RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

November 2021
Board Packet

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Agenda

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RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

Regular Board Meeting Agenda

Wednesday, November 3, 2021
6:30 PM

Due to the COVID19 pandemic, this month's board meeting will be held via the video conferencing platform Zoom. Board members, staff, consultants, and general public will be able to join in via video and/or phone. The public that wish to will be able to listen to meeting but not participate with the exception of the visitor comments portion of the agenda. If you have comments you may speak on the Zoom meeting during the visitor comments agenda item. 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. **Consent Agenda: To all be approved with one motion unless removed from consent agenda for discussion.**
    A. Approval of Regular Meeting Minutes October 6, 2021 *(pg. 7)*
    B. Treasurer's Report and Bill List *(pg. 19)*
    C. Permit Program
        i. 21-30 Roseville High School Baseball Field, Roseville *(pg. 31)*
    D. Stewardship Grant Program
        i. 21-38 CS Highland Townhomes, native habitat restoration *(pg. 35)*
        ii. 21-39 CS Washington County Community Development Agency, native habitat restoration *(pg. 37)*
    E. Keller Channel Weir and Phalen Outlet Project – Change Order No. 7 *(pg. 39)*
    F. North St. Paul Target Store Retrofit – Change Order No. 4 *(pg. 46)*
4. Visitor Comments (limited to 4 minutes each)
5. Permit Program
    A. Applications – see consent agenda
    B. Enforcement Action Report *(pg. 50)*
6. Stewardship Grant Program
    A. Applications – see consent agenda
    B. Budget Status Update *(pg. 53)*
7. Action Items
    A. **2022 CIP Maintenance and Repair Project Approval of Plans and Authorization to Advertise for Bid *(pg. 55)***
    B. **District Art Policy *(pg. 76)***

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8. Attorney Report
9. Board Issues, Policies and Operation (for discussion at meeting)
    A. Wetlands Workshop Follow-Up
    B. West Vadnais Lake Follow-Up
10. Presentations
    A. Minnesota Stormwater Research Council Update – John Bilotta *(pg. 79)*
    B. District Website Update – Executive Recommendations *(pg. 85)*
    C. Emergency Response Plans, Kohlman Creek & Ames Lake Flood Risk Reduction Study Updates *(pg. 91)*
11. Administrator's Report *(pg. 109)*
    A. Meetings Attended
    B. Upcoming Meetings and Dates
    C. Ongoing Project/Program Updates
    D. MS4 Permit Issuance
    E. Daylighting Phalen Creek Update
12. Project and Program Status Reports *(pg. 147)*
    A. Ongoing Project and Program Updates
        i. Interim Emergency Response Planning
        ii. Kohlman Creek Flood Risk Reduction Feasibility Study
        iii. Ames Lake Area Flood Risk Reduction Feasibility Study
        iv. Special Project BMP Monitoring
        v. Kohlman Permeable Weir Test System
        vi. Shallow Lake Aeration Study
        vii. Keller Channel and Phalen Outlet Operations Plans
        viii. North St. Paul Target Store Stormwater Retrofit Projects
        ix. Targeted Retrofit Projects
        x. Keller Channel Weir and Phalen Outlet Resiliency Modifications
        xi. Ryan Drive and Keller Parkway Conveyance Project
        xii. District Inspection Standardization
        xiii. County Road D Ravine
        xiv. CIP Maintenance and Repair Project 2021
        xv. CIP Maintenance and Repair Project 2022
        xvi. New Technology Review: Clean Beach System
        xvii. Natural Resources Program Update
        xviii. Education Program Update
        xix. Communications Program and Website Update
        xx. Citizen Advisory Committee Update
13. Manager Comments and Next Month's Meeting
14. **Adjourn**

RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

NOTICE OF BOARD MEETING
Wednesday, November 3, 2021
6:30 PM
Via Web Conference and In Lieu of an In-Person Meeting

Per Minnesota Statute 13D.021, President Lawrence Swope has determined that an in-person meeting of the RWMWD Board of Managers is not practical or prudent given the COVID-19 pandemic. In compliance with Center for Disease Control and Minnesota Department of Health guidance on minimizing potential for spread of the virus, RWMWD will conduct its regular Wednesday, November 3, 2021, meeting at 6:30 p.m. CDT, by web conference and conference call. Members of the public wishing to participate in the meeting may do so by accessing the web-based conference, or by phone. Due to the current health pandemic, President Swope has determined that attendance at the regular meeting location by members of the public is not prudent, and that the physical presence at the regular meeting location by at least one member of the organization is also not feasible.

To access the meeting via webcast, please use this link: https://us02web.zoom.us/j/86775748720?pwd=cWRydWF5VHYwSUpHU09mSFBkbUhFQT09

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 **867 7574 8720**. The meeting password is **360813**. If you have any questions, please contact Tina Carstens at tina.carstens@rwmwd.org.

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Consent Agenda

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Ramsey-Washington Metro Watershed District
Minutes of Regular Board Meeting
October 6, 2021

The Regular Meeting of October 6, 2021, was held via Zoom web conferencing. A video recording of the meeting can be found at https://youtu.be/wUryRSBlPgY. Video time stamps included after each agenda item in minutes.

PRESENT:
Larry Swope, President
Cliff Aichinger, Vice President
Dianne Ward, Treasurer
Dr. Pam Skinner, Secretary
Val Eisele, Manager

ABSENT:

ALSO PRESENT:
Tina Carstens, District Administrator
Brandon Barnes, Barr Engineering
Brad Lindaman, Barr Engineering
Andy Walz, Lake Owasso Resident
Paige Ahlborg, Project Manager
Tracey Galowitz, Attorney for District
Nicole Soderholm, Permit Inspector
Brian Frank, Representing Lower Afton Apartments

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

2. APPROVAL OF AGENDA (01:30)
Motion: Manager Ward moved, Manager Aichinger seconded, to approve the agenda as presented.

A roll call vote was performed:

Manager Ward	aye
Manager Eisele	aye
Manager Aichinger	aye
Manager Skinner	aye
President Swope	aye

Motion carried unanimously.

3. CONSENT AGENDA (02:00)
A. Approval of Minutes from September 1, 2021
B. Treasurer's Report and Bill List
C. Permit Program
   i. 21-29: Lower Afton Apartments, Maplewood
D. Stewardship Grant Program
   i. 21-33 CS: Loewen, Shoreline Restoration
   ii. 21-34: Adrian, Permeable Driveway
E. North St. Paul Target Store Retrofit – Change Order No. 3

F. Keller Channel Weir and Phalen Outlet Project – Change Order No. 6

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

A roll call vote was performed:

Manager Ward	aye
Manager Eisele	aye
Manager Aichinger	aye
Manager Skinner	aye
President Swope	aye

Motion carried unanimously.

4. VISITOR COMMENTS (02:41)

Andy Walz thanked the Board for the shoreline grant program on Lake Owasso. He stated that the lake association appreciates the project and will do what it can to spread the work and increase participation. He stated that in the past there was a good discussion related to the Victoria Shores development on Lake Owasso. He thanked the Board for submission of the letter to the City, noting that the environmental assessment worksheet has been submitted and deemed complete. He stated that the letter was published and is open for public and agency comment through November 4th. He understood the District staff will be providing comments and encouraged others to submit comments as well. He did not believe the EAW was complete, and some issues were not included. He stated that the watershed is mentioned directly, stating that the stormwater BMPs would comply with the standards but he did not believe that they did. He believed that an EIS would provide additional benefit.

5. PERMIT PROGRAM (06:36)

A. Applications – See Consent Agenda

B. Monthly Enforcement Report

During September, 16 notices were sent to address: install/maintain inlet protection (4), install/maintain perimeter control (5), install/maintain construction entrance(s) (2), stabilize exposed soils (1), contain liquid/solid waste materials (2), remove discharged sediment (1), and maintain permanent BMPs (1).

6. STEWARDSHIP GRANT PROGRAM (06:53)

A. Applications – See Consent Agenda

B. Budget Status Update

Paige Ahlborg stated that they are still working to finalize design on some projects. She stated that the Twin Lake projects have had site prep and a controlled berm with plugs to be installed this fall.

7. ACTION ITEMS (07:53)

A. Watershed Excellence Awards Approval

Tina Carstens stated that the award recommendations were provided to the Board and welcomed any input.

Manager Ward commented that she is always impressed with the depth of the projects and commitments of those within the district. She stated that she supports the slate of award recipients as proposed.

Managers Aichinger and Skinner echoed those comments.

