next steps in pursuing a potential boundary change for the West Vadnais Lake subwatershed from VLAWMO to RWMWD.

WVL is unique in that it is in the middle of a significant RWMWD drainage way. This situation was created when the RWMWD incorporated the Grass Lake Area Water Management Area in 2013.

Water from RWMWD comes into WVL from Grass Lake from the west and exits WVL back into RWMWD to the south. The attached map shows those two points with red arrows. The flow from Grass Lake into WVL is near the end of a chain of lakes drainage from Bennett Lake in Roseville through Lake Owasso and Wabasso and then into Grass Lake. You'll see on the map that the direct drainage to WVL is small, and most of the drainage coming to WVL during normal to wet years comes from Grass Lake.

For much of 2014-2020, Grass Lake and surrounding areas experienced record precipitation levels, and the outlet of WVL is small, which caused water to be backed up and held in WVL and Grass Lake. Because of the prolonged nature of those high water levels, flooding of surrounding areas occurred, including the Snail-Vadnais Regional Park, Rice Street, Gramsie Road, Crestview Addition, and Twin Lake.

In July of 2019, the RWMWD Board of Managers considered the role WVL plays in managing flow in the watershed (attached memo dated July 2, 2019) and elected to continue the cooperation model with VLAWMO and not pursue a boundary change at that time. However, since then, the RWMWD has made several investments in the WVL area and the areas up and downstream of WVL to help manage flood risks. These improvements to the inflow and

outflow from WVL caused us to reexamine the role of WVL in our flood control strategy, along with the issue of water quality feeding the water bodies downstream of WVL.

Below is an accounting of much of the work that RWMWD did during those years to address flooding concerns in the area. This information includes a description of the work the RWMWD board has deemed necessary to manage the flood risk in this area. We have also included the ongoing inspection and maintenance needs. You can reference the map for the locations of this work.

Map ID 1 – In-Lake Vegetation Clean-Out

Why: To encourage positive drainage from Grass Lake to West Vadnais Lake and lessen the flood risk to Rice Street. It included excavating and removing cattails in front of the pipe under Rice Street and into WVL—needed to bring in an aquatic harvester due to unsafe conditions for an excavator.

When: Last completed in 2018

Cost: \$18,000

Inspection and Maintenance: This area is inspected several times a year, but a subsequent cleanout has not been necessary to date. Cattail growth may become more prevalent with the lowering of the outlet (see below), exposure of sediment and lake bed material, and future cleanouts may be recommended. The cost to remove that material is expected to go up based on the need to hire specialized equipment to reach this difficult location. This project is entirely in the VLAWMO area.

Map ID 2 – Vadnais Blvd Twin Pipes

Why: Previously, one 12-inch pipe connected the main WVL to the triangle wetland to the south, which contains the lake's outlet. There was a water level difference between the two water bodies. The one pipe was replaced with two 22" x 13" pipes to encourage sufficient flow between the two water bodies.

When: Completed in 2018

Cost: \$25,000

Inspection and Maintenance: These pipes are inspected several times a year to ensure no blockage in the pipe. To date, no blockages have been found, and no extra costs have been incurred. It should continue to be inspected. As long as it stays clear, maintenance costs are low for this project. This project is right on the border between VLAWMO and RWMWD.

Map ID 3 – West Vadnais Lake Overflow Bypass System

Why: When water levels were extremely high in WVL in 2019, the overflow found its way to a pipe system under Five Star Estates and into Twin Lake, causing concern for a low home on the lake and water quality in Twin Lake. A permanent sump area was placed between the triangle wetland and Five Star Estates to collect potential overflow water from West Vadnais Lake. A pump and pipe system would be in place to take that water from the sump to ponds along the I-694 right of way and into the Owasso Basin/Gervais Creek system. This overflow water would then bypass Twin Lake, where it ultimately reached before the bypass system was in place. Along with the sump system, the berm along the triangle wetland was re-established, and some trees were removed to keep the water in the wetland at the 884 elevation. A swale from the triangle wetland to the sump area was also established. After construction, water levels have been low enough not to require pumping from this sump, but it is in place for future needs.

A water level monitoring station (Map ID 5) was installed in WVL to monitor the water levels remotely and put into action a pumping plan if needed.

When: Completed in 2020

Cost: Berm Re-establishment and Swale: \$84,000
Bypass System Sump: \$25,000

Inspection and Maintenance: The water level station is monitored frequently to determine if bypass pumping will become necessary. Alerts in the system will also alarm staff of a need. The berm and swale are inspected annually. This project (except for the water level monitoring station) is entirely in the RWMWD. The water level monitoring system is located on the main part of WVL, north of Vadnais Blvd.

Map ID 4 – West Vadnais Lake Outlet

Why: This part of the system is the ultimate outlet of WVL and the Owasso Chain of Lakes system. Due to high flood levels in WVL and Grass Lake, the district performed many studies to look at the possibility of removing floodwaters from the lake through pumping or gravity flow between WVL and East Vadnais Lake. Those projects were deemed infeasible. But to provide future flood storage, it was determined that lowering the outlet of WVL would provide flood storage in the lake after water levels return to a more normal state (as it did in 2021). As part of this project, vegetation was removed from the flow path in the triangle wetland that leads to the outlet. Vegetation removal and a new flared end structure on the outlet was installed in 2018, and the lowering of the outlet by 0.8 foot was completed in 2020. Before the outlet lowering, VLAWMO requested an Environmental Assessment Worksheet (EAW) to determine the impacts on the lake and adjacent wetland areas due to the lowering of the outlet. Since the outlet lowering, we have experienced average and below-average rain years, and the level of

WVL reached the new lowered outlet elevation. Also, in this area, natural resources staff have partnered with VLAWMO to complete a fish survey and install a carp barrier to prevent carp migration through the system and remove fish from the system to improve water quality.

When: Completed in 2018 and 2020

Cost: 2018 West Vadnais Lake to East Vadnais Lake Water Quality Treatment Study: \$26,000
2018 West Vadnais Lake to East Vadnais Lake Gravity Flow Feasibility Study: \$48,000
2018 Triangle Vegetation Removal: \$18,000
2018 Flared End Size Increase + Engineering: \$67,000
2019 WVL Outlet Lowering EAW Engineering Process: \$44,000
2020 Triangle Vegetation Removal and Outlet Lowering + Engineering: \$160,000
2020 West Vadnais Lake to South of I-694 Conveyance Feasibility Study: \$56,000
Total Cost: \$393,000

Inspection and Maintenance: The outlet structure for WVL is on a rotation of inspections of trash racks throughout the district that is needed to ensure positive drainage of our systems. It is inspected for blockages, and blockages are removed if discovered. This project is entirely in the RWMWD.

Various studies were pursued in 2018 to determine if projects could be completed to remove water from West Vadnais Lake to lower water levels in the entire system. One particular study of importance to this continued conversation was the West Vadnais Lake to East Vadnais Lake gravity flow feasibility evaluation. I have sent this memo to VLAWMO staff, and it is also attached here for your information.

This study aimed to determine if enough subsurface flow was occurring between WVL and EVL that the purposeful lowering of EVL would encourage gravity flow from WVL. The evaluation showed insufficient subsurface flow between the lakes to make that a feasible option to reduce flood levels. After this study, the RWMWD determined the most feasible project to pursue was lowering the West Vadnais Lake outlet.

Boundary Change Rationale

The RWMWD also views this study as verifying that WVL and EVL are not highly hydrologically connected. Therefore, WVL plays a more significant role in the RWMWD watershed, and because of the flood risk issues, we will need to actively manage the drainage through WVL. This is the main reason why the RWMWD board of managers would like to pursue a boundary change with the VLAWMO board.

The second reason is the water quality of WVL. As you know, WVL is on the state's impaired water list and is due for a TMDL study in the next several years. Again, because of the unique position of the lake, a large external load contributing factor is coming from the Grass Lake

drainage path (in RWMWD), into WVL, and then out again upstream of our Phalen Chain of Lakes. We appreciate the steps taken by VLAWMO to study the lake's characteristics and work with our staff on rough fish management. With a potential boundary change, the RWMWD assumes future responsibilities for water quality improvement in WVL. This is an appropriate role for RWMWD, considering the inputs and location of the output of the lake. It seems fair and reasonable for RWMWD to manage that work.

Because of the above situation, it makes sense to our board to pursue this boundary change. The scope of this is narrow. We propose including the subwatershed area tributary to WVL and the lake area itself. There are approximately 180 parcels in the whole subwatershed to WVL. Of those 180 parcels, approximately 47 of them are outside of RWMWD and in the VLAWMO legal boundary. A review of those 47 parcels shows that eight of them are in public ownership, five of them are commercial properties, and 34 parcels are residential properties. Further evaluation will be done by staff on the impact on those property owners. We would propose a joint outreach process to those affected properties.

The RWMWD Board of Managers has considered the options for the most effective management of our watershed district, including WVL. We appreciate the ongoing partnership between the two watersheds in many different program areas. We believe that our administrative staff can work with yours to continue that work and provide the best outcome for both watersheds. We look forward to your response to this request to pursue a boundary change and establishing the next steps in this process.

Sincerely,

A handwritten signature in black ink, appearing to read "Lawrence Swope", with a long, sweeping horizontal line extending to the right.

Lawrence Swope, RWMWD Board President, on behalf of the RWMWD Board of Managers

cc: Tina Carstens, RWMWD Administrator
Phil Belfiori, VLAWMO Administrator



West Vadnais Lake Management Discussion



- Points of Interest
- Water Bodies
- Cities
- Major Flow Arrows
- RWMWD/VLAWMO Boundary
- West Vadnais Lake Drainage Area (DNR8)

0 500 1,000 2,000 Feet

Map ID	Location
1	In-Lake Vegetation Clean-Out
2	Vadnais Blvd Twin Pipes
3	West Vadnais Lake Overflow Bypass System
4	West Vadnais Lake Outlet
5	West Vadnais Lake Auto Lake Level Monitoring Station

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TO: Board of Managers and Staff
FROM: Tina Carstens, Administrator
SUBJECT: **Boundary Change with Vadnais Lake Area Watershed Management Organization (VLAWMO)**
DATE: July 2, 2019

At the June 6, 2019 board of managers meeting, the board requested that I prepare information for discussion regarding the process of adding West Vadnais Lake (WVL) into the district by way of boundary change. I provided information on the two Minnesota state statutes that govern watershed management organizations and how they request boundary changes from the Board of Water and Soil Resources (BWSR). There was a question of how long a boundary change would take to go through the process. The process includes; preparing a petition with the data required of the statute including the production of the change in boundary legal description and a letter of concurrence from VLAWMO. BWSR also has a process which includes the publication of notice and invitation to request a hearing and then either a public hearing or a decision by the BWSR board at a meeting at least 30 days after the last publication of notice. If all went as planned, I would anticipate the process taking 6 months to complete.

As for the decision on whether or not to pursue a boundary change, I see that we have three options:

1. VLAWMO continues to manage West Vadnais Lake in their watershed.
2. RWMWD pursues a boundary change and incorporates West Vadnais Lake.
3. A joint management plan is developed for West Vadnais Lake between the two watersheds but the lake stays in VLAWMO's jurisdictional boundary.

TO: Board of Managers and Staff
FROM: Tina Carstens, Administrator
SUBJECT: Boundary Change with Vadnais Lake Area Watershed Management Organization (VLAWMO)
DATE: July 2, 2019

1. VLAWMO continues to manage West Vadnais Lake in their watershed.

OR

2. RWMWD pursues a boundary change and incorporates West Vadnais Lake.

VLAWMO staff have indicated to me that they would like to keep WVL in their watershed due to the historical significance of the waterbody to their watershed. I have attached some information from VLAWMO's website regarding West Vadnais Lake to this memo for your information. (Please note that I did discover some misinformation on the website that I will work with VLAWMO to correct)

WVL is an impaired water body. VLAWMO accelerated their plans to complete a TMDL on WVL from 2022 to 2020. They started the pre-work this year in collecting the bathymetric data that we are then using to support the EAW work for the outlet lowering. If VLAWMO continued to manage WVL, following the TMDL report and implementation plan, their board would make decisions on timing for implementation of the recommended actions in their plan. I would expect VLAWMO staff to still work with us on managing the lake and we would certainly be part of the process to develop a plan for the lake but the ultimate management decisions would be on the VLAWMO board only. VLAWMO has more limited funding and likely higher priorities than the management of WVL and therefore the actions may not come as quickly as we would like to see for the benefit of our District.

Conversely, if WVL were in RWMWD, we would be inheriting an impaired water body and would then need to complete a TMDL study, an implementation plan, and do a plan amendment to incorporate the new area and information into our management plan. RWMWD board would also need to make management decisions on priorities across the district for managing the water quantity and quality levels of the lake. The subwatershed area of WVL is small if you look at what directly drains to WVL (outside of what comes from Grass Lake), likely the internal load of phosphorus is the major driver of water quality and therefore we can make some assumptions for what it might take to address the internal load reduction needs. The board may also choose not to act on managing the internal load of WVL based on district wide priorities. Typically, the district has first sought out projects that address the external load before taking steps to address internal load as was done in Kohlman Lake as well as Wakefield and Bennett.