President Swope agreed and stated that it is always nice to see people devoted to the environment.

Motion: Manager Aichinger moved, Manager Eisele seconded, to recommend and approve the proposed Watershed Excellence Award winners.

A roll call vote was performed:

Manager Ward	aye
Manager Eisele	aye
Manager Aichinger	aye
Manager Skinner	aye
President Swope	aye

Motion carried unanimously.

President Swope asked if the event would be held in person.

Tina Carstens replied that is still being discussed but it would most likely be held virtually.

B. District Art Policy

Tina Carstens stated that there have been a few projects that have come before the Board and have been approved but the Board desired guidelines for the review of public art projects. She noted that goals, a mission, and process was developed. She noted that they would want to ensure that the public art projects are tied to the stewardship grant program and assist with outreach and/or education.

Manager Aichinger referenced the artist that provided input in the past and asked if that was reviewed.

Tina Carstens confirmed that she did, noting that artist is still working with Capital Regional Watershed. She noted that some of the goals came from that work.

Manager Eisele asked for details on the amount chosen. Paige Ahlborg stated that the most that has been spent in the past has been $8,000 or $9,000 and therefore believed that the amount selected would be more than adequate. She stated that if a larger request were to come in that seemed appropriate, staff could bring that to the Board.

Manager Aichinger commented that the mural at the Maplewood Mall project was in the area of $50,000 but noted that was a multimillion-dollar project. He noted that there may be instances in which the Board may deviate from the policy, but that could be brought to the Board.

Paige Ahlborg commented that she believed that type of project would be brought forward separately, noting that additional work at Aldrich Arena would most likely be brought forward separately.

Tina Carstens noted that it would also make a difference if it were a District project or someone else's project.

Manager Skinner stated that in the past there was a lot of discussion about public art, and she agrees with the policy that was developed at that time. She believed there is enormous public benefit to public art. She stated that she is fully supportive and believes that this is valuable and should continue to be supported.

Manager Ward asked that requested be outlined in the same manner as other requests, showing the goal that a request would accomplish.

President Swope asked if there is a goal to incorporate public art into future projects.

Tina Carstens stated that for District projects there is always signage but noted that additional incorporation of public art would depend upon the project. She agreed that signage is different than public art for a District project but noted that if someone else was requesting signage for their project it would most likely be processed under public art.

Paige Ahlborg confirmed that previous signage requests have been processed under public art in the past. She stated that for outside projects, applicants typically alert the District in the beginning if they would like to incorporate public art.

Manager Eisele commented that signage could be considered as outreach, whereas specific art work would be considered public art. He stated that if signage were split out from public art, that budget could then be reserved for more meaningful work.

Tracey Galowitz stated that she likes the way the policy was done, tying the request for public art to the project and an educational component.

Tina Carstens stated that staff will use the input to draft the final policy to bring to the Board at the next meeting.

8. ATTORNEY REPORT (21:43)

Tracey Galowitz stated that this month the main focus was working with an applicant that needed to provide funds to the storm impact fund. She stated that they worked with staff to ensure that all steps were followed.

Nicole Soderholm provided background information on a permit approved in 2018 for an apartment building in Maplewood. She noted that the filtration basin is holding water because of a groundwater issue that was not anticipated. She explained that because the site is built out there was not space for another BMP and therefore the other option was for the applicant to pay into the storm impact fund for the amount that the applicant is short from the basin.

Manager Aichinger stated that he would believe the escrow fund could be used to offset part of that cost.

Nicole Soderholm stated that the funds would be used within the subwatershed to construct another project. She noted that while the basin is not working as designed, it does provide flood control and the stormwater reuse was setup.

Tina Carstens noted that this is a great example of the benefit of the storm impact fund as well, as there was not another option for the applicant.

Manager Ward commented that she was glad there were alternatives set up. She stated that at the last meeting they received an update on open meeting laws and asked for input on how other clients are handling meetings during this time.

Tracey Galowitz commented that attendance continues to be varied depending on the meeting, but more clients are returning to virtual meetings.

President Swope stated that he has noticed that other government entities in this area have also pulled back to virtual attendance and therefore he would feel comfortable continuing in this manner for the time being.

9. BOARD ISSUES, POLICIES AND OPERATION (FOR DISCUSSION AT MEETING) (28:40)

A. <u>West Vadnais Lake Strategy and Status</u>

Tina Carstens stated that she met with the administrator the previous day and he offered to attend a Board meeting if the Board desires. She stated that group has been doing a lot over the past year, partnering with the District on carp management and the carp barrier. She stated that Board also approved a budget increase for rough fish management in 2022. She stated that a full fish survey of West Vadnais is also planned for 2022. She stated that group is also at the final stages of completing a sustainable lake management report (SLMR) for West Vadnais Lake, which is a predecessor to a TMDL, noting that the TMDL is scheduled for 2024. She stated that internal loading has been identified as the main problem in the lake. She stated that District staff will also be reviewed the SLMR to ensure the actions fall in line with what the District would anticipate for that system.

Manager Ward stated that she always wondered why this lake is not included in the District system. She stated that she is glad this work is being done but would like additional information on why the lake is not part of the District and whether it should stay that way.

Tina Carstens stated that historically, at one time, East and West Vadnais were one lake. She stated that the Grass Lake area was not part of the District until more recent years.

Cliff Aichinger stated that when the District boundaries were first established, East Vadnais was part of the Saint Paul Regional Water Supply System while West Vadnais was landlocked. He stated that after the low flow system was established, there would have been some reason to incorporate but because it was low flow, it was not felt important to incorporate that water body. He stated that it appeared more important once the Grass Lake area was incorporated into the District. He stated that while it would make sense to incorporate, it is being managed and therefore it is not necessary. He stated that as long as the two watersheds work together to resolve problems, it could continue to work as is.

Manager Eisele asked what steps would be taken or what would it take to change minds to include West Vadnais in the District boundaries. He asked if time to action would be shorter if the water body were in the District.

Manager Aichinger stated that if a major capital improvement was needed, that could be a catalyst to make the change because the District has a larger tax base. He stated that if VLAWMO sees the lake as a large expense, they could make the request, but he did not see a reason to push the issue at this time.

President Swope commented on the long process needed in order to lower the outlet in the past.

Tina Carstens commented that was the EAW process, not the process of VLAWMO.

President Swope commented that the infrequent meeting schedule of VLAWMO can cause project delays.

Manager Aichinger stated if there was a need, and VLAWMO agreed, the process could be completed in three to four months.

Manager Skinner stated that she agrees with the comments of Manager Aichinger. She noted that in the past they really discussed the option of taking on West Vadnais. She commented that this is a complicated system as East Vadnais is used for drinking water and West Vadnais is very dirty. She stated that if the Board took this on it would be complicated with a lot of problems.

President Swope asked if the steps are known that would need to be taken to move the lake to the District boundaries.

Tina Carstens stated that the District has gone through boundary changes in the past. She noted that the controls for West Vadnais are within the District boundaries, therefore the District has control of that flow. She noted that

VLAWMO has taken steps with the District to address the water quality. She noted that before the Board would consider a boundary change, the VLAWMO administrator would like to have a conversation with the Board.

President Swope suggested inviting the VLAWMO administrator to a future Board meeting.

Manager Eisele stated that as a constituent, he recalls from a community perspective that it was difficult to determine who would be best suited to help in this situation. He stated that as long as the time to decision and time to action can be as short as possible.

Manager Ward commented that she appreciates the outline of the history and noted that things have changed. She believed that technically it is beneficial for West Vadnais to be in the District boundary and the question is just related to timing. She believed that more information should be gathered to determine if that decision should be made proactively or reactively.

Manager Aichinger stated that discussion could be had with the VLAWMO administrator when he attends.

Manager Skinner commented that would be taking on West Vadnais would be a huge expensive thing to fix and having the District residents pay for that expense is something that should be considered. She stated that there should be partners to that project if that is something that is going to be taken on.

Manager Ward asked if the study of the connectiveness between East and West Vadnais could be shared prior to the meeting. She also asked if a list could be provided of the work the District has done on West Vadnais in recent years. She stated that her concern is the water quality and its impact on the water downstream; specifically, whether they can move fast enough and whether they could move faster if they were in control.

Manager Eisele asked if there is a process that shows the steps that would be taken and time that would be necessary if there were a conveyance issue.

Tina Carstens confirmed that she could provide examples of previous projects. She noted that even if West Vadnais were within the District boundaries, it may not rise to the top of the priorities for water quality, especially because the problem is internal load management. She stated that if VLAWMO still maintains West Vadnais and the District comes forward with a proposal, there would be an option for a cost share and the District to be a partner rather than the sole entity responsible.

10. PRESENTATIONS (55:36)

A. Grass Lake Berm Wetland Mitigation Overview

Brad Lindaman provided background information on the raising of the berm on the west side of Grass Lake. He noted that the wetlands in that area were impacted by the raising of the berm. He provided additional details on the wetland impact and mitigation, noting that wetland replacement credits were purchased, and onsite wetland creation was planned and approved in 2018 to meet the no net loss policy. He displayed an aerial photograph of the site and identified the wetland boundaries, pedestrian trail, and planned wetland replacement area. He provided additional details on the three planned wetland creation areas and the District responsibility related to the WCA requirements. He reviewed the initial work and conditions and the technical evaluation panel findings from the site review conducted on August 10, 2021. He provided details on wetland monitoring, the initial monitoring results, and the existing conditions. He noted that they are approximately 1,000 square feet short dur to the lack of wetland establishment in one of the areas. He reviewed the initial recommendations.

Manager Skinner stated that this area has fluctuating conditions and asked if seeds have been considered for that area that would work in that fluctuation.

Brad Lindaman confirmed that is considered as they continue to gather data. He noted that they will continue to overseed and look for those opportunities. He reviewed the options for the 1,000 square feet that are short and stated that it may be best to purchase credits to fulfil that requirement.

Nicole Soderholm stated that it is awkward because the District is permitting itself. She stated that perhaps the upland buffer could be reviewed to meet the requirement for WCA. She stated that the District has to meet WCA requirements, but also the District no net loss policy which is more stringent. She stated that perhaps this is a topic for the wetland workshop. She commented that wetland establishment is hard and complicated.

Manager Skinner stated that she is concerned when wetland credits are purchased outside of the District as opportunities disappear to create wetland within the boundaries. She believes that purchase of credits outside of the District would be a disservice over time and encouraged staff to continue to look for opportunities to create wetland credits within the District boundaries.

Tina Carstens commented that it is hard to create wetlands in areas that have never been wetlands but there could be opportunity to restore wetlands. She noted that while those may not satisfy BWSR requirements for credit, that could satisfy the need to meet the District no net loss policy.

Nicole Soderholm stated that the easiest path would be to focus on meeting the WCA requirements at this time if an exception would be granted to the District no net loss policy.

Tina Carstens noted that purchasing credits would be the last option and believed that additional work should be done onsite in attempt to meet the requirement. She stated that if they reach the point where additional work would not be beneficial to the wetland, credits could be used as the last option.

Nicole Soderholm stated that this is also unique in that the District does not own the property.

Manager Aichinger stated that if this were an applicant, the District would want the wetland established and believed more effort should be made in that attempt. He believed that additional grading would be needed in the swale area to ensure surface hydrology and then replant that area.

President Swope commented that it was his understanding that when the berm was raised, it was raised to the designed height to protect Grass Lake. He asked if the lower rain levels have also impacted the level of Grass Lake. He asked if that area is still considered a wetland.

Tina Carstens explained what defines a wetland and noted that the impacts from the berm would not have impacted the wetland designation, as the wetlands have been in existence far before the wet period from Grass Lake as there is hydrology not just from overflow but from underground as well. She stated that the lack of wetland establishment is more about hydrology.

Manager Ward asked if there is a map of all the wetland areas of Grass Lake and whether that could be shared on the website.

Tina Carstens confirmed that the wetlands are mapped and on the interactive portion of the website. She noted that map is based on aerial photos and not delineation.

Manager Ward stated that she also wants to avoid purchasing additional credits and believed that staff should further explore the other options.

Brad Lindaman provided details on the monitoring wells that were installed.

Nicole Soderholm stated that they could determine if it would be helpful to have a monitoring well at the overflow swale to determine if there is hydrology in that area.

Brad Lindaman noted that he is unsure that would be needed because it is so close to the central location.

President Swope commented that this is a lot more complicated than he anticipated when he asked the question and believed this was helpful discussion prior to the wetland workshop.

B. Keller Weir and Phalen Outlet Operations Plan

Brandon Barnes commented that this is a good time for the discussion as this project is transitioning from the construction phase into the operations and management phase. He stated that a draft form of the operations plan was included in the packet for the Board to review. He stated that this project was originally identified through the Beltline Resiliency Study and provided background information on how the project came forward through that process. He provided photographs showing the Keller weir and Phalen outlet pre-project conditions, during construction, and current conditions. He explained how the gates can be operated for the Keller channel and the Phalen outlets. He stated that the operation plan was based on the District stormwater model and was submitted to and discussed with the DNR prior to the project beginning. He reviewed the items which are considered within the plan and provided some hypothetical situations, explaining how the operations plan would dictate the gates be operated. He reviewed the next steps which include finalizing the operations plan, implementation of the operations plan, and continue to look for additional project opportunities flood risk reduction system modifications upstream.

Manager Eisele asked if the video could be shared on the District website.

Tina Carstens confirmed that could be done.

President Swope stated that three-inch rainfall was selected and asked if there is any information on the accuracy of those forecasts. He stated that in the past two inches was used and asked why the move was made to three inches.

Brandon Barnes stated that they chose a depth at which they would mitigate flood risk for homes on the Phalen Chain and also limit the number of times District staff would need to make adjustments to the outlets. He stated that the higher rainfall depth reduces the number of times staff would need to adjust the outlets. He explained that two inches was used during the resiliency study, but the configuration for the modification changed from the resiliency study to the final design. He stated that the changes made between the resiliency study and final design allowed the change from two inches to three inches without changing the benefit.

President Swope asked the length of time it takes for changes at the weir to impact downstream.

Brandon Barnes stated that live storage is created once the gates are lowered or opened. He stated that the operation plan targets a drawdown to the normal water level within a 24-hour period. He stated that if only one gate is opened, it would take longer to create that live storage compared to opening four gates.

Manager Eisele asked if rate was taken into account and whether the rate of rainfall would trigger response.

Brandon Barnes stated that the rate does not necessarily determine a change in the weir as the system is volume driven.

Manager Eisele stated that it is not just rainfall that changes the water level. He stated that perhaps the rainfall equates to a higher change in the water level because of those other factors, such as ground water and saturation.

Brandon Barnes stated that the model was using typical conditions. He stated that the uncertainty pointed out by Manager Eisele can be accounted for in the upper limit.

President Swope asked if the operation of the weirs would be part of the review for at risk homes.

Tina Carstens clarified that part of the project and program status report refers to the homes mentioned within the Ames Lake and Kohlman Creek studies.

Brandon Barnes stated that those are feasibility studies that are next in the sequence. He noted that those studies would look at flood risk mitigation in areas not immediately adjacent to the chain, but changes to the system in those areas are done with the assumption that the outlets are in place and accounting for the operations plan for those structures.

Manager Aichinger stated that he likes the operation plan but noted that there will most likely be extenuating circumstances down the road where there are wet conditions with a rain event that occurs. He stated that if the lake does not respond as quickly, he would assume the system would allow the gate to remain open or open another gate to return the lake to the normal level.

Brandon Barnes noted that is something they would continue to look at as they begin to operate this. He stated that this plan is based on the drawdown that they are seeing with the model and once they start operations, they will have new data points that will inform the number of gates that should be opened, if the advance notification is set correctly, and any other adjustments that may be necessary.

Manager Eisele confirmed that his question also supported that ability for staff to make adjustments to the operations plan if needed per the circumstances.

Brandon Barnes stated that perhaps an overriding statement is added to the end of the draft plan that the gates could be opened in consult with the Administrator and District Engineer.

Manager Ward stated that she was interested in the evaluation and amendment process for the plan. She asked if the operation plan would be reviewed upon each use of the gates or upon a certain length of time as data continues to be collected. She commented that formal evaluation will be needed to ensure a nimble operation plan moving forward.

Brandon Barnes agreed.

Manager Aichinger referenced the predicted rain levels and asked if there is a site that would be used for that prediction. He noted that sometimes predictions are different than actual rainfall levels and asked if staff would be authorized to respond to the actual rainfall when less rainfall was predicted.

Brandon Barnes believed that could be done within the context of the plan. He stated that the upper elevation trigger would allow for that authorization by staff. He stated that the other side of that would be where the prediction is made for three inches, but only one inch is received. He noted that in that example the gates could be opened based on the prediction and the level falls below the outlet and the gates are then closed to allow the flow to return.

President Swope congratulated everyone for getting this done.