Making some (big) assumptions for how the district might manage WVL based on similar impaired water studies and implementation in the district the following are potential

TO: Board of Managers and Staff
FROM: Tina Carstens, Administrator
SUBJECT: Boundary Change with Vadnais Lake Area Watershed Management Organization (VLAWMO)
DATE: July 2, 2019

costs to managing WVL in RWMWD. These are gross estimates assuming that management of West Vadnais Lake would take a similar path to the one we took with Kohlman Lake, requiring the same level of treatment for macrophytes and internal load, scaled up for size.

- Incorporation of WVL into the RWMWD Watershed Management Plan - \$25,000 (one time cost)
- TMDL and Implementation Plan: \$100,000 (one time cost)
- Water Quality Monitoring - \$4,500 a year
- Carp Management (WVL and Grass system) - \$100,000 for at least a few years
- Macrophyte management plan, Internal load treatment and in-lake modeling - \$150,000 (mostly one time cost except for updates as needed)
- Internal load lake treatment (spring/fall, permitting, documentation and assistance)- \$760,000
- Macrophyte management (applications, permitting, documentation and assistance) - \$560,000 (spent over 10 years)

As for water level management, the district already has control and ownership over the outlet to WVL and it is located within our jurisdiction. We worked with the property owners to manage and maintain flow paths to and from the lake. Even if WVL would have been in the district, the information we are completing for the outlet lowering EAW is required through the DNR permitting process. The EAW process adds some extra steps and time but as of now we are in the middle of that process and will be completed before a boundary change would be.

I understand the logic in having WVL incorporated into the district based on the hydrologic connection as well as the impact (real or potential) to other district resources, but I also think there could be another option as described below.

3. A joint lake management plan is developed for West Vadnais Lake between the two watersheds but the lake stays in VLAWMO's jurisdictional boundary.

If VLAWMO is not interested in handing over the jurisdiction of WVL to RWMWD, a potential option is to develop a joint lake management plan. This could be a formal joint powers agreement or a memorandum of agreement that recognizes the combined interests of the two watersheds and formalizes the goals of both entities. In this case, we would jointly determine the goals for the lake through the TMDL process as well as

TO: Board of Managers and Staff
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SUBJECT: Boundary Change with Vadnais Lake Area Watershed Management Organization (VLAWMO)
DATE: July 2, 2019

share in the financial responsibility in the implementation plan. This would take significant coordination between staff, consultants and both entities boards but it doesn't seem out of the realm of possibility. Certainly, both entities will have different goals but the agreements could be spelled out specifically to which entity would complete which project or in some cases, they would be completed jointly and paid for together. Once the TMDL and implementation plan was in place, each entity would amend their watershed management plan with the activities moving forward.

As was discussed at previous board meetings, a joint meeting between the VLAWMO and RWMWD's boards would provide a nice opportunity to discuss the outlet lowering EAW, a potential boundary change and also our concerns and potential goals for WVL. If a joint management plan is appeals to you, this would also be a good venue to discuss that option. The VLAWMO board has indicated they have availability in the evening of July 30th or 31st. We can discuss at our meeting if that will work for you.

Memorandum

To: Ramsey-Washington Metro Watershed District (RWMWD) board of managers and staff
From: Tyler Olsen, Evan Christianson, Matt Metzger, Bryan Oakley, Erin Anderson Wenz, and Brad Lindaman
Subject: West Vadnais Lake to East Vadnais Lake gravity flow—feasibility evaluation
Date: November 27, 2018

Project team

RWMWD: Project manager: Tina Carstens
Barr staff: Principal in charge: Brad Lindaman
Project manager: Erin Anderson Wenz
Project team: Evan Christianson, Tyler Olsen, Matt Metzger, and Bryan Oakley

Scope of work

The purpose of this study was to understand the feasibility of lowering East Vadnais Lake levels and encouraging subsurface flow by gravity from West Vadnais Lake into East Vadnais Lake. This study required the team to conduct geotechnical field investigations, obtain baseline West Vadnais Lake water-quality parameters, quantify seepage through the berm, and identify the study's future feasibility. In general, the RWMWD proposed that St. Paul Regional Water Services (SPRWS) could operate East Vadnais Lake at a lower level that would accommodate subsurface flows from West Vadnais Lake in order to reduce flooding concerns in the Grass Lake area.

East Vadnais Lake is part of the SPRWS's chain of lakes that delivers water from the Mississippi River to the McCarrons water treatment plant in Maplewood, just south of Little Canada and just north of St. Paul. If water is to be moved into East Vadnais Lake, it will need to meet certain water-quality standards so that it does not disrupt SPRWS's treatment process. The level of total phosphorus in unfiltered West Vadnais Lake is not currently acceptable for use as a SPRWS drinking-water source. Additional water-quality characterization of West Vadnais Lake was unknown prior to this study. This study was intended to better understand if this approach is viable and feasible.

Background information

West Vadnais Lake has an outlet elevation of 881.8 feet, although it typically fluctuates around a higher elevation of approximately 882.6 feet (its ordinary high water elevation as defined by the Minnesota Department of Natural Resources). At this elevation, the lake's surface area covers 221 acres, with an average depth of 7 feet and a maximum depth of 9 feet. Eurasian watermilfoil is present in West Vadnais Lake, which is within the Vadnais Lake Area Watershed Management Organization (VLAWMO) and the city of Vadnais Heights.

East Vadnais Lake covers 389 acres, with a maximum depth of 58 feet. Zebra mussels and Eurasian watermilfoil are present. East Vadnais Lake is within the VLAWMO in Vadnais Heights, and is part of the

SPRWS chain of lakes that delivers water from the Mississippi River to the McCarrons water treatment plant in Maplewood, just south of Little Canada and just north of St. Paul. West Vadnais Lake is separated from East Vadnais Lake by a narrow earthen berm and a paved bicycle path.

Grass Lake and West Vadnais Lake are connected via a culvert that effectively equilibrates the surface elevation of the two lakes. West Vadnais Lake drains to the south via a 15-inch culvert under Interstate 694. However, the size of this culvert and its invert elevation limit its capacity to prevent flooding from large storm events in the Grass Lake and West Vadnais Lake areas.

West Vadnais Lake is physically separated from East Vadnais Lake by an earthen berm; there is currently no surface flow between the two lakes. The connection of these two lakes via seepage through the berm is unknown. Historically, East Vadnais Lake has maintained a surface stage elevation of 1 to 2 feet above West Vadnais Lake, creating potential for seepage flow through the berm from East Vadnais Lake to West Vadnais Lake—an undesired condition, particularly during flood events. The stage of East Vadnais Lake is controlled as part of SPRWS's operations. Water enters East Vadnais Lake via a channel from Sucker Lake on the north and Lambert Creek on the east. In 2016, SPRWS pumped an average of 38.2 million gallons a day (59 cubic feet per second) from the lake for water supply. Previous studies have considered pumping water from upstream of Grass Lake (Snail Lake) to Sucker Lake, pumping water from West Vadnais Lake into East Vadnais Lake, and lowering the outlet of West Vadnais Lake. The first two of these studies have not proven to be cost effective or impactful enough to reduce flooding. The RWMWD is still considering lowering West Vadnais Lake's outlet as a flood mitigation strategy.

The next option considered in this study was lowering the operating level of East Vadnais Lake to allow for passive movement of water through the earthen berm separating West Vadnais Lake and East Vadnais Lake to reduce the water level in West Vadnais Lake. The two main components of this study were understanding the groundwater and seepage dynamics of the earthen berm, and characterizing the water quality of West Vadnais Lake to understand how it would affect drinking-water quality from East Vadnais Lake and SPRWS's treatment process.

Task 1: Geotechnical investigations

A geotechnical investigation was conducted on the earthen berm separating West Vadnais Lake and East Vadnais Lake to evaluate existing hydrogeologic properties of the materials that make up the berm, as well as the current groundwater conditions.

Soil borings were conducted at five locations along the berm, as shown in figure 1. Each boring was completed to a depth of 32 feet below ground surface using direct-push drilling methods. Continuous core was collected at each boring, and the soil stratigraphy was logged in the field. Boring logs for the five borings at presented in attachment A.

Soil stratigraphy of the earthen berm consisted primarily of 5 to 15 feet of silty sand with cohesive and non-plastic fines. Below the berm, sediments transitioned to finer-grained sandy silt with 2- to 5-foot lenses of clay. Prior to this investigation, Ramsey County indicated that portions of the berm may have been constructed with extremely coarse-grained material, including recycled concrete rubble. There was no indication of this material in any of the five borings conducted for this investigation.



At three of the boring locations, piezometers were installed using hollow-stem-auger drilling methods. Each piezometers was installed to a depth of 8 feet, with a screened interval ranging from 3 to 8 feet below ground surface. The screened intervals intersect the water table, which varied from 3.1 feet to 3.6 feet below ground surface. Piezometer construction logs are presented in attachment A.

Slug tests were conducted at each of the piezometers to estimate hydraulic conductivity of the sediments within the berm. Each slug test was analyzed using the Bower and Rice straight-line method. Slug test plots and solutions are presented in attachment B. The hydraulic conductivity values ranged from 2.1 feet per day to 7.3 feet per day and are presented in table 1 below.

Table 1. Hydraulic conductivity of berm

Piezometer	Hydraulic conductivity (feet/day)
PZ-10	7.3
PZ-11	2.1
PZ-12	4.1

Task 2: Baseline water-quality characterization

A wide-ranging baseline set of water-quality data was obtained for West Vadnais Lake to identify the feasibility of using this water in the SPRWS drinking-water system. The water-quality parameters that were analyzed are comprised of parameters from drinking-water standards, unregulated contaminant monitoring rules, nutrients, and algae speciation.

Two rounds of water-quality sampling in West Vadnais Lake were conducted in October 2018. The second round was necessary because the laboratory did not preserve a sample, and SPRWS requested additional parameters to be tested. A composite sample was taken from three different locations on the surface (0 to 2 meters) of West Vadnais Lake and submitted for laboratory testing to Eurofins Laboratory. Analysis of the samples took place immediately after collection. SePRO conducted algae speciation on West Vadnais Lake.

The final list of parameters that were analyzed is in table 2.

Preliminary water-quality results have been received from the laboratories for algae speciation and bacteria presence. The algae speciation showed presence of blue-green algae *Dolichospermum* sp. at a density indicating moderate exposure risk (17,750 cells per milliliter). Other blue-green algae species were present in lower densities, and do not pose an exposure risk. *E. coli* is present above the maximum contaminant level in the West Vadnais Lake samples that were taken.

The remaining water-quality data has been received from the laboratory, and is being processed for distribution to the stakeholders. The majority of these tested constituents were below detection limits, and did not give any cause for concern. A final summary table will be forwarded as attachment C to this technical memorandum.

Task 3: Berm seepage analysis

Hydraulic conductivity estimates determined from the slug tests conducted at each piezometer (table 1) were used to estimate water flux across the berm for a range of stage differences between East Vadnais Lake and West Vadnais Lake. Darcy's Law was used to estimate the flux across the berm, where:

$$Q = KiA$$

Q = discharge across the berm

K = hydraulic conductivity of the berm; the low and high estimates from the slug test were used (2.1 feet per day and 7.3 feet per day)

i = hydraulic gradient across the berm; an approximate mean berm width of 150 feet and a range in stage differences between the two lakes were used

A = area of cross-sectional flow; an assumed effective depth of 15 feet and berm length of 4500 feet were used

Results of the seepage analysis are presented in figure 2 below. Due to the relatively low hydraulic conductivity of the berm sediments, the seepage across the berm is estimated to be low. With a stage difference of 2 feet between the two lakes, seepage across the berm is estimated to be between 0.02 and 0.04 cubic feet per second. With a stage difference of 7 feet across the berm, seepage is estimated to be between 0.07 and 0.26 cubic feet per second. These low seepage rates indicate that adjusting the difference in stage between the two lakes has little effect on the flow of water into or out of the lakes across the berm. To allow seepage of any significance through the berm from West Vadnais Lake to East Vadnais Lake, the berm would have to be reconstructed with more permeable material.