Tina Carstens commented that this is a unique system for a watershed to operate and they are looking forward to this process.

11. ADMINISTRATOR'S REPORT (2:07:38)

A. Meetings Attended

Manager Aichinger asked for an update on the Metro I-Net meeting.

Tina Carstens provided an update noting that at the meeting they provided authorization to officially hire an Executive Director under the JPA. She stated that the Executive Director would then evaluate staffing and where officing would occur. She stated that they anticipated holding the 2022 budget where it had been, and the Executive Director will make an evaluation for the 2023 budget.

B. Upcoming Meetings and Dates

Tina Carstens confirmed that the MAWD meeting will be held virtually once again and noted that more information will come forward over the next month. She confirmed that the December Board meeting would be held one week later than normal in order to avoid a conflict with the MAWD meeting.

C. Ongoing Project/Program Updates

Tina Carstens provided an update on discussions with Ramsey County related to District projects on County property, lake level monitoring stations, alum use, and the Victoria Shores development EAW comment period.

President Swope confirmed that he would agree staff should follow the typical process to submit the letter with the District comments and simply provide a copy of that letter in the next Board packet for review.

D. Wetlands Workshop

Tina Carstens noted that staff will send materials prior to the workshop for the Board members to review. It was confirmed that the meeting would be held virtually.

Manager Skinner commented that she does not believe she will be able to attend on the scheduled date.

12. PROJECT AND PROGRAM STATUS REPORTS (2:18:28)

A. Ongoing Project and Program Updates

i. Interim Emergency Response Planning
ii. Kohlman Creek Flood Risk Reduction Feasibility Study
iii. Ames Lake Area Flood Risk Reduction Feasibility Study
iv. Special Project BMP Monitoring
v. Kohlman Permeable Weir Test System
vi. Shallow Lake Aeration Study
vii. Keller Channel and Phalen Outlet Operations Plans
viii. Target Store Stormwater Retrofit Projects
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x. Keller Channel Weir and Phalen Outlet Resiliency Modifications
xi. Ryan Drive and Keller Parkway Conveyance Project
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xiii. District Inspection Standardization
xiv. Beltline/Battle Creek Tunnel Five-Year Inspection
xv. County Road D Ravine
xvi. CIP Maintenance and Repair Project 2021
xvii. New Technology Review: LG Sonic Monitoring Buoy and MPC-Buoy
xviii. Natural Resources Program Update
xix. Education Program Update
xx. Communications Program and Website Update
xxi. Citizen Advisory Committee Update

President Swope referenced the inspections standardization, specifically the feedback requested related to the miscellaneous category and rating system. He stated that he is fine with the miscellaneous category as long as it is well documented. He stated that he would support the 1-5 scale.

Manager Eisele also agreed that miscellaneous would make sense and agreed that he likes the 1-5 rating. He stated that typically be prefers not to have a middle point in a rating system and it pushed more of a decision.

The Board confirmed consensus on the miscellaneous category and rating system of 1-5.

Brad Lindaman appreciated the input. He stated that they will continue to provide more up to date information to the Board in order to have these types of discussions.

Manager Eisele stated that he likes this approach and tends to prefer something that begins simple and then becomes more complex.

Manager Ward stated that it would also be nice to review this after some time and see how certain projects were rated. She stated that this has an impact to the budget and staff time and believes that this will assist in prioritization.

Manager Aichinger referenced the Roseville Willow Pond CMAC system, noting that it seems that has taken a long time to be finished and operating. He asked for an update on the delay in the project.

Brad Lindaman stated that a variety of things happened and provided additional details on the project.

President Swope referenced the communications program and asked if staff could continue to provide updates on the communications with other government entities.

Manager Eisele referenced the new technology section and asked if lake levels impact the functionality of the technology.

Brad Lindaman provided additional details on the reports that are provided on those items. He stated that the report was less about the lake level and more about the items that could be in the way.

President Swope asked if there had been any discussion with the cities that experience problems with algae problems and whether they would be interested in this.

Tina Carstens stated that they have not reached out yet but would share this information to determine if there would be interest in testing.

13. MANAGER COMMENTS AND NEXT MONTH'S MEETING (2:29:23)

Manager Aichinger stated that staff is still completing work like pre-COVID and he is impressed in how staff and the consultants continue to complete the same amount of work.

Tina Carstens reviewed the items that would be included in the next packet and/or on the next agenda.

14. ADJOURN

Motion: Manager Aichinger moved, Manager Skinner seconded, to adjourn the meeting at 9:01 p.m.

A roll call vote was performed:

Manager Ward	aye
Manager Eisele	aye
Manager Aichinger	aye
Manager Skinner	aye
President Swope	aye

Motion carried unanimously.

RWMWD BUDGET STATUS REPORT
Administrative & Program Budget
Fiscal Year 2021
10/31/2021

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	-	400.00	2,825.00	$5,675.00	33.24%
	Manager expenses	4360	3,500.00	-	-	-	3,500.00	0.00%
Committees	Committee/Bd Mtg. Exp.	4365	3,500.00	-	270.00	3,169.84	330.16	90.57%
	Sub-Total: Managers/Committees:		**$15,500.00**	**$0.00**	**$670.00**	**$5,994.84**	**$9,505.16**	**38.68%**
Employees	Staff salary/taxes/benefits	4010	1,520,000.00	-	166,529.72	1,340,178.02	179,821.98	88.17%
	Employee expenses	4020	15,000.00	-	701.89	5,811.09	9,188.91	38.74%
	District training & education	4350	75,000.00	-	820.00	9,992.88	65,007.12	13.32%
	Sub-Total: Employees:		**$1,610,000.00**	**$0.00**	**$168,051.61**	**$1,355,981.99**	**$254,018.01**	**84.22%**
Administration/ Office	GIS system maint. & equip.	4170	10,000.00	-	-	1,687.02	8,312.98	16.87%
	Data Base/GIS Maintenance	4171	40,000.00	-	-	-	40,000.00	0.00%
	Equipment maintenance	4305	3,000.00	-	-	-	3,000.00	0.00%
	Telephone	4310	8,000.00	-	59.34	580.38	7,419.62	7.25%
	Office supplies	4320	7,000.00	-	60.66	3,664.66	3,335.34	52.35%
	IT/Internet/Web Site/Software Lic.	4325	70,000.00	-	5,154.69	53,179.02	16,820.98	75.97%
	Postage	4330	3,000.00	-	-	1,886.59	1,113.41	62.89%
	Printing/copying	4335	8,000.00	-	294.00	4,070.40	3,929.60	50.88%
	Dues & publications	4338	11,000.00	-	972.00	11,452.63	(452.63)	104.11%
	Janitorial/Trash Service	4341	15,000.00	-	805.17	9,305.08	5,694.92	62.03%
	Utilities/Bldg.Contracts	4342	30,000.00	-	1,042.10	9,952.97	20,047.03	33.18%
	Bldg/Site Maintenance	4343	150,000.00	-	11,309.68	32,747.71	117,252.29	21.83%
	Miscellaneous	4390	5,000.00	-	-	-	5,000.00	0.00%
	Insurance	4480	50,000.00	-	-	44,642.00	5,358.00	89.28%
	Office equipment	4703	150,000.00	-	-	141,733.69	8,266.31	94.49%
	Vehicle lease, maintenance	4810-40	43,000.00	-	659.85	4,027.32	38,972.68	9.37%
	Sub-Total: Administration/Office:		**$603,000.00**	**$0.00**	**$20,357.49**	**$318,929.47**	**$284,070.53**	**52.89%**
Consultants/ Outside Services	Auditor/Accounting	4110	65,000.00	-	1,910.30	47,188.84	17,811.16	72.60%
	Engineering-administration	4121	93,000.00	-	5,912.00	56,479.00	36,521.00	60.73%
	Engineering-permit I&E	4122	10,000.00	-	992.40	2,858.40	7,141.60	28.58%
	Engineering-eng. review	4123	55,000.00	-	4,743.00	37,389.00	17,611.00	67.98%
	Engineering-permit review	4124	55,000.00	-	2,148.00	37,317.00	17,683.00	67.85%
	Project Feasibility Studies	4129	440,000.00	-	21,977.00	165,959.49	274,040.51	37.72%
	Attorney-permits	4130	10,000.00	-	-	-	10,000.00	0.00%
	Attorney-general	4131	40,000.00	-	1,617.00	24,377.85	15,622.15	60.94%
	Outside Consulting Services	4160	20,000.00	-	-	-	20,000.00	0.00%
	Sub-Total: Consultants/Outside Services:		**$788,000.00**	**$0.00**	**$39,299.70**	**$371,569.58**	**$416,430.42**	**47.15%**
Programs	Educational programming	4370	60,000.00	-	9,350.67	15,800.73	44,199.27	26.33%
	Communications & Marketing	4371	25,000.00	-	301.02	22,202.35	2,797.65	88.81%
	Events	4372	50,000.00	-	556.54	34,474.68	15,525.32	68.95%
	Water QM-Engineering	4520-30	180,000.00	-	15,972.46	107,535.64	72,464.36	59.74%
	Project operations	4650	200,000.00	-	5,223.17	64,378.76	135,621.24	32.19%
	SLMP/TMDL Studies	4661	103,000.00	-	-	6,119.50	96,880.50	5.94%
	Natural Resources/Keller Creek	4670-72	140,000.00	-	26,427.29	95,541.07	44,458.93	68.24%
	Outside Prog.Support/Weed Mgmt.	4683-84	127,000.00	-	3,175.00	23,775.00	103,225.00	18.72%
	Research Projects	4695	95,000.00	-	6,737.94	77,411.95	17,588.05	81.49%
	Health and Safety Program	4697	3,000.00	-	-	973.54	2,026.46	32.45%
	Sub-Total: Programs:		**$983,000.00**	**$0.00**	**$67,744.09**	**$448,213.22**	**$534,786.78**	**45.60%**
GENERAL FUND TOTAL			**$3,999,500.00**	**$0.00**	**$296,122.89**	**$2,500,689.10**	**$1,498,810.90**	**$0.63**
CIP's	CIP Project Repair & Maintenance	516	1,325,000.00	-	420,025.69	1,179,763.40	145,236.60	89.04%
	Targeted Retrofit Projects	518	2,810,000.00	-	14,928.06	948,027.54	1,861,972.46	33.74%
	Flood Risk Reduction Fund	520	4,200,000.00	-	18,404.93	1,269,885.37	2,930,114.63	30.24%
	Debt Services-96-97 Beltline/MM/Battle Creek	526	394,901.00	-	-	397,795.30	(2,894.30)	100.73%
	Stewardship Grant Program Fund	529	1,000,000.00	-	122,567.29	435,804.07	564,195.93	43.58%
	Wetland Restoration Projects	540	500,000.00	-	-	-	500,000.00	0.00%
	Wakefield Park Project	553	-	-	-	5,128.50	(5,128.50)	---
	District Office Bond Payment	585	194,885.00	-	-	-	194,885.00	0.00%
CIP BUDGET TOTAL			**$10,424,786.00**	**-**	**$575,925.97**	**$4,236,404.18**	**$6,188,381.82**	40.64%
TOTAL BUDGET			**$14,424,286.00**	**$0.00**	**$872,048.86**	**$6,737,093.28**	**$7,687,192.72**	**46.71%**

Current Fund Balances:

Fund:	Beginning Fund Balance @ 12/31/20	Fund Transfers	Year to date Revenue	Current Month Expenses	Year to Date Expense	Fund Balance @ 10/31/21
101 - General Fund	$4,364,963.52	-	1,239,927.71	296,122.89	2,500,689.10	3,104,202.13
516 - CIP Project Repair & Maintenance	627,656.44	-	488,959.22	420,025.69	1,179,763.40	(63,147.74)
518 - Targeted Retrofit Projects	1,012,501.35	-	177,647.06	14,928.06	948,027.54	242,120.87
520 - Flood Damage Reduction Fund	3,312,849.57	-	1,044,172.39	18,404.93	1,269,885.37	3,087,136.59
526 - Debt Services-96-97 Beltline/MM/Beltline-Battle Creek Tunnel Repair	949,395.60	-	48,379.22	-	397,795.30	599,979.52
529 - Stewardship Grant Program Fund	622,020.57	-	367,152.98	122,567.29	435,804.07	553,369.48
540 - Wetland Restoration Projects	-	-	262,252.13	-	-	262,252.13
553 - Wakefield Park Project	151,270.20	-	-	-	5,128.50	146,141.70
580 - Contingency Fund	891,682.00	-	-	-	-	891,682.00
585 - Certificates of Participation	204,397.98	-	102,218.00	-	-	306,615.98
Total District Fund Balance	**$12,136,737.23**	**$0.00**	**$ 3,730,708.71**	**$ 872,048.86**	**$6,737,093.28**	**$9,130,352.66**

Ramsey Washington Metro Watershed Dist.
Check Register
For the Period From Oct 1, 2021 to Oct 31, 2021

Check #	Date	Payee ID		Payee	Description	Amount
EFT	10/01/21	met008	Nov 2021	MetLife-Group Benefits	Employee Benefits	$1,665.13
EFT	10/08/21	hea002	Nov 2021	HealthPartners	Employee Benefits	12,259.97
72424V	10/12/21	bat002	Oct 2021	Battteries Plus Bulbs	Water QM Staff	(247.95)
72532	10/14/21	ada002	3353837	Adam's Pest Control, Inc.	Utilities/Bldg. Contracts	79.00
72533	10/14/21	aws001	S1335957-100121	AWS Service Center	Janitorial/Trash Service	255.17
72534	10/14/21	gru001	01-8646	Gruber's Power Equipment	Natural Resources Project	17.76
72535	10/14/21	inn002	IN3504166	Innovative Office Solutions LLC	Events	27.42
72536	10/14/21	kin001	0603000017285	FedEx Office	Educational Program	84.86
72537	10/14/21	mbb001	1385(1)	MBB Construction Services, Inc.	Bldg/Site Maintenance	5,307.50
72538	10/14/21	min008	31182/27141	Minnesota Native Landscapes, Inc.	Construction Imp.-Maint. & Repair	658.00
72539	10/14/21	min021	0015956/00015971	Minnesota Pump Works	Water QM Staff	1,882.95
72540	10/14/21	pac001	21100347413	Pace Analytical Services, Inc.	Water QM Staff	4,247.00
72541	10/14/21	plm001	2000830	PLM Lake & Land Mgmt. Corp.	Natural Resources Project	250.00
72542	10/14/21	pra001	2127711200/2127712500	Prairie Moon Nursery, Inc.	Events	250.00
72543	10/14/21	pre003	318382681	Premium Waters, Inc.	Utilities/Bldg. Contracts	28.00
72544	10/14/21	ram002	COR-003514	Ramsey County	Educational/Natural Resources	1,584.50
72545	10/14/21	ros004	574329	Roseville Midway Ford	Vehicle Maintenance	75.04
72546	10/14/21	san003	100321	Sandstrom Land Management	Construction Imp.-Maint. & Repair	2,362.50
72547	10/14/21	usb005	454367178	US Bank Equipment Finance	Printing Expense	294.00
72548	10/14/21	vac001	2798	Vacker Sign	Stewardship Grant Fund	2,115.00
72549	10/14/21	wie001	09/29/21	Maggie Wiebe	Stewardship Grant Fund	1,600.00
72550	10/27/21	ahl001	Aug-Oct 2021	Paige Ahlborg	Employee Reimbursement	330.28
72551	10/27/21	att002	28756653401X10252021	AT & T Mobility - ROC	IT/Website/Water QM/Proj.Oper.	166.74
72552	10/27/21	bar001	9/18/21-10/15/21	Barr Engineering	September/October Engineering	108,709.86
72553	10/27/21	bau001	21-28 CS	Paul Bauer	Stewardship Grant Fund	8,025.00
72554	10/27/21	blo001	Sep-Oct 2021	Simba Blood	Employee Reimbursement	249.29
72555	10/27/21	cad001	17774061	Allstream	Water QM Staff	8.24
72556	10/27/21	car007	RWMWD_-_23_21	Carp Solutions, LLC	Natural Resources Project	9,284.00
72557	10/27/21	cit001	007734-001/00734-000	City of Little Canada	Utilities/Bldg. Contracts	115.43
72558	10/27/21	cit011	230400	City of Roseville	IT/Website/Software	4,958.78
72559	10/27/21	com004	10/16/21	Comcast	Utilities/Bldg. Contracts	79.07
72560	10/27/21	cro001	46872736	Nutrien Ag Solutions, Inc.	Natural Resources Project	336.46
72561	10/27/21	dav003	124984/123947	Davey Resource Group, Inc.	Construction Imp.-Maint. & Repair	19,265.00
72562	10/27/21	don001	Sep-Oct 2021	Matthew Doneux	Employee Reimbursement	620.63
72563	10/27/21	fit001	Progress Payment #1	Fitzgerald Excavating & Trucking, Inc.	Construction Imp.-Maint. & Repair	367,506.50
72564	10/27/21	fit002	Oct 2021	Mary Fitzgerald	Employee Reimbursement	69.62
72565	10/27/21	gal001	10/19/21	Galowitz Olson, PLLC	October Legal Fees	1,617.00
72566	10/27/21	gil001	209997/210158	Gilbert Mechanical Contractors, Inc.	Water QM Staff/Bldg/Site Maint.	1,037.18
72567	10/27/21	ham008	18-03	Hampton Companies	Dev. Escrow-General	4,320.00
72568	10/27/21	ham008	18-04	Hampton Companies	Dev. Escrow-General	7,840.00
72569	10/27/21	hbf001	21-29 CS	HB Fuller	Stewardship Grant Fund	14,076.98
72570	10/27/21	hea004	11-15	Hearth Development	Dev. Escrow-General	300.00
72571	10/27/21	inn002	IN3519040	Innovative Office Solutions LLC	Events	9.14
72572	10/27/21	int001	W21090496	Office of MN, IT Services	Telephone Expense	59.34
72573	10/27/21	jon004	21-19 MTN	Bob & Sandy Jones	Stewardship Grant Fund	1,000.00
72574	10/27/21	kor001	10/20/21	Eric Korte	Employee Reimbursement	103.40
72575	10/27/21	kra001	19-40	D.J. Kranz Co., Inc.	Dev. Escrow-General	11,600.00
72576	10/27/21	kub001	Sep 2021	Kyle W. Kubitza	Employee Reimbursement	134.08
72577	10/27/21	lan009	764	Landbridge Ecological, Inc.	Stewardship Grant Fund	52,192.88
72578	10/27/21	lea003	14-1001	L. Tracy Leavenworth	Educational Program	1,782.32
72579	10/27/21	len001	21-25 CS	Kristopher Lencowski	Stewardship Grant Fund	610.11
72580	10/27/21	mat002	21-24 CS	Anoop & Preeti Mathur	Stewardship Grant Fund	2,971.00
72581	10/27/21	mbb001	Oct 2021	MBB Construction Services, Inc.	Bldg/Site Maintenance	5,307.50
72582	10/27/21	mel001	Sep-Oct 2021	Michelle L. Melser	Employee Reimbursement	73.81
72583	10/27/21	min021	16057/16036/16042/16029	Minnesota Pump Works	Water QM Staff	3,724.38
72584	10/27/21	nev001	21-15 CS	Katherine Nevins	Stewardship Grant Fund	5,470.00
72585	10/27/21	nor013	39945	Northern Dewatering, Inc.	Water QM Staff	1,261.05
72586	10/27/21	nsp001	751890964	Xcel Energy	Project Operations/Utilities/Bldg.	1,246.07
72587	10/27/21	pac001	21100352018	Pace Analytical Services, Inc.	Water QM Staff	974.00
72588	10/27/21	pas002	Sep-Oct 2021	Sage Passi	Employee Reimbursement	638.69
72589	10/27/21	pho001	21-14 CS	Aloun Phoulavan	Stewardship Grant Fund	106.85
72590	10/27/21	qwe001	10/10/21	CenturyLink	Project Operations	252.39