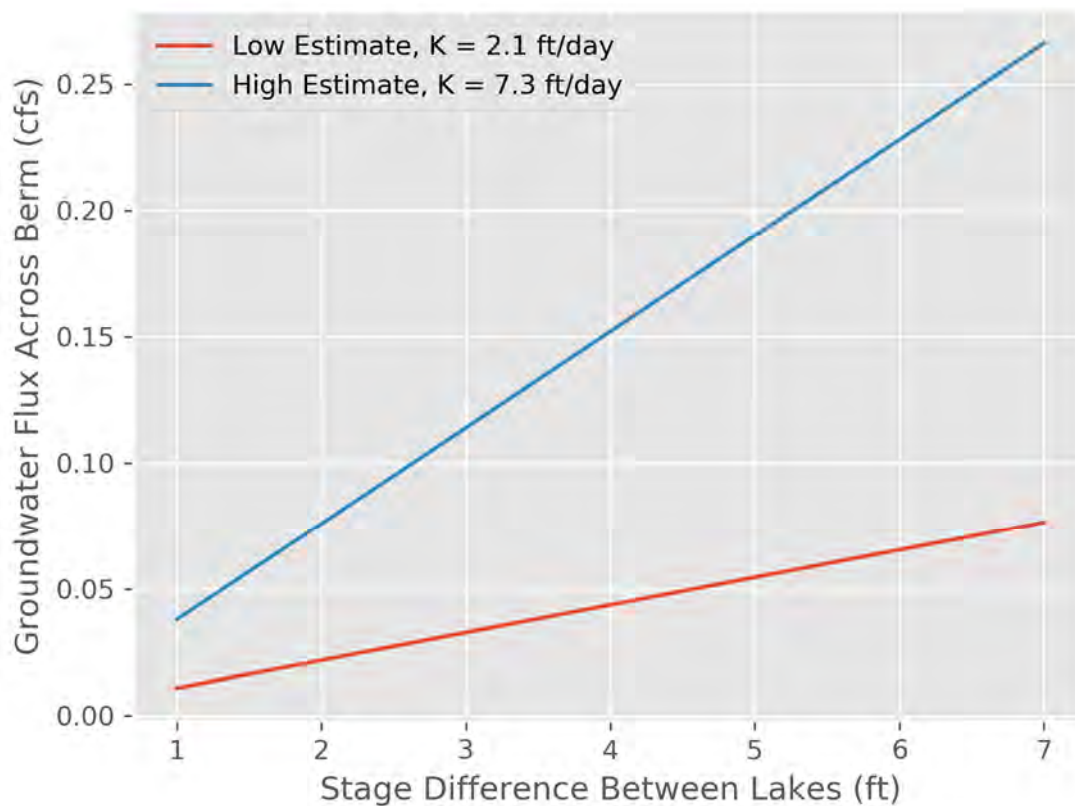


Figure 2. Seepage across berm at different lake stages

Summary of implementation strategies and next steps

Results of the analysis of seepage potential across the berm indicate that it is not possible to achieve sufficient seepage through the existing berm to help alleviate flooding concerns. To alleviate flooding concerns for the 100-year, 96-hour critical event, an additional 10 to 20 cubic feet per second leaving West Vadnais Lake are needed, based on modeling conducted by Barr in March 2018. Even with a difference in lake stage of 7 feet between the two lakes, seepage across the berm is estimated to be less than 1 cubic foot per second. To achieve sufficient seepage rates, the berm would have to be reconstructed. Due to the sensitivity of East Vadnais Lake water used for municipal water supply and the berm's current use as a popular park and recreation area, reconstruction of the berm is not considered a viable option.

Results of the seepage analysis also indicate that maintaining East Vadnais Lake at a slightly higher stage than West Vadnais Lake does not significantly affect flooding concerns for West Vadnais Lake. The seepage from East Vadnais Lake to West Vadnais Lake under these conditions is small.

Water-quality data will be provided once available from the laboratory and processed. However, this data does not change the results of the seepage modeling and next-steps recommendation.

After discussions with the RWMWD and VLAWMO, it was decided that using seepage through the berm to control flooding in the Grass Lake and West Vadnais Lake areas will not be pursued. However, lowering the outlet elevation of West Vadnais Lake will continue to be pursued as an option for flood mitigation.

Table 2. Water-quality parameters tested

1, 1, 1, 2-Tetrachloroethane	Betazon (bentazon assumed)	Methyl ethyl ketone
1, 1, 1-Trichloroethane	Bromobenzene	Methyl isobutyl ketone
1, 1, 2, 2-Tetrachloroethane	Bromochloromethane	Methyl tertiary butyl ether
1, 1, 2-Trichloroethane	Bromomethane	Methylene chloride
1, 1, 2-Trichlorotrifluoroethane	Butachlor	Metolachlor
1, 1-Dichloroethane	Carbaryl	Metribuzin
1, 1-Dichloroethene	Carbofuran	Microcystin-LA
1, 1-Dichloropropene	Carbon tetrachloride	Microcystin-LF
1, 2, 3-Trichlorobenzene	Chloramben	Microcystin-LR
1, 2, 3-Trichloropropane	Chlorobenzene	Microcystin-LY
1, 2, 4-Trichlorobenzene	Chlorodifluoromethane (Freon 22/HCFC-22)	Microcystin-RR
1, 2, 4-Trimethylbenzene	Chloroethane	Microcystin-YR
1, 2-Dibromo-3-chloropropane	Chloromethane	Molybdenum
1, 2-Dibromoethane	Chromium, total	Naphthalene
1, 2-Dichlorobenzene	Chromium-6	n-Butylbenzene
1, 2-Dichloroethane	cis-1, 2-Dichloroethene	Nickel
1, 2-Dichloropropane	cis-1, 3-Dichloropropene	Nitrate+Nitrite Nitrogen, Total (SDWA NO3 as N)
1, 3, 5-Trimethylbenzene	Cobalt	Nitrobenzene (Assessment and Screening)
1, 3-Dichlorobenzene	Cryptosporidium	N-nitrosodimethylamine
1, 3-Dichloropropane	Cyanazine	Nodularin
1, 4-Dichlorobenzene	Cyanide (free per SDWA, lab runs total cyanide)	n-Propylbenzene
1,3-Butadiene	Cylindrospermopsin	Oxamyl
1,4-Dioxane	Dalapon	o-Xylene
17a-Ethinylestradiol (ethinyl estradiol)	DCPA diacid metabolite	p&m-Xylene
17β-Estradiol	Di (2-ethylhexyl) adipate	Pentachlorophenol (PCP)
2, 2-Dichloropropane	Di (2-ethylhexyl) phthalate	Perfluorobutanesulfonate (PFBS)
2, 4, 5-T	Diazinon	Perfluoroheptanoic acid (PFHpA)
2, 4, 5-TP (Silvex)	Dicamba	Perfluorohexanesulfonate (PFHxS)
2, 4-D	Dichlorodifluoromethane	Perfluorononanoic acid (PFNA)
2, 4-DB	Dichlorofluoromethane	Perfluorooctanesulfonate (PFOS)
2,2',4,4',5,5'-hexabromobiphenyl (245-HBB)	Dichloroprop	Perfluorooctanoic acid (PFOA)
2,2',4,4',5,5'-hexabromodiphenyl ether (BDE-153)	Dieldrin	Picloram
2,2',4,4',5-pentabromodiphenyl ether (BDE-99)	Dimethoate	p-Isopropyltoluene
2,2',4,4',6-pentabromodiphenyl ether (BDE-100)	Dinoseb	Prometon
2,2',4,4'-tetrabromodiphenyl ether (BDE-47)	Disulfoton	Propachlor
2,4,6-Trichlorophenol	Diuron	Radon-222
2,4-Dichlorophenol	Endrin	sec-Butylbenzene
2,4-Dinitrophenol	Escherichia coli (w/Total coliforms)	Simazine
2-Chlorotoluene	Estriol (16a-Hydroxy-17β-estradiol)	Sodium
2-Methylphenol	Estrone	Strontium
3-Hydroxycarbofuran	Ethyl ether	Styrene
4-Chlorotoluene	Ethylbenzene	Terbufos
4-Nitrophenol	Fluoride	Terbufos sulfone
Acetochlor	Fonofon (Fonofos)	tert-Butylbenzene
Acetone	gamma-Chlordane	Testosterone (cis and trans)
Acifluofen	g-BHC (lindane)	Tetrachloroethene
Alachlor	Giardia	Tetrahydrofuran
Aldicarb	Glyphosate	Thallium
Aldicarb sulfone	Heptachlor	Toluene
Aldicarb sulfoxide	Heptachlor epoxide	Toxaphene
Aldrin	Hexachlorobenzene	trans-1, 2-Dichloroethene
Allyl chloride	Hexachlorobutadiene	trans-1, 3-Dichloropropene
alpha-Chlordane	Hexachlorocyclopentadiene	trans-Nonachlor
Anatoxin-a	Iron	TCE
Antimony	Isopropylbenzene	Trichlorofluoromethane
Arsenic	Linuron	Turbidity
Atrazine	MCPA	Vanadium
Benzene	MCPP	Vinyl chloride
Benzo (a) pyrene	Methomyl	
Beryllium	Methoxychlor	

Attachment A: Soil Boring Logs



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LOG OF BORING PZ-10

DRAFT
SHEET 1 OF 2

Project: West Vadnais Lake to East Vadnais Lake
Project No.: 23621200
Location: Vadnais Heights, MN
Coordinates:
Datum:

Surface Elevation:
Drilling Method: Geoprobe
Sampling Method: Geoprobe
Completion Depth: 32.0 ft

Depth, feet	Sample Type & Recovery	Sample No.	ENVIRONMENTAL DATA	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	WELL OR PIEZOMETER CONSTRUCTION DETAIL	Elevation, feet
0.0						TOPSOIL (SM): moist.		
2.5			PID:0.1 D/O/S:None/ None/ None G/S/F:0%/ 80%/ 20%	SM			PRO. CASING Diameter: 6 in Type: Black Steel Interval: 0-2 ft bgs	
5.0			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 80%/ 20%	SM		SILTY SAND (SM): 10 YR 4/1 (brownish gray); moist to wet; f-m gr. sand; cohesive; non-plastic fines. From 3-4 ft, black mottling (10YR 2/1). At 5 ft, wet/saturated.	RISER CASING Diameter: 2 in Type: PVC Interval: 0-3.1 ft bgs	
7.5			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 80%/ 20%	SM			GROUT Type: Neat Cement Interval: 0-1 ft bgs	
10.0			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 70%/ 30%	SM			SEAL Type: Bentonite Interval: 1-2 ft bgs	
12.5			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 40%/ 60%	SM			SANDPACK Type: Red Flint #40 Interval: 2-8.5 ft bgs	
15.0			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 40%/ 60%	SM			SCREEN Diameter: 2 in Type: SPVC NO. 10 Interval: 3.1-8.1 ft bgs	
17.5			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 40%/ 60%	ML		SANDY SILT (ML): 10 YR 6/1 (brownish gray); wet; vf-f gr. sand; cohesive; low-plasticity.		
20.0								

Date Boring Started: 10/8/18
Date Boring Completed: 10/8/18
Logged By: EMC
Drilling Contractor: Stevens Drilling and Environmental
Drill Rig: Geoprobe

Remarks:

PID = Headspace; D/O/S = Discoloration/Odor/Sheen; FID/MC = FID/Methane Corrected; G/S/F = Gravel/Sand/Fines
Additional data may have been collected in the field which is not included on this log.



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Minneapolis, MN 55435
Telephone: 952-832-2600

LOG OF BORING PZ-10

DRAFT
SHEET 2 OF 2

Project: West Vadnais Lake to East Vadnais Lake
Project No.: 23621200
Location: Vadnais Heights, MN
Coordinates:
Datum:
Surface Elevation:
Drilling Method: Geoprobe
Sampling Method: Geoprobe
Completion Depth: 32.0 ft

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Depth, feet	Sample Type & Recovery	Sample No.	ENVIRONMENTAL DATA	SSCS	Graphic Log	LITHOLOGIC DESCRIPTION	WELL OR PIEZOMETER CONSTRUCTION DETAIL	Elevation, feet
20.0								
22.5			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 40%/ 60%			SANDY SILT (ML): 10 YR 6/1 (brownish gray); wet; vf-f gr. sand; cohesive; low-plasticity. (continued)	PRO. CASING Diameter: 6 in Type: Black Steel Interval: 0-2 ft bgs	
25.0				ML			RISER CASING Diameter: 2 in Type: PVC Interval: 0-3.1 ft bgs	
27.5			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 40%/ 60%				GROUT Type: Neat Cement Interval: 0-1 ft bgs	
30.0			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 70%/ 30%	MH		PLASTIC SILT (MH): 10 YR 6/1 (brownish gray); wet; vf-f gr. sand; cohesive; med plastic; tr. veins of v. c. gr. sand.	SEAL Type: Bentonite Interval: 1-2 ft bgs	
32.5						End of boring 32.0 feet	SANDPACK Type: Red Flint #40 Interval: 2-8.5 ft bgs	
35.0							SCREEN Diameter: 2 in Type: PVC, No. 10 Interval: 3.1-8.1 ft bgs	
37.5								
40.0								

Date Boring Started: 10/8/18
Date Boring Completed: 10/8/18
Logged By: EMC
Drilling Contractor: Stevens Drilling and Environmental
Drill Rig: Geoprobe

Remarks:

PID = Headspace; D/O/S = Discoloration/Odor/Sheen; FID/MC = FID/Methane Corrected; G/S/F = Gravel/Sand/Fines
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LOG OF BORING PZ-11

DRAFT
SHEET 1 OF 2

Project: West Vadnais Lake to East Vadnais Lake
Project No.: 23621200
Location: Vadnais Heights, MN
Coordinates:
Datum:

Surface Elevation:
Drilling Method: Geoprobe
Sampling Method: Geoprobe
Completion Depth: 32.0 ft

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Depth, feet	Sample Type & Recovery	Sample No.	ENVIRONMENTAL DATA	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	WELL OR PIEZOMETER CONSTRUCTION DETAIL	Elevation, feet
0.0				SM		TOPSOIL (SM): moist.		
2.5			PID:0.1 D/O/S:None/ None/ None G/S/F:0%/ 70%/ 30%			SILTY SAND (SM): 10YR 4/4 (brown); moist to wet; f-c gr. sand; cohesive; non-plastic.	PRO. CASING Diameter: 6 in Type: Black Steel Interval: 0-2 ft bgs	
5.0			PID:0.1 D/O/S:None/ None/ None G/S/F:0%/ 70%/ 30%	SM		From 4.5-6 ft, black (10 YR 2/1).	RISER CASING Diameter: 2 in Type: PVC Interval: 0-3 ft bgs	
7.5			PID:0.1 D/O/S:None/ None/ None G/S/F:0%/ 70%/ 30%			At 6 ft, wet/saturated, color change to gray (5Y 4/1).	GROUT Type: Neat Cement Interval: 0-1 ft bgs	
10.0			G/S/F:0%/ 70%/ 30%				SEAL Type: Bentonite Interval: 1-2 ft bgs	
12.5			PID:0.1 D/O/S:None/ None/ None G/S/F:0%/ 10%/ 90%			SANDY SILT (ML): 5Y 4/1 (gray); wet; vf-f gr. sand; cohesive; low plastic.	SANDPACK Type: Red Flint #40 Interval: 2-8.5 ft bgs	
15.0			PID:0.1 D/O/S:None/ None/ None G/S/F:0%/ 10%/ 90%	ML		At 15 ft, 1/2 in sand lens c. gr. (0/70/30).	SCREEN Diameter: 2 in Type: PVC, No. 10 Interval: 3-8 ft bgs	
17.5			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 10%/ 90%			At 18 ft, 1 in red/brown (5YR 4/3) sand m. gr. (0/70/30).		
20.0								

Date Boring Started: 10/8/18
Date Boring Completed: 10/8/18
Logged By: KMJ2
Drilling Contractor: Stevens Drilling and Environmental
Drill Rig: Geoprobe

Remarks:

PID = Headspace; D/O/S = Discoloration/Odor/Sheen; FID/MC = FID/Methane Corrected; G/S/F = Gravel/Sand/Fines
Additional data may have been collected in the field which is not included on this log.



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Telephone: 952-832-2600

LOG OF BORING PZ-11

DRAFT
SHEET 2 OF 2

Project: West Vadnais Lake to East Vadnais Lake
Project No.: 23621200
Location: Vadnais Heights, MN
Coordinates:
Datum:
Surface Elevation:
Drilling Method: Geoprobe
Sampling Method: Geoprobe
Completion Depth: 32.0 ft

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Depth, feet	Sample Type & Recovery	Sample No.	ENVIRONMENTAL DATA	SSCS	Graphic Log	LITHOLOGIC DESCRIPTION	WELL OR PIEZOMETER CONSTRUCTION DETAIL	Elevation, feet
20.0						SANDY SILT (ML): 5Y 4/1 (gray); wet; vf-f gr. sand; cohesive; low plastic. (continued)		
22.5			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 10%/ 90%	ML			PRO. CASING Diameter: 6 in Type: Black Steel Interval: 0-2 ft bgs	
25.0			G/S/F:0%/ 10%/ 90%				RISER CASING Diameter: 2 in Type: PVC Interval: 0-3 ft bgs	
27.5			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 5%/ 95%	CL		LEAN CLAY (CL): 5Y 4/1 (gray); wet; med. plastic. At 27.5 ft, 1 in c. gr. sand lens (0/95/5).	GROUT Type: Neat Cement Interval: 0-1 ft bgs	
30.0			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 5%/ 95%				SEAL Type: Bentonite Interval: 1-2 ft bgs	
32.5			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 85%/ 15%	SM		SILTY SAND (SM): 5Y 4/1 (gray); wet; f-c gr. sand; cohesive; non-plastic.	SANDPACK Type: Red Flint #40 Interval: 2-8.5 ft bgs	
35.0						End of boring 32.0 feet	SCREEN Diameter: 2 in Type: Schedule 40 Interval: PVC, No. 10 Slot 3-8 ft bgs	
37.5								
40.0								

Date Boring Started: 10/8/18
Date Boring Completed: 10/8/18
Logged By: KMJ2
Drilling Contractor: Stevens Drilling and Environmental
Drill Rig: Geoprobe

Remarks:

PID = Headspace; D/O/S = Discoloration/Odor/Sheen; FID/MC = FID/Methane Corrected; G/S/F = Gravel/Sand/Fines
Additional data may have been collected in the field which is not included on this log.



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LOG OF BORING PZ-12

DRAFT
SHEET 1 OF 2

Project: West Vadnais Lake to East Vadnais Lake
Project No.: 23621200
Location: Vadnais Heights, MN
Coordinates:
Datum:

Surface Elevation:
Drilling Method: Geoprobe
Sampling Method: Geoprobe
Completion Depth: 32.0 ft

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Depth, feet	Sample Type & Recovery	Sample No.	ENVIRONMENTAL DATA	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	WELL OR PIEZOMETER CONSTRUCTION DETAIL	Elevation, feet
0.0				SM		TOPSOIL (SM): moist.		
2.5			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 80%/ 20%			SILTY SAND (SM): 10YR 3/4 (dark brown); moist to wet; f-c gr. sand; cohesive; non-plastic.	PRO. CASING Diameter: 6 in Type: Black Steel Interval: 0-2 ft bgs	
5.0				SM		At 3.5 ft, black lamination (10YR 2/1). At 4.5 ft, 6 in black (10 YR 2/1).	RISER CASING Diameter: 2 in Type: PVC Interval: 0-3.1 ft bgs	
7.5			PID:0.2 D/O/S:None/ None/ None G/S/F:0%/ 80%/ 20%				GROUT Type: Neat Cement Interval: 0-1 ft bgs	
10.0			G/S/F:0%/ 80%/ 20%				SEAL Type: Bentonite Interval: 1-2 ft bgs	
12.5			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 40%/ 60%	ML		SANDY SILT (ML): 10YR 4/1 (brownish gray); wet; vf-f gr. sand; low plastic.	SANDPACK Type: Red Flint #40 Interval: 2-8.5 ft bgs	
15.0			G/S/F:0%/ 40%/ 60%				SCREEN Diameter: 2 in Type: Schedule 40 Interval: PVC, No. 10 Slot 3.1-8.1 ft bgs	
17.5			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 10%/ 90%	CL		LEAN CLAY WITH SAND (CL): 10YR 4/1 (brownish gray); wet; vf-f gr. sand; med plastic.		
20.0			G/S/F:0%/ 10%/ 90%			At 17 ft, red vf-f gr. sand lens (0/80/20).		
			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 70%/ 30%	SM		SILTY SAND (SM): 10YR 4/1 (brownish gray); wet; vf-f gr. sand.		

Date Boring Started: 10/8/18
Date Boring Completed: 10/8/18
Logged By: EMC
Drilling Contractor: Stevens Drilling and Environmental
Drill Rig: Geoprobe

Remarks:

PID = Headspace; D/O/S = Discoloration/Odor/Sheen; FID/MC = FID/Methane Corrected; G/S/F = Gravel/Sand/Fines
Additional data may have been collected in the field which is not included on this log.



Barr Engineering Company
4300 MarketPointe Drive Suite 200
Minneapolis, MN 55435
Telephone: 952-832-2600

LOG OF BORING PZ-12

DRAFT
SHEET 2 OF 2

Project: West Vadnais Lake to East Vadnais Lake
Project No.: 23621200
Location: Vadnais Heights, MN
Coordinates:
Datum:

Surface Elevation:
Drilling Method: Geoprobe
Sampling Method: Geoprobe
Completion Depth: 32.0 ft

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Depth, feet	Sample Type & Recovery	Sample No.	ENVIRONMENTAL DATA	S U C	Graphic Log	LITHOLOGIC DESCRIPTION	WELL OR PIEZOMETER CONSTRUCTION DETAIL		Elevation, feet
20.0			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 10%/ 90%	SM		SILTY SAND (SM): 10YR 4/1 (brownish gray); wet; vf-f gr. sand. (continued)	PRO. CASING Diameter: 6 in Type: Black Steel Interval: 0-2 ft bgs RISER CASING Diameter: 2 in Type: PVC Interval: 0-3.1 ft bgs GROUT Type: Neat Cement Interval: 0-1 ft bgs SEAL Type: Bentonite Interval: 1-2 ft bgs SANDPACK Type: Red Flint #40 Interval: 2-8.5 ft bgs SCREEN Diameter: 2 in Type: Schedule 40 Interval: PVC, No. 10 Slot 3.1-8.1 ft bgs		
22.5				CL		LEAN CLAY WITH SAND (CL): 10YR 4/1 (brownish gray); wet; med. plastic; vf-f gr. sand.			
25.0			G/S/F:0%/ 70%/ 30%	SM		SILTY SAND (SM): 10YR 4/1 (brownish gray); wet; vf-f gr. sand.			
27.5			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 10%/ 90%	CL		LEAN CLAY WITH SAND (CL): 10YR 4/1 (brownish gray); wet; med. plastic; vf-f gr. sand.			
30.0			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 10%/ 90%						
32.5						End of boring 32.0 feet			
35.0									
37.5									
40.0									

Date Boring Started: 10/8/18
Date Boring Completed: 10/8/18
Logged By: EMC
Drilling Contractor: Stevens Drilling and Environmental
Drill Rig: Geoprobe

Remarks:

PID = Headspace; D/O/S = Discoloration/Odor/Sheen; FID/MC = FID/Methane Corrected; G/S/F = Gravel/Sand/Fines
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Barr Engineering Company
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LOG OF BORING SB-1

DRAFT
SHEET 1 OF 2

Project: West Vadnais Lake to East Vadnais Lake
Project No.: 23621200
Location: Vadnais Heights, MN
Coordinates:
Datum:

Surface Elevation:
Drilling Method: Geoprobe
Sampling Method: Geoprobe
Completion Depth: 32.0 ft

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Depth, feet	Sample Type & Recovery	Sample No.	ENVIRONMENTAL DATA	SSC	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation, feet
0.0				SM		TOPSOIL (SM): moist.	
2.5			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 70%/ 30%	SM		SILTY SAND (SM): 10YR 4/4 (brown); moist; f-c gr. sand; cohesive; non-plastic fines; organics (roots).	
5.0			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 65%/ 35%	SM		SILTY SAND (SM): 5Y 4/1 (gray); moist to wet; vf-f gr. sand; cohesive; non-plastic fines. At 5.5 ft, wet/saturated.	
10.0			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 80%/ 20%	SM		SILTY SAND (SM): 5Y 4/1 (gray); wet; f-c gr. sand; cohesive; non-plastic fines.	
12.5			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 80%/ 20%	SM			
15.0			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 80%/ 20%	SM			
17.5			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 80%/ 20%	SM			
20.0							

Date Boring Started: 10/8/18
Date Boring Completed: 10/8/18
Logged By: KMJ2
Drilling Contractor: Stevens Drilling and Environmental
Drill Rig: Geoprobe

Remarks:

PID = Headspace; D/O/S = Discoloration/Odor/Sheen; FID/MC = FID/Methane Corrected; G/S/F = Gravel/Sand/Fines
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LOG OF BORING SB-1

DRAFT
SHEET 2 OF 2

Project: West Vadnais Lake to East Vadnais Lake
Project No.: 23621200
Location: Vadnais Heights, MN
Coordinates:
Datum:

Surface Elevation:
Drilling Method: Geoprobe
Sampling Method: Geoprobe
Completion Depth: 32.0 ft

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Depth, feet	Sample Type & Recovery	Sample No.	ENVIRONMENTAL DATA	SSCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation, feet
20.0			G/S/F: 0%/ 80%/ 20%	SM		SILTY SAND (SM): 5Y 4/1 (gray); wet; f-c gr. sand; cohesive; non-plastic fines. <i>(continued)</i>	
22.5			PID: 0 D/O/S: None/ None/ None G/S/F: 0%/ 95%/ 5%			POORLY GRADED SAND (SP): 5Y 4/1 (gray); wet; f-c gr. sand.	
25.0			PID: 0 D/O/S: None/ None/ None G/S/F: 0%/ 95%/ 5%	SP			
27.5						At 28.5 ft, 2 in gravel piece.	
30.0			PID: 0 D/O/S: None/ None/ None G/S/F: 0%/ 95%/ 5%				
32.5						End of boring 32.0 feet	
35.0							
37.5							
40.0							

Date Boring Started: 10/8/18
Date Boring Completed: 10/8/18
Logged By: KMJ2
Drilling Contractor: Stevens Drilling and Environmental
Drill Rig: Geoprobe

Remarks:

PID = Headspace; D/O/S = Discoloration/Odor/Sheen; FID/MC = FID/Methane Corrected; G/S/F = Gravel/Sand/Fines
Additional data may have been collected in the field which is not included on this log.