Ramsey Washington Metro Watershed Dist.
Check Register
For the Period From Oct 1, 2021 to Oct 31, 2021

Check #	Date	Payee ID		Payee	Description	Amount
72591	10/27/21	ram002	COR-003527/COR-003526	Ramsey County	Maint.Rep/Nat.Res./Stewardship	42,043.00
72592	10/27/21	red002	150465339	Redpath & Company	September Accounting Services	1,770.20
72593	10/27/21	red003	20211010043028	Red Wing Business Advantage Account	Employee Benefits	200.00
72594	10/27/21	res003	IN18111	Resource Environmental Solutions, LLC	Construction Imp.-Maint. & Repair	3,650.67
72595	10/27/21	sim001	Sep-Oct 2021	Emily Simmons	Employee Reimbursement	49.97
72596	10/27/21	sod001	Oct 2021	Nicole Soderholm	Employee Reimbursement	142.38
72597	10/27/21	sto003	10/01/21	Michael J Stoffel	Employee Reimbursement	41.44
72598	10/27/21	suk001	21-10 CS	Sheryl Sukolsky	Stewardship Grant Fund	2,500.00
72599	10/27/21	tim002	M26797	Timesaver Off-Site Secretarial, Inc.	Committee/Board Meeting Expense	270.00
72600	10/27/21	tro002	21-10	Cathy Troendle	Educational Program	6,735.94
72601	10/27/21	uli001	58910325	Uline	Natural Resources Project	299.56
72602	10/27/21	usb002	Oct 2021	U.S. Bank	Monthly Credit Card Expense	3,550.92
72603	10/27/21	van001	Nov 2021	Vanguard Cleaning Systems of Minnesota	Janitorial/Trash Service	550.00
72604	10/27/21	van004	20-36 CS	Thomas Van Heel	Stewardship Grant Fund	3,860.50
72605	10/27/21	voy001	8692934232144	US Bank Voyager Fleet Sys.	Vehicle Fuel	414.81
72606	10/27/21	was002	5381/5394/5352	Washington Conservation District	Prog.Support/Water QM/Stewardship	4,377.25
72607	10/27/21	wis002	21-12 MTN	Wayne Wise	Stewardship Grant Fund	489.47
Total						**$744,175.03**
EFT	09/03/21	myp001	09/03/21	September 3rd Payroll Fees	4110-101-000	73.55
EFT	09/17/21	myp001	09/17/21	September 17th Payroll Fees	4110-101-000	73.95
Dir.Dep.	10/01/21	---	Payroll Expense-Net	October 1st Payroll	4010-101-000	29,558.30
EFT	10/01/21	int002	Internal Rev.Serv.	October 1st Federal Withholding	2001-101-000	10,497.94
EFT	10/01/21	mnd001	MN Revenue	October 1st State Withholding	2003-101-000	1,867.23
EFT	10/01/21	per001	PERA	October 1st PERA	2011-101-000	5,977.61
EFT	10/01/21	emp002	Empower Retirement	Employee Def.Comp. Contributions	2016-101-000	2,645.00
EFT	10/01/21	emp002	Empower Retirement	Employee IRA Contributions	2018-101-000	450.00
Dir.Dep.	10/15/21	---	Payroll Expense-Net	October 15th Payroll	4010-101-000	28,065.44
EFT	10/15/21	int002	Internal Rev.Serv.	October 15th Federal Withholding	2001-101-000	10,123.21
EFT	10/15/21	mnd001	MN Revenue	October 15th State Withholding	2003-101-000	1,809.71
EFT	10/15/21	per001	PERA	October 15th PERA	2011-101-000	5,977.61
EFT	10/15/21	emp002	Empower Retirement	Employee Def.Comp. Contributions	2016-101-000	2,645.00
EFT	10/15/21	emp002	Empower Retirement	Employee IRA Contributions	2018-101-000	450.00
Dir.Dep.	10/29/21	---	Payroll Expense-Net	October 29th Payroll	4010-101-000	28,370.50
EFT	10/29/21	int002	Internal Rev.Serv.	October 29th Federal Withholding	2001-101-000	10,202.50
EFT	10/29/21	mnd001	MN Revenue	October 29th State Withholding	2003-101-000	1,833.93
EFT	10/29/21	per001	PERA	October 29th PERA	2011-101-000	5,977.61
EFT	10/29/21	emp002	Empower Retirement	Employee Def.Comp. Contributions	2016-101-000	2,295.00
EFT	10/29/21	emp002	Empower Retirement	Employee IRA Contributions	2018-101-000	400.00
					Payroll/Benefits:	**$149,294.09**
Total					**Accounts Payable/Payroll/Benefits:**	**$893,469.12**

Ramsey Washington Metro Watershed Dist.
Cash Disbursements Journal
For the Period From October 1, 2021 - October 31, 2021