Barr Engineering Company
4300 MarketPointe Drive Suite 200
Minneapolis, MN 55435
Telephone: 952-832-2600

LOG OF BORING SB-2

DRAFT
SHEET 1 OF 2

Project: West Vadnais Lake to East Vadnais Lake
Project No.: 23621200
Location: Vadnais Heights, MN
Coordinates:
Datum:

Surface Elevation:
Drilling Method: Geoprobe
Sampling Method: Geoprobe
Completion Depth: 32.0 ft

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Depth, feet	Sample Type & Recovery	Sample No.	ENVIRONMENTAL DATA	USCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation, feet
0.0				SM		TOPSOIL (SM): moist.	
2.5			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 70%/ 30%	SM		SILTY SAND (SM): 10YR 4/4 (brown); moist; f-c gr. sand; cohesive; non-plastic; orange/brown laminations (7.5 YR 5/8); black mottling (10YR 2/1).	
5.0			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 70%/ 30%	SM		SILTY SAND (SM): 5Y 4/1 (gray); moist to wet; vf-f gr. sand; cohesive; non-plastic. At 5 ft, wet/saturated.	
7.5			G/S/F:0%/ 70%/ 30%	SM			
10.0			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 40%/ 60%	SM			
12.5			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 40%/ 60%	ML		SANDY SILT (ML): 5Y 4/1 (gray); wet; vf-m gr. sand; cohesive; low plastic.	
15.0			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 40%/ 60%	ML			
17.5			PID:0 D/O/S:None/ None/ None G/S/F:0%/ 40%/ 60%	ML			
20.0							

Date Boring Started: 10/8/18
Date Boring Completed: 10/8/18
Logged By: KMJ2
Drilling Contractor: Stevens Drilling and Environmental
Drill Rig: Geoprobe

Remarks: Water level measured after drilling at 4.5' bgs

PID = Headspace; D/O/S = Discoloration/Odor/Sheen; FID/MC = FID/Methane Corrected; G/S/F = Gravel/Sand/Fines
Additional data may have been collected in the field which is not included on this log.



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LOG OF BORING SB-2

DRAFT
SHEET 2 OF 2

Project: West Vadnais Lake to East Vadnais Lake
Project No.: 23621200
Location: Vadnais Heights, MN
Coordinates:
Datum:

Surface Elevation:
Drilling Method: Geoprobe
Sampling Method: Geoprobe
Completion Depth: 32.0 ft

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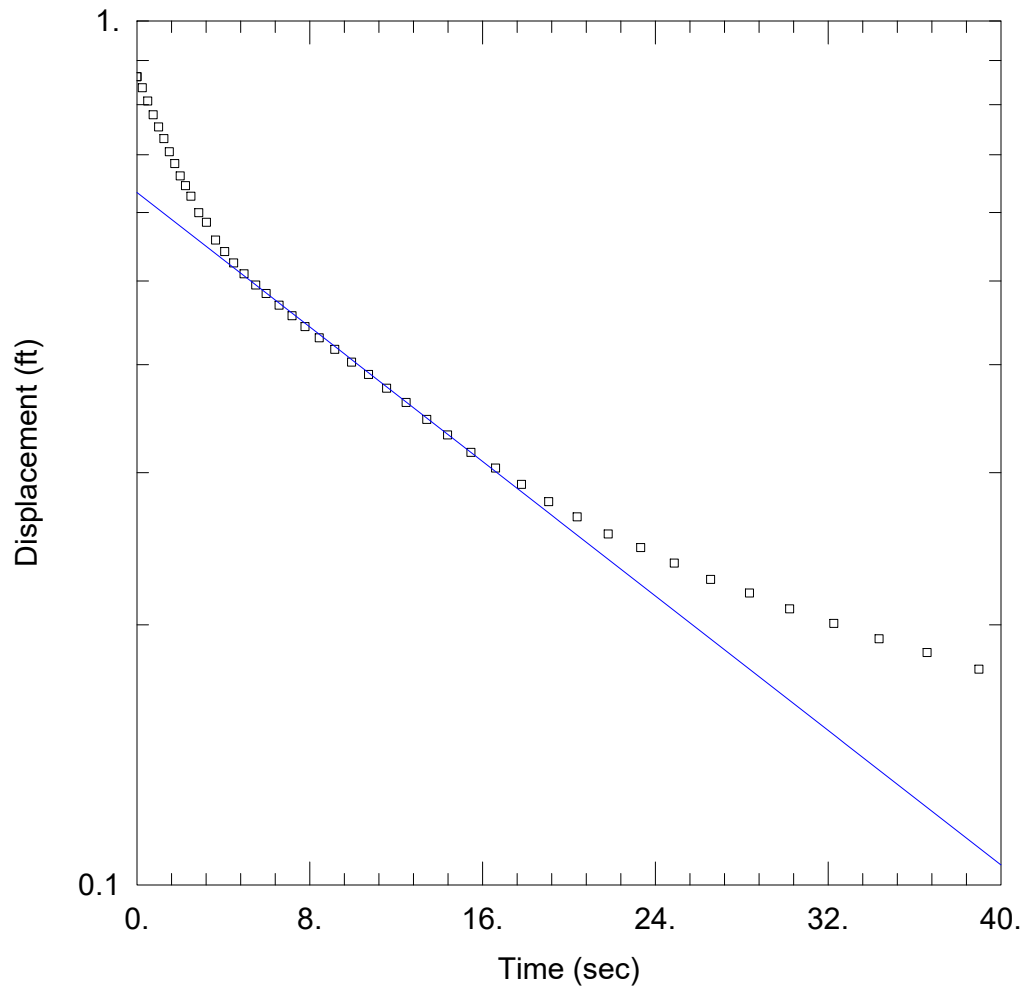
Depth, feet	Sample Type & Recovery	Sample No.	ENVIRONMENTAL DATA	SSCS	Graphic Log	LITHOLOGIC DESCRIPTION	Elevation, feet
20.0			G/S/F: 0%/ 40%/ 60%	ML		SANDY SILT (ML): 5Y 4/1 (gray); wet; vf-m gr. sand; cohesive; low plastic. <i>(continued)</i>	
22.5			PID: 0 D/O/S: None/ None/ None G/S/F: 0%/ 20%/ 80%			PLASTIC SILT (MH): 5Y 4/1 (gray); wet; vf-f gr. sand; med plastic.	
25.0			PID: 0 D/O/S: None/ None/ None G/S/F: 0%/ 20%/ 80%	MH			
27.5						At 28.5 ft, 2 in seam v. c. gr. sand.	
30.0			PID: 0 D/O/S: None/ None/ None G/S/F: 0%/ 20%/ 80%			At 29.5 ft, 1 in seam v. c. gr. sand.	
32.5						End of boring 32.0 feet	
35.0							
37.5							
40.0							

Date Boring Started: 10/8/18
Date Boring Completed: 10/8/18
Logged By: KMJ2
Drilling Contractor: Stevens Drilling and Environmental
Drill Rig: Geoprobe

Remarks: Water level measured after drilling at 4.5' bgs

PID = Headspace; D/O/S = Discoloration/Odor/Sheen; FID/MC = FID/Methane Corrected; G/S/F = Gravel/Sand/Fines
Additional data may have been collected in the field which is not included on this log.

Attachment B: Slug Test Plots



WEST TO EAST VADNAIS SEEPAGE ANALYSIS

Data Set: P:\...\PZ-10_FULLOUT_1.aqt

Date: 11/18/18

Time: 10:52:16

PROJECT INFORMATION

Company: Barr Engineering

Client: RWMWD

Project: 23621200

Location: Vadnais Heights, MN

Test Well: PZ-10

Test Date: 10/19/2018

AQUIFER DATA

Saturated Thickness: 30. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA (PZ-10)

Initial Displacement: 0.8618 ft

Static Water Column Height: 5.61 ft

Total Well Penetration Depth: 5.193 ft

Screen Length: 5. ft

Casing Radius: 0.08333 ft

Well Radius: 0.25 ft

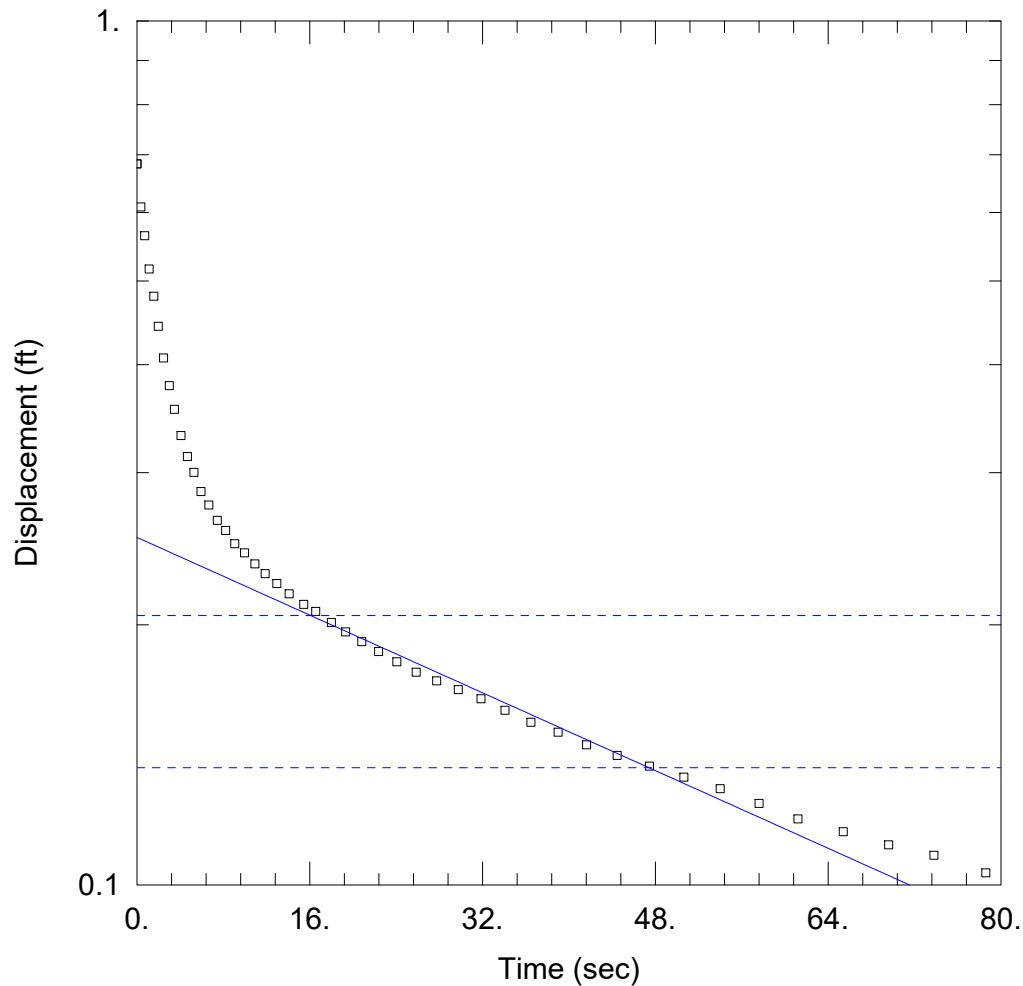
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

$K = 7.301$ ft/day

$y_0 = 0.633$ ft



WEST TO EAST VADNAIS SEEPAGE ANALYSIS

Data Set: P:\...\PZ-11_FULLOUT_1.aqt

Date: 11/18/18

Time: 10:55:26

PROJECT INFORMATION

Company: Barr Engineering

Client: RWMWD

Project: 23621200

Location: Vadnais Heights, MN

Test Well: PZ-11

Test Date: 10/19/2018

AQUIFER DATA

Saturated Thickness: 30. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA (PZ-11)

Initial Displacement: 0.6833 ft

Static Water Column Height: 4.85 ft

Total Well Penetration Depth: 5. ft

Screen Length: 5. ft

Casing Radius: 0.08333 ft

Well Radius: 0.25 ft

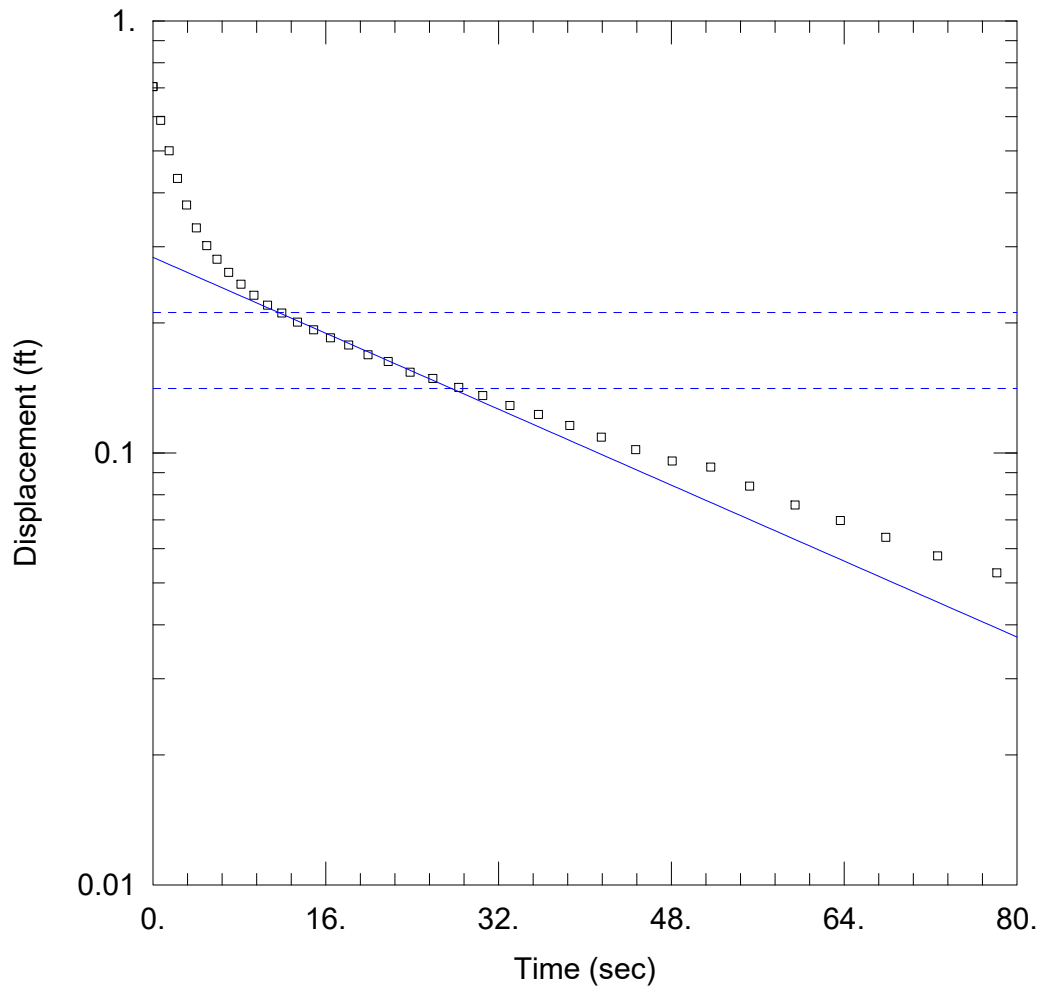
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

$K = 2.096$ ft/day

$y_0 = 0.2525$ ft



WEST TO EAST VADNAIS SEEPAGE ANALYSIS

Data Set: P:\...\PZ-12_FULLOUT_2.aqt

Date: 11/18/18

Time: 10:54:58

PROJECT INFORMATION

Company: Barr Engineering

Client: RWMWD

Project: 23621200

Location: Vadnais Heights, MN

Test Well: PZ-12

Test Date: 10/19/2018

AQUIFER DATA

Saturated Thickness: 30. ft

Anisotropy Ratio (K_z/K_r): 0.1

WELL DATA (PZ-12)

Initial Displacement: 0.7047 ft

Static Water Column Height: 5.09 ft

Total Well Penetration Depth: 5. ft

Screen Length: 5. ft

Casing Radius: 0.08333 ft

Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

$K = 4.095$ ft/day

$y_0 = 0.2836$ ft

* * * * *

Project and Program Status Reports

* * * * *

Memorandum

To: Board of Managers and Staff
From: Tina Carstens and Brad Lindaman
Subject: Project and Program Status Report – May 2022
Date: April 28, 2022

Project feasibility studies

Interim emergency response planning for district areas at risk of flooding (Barr project manager: Gareth Becker; RWMWD project manager: Tina Carstens)

The purpose of this project is to provide information and guidance to cities throughout the district about how to protect low-lying habitable structures from flooding during the 100-year storm event. These emergency response plans address areas for which there is 1) not currently a feasible project that has been identified to protect structures or 2) a project that cannot be implemented in the near future due to logistical and/or budgeting reasons. This effort is an outcome of the Beltline resiliency study. This project will extend into 2022.

This period, Barr held meetings with the cities of Maplewood and Saint Paul to discuss flood risks and potential mitigation strategies. More meetings with these cities, as well as with North St. Paul and White Bear Lake, are being scheduled. In the meantime, site-scale solutions continue to be developed and regional system modifications added to models and plans.

Kohlman Creek flood risk reduction feasibility study (Barr project manager: Brandon Barnes; RWMWD project manager: Tina Carstens)

The purpose of this study is to complete a feasibility evaluation of modifications to reduce flood risk along Kohlman Creek to remove structures from the 100-year floodplain. Work includes coordination with the City of Maplewood, evaluation of alternatives to reduce flood risk, preparation of cost estimates for each alternative, and identification of permitting requirements. This project focused primarily on areas surrounding the North St. Paul Urban Ecology Center, PCU Pond and the wetland complex west of White Bear Avenue. This feasibility study is a follow-up study of a flood-prone area identified in the Beltline resiliency study.

This study will be conducted concurrent with the diversion feasibility study described below, as the magnitude of diverted flow affects the level of flood risk reduction that will be required in the North St. Paul Urban Ecology Center, the PCU Pond, and the wetland complex west of White Bear Avenue. A scope summary for this project will be presented to the managers next month for review and approval.

Kohlman Creek/Wakefield Lake diversion feasibility study (Barr project manager: Brandon Barnes; RWMWD project manager: Tina Carstens)

The purpose of this study is to complete a feasibility evaluation of modifications to reduce flood risk on Kohlman Creek by diverting high flows to the historic County Ditch 17. Work includes coordination with stakeholders, evaluation of alternatives to reduce flood risk, preparation of cost estimates for each

alternative, and identification of permitting requirements. This feasibility study is a follow-up study of a flood-prone area identified in the Beltline resiliency study.

The scope of work for this feasibility study includes several tasks that are being led by RWMWD staff. This period, Barr and the RWMWD met to review the scope and confirm responsibilities. Barr focused on data collection this month, including submitting a data request to the City of Maplewood for its current GIS files for the city's storm sewer system, sanitary sewer system, and water mains. We also requested as-built plans for specific locations that are critical to evaluating system modifications. In addition, we submitted a non-excavation Gopher State One Call (GSOC) ticket for underground utility information in the area. Information from the city and GSOC will be used to identify potential utility conflicts when evaluating potential alignments for storm sewer and ditches as well as locations for ponds or underground storage best management practices (BMPs).

Barr and the RWMWD have scheduled a stakeholder kickoff meeting for May 6 to present initial concepts to the City of Maplewood, Ramsey County, and the Minnesota Department of Natural Resources.

Stakeholder feedback will be used to guide the identification and evaluation of potential system modifications. The feasibility study is anticipated to extend through summer 2023.

County Ditch 17 improvements feasibility study (Barr project manager: Brandon Barnes; RWMWD project manager: Tina Carstens)

The purpose of this study is to complete a feasibility evaluation of modifications to reduce flood risk northeast of Wakefield Lake along the historic County Ditch 17 to remove structures from the 100-year floodplain. Work includes coordination with the City of Maplewood, evaluation of alternatives to reduce flood risk, preparation of cost estimates for each alternative, and identification of permitting requirements. This feasibility study is a follow-up study of a flood-prone area identified in the Beltline resiliency study.

This month, Barr focused on data collection, including submitting a data request to the City of Maplewood for its current GIS files for the city's storm sewer system, sanitary sewer system, and water mains. We also requested as-built plans for specific locations that are critical to evaluating system modifications. In addition, we submitted a non-excavation GSOC ticket for underground utility information in the area. Information from the city and GSOC will be used to identify potential utility conflicts when evaluating potential alignments for storm sewer as well as locations for ponds or underground storage BMPs. Next month, we will begin hydraulic evaluation of modifications for system-scale improvements. The County Ditch 17 feasibility study is anticipated to extend through summer 2022. A scope summary is included in this month's board packet for manager review and approval.

Phalen Village feasibility study (Barr project manager: Brandon Barnes; RWMWD project manager: Tina Carstens)

The purpose of this study is to complete a feasibility evaluation of modifications to reduce flood risk near Phalen Village north of Lake Phalen to remove structures from the 100-year floodplain. Work includes coordination with the City of Maplewood, evaluation of alternatives to reduce flood risk, preparation of cost estimates for each alternative, and identification of permitting requirements. This feasibility study is a follow-up study of a flood-prone area identified in the Beltline resiliency study.

This month, Barr focused on data collection, including submitting a data request to the City of Maplewood for its current GIS files for the city's storm sewer system, sanitary sewer system, and water

mains. We also requested as-built plans for specific locations that are critical for the evaluation of system modifications. In addition, we submitted a non-excavation GSOC ticket for underground utility information in the area. Information from the city and GSOC will be used to identify potential utility conflicts when evaluating potential alignments for storm sewer as well as locations for ponds or underground storage BMPs. Next month, we will begin hydraulic evaluation of modifications for system-scale improvements. The feasibility study will extend through summer 2022. A scope summary for this project is included in this month's board packet for manager review and approval.

Ames Lake area flood risk reduction planning study (Barr project manager: Brandon Barnes; RWMWD project manager: Tina Carstens)

The purpose is to complete a planning-level evaluation of modifications to reduce flood risk near Ames Lake, supported by the City of Saint Paul. Work includes coordination discussions with Saint Paul; review of potential pipe alignments, land acquisition costs, utility conflicts, and permitting issues; and related design. If the planning study identifies projects that impact regional drainage, a feasibility study will be completed in 2023. This planning study is a follow-up study that was identified in the Beltline resiliency study.

This month, Barr met again with the new Saint Paul water resources coordinator to provide additional background on the Ames Lake study. Barr and the RWMWD will present at the city's next Water Resources Working Group meeting on May 3. This group consists of Saint Paul staff from various departments who coordinate projects that may have an impact on water resources. Their meetings provide an opportunity to gather feedback from several different departments. This month, Barr also submitted a data request for the city's updated GIS files for its storm sewer system, sanitary sewer, and water mains. In addition, Barr submitted a non-excavation GSOC request for information on underground utilities in the area that may affect the identification and evaluation of feasible alternatives. We anticipate that the requested information will be available next month and that work will then transition to the hydraulic evaluation of potential system improvements. A scope summary for this project is included in this month's board packet for manager review and approval.

This planning-level study will extend through summer 2022. The Beltline resiliency study identified modifications to the stormwater system that cities typically implement, such as additional catch basins and storm sewer pipes. However, if potential system-scale modifications are identified, a feasibility study could be completed in 2023.

Owasso Basin area/North Star Estates improvements (Barr project manager: Sam Redinger; RWMWD project manager: Tina Carstens)

The purpose of this study is to evaluate the benefit-cost of flood risk reduction strategies in the Owasso Basin/North Star Estates area by reviewing potential pipe and berm alignments, land acquisition costs, utility conflicts, permitting issues, and related design as well as construction and long-term maintenance costs associated with each alternative that achieves the project objective of removing habitable structures from the floodplain in this area. Stakeholder outreach with the City of Little Canada is an important part of this effort. This study is a continuation of the Owasso Basin bypass study, which laid out several phases of implementation and areas of further study.

This period, Barr developed updated flood maps for the Owasso Basin area and North Star Estates. We have also gathered information related to manufactured home developments and FEMA guidelines to define flood risk for the North Star Estates homes. The updated flood maps and information-gathering results are being compiled into a summary presentation for a stakeholder meeting with the City of Little

Canada. Next period, Barr will meet with Little Canada to provide an update on our findings and obtain city feedback on goals for the area and input on options for reducing flood risk.

Double Driveway Pond Optimization Study (Barr project manager: Tyler Olsen; RWMWD project manager: Tina Carstens)

The purpose of this study is to evaluate the benefit-cost of water quality improvements in Double Driveway Pond in the Fish Creek Subwatershed. These improvements will be targeted at sediment reduction strategies that will benefit downstream Fish Creek, which is considered to be impaired by excess sediment. An important part of this study is tying strategies to the findings of a current Department of Agriculture study (currently under review) that is assessing the water quality of runoff from upstream areas.

This period, Barr began reviewing publicly available information for the Department of Agriculture study, whose findings are currently under review. Barr also reviewed past maintenance efforts in Double Driveway pond which has been known to accumulate sediment, requiring dredging in the past. A scope summary for this project will be presented to the managers next month for their review and approval.