Date	Check #	Vendor ID	Name	Account ID	Account Description	Amount	Check Detail
10/01/21	EFT	met008	MetLife-Group Benefits	4040-101-000	Employee Benefits-General	$1,665.13	
10/08/21	EFT	hea002	HealthPartners	4040-101-000	Employee Benefits-General	12,259.97	
10/12/21	72424V	bat002	Batteries Plus Bulbs	4530-101-000	Water QM Staff-General	(247.95)	
10/14/21	72532	ada002	Adam's Pest Control, Inc.	4342-101-000	Utilities/Bldg. Contracts	79.00	
10/14/21	72533	aws001	AWS Service Center	4341-101-000	Janitorial/Trash Service	255.17	
10/14/21	72534	gru001	Gruber's Power Equipment	4670-101-000	Natural Resources Project-General	17.76	
10/14/21	72535	inn002	Innovative Office Solutions, LLC	4372-101-000	Events	27.42	
10/14/21	72536	kin001	FedEx Office	4370-101-000	Educational Program-General	84.86	
10/14/21	72537	mbb001	MBB Construction Services, Inc.	4343-101-000	Bldg./Site Maintenance	5,307.50	
10/14/21	72538	min008	Minnesota Native Landscapes, Inc.	4630-516-000	Construction Imp.-Maint & Rep	658.00	
10/14/21	72539	min021	Minnesota Pump Works	4530-101-000	Water QM Staff-General	1,882.95	
10/14/21	72540	pac001	Pace Analytical Services, Inc.	4530-101-000	Water QM Staff-General	4,247.00	
10/14/21	72541	plm001	PLM Lake & Land Mgmt. Corp.	4670-101-000	Natural Resources Project-General	250.00	
10/14/21	72542	pra001	Prairie Moon Nursery, Inc.	4372-101-000	Events	250.00	
10/14/21	72543	pre003	Premium Waters, Inc.	4342-101-000	Utilities/Bldg. Contracts	28.00	
10/14/21	72544	ram002	Ramsey County			1,584.50	
				4370-101-000	Educational Program-General		397.50
				4670-101-000	Natural Resources Project-General		1,187.00
10/14/21	72545	ros004	Roseville Midway Ford	4820-101-000	Vehicle Maint.-General	75.04	
10/14/21	72546	san003	Sandstrom Land Management	4630-516-000	Construction Imp.-Maint & Rep	2,362.50	
10/14/21	72547	usb005	US Bank Equipment Finance	4335-101-000	Printing-General	294.00	
10/14/21	72548	vac001	Vacker Sign	4682-529-000	Stewardship Grant Fund	2,115.00	
10/14/21	72549	wie001	Maggie Wiebe	4682-529-000	Stewardship Grant Fund	1,600.00	
10/27/21	72550	ahl001	Paige Ahlborg			330.28	
				4040-101-000	Employee Benefits-General		80.00
				4020-101-000	Employee Expenses-General		105.28
				4338-101-000	Dues & Publications-General		45.00
				4372-101-000	Events		100.00
10/27/21	72551	att002	AT & T Mobility - ROC			166.74	
				4530-101-000	Water QM Staff-General		27.22
				4325-101-000	IT/Website/Software		54.86
				4650-101-000	Project Operations-General		84.66
10/27/21	72552	bar001	Barr Engineering			108,709.86	
				4121-101-000	Engineering Admin-General Fund		5,912.00
				4123-101-000	Engineering-Review		4,743.00
				4129-101-000	Project Feasability-General		4,072.00
				4129-101-000	Project Feasability-General		138.00
				4129-101-000	Project Feasability-General		8,651.50
				4129-101-000	Project Feasability-General		1,162.00
				4129-101-000	Project Feasability-General		7,953.50
				4520-101-000	Water QM-Engineering		2,971.36
				4122-101-000	Engineering-Permit I & E		992.40
				4124-101-000	Engineering-Permit Review		2,148.00
				4695-101-000	Research Projects-General		1,140.00
				4695-101-000	Research Projects-General		253.00
				4695-101-000	Research Projects-General		5,344.94
				4650-101-000	Engineering-Project Operations		203.50
				4650-101-000	Engineering-Project Operations		4,395.34
				4128-518-000	Engineering-School/Commer Retrofit		426.00

Ramsey Washington Metro Watershed Dist.
Cash Disbursements Journal
For the Period From October 1, 2021 - October 31, 2021

Date	Check #	Vendor ID	Name	Account ID	Account Description	Amount	Check Detail
				4128-518-000	Engineering-School/Commer Retrofit		7,596.86
				4128-518-000	Engineering-School/Commer Retrofit		585.00
				4128-518-000	Engineering-School/Commer Retrofit		5,488.20
				4128-518-000	Engineering-School/Commer Retrofit		832.00
				4682-529-000	Stewardship Grant Fund		2,264.50
				4128-520-000	Engineering-Flood Damage		2,192.00
				4128-520-000	Engineering-Flood Damage		15,994.74
				4128-516-000	Engineering-Maint. & Repair		17,520.02
				4128-516-000	Engineering-Maint. & Repair		37.50
				4128-516-000	Engineering-Maint. & Repair		1,321.00
				4128-516-000	Engineering-Maint. & Repair		2,897.50
				4128-516-000	Engineering-Maint. & Repair		1,474.00
10/27/21	72553	bau001	Paul Bauer	4682-529-000	Stewardship Grant Fund	8,025.00	
10/27/21	72554	blo001	Simba Blood			249.29	
				4020-101-000	Employee Expenses-General		169.29
				4040-101-000	Employee Benefits-General		80.00
10/27/21	72555	cad001	Allstream	4530-101-000	Water QM Staff-General	8.24	
10/27/21	72556	car007	Carp Solutions, LLC	4670-101-000	Natural Resources Project-General	9,284.00	
10/27/21	72557	cit001	City of Little Canada	4342-101-000	Utilities/Bldg. Contracts	115.43	
10/27/21	72558	cit011	City of Roseville	4325-101-000	IT/Website/Software	4,958.78	
10/27/21	72559	com004	Comcast	4342-101-000	Utilities/Bldg. Contracts	79.07	
10/27/21	72560	cro001	Nutrien Ag Solutions, Inc.	4670-101-000	Natural Resources Project-General	336.46	
10/27/21	72561	dav001	Davey Resource Group, Inc.	4630-516-000	Construction Imp.-Maint & Rep	19,265.00	
10/27/21	72562	don001	Matthew Doneux			620.63	
				4020-101-000	Employee Expenses-General		5.60
				4040-101-000	Employee Benefits-General		152.52
				4670-101-000	Natural Resources Project-General		462.51
10/27/21	72563	fit001	Fitzgerald Excavating & Trucking, Inc.	4630-516-000	Construction Imp.-Maint & Rep	367,506.50	
10/27/21	72564	fit002	Mary Fitzgerald	4040-101-000	Employee Benefits-General	69.62	
10/27/21	72565	gal001	Galawitz Olson, PLLC	4131-101-000	Attorney General-General	1,617.00	
10/27/21	72566	gil001	Gilbert Mechanical Contractors, Inc.			1,037.18	
				4530-101-000	Water QM Staff-General		342.50
				4343-101-000	Bldg./Site Maintenance		694.68
10/27/21	72567	ham008	Hampton Companies	2024-101-000	Dev. Escrow-General	4,320.00	
10/27/21	72568	ham008	Hampton Companies	2024-101-000	Dev. Escrow-General	7,840.00	
10/27/21	72569	hbf001	HB Fuller	4682-529-000	Stewardship Grant Fund	14,076.98	
10/27/21	72570	hea004	Hearth Development	2024-101-000	Dev. Escrow-General	300.00	
10/27/21	72571	inn002	Innovative Office Solutions, LLC	4372-101-000	Events	9.14	
10/27/21	72572	int001	Office of MN, IT Services	4310-101-000	Telephone-General	59.34	
10/27/21	72573	jon004	Bob & Sandy Jones	4682-529-000	Stewardship Grant Fund	1,000.00	
10/27/21	72574	kor001	Eric Korte	4040-101-000	Employee Benefits-General	103.40	
10/27/21	72575	kra001	D.J. Kranz Co., Inc.	2024-101-000	Dev. Escrow-General	11,600.00	
10/27/21	72576	kub001	Kyle W. Kubitza			134.08	
				4040-101-000	Employee Benefits-General		94.08
				4020-101-000	Employee Expenses-General		40.00
10/27/21	72577	lan009	Landbridge Ecological, Inc.	4682-529-000	Stewardship Grant Fund	52,192.88	
10/27/21	72578	lea003	L. Tracy Leavenworth	4370-101-000	Educational Program-General	1,782.32	
10/27/21	72579	len001	Kristopher Lencowski	4682-529-000	Stewardship Grant Fund	610.11	
10/27/21	72580	mat002	Anoop & Preeti Mathur	4682-529-000	Stewardship Grant Fund	2,971.00	

Ramsey Washington Metro Watershed Dist.