Water quality and project monitoring

Annual water quality report assistance (Barr project manager: Keith Pilgrim; RWMWD project manager: Eric Korte)

The purpose of this effort is to update and report on lake and stream water quality, monitoring of selected BMPs, and other water quality improvement projects that highlight district efforts.

Primary activities during this period included organizing water quality data for lakes, streams, and BMPs and identifying updates that need to be made to the 2020 report.

Special project BMP monitoring (Barr project manager: Chris Bonick and Keith Pilgrim; RWMWD project manager: Eric Korte)

The objective is to monitor specific water quality BMPs that the RWMWD has implemented, particularly those that include filtration media such as iron-enhanced sand, spent lime, or CC17 crushed limestone aggregate, and/or that leverage continuous monitoring and adaptive control (CMAC) technology.

This period, Barr and RWMWD staff met to discuss 2022 monitoring needs across the district, identifying the areas where monitoring activities are warranted and discussing which parameters should be evaluated at each location.

Research Projects

Kohlman permeable weir test system (Barr project manager: Keith Pilgrim; RWMWD project manager: Bill Bartodziej)

The objective of this current investigation is to develop one or more conceptual designs that will fit within the footprint of the existing Kohlman Basin permeable weir that will allow for ongoing testing of the system's effectiveness at removing total suspended solids and phosphorus.

Barr and district staff are currently moving forward with the broader implementation of the permeable weir pilot project. A project kickoff meeting was held on April 26. The team will use what was learned from the pilot to address water quality concerns upstream of Kohlman Lake.

Shallow lake aeration study (Barr project manager: Keith Pilgrim; RWMWD project manager: Bill Bartodziej)

The purpose of this study is to evaluate the potential effectiveness of aeration in shallow lakes by studying the effect of aeration in two smaller shallow systems (Markham Pond and Frog Pond) in detail during 2021 and 2022. This approach is being pursued as an alternative to whole-lake alum treatments.

Barr compiled the data collected in 2021 into a PowerPoint presentation, shared it with RWMWD staff, and discussed it with Bill Bartodziej. The data offers a good baseline from which to evaluate the capacity of aeration to reduce internal loading in Frog Pond and Markham Pond, and in shallow lakes in general.

As previously described, an aerator has been installed in Markham Pond for winter operation, with the goal of minimizing fish kills from low oxygen levels and promoting a sunfish population that will eat carp eggs, thereby reducing the carp population in Markham Pond. Barr will monitor the effects of aeration in 2022 and will report the results in the fall.

Going forward, two other RWMWD waterbodies are being considered for inclusion in this study. Bennett Lake will be included in this study (e.g., sediment and water column monitoring) as a potential full-scale shallow aeration study site. The RWMWD is working with the City of Roseville to establish an aerator in the east end of Bennett Lake for 2022. Gervais Mill Pond is being considered for inclusion in this study as aeration may also be installed in that system to test the potential of aeration to reduce internal loading during the summer and winter (potentially).

Capital improvements

Ryan Drive and Keller Parkway conveyance (Barr project manager: Sam Redinger; RWMWD project manager: Dave Vlasin)

The purpose of this project is to implement improved conveyance through Gervais Creek, as recommended by the Owasso Basin bypass feasibility study. This CIP is an implementation item from the study recommended in the Beltline resiliency study.

Construction activity has resumed, with contractor Fitzgerald Excavating returning to the site the week of April 11. All construction and restoration are expected to be complete by the end of April. Fitzgerald has no progress payment requests this period; a final progress payment is expected to be submitted for board review and approval at the June meeting. The City of Little Canada will complete the final course of bituminous pavement as part of a municipal project this summer.

Targeted retrofit projects (Barr project manager: Marcy Bean; RWMWD project manager: Paige Ahlborg)

The purpose of this project is to design, provide bid assistance for, and oversee construction of BMP retrofits on previously identified commercial, school, and faith-based properties throughout the district.

BMP retrofits at St. Pascal Baylon Catholic Church and Mounds Park Academy in Saint Paul were advertised for bid in early April. Bids were received on April 26, accepted online, and publicly presented via a Microsoft Teams meeting. The bid results are summarized in a memorandum in this month's board

packet for manager consideration. These projects include a tree trench, pavement reduction, and a combined rain garden and outdoor classroom. If bids are accepted and the project awarded, we anticipate that construction will begin in June and be completed in summer 2022.

After review of the bids and if deemed appropriate, managers should consider accepting the bids and awarding the work to the lowest responsible bidder who is in the best interest of the project.

Woodbury Target stormwater retrofits (Barr project manager: Katie Turpin-Nagel; RWMWD project manager: Paige Ahlborg)

The purpose of this project is to create concept-level designs for Woodbury's Valley Creek Target shopping complex.

This new project opportunity recently arose through the RWMWD's Target store contact from previous projects in North St. Paul and East St. Paul. This period, Barr continued conversations with Target management and other stakeholders - a scope summary will be presented to the managers next month once there is more definition about the project's scope.

South Lake Emily filtration BMP (Barr project manager: Leslie DellAngelo; RWMWD project manager: Paige Ahlborg)

The purpose of this project is to complete final design, plans, and specifications for a regional stormwater filter downstream of Lake Judy (a wetland) and upstream of Lake Emily for the purpose of decreasing phosphorus loads to Lake Emily.

This period, Barr conducted a site visit to establish conditions at the site that would inform the scope of this project and discovered that the city has recently reconstructed roads, curbs, trails and landscaping in the area. Staff are currently assessing the priority of this project vs other retrofit projects identified in the Lake Emily Subwatershed, as well as the current water quality of Lake Emily, to inform the urgency of this particular project. Staff will submit a scope summary to the managers next month once there is more definition about the project's scope.

CIP project repair and maintenance

Beltline five-year inspection (Barr project manager: Sam Redinger, RWMWD project manager: Dave Vlasin)

The purpose of this project is to maintain the existing Beltline and Battle Creek tunnel systems and infrastructure owned and operated by the RWMWD.

This period, Barr began compiling the inspection findings. Inclement weather (a wet, rainy spring) has prevented us from completing the remaining in-pipe work (baseline survey of Battle Creek and upstream pipe inspection). Next period, we intend to finish the remaining inspection and survey work in the Battle Creek Tunnel and continue evaluating findings to develop the inspection report.

District inspection standardization (Barr project manager: Tyler Olsen; RWMWD project manager: Dave Vlasin)

The purpose of this project is to standardize the district's creek and facilities inspection process, evaluation, and related data collection effort. Work includes review of current methods, development of a scoring system, and implementation of mobile data collection.

This period, Barr continued updating the ArcGIS applications for collecting inspection records in the field. Due to a delayed update with the ESRI Field Maps application, we determined that a combination of Field Maps and the application Survey123 would be used. Both are ESRI applications and work well together using the same dataset. Survey123 allows for more data collection methods to be utilized while retaining the database structure of the inspection infrastructure in Field Maps.

Barr met with the RWMWD to review a demo of the applications, answer questions, and gather feedback. We then finalized the version of the applications that will be used for a field test this spring. One major update to the tools was adding "types" of inspections to the database to differentiate between CIP inspections, creek inspections, and inspections related to cost-share projects. This functionality will allow the tool to be used for a wider array of projects.

In the upcoming period, Barr will allow the RWMWD access to update the GIS database with infrastructure information and begin planning for the field testing. Recommendations from RWMWD managers, RWMWD staff, and Barr staff will guide where the field test of the applications will be conducted. Likely, a variety of infrastructure will be inspected to confirm that the applications' full capabilities are performing as expected. The field test results will be reported back to the RWMWD board for review, likely in June or July.

Below are screenshots from the Field Maps and Survey123 applications, with sample data included in the different fields.

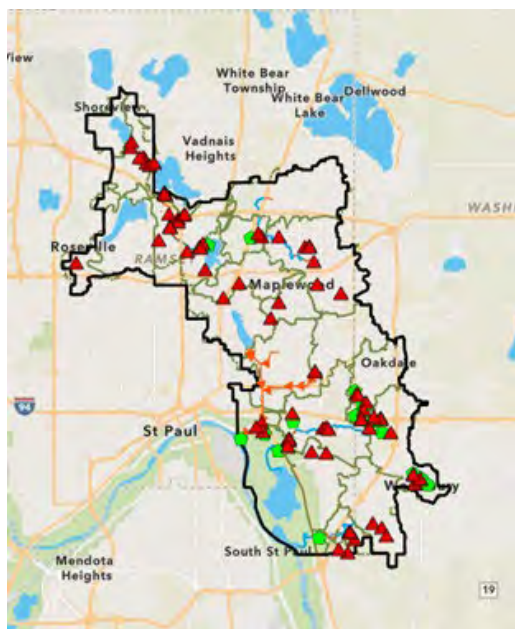


Figure 1. Field Maps basemap showing infrastructure points in the inspection database. Color coding and shape symbology will be used to denote types of inspections (i.e., CIP, creeks, cost-share).

The screenshot shows the 'CIP Inspection Form' landing page. It features a green header with a close button, a search icon, and a menu icon. Below the header, there is a section for 'CIP Site Information' and a section for 'CIP Inspection Records'. The 'CIP Inspection Records' section includes fields for 'Inspection Date' (set to Monday, April 25, 2022, at 8:42 AM), 'Category' (a dropdown menu), 'District Owned' (radio buttons for Yes, No, and Unknown), 'Flag for Further Review' (radio buttons for Yes and No), 'Inspection Notes' (a text area), and 'Image' (a camera icon and a folder icon).

Figure 2. Survey123 inspection record landing page. Users can select the category of infrastructure being inspected.

The screenshot shows the 'CIP Inspection Form' with the 'Category' set to 'Ponds'. The 'Delta Ranking Description' section lists four criteria: 1. No sediment accumulation below surface of water, 2. Delta formation between 0 and 20 cubic yards, 3. Delta formation 20-50 cubic yards, and 4. Delta formation over 50 cubic yards. Below this, there are two horizontal sliders for 'Delta Ranking Value' and 'Delta Time Frame Value' (1=no threat, 4=address immediately). The 'Delta Notes' section is a text area.

Figure 3. Survey123 inspection record, pond example. Once users select a category (i.e., ponds), criteria for the criteria are automatically populated for the inspector to review and provide scoring.

The screenshot shows the 'CIP Inspection Form' with the 'District Owned' section selected. The 'Owner of Asset' field is a text area. The 'Flag for Further Review' section has radio buttons for 'Yes' and 'No'. The 'Inspection Notes' section is a text area. The 'Image' section has a camera icon and a folder icon.

Figure 4. Survey123 inspection record, pond example. At the end of each record, users can add additional notes, identify who owns the infrastructure, flag for further engineering review, and add images that reflect the infrastructure condition.

CIP maintenance/repairs 2022 project (Barr project manager: Greg Nelson; RWMWD project manager: Dave Vlasin)

The purpose of this project is to maintain existing systems and infrastructure owned and operated by the RWMWD and to assist and facilitate stormwater pond cleanouts to allow other public entities to meet their municipal separate storm sewer systems (MS4) requirements.

This project continues to be temporarily delayed due to road load restrictions, keeping Fitzgerald from working in most areas until roads are reopened to allow for heavy equipment to be mobilized at the County Road D and Gervais Creek Daycare sites. Work will restart as weather and road restrictions are lifted. Due to this pause, Fitzgerald did not submit a progress payment application for the May meeting. Fitzgerald remains optimistic that all work will be completed by the contract deadline.

Natural Resources Program Update – Bill Bartodziej and Matt Doneux

Bennett Lake Fish Kill and Aeration

Water Quality Monitoring

As part of the District's water quality monitoring program, select shallow lakes and ponds were sampled in winter (February 15-16, 2022). The primary objective was to assess the dissolved oxygen (D.O) levels in these waterbodies. Gamefish species like largemouth bass and bluegill sunfish require at least 4 mg/L of dissolved oxygen to sustain populations over the winter. Rough fish species like the common carp can survive at lower oxygen levels. Below are data from the sampling event where D.O. and total phosphorus (TP) were measured:

	Markham	Casey	Bennett	Frog	Victoria	Gervais Mill
D.O. (ug/L)	9.0	4.9	0.2	0.1	0.2	0.3
TP (ug/L)	37	190	230	740	1700	730

Markham Pond and Casey Lake are aerated in the winter to sustain gamefish, especially bluegill sunfish and largemouth bass. These systems were once carp nursery areas that were restored in cooperation with DNR Fisheries. They now provide neighborhood fishing opportunities and have been free of carp for over 5 years. The native bluegill sunfish efficiently eat carp eggs and provide an effective means to limit carp re-introductions. We found that D.O. concentrations were over 4 mg/L, which is suitable for gamefish.

In Bennet Lake, the D.O. level was at 0.2 ug/L. Extremely low D.O. levels were also evident in Frog Pond, the Victoria Wetland Complex, and Gervais Mill Pond. These levels were quite concerning and signaled the possibility of winter fish kills.

Fish surveys

During ice-out, NR staff monitored these systems for fish kill. In early April, it was evident that fish did not make it through the winter in Bennett Lake and Gervais Mill Pond. For Bennett Lake, a formal fish count was conducted on April 13th, 2022. Dead fish on the shore and floating along the shore were identified and counted. A total of 15 largemouth bass, 44 bluegill sunfish, and 23 common carp (average length of 23") were recorded. It is possible that many more fish died, but could not be counted due to them sinking to the lake bottom.

Public Concern



We fielded several calls regarding the fish kills in Bennett Lake and Gervais Mill Pond. We worked with Lauren, our Communications Specialist, to get the word out on why fish in certain waters did not make it through the winter. Here is the message that we provided:

Watershed Newsletter and Nextdoor:

Winter fish kills, sometimes termed Winterkills, are a common, visually unsettling, occurrence in areas where winters are long. They are typically caused by depleted oxygen in the water. A buildup of snow over the ice on shallow lakes and ponds limits the ability of aquatic plants to produce more oxygen via photosynthesis. The available oxygen in the water is slowly depleted until some fish die due to the low oxygen levels. Species like bluegill and largemouth bass are more susceptible to dying of these low oxygen levels, as are fish in poor condition. The fish die over the winter and are only visible as the ice melts and they float to the surface.

Winter fish kills are a natural phenomenon and do not typically pose a threat to the fish population. There are often enough fish in the lake to repopulate to previous numbers. RWMWD monitors the dissolved oxygen of lakes over the winter to anticipate fish kills, but the most surefire way to determine a fish kill has occurred over the winter is after the ice has melted.

Although fish kills are mostly natural incidents, they can also have human causes like chemical runoff. If you observe signs of a fish kill in your local lake or pond, please contact the MN DNR with as many details as you can provide regarding location, time and date, and types and sizes of fish affected.

More information on fish kills is available on the [DNR website](#)

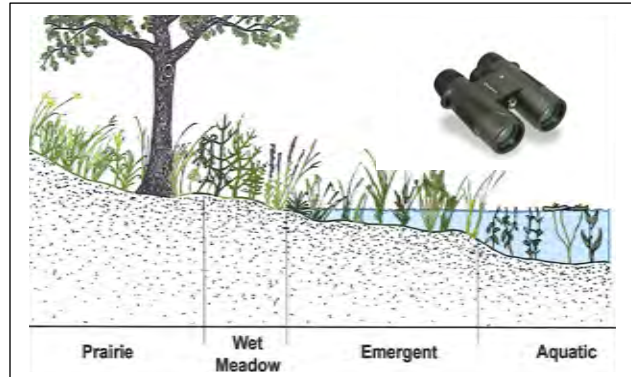
Aeration in Bennett Lake

Water quality and fish data were shared with the City of Roseville and we discussed the possibility of partnering on the installation of an aeration system. After several discussions, it was decided that the City will be responsible for the installation of electric power, pumps, and a pump house, and the Watershed will provide hose and diffusers, and a system layout or design. The city will be in charge of the system operation. NR also contacted DNR Fisheries and they have agreed to stock Bennett with bluegill sunfish this spring. We should have the system running by summer. Here is a summary of the benefits of an aeration system in Bennett:

- Eliminates or reduces winter fish kills and promotes native fish communities
- Sustains bluegill sunfish which controls carp recruitment
- Sustains a neighborhood fishery. There is a popular fishing dock on Bennett.
- Aeration may reduce phosphorus loading from the lake bottom sediments. Although data is limited, phosphorus concentrations from Casey and Markham, two systems that are aerated, were generally lower than concentrations found in systems with depleted oxygen levels.
- Bennett will be sampled through the summer and in winter in order to learn more on the relationship between aeration and lake-bottom sediment chemistry. These data then can be used to better evaluate this tool in water quality management.

Public Involvement and Education Program – Sage Passi

Getting Our Teams Ready for Lake Owasso Restoration and Birding in May



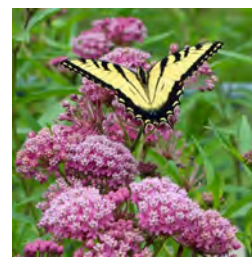
American Indian Magnet students (**Above Left**) and Hazel Park Academy students (**Below right**) use Lake Phalen Guides to get familiar with the prairie plants they will be installing along the shore of Lake Owasso in Shoreview. **Above Right:** a diagram of the planting areas on a shoreline restoration that students use to see where different plants fit into a planting plan.

In April, we have been immersed in a major scheduling challenge to line up fifteen classes for this large scale restoration project that kicks off in mid-May. Schools involved include Weaver Elementary, American Indian Magnet, Farnsworth Aerospace, Hazel Park Academy, Central Park Elementary and Island Lake Elementary. This month we began meeting with these classes to introduce students to the purpose of the restoration and the prairie plants they will planting in the upland areas of the project.



This orientation will continue into May with classes also participating in a preview lesson in how to use binoculars for a birding observation experience they will have on the trails next to Lake Wabasso in the County Park on the same day as the restoration plantings. We appreciate the City of Maplewood's generosity in sharing their binoculars with us until the sets we've ordered come in. We received a No Child Left Inside grant this winter to purchase our own sets, but we are not sure when ours will arrive!

Ramsey County Master Gardeners to Partner with RWMWD This Spring



To date we have recruited twenty-six Ramsey and Washington County Master Gardeners to help us with the Lake Owasso shoreline restoration and several school rain garden clean ups this spring. We are excited to have these volunteers back on the scene. We also extend a thank you to the Ramsey County Master Gardeners who helped with transplanting this spring at Ramsey County Correctional Nursery.

Blue Thumb Partner Meeting Showcases Metro Blooms' New Office/Resources



As a partner of Blue Thumb, RWMWD has access to a variety of networking and educational opportunities, resources and community collaborations. Blue Thumb—Planting for Clean Water® is a public/private partnership promoting native plants, rain gardens, shoreline stabilization projects and turf alternatives to reduce runoff and improve water quality. Sage Passi and other members of Blue Thumb's steering committee and Metro Blooms helped plan this open house event on April 21 for Blue Thumb partners to meet each other in person and network at Metro Blooms "new" office located in south Minneapolis. Partners include local governmental units (watershed districts, conservation districts, cities and counties), non-profit organizations, and private companies such as nurseries and landscape design and build companies.

This spring and summer our Watershed Educational staff look forward to providing design support for a number of the next round of Lawns to Legumes grant recipients in our Watershed District. Blue Thumb coordinates the individual cost-share part of the program, supporting grant recipients to install native plantings in their yards by putting in pocket plantings, trees and shrubs, and pollinator lawns and pollinator meadows to help conserve at-risk pollinator species, particularly the rusty-patched bumblebee. Mentors across the state provide coaching advice for homeowners who receive these grants. Funding for these projects is provided through grants offered by the Minnesota Board of Soil and Water Resources.

Communications and Outreach Program Update – Lauren Hazenson

Website Redesign

The content for the Projects section, Waters section, and staff pages was completed this month. Additionally, we completed designs for content modules to be used on many pages throughout the website, including much of the Projects, Waters, Get Involved, and About section content (see examples below). The website itself is currently being populated, and much of the testing and the populated site will not be completed before June. Finally, we began planning for a Power BI site with Barr Engineering to provide all of the lake level data in one location, allowing the visitor to switch between tabs corresponding to each lake on one page. Site visitors will also retain the option to see lake level data through the individual lake pages on the site. The next Board meeting presentation on the website is planned for June, when more content will be available.

Two CTA Module with Images

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Resident Permits

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I Am a Button



Contractor Permits

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I Am a Button

Questions

To submit a permit application, please review the information on this page and [fill out the online form](#). Refer to our [monthly application deadlines](#) when planning your project schedule. Questions can be directed to permit coordinator Nicole Soderholm.



Nicole Soderholm

she/her
Permit Coordinator
nicole.soderholm@rwmwd.org
651-792-7972

WaterFest

Social media promotion, sign design, t-shirts, and volunteer recruitment were the focus areas of planning activity this month. Further information on WaterFest planning can be found in the attached report.

MS4 Roundtable

Lauren Hazenson completed and co-presented a walkthrough of education and outreach changes to the MS4 permit requirements as part of an ongoing series for city and county staff. RWMWD Communications is co-hosting a brown bag lunch series with Rice Creek Watershed District and VLAMO for city communications, public works, engineering staff, and commission members. The series will cover MS4 resources and provide helpful communication tools to reach residents better.

Volunteer Management Program

The project team has a near-completed a draft of the volunteer manual and will send it to a small volunteer feedback group and staff volunteer supervisors for initial review by the end of May.

Winter Fish Kill Communications

Residents around the Gervais Mill Pond and Bennet Lake reported being concerned with dead fish seen at both water bodies. Information on winter fish kills was posted to NextDoor in the six neighborhoods surrounding the impacted lakes with a reach of 428, and an article was published in the recent newsletter and the website's blog. Updates will be provided on each social media channel when the aerators at both water bodies are installed.

April E-newsletter

Subscribers: 1,569

Open rate: 43.8%

Click rate: 2.2%

Social Media (Facebook, Twitter, Instagram)

Numbers as of 4/25 :

Facebook

Reach: 10,192

Engagement (likes, shares, comments): 942

Audience: 1,131

Instagram

Reach: 996

Engagement: 53

Audience: 676

Twitter

Reach: 496

Engagement: 13

Audience: 1,016

Waterfest Update – Lauren Hazenson and Maddy Bohn, MB Consulting

June 4, 2022

11- 4 pm

Lake Phalen Park

Exhibitor and Sponsor Coordination

- 24 exhibitors and 12 sponsors are currently registered, with several more pending
- Connected with the in-kind sponsors and sponsors to coordinate payments and in-kind donations
- Research new activities and water education exhibitors

Printed Materials and Signage

- Handouts and postcards for community centers and schools are designed and have been sent to the printer. They will be distributed in the next 2-3 weeks.
- Large banner signage is designed for placement at two high traffic intersections near the event grounds

Volunteers and Event Support

- Coordinated with the ROTC groups and their volunteer sign-ups
- Managed lead volunteer roles to assist with activities
- Coordinated security, medical, and parking staff

Marketing

- Social media event ads have garnered 62,315 impressions and 3,908 event responses. Those who responded to the ad are mostly ages 25-44 and live in St. Paul.
- Contacted Hmong Times and La Prensa for ad placement
- Submitted PSA copy to KFAI
- Promotion request sent to St. Paul Parks and Saint Paul Public Schools
- Press release sent to city communications, local media outlets

Citizen Advisory Committee (CAC) Meeting Update – Carrie Magnuson

The Citizen Advisory Committee met on April 26th 2022 at 6:30 pm via Zoom.

In attendance were 13 CAC members, 3 staff members, 1 board member, and 1 intern. The following initiatives were discussed and further developed

1. **RWMWD Budget Explanation and Story Map of District Projects** – The CAC expressed interest in understanding how the watershed budget was allocated in general and on specific projects. Tina led a presentation outlining the RWMWD goals, work plan, and budget process including timelines, processes, funds, and levies. To illustrate current projects, Tina utilized a story map outlining the 2022 project updates.
2. **Project, Activity & Event Updates:**
 - a. Announcement of new Board of Managers appointment.
 - b. The Exceptional LEAP Tour will be on July 26th at 5 pm. Details to come.
 - c. Rain Garden Care Volunteers – 3 CAC members expressed interest in helping with maintenance on 2 Casey Lake Rain Gardens (a former RWMWD project) on properties with residents who expressed a need for assistance.
 - d. Communications update including the new website, the outreach volunteer program, carp contest reimagining, and the Phalen Chain of Lakes Bucket List social media campaign.
 - e. WaterFest update and call for volunteers.
3. **Salt Use Outreach/Education.** One of the work plan items the CAC chose to focus on was salt use education to minimize chloride pollution in local waters. The group discussed hosting an MPCA-developed exhibit at WaterFest.
4. **Work Plan:** Each year, the CAC uses their time and expertise to assist several projects that help advance RWMWD projects and programs. The group voted to pursue the following efforts and discussed logistics:
 - a. Education Topics: RWMWD staff or applicable professionals in to share knowledge
 - b. Salt Use Outreach/Education: [in progress]
 - c. Create Invasive Species Education Pieces
 - d. Participate/Support the Carp Fishing Contest – see above
 - e. Phalen Water Trail Video Series assistance – may migrate to ‘bucket list’ assistance
 - f. CAC Rain Garden Clean Up Project: see above – will move to volunteer’s schedules
 - g. CAC/LEAP Team Planting (projected July)
 - h. Buckthorn Removal
 - i. Paddle the Phalen Water Trail as a group (projected: summer)
 - j. Develop the idea for an East Side Wetland Stewardship Relationship
 - k. Assist in planning and hosting WaterFest
 - l. LEAP Program nominations and subcommittee
 - m. Watershed Excellence Awards & Volunteer Recognition Dinner planning

More details on these discussions will be available on the [CAC website](#) when meeting minutes are approved. Future meetings: 6/14/22, 9/27/22, 10/25/22, 12/13/22