Cash Disbursements Journal

For the Period From October 1, 2021 - October 31, 2021

Date	Check #	Vendor ID	Name	Account ID	Account Description	Amount	Check Detail
10/27/21	72581	mbb001	MBB Construction Services, Inc.	4343-101-000	Bldg./Site Maintenance	5,307.50	
10/27/21	72582	mel001	Michelle L. Melser	4020-101-000	Employee Expenses-General	73.81	
10/27/21	72583	min021	Minnesota Pump Works	4530-101-000	Water QM Staff-General	3,724.38	
10/27/21	72584	nev001	Katherine Nevins	4682-529-000	Stewardship Grant Fund	5,470.00	
10/27/21	72585	nor013	Northern Dewatering, Inc.	4530-101-000	Water QM Staff-General	1,261.05	
10/27/21	72586	nsp001	Xcel Energy			1,246.07	
				4650-101-000	Project Operations-General		287.28
				4342-101-000	Utilities/Bldg. Contracts		740.60
				4650-520-000	Project Operations-Flood		218.19
10/27/21	72587	pac001	Pace Analytical Services, Inc.	4530-101-000	Water QM Staff-General	974.00	
10/27/21	72588	pas002	Sage Passi			638.69	
				4020-101-000	Employee Expenses-General		248.64
				4040-101-000	Employee Benefits-General		40.00
				4370-101-000	Educational Program-General		350.05
10/21/21	72589	pho001	Aloun Phoulavan	4682-529-000	Stewardship Grant Fund	106.85	
10/27/21	72590	qwe001	CenturyLink	4650-101-000	Project Operations-General	252.39	
10/27/21	72591	ram002	Ramsey County			42,043.00	
				4630-516-000	Construction Imp.-Maint. & Repair		3,333.00
				4670-101-000	Natural Resources Project-General		14,590.00
				4682-529-000	Stewardship Grant Fund		24,120.00
10/27/21	72592	red002	Redpath & Company, Ltd.	4110-101-000	Auditor/Accounting	1,770.20	
10/27/21	72593	red003	Red Wing Business Advantage Account	4040-101-000	Employee Benefits-General	200.00	
10/27/21	72594	res003	Resource Environmental Solutions, LLC	4630-516-000	Construction Imp.-Maint. & Repair	3,650.67	
10/27/21	72595	sim001	Emily Simmons			49.97	
				4020-101-000	Employee Expenses-General		9.97
				4040-101-000	Employee Benefits-General		40.00
10/27/21	72596	sod001	Nicole Soderholm			142.38	
				4020-101-000	Employee Expenses-General		7.86
				4040-101-000	Employee Benefits-General		134.52
10/27/21	72597	sod001	Michael J. Stoffel	4020-101-000	Employee Expenses-General	41.44	
10/27/21	72598	suk001	Sheryl Sukolsky	4682-529-000	Stewardship Grant Fund	2,500.00	
10/27/21	72599	tim002	Timesaver Off-Site Secretarial, Inc.	4365-101-000	Committee/Board Meeting Expense	270.00	
10/27/21	72600	tro002	Cathy Troendle			6,735.94	
				4370-101-000	Educational Program-General		6,700.00
				4370-101-000	Educational Program-General		17.75
				4370-101-000	Educational Program-General		18.19
10/27/21	72601	uli001	Uline	4670-101-000	Natural Resources Project-General	299.56	
10/27/21	72602	usb002	U.S. Bank			3,550.92	
				4840-101-000	Vehicle-Miscellaneous		85.00
				4840-101-000	Vehicle-Miscellaneous		85.00
				4325-101-000	IT/Website/Software		96.10
				4372-101-000	Events		50.38
				4372-101-000	Events		9.66
				4372-101-000	Events		18.98
				4320-101-000	Office Supplies-General		60.66
				4372-101-000	Events		68.42
				4350-101-000	Training & Education		800.00
				4350-101-000	Training & Education		20.00
				4040-101-000	Employee Benefits-General		216.75

Ramsey Washington Metro Watershed Dist.
Cash Disbursements Journal
For the Period From October 1, 2021 - October 31, 2021

Date	Check #	Vendor ID	Name	Account ID	Account Description	Amount	Check Detail
				4530-101-000	Water QM Staff-General		331.84
				4325-101-000	IT/Website/Software		44.95
				4682-529-000	Stewardship Grant Fund		85.00
				4338-101-000	Dues & Publications-General		927.00
				4530-101-000	Water QM Staff-General		327.62
				4371-101-000	Communications & Marketing		3.00
				4371-101-000	Communications & Marketing		272.04
				4372-101-000	Events		22.54
				4371-101-000	Communications & Marketing		25.98
10/27/21	72603	van001	Vanguard Cleaning Systems of Minnesota	4341-101-000	Janitorial/Trash Service	550.00	
10/27/21	72604	van004	Thomas Van Heel	4682-529-000	Stewardship Grant Fund	3,860.50	
10/27/21	72605	voy001	US Bank Voyager Fleet Sys.	4830-101-000	Vehicle Fuel-General	414.81	
10/27/21	72606	was002	Washington Conservation District			4,377.25	
				4683-101-000	Outside Program Support		3,175.00
				4530-101-000	Water QM Staff-General		122.25
				4682-529-000	Stewardship Grant Fund		1,080.00
10/27/21	72607	wis002	Wayne Wise	4682-529-000	Stewardship Grant Fund	489.47	
			Accounts Payable Total:			**$744,175.03**	
EFT	09/03/21	myp001	Payroll Fees	4110-101-000	September 3rd Payroll Fees	73.55	
EFT	09/17/21	myp001	Payroll Fees	4110-101-000	September 17th Payroll Fees	73.95	
Dir.Dep.	10/01/21	---	Payroll Expense-Net	4010-101-000	October 1st Payroll	29,558.30	
EFT	10/01/21	int002	Internal Rev.Serv.	2001-101-000	October 1st Federal Withholding	10,497.94	
EFT	10/01/21	mnd001	MN Revenue	2003-101-000	October 1st State Withholding	1,867.23	
EFT	10/01/21	per001	PERA	2011-101-000	October 1st PERA	5,977.61	
EFT	10/01/21	emp002	Empower Retirement	2016-101-000	Employee Def.Comp. Contributions	2,645.00	
EFT	10/01/21	emp002	Empower Retirement	2018-101-000	Employee IRA Contributions	450.00	
Dir.Dep.	10/15/21	---	Payroll Expense-Net	4010-101-000	October 15th Payroll	28,065.44	
EFT	10/15/21	int002	Internal Rev.Serv.	2001-101-000	October 15th Federal Withholding	10,123.21	
EFT	10/15/21	mnd001	MN Revenue	2003-101-000	October 15th State Withholding	1,809.71	
EFT	10/15/21	per001	PERA	2011-101-000	October 15th PERA	5,977.61	
EFT	10/15/21	emp002	Empower Retirement	2016-101-000	Employee Def.Comp. Contributions	2,645.00	
EFT	10/15/21	emp002	Empower Retirement	2018-101-000	Employee IRA Contributions	450.00	
Dir.Dep.	10/29/21	---	Payroll Expense-Net	4010-101-000	October 29th Payroll	28,370.50	
EFT	10/29/21	int002	Internal Rev.Serv.	2001-101-000	October 29th Federal Withholding	10,202.50	
EFT	10/29/21	mnd001	MN Revenue	2003-101-000	October 29th State Withholding	1,833.93	
EFT	10/29/21	per001	PERA	2011-101-000	October 29th PERA	5,977.61	
EFT	10/29/21	emp002	Empower Retirement	2016-101-000	Employee Def.Comp. Contributions	2,295.00	
EFT	10/29/21	emp002	Empower Retirement	2018-101-000	Employee IRA Contributions	400.00	
			Payroll/Benefits			**$149,294.09**	
			TOTAL:			**$893,469.12**	

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Summary of Professional Engineering Services During the Period
September 18, 2021 through October 15, 2021

	Total Engineering Budget (2021)	Total Fees to Date (2021)	Budget Balance (2021)	Fees During Period	District Accounting Code	Plan Implementation Task Number
Engineering Administration						
General Engineering Administration	$76,000.00	$56,479.00	$19,521.00	$5,912.00	**4121-101**	DW-13
RWMWD Health and Safety/ERTK Program	$2,000.00	$525.00	$1,475.00	$0.00	**4697-101**	DW-13
Educational Program/Educational Forum Assistance	$20,000.00	$17,120.00	$2,880.00	$0.00	**4129-101**	DW-11
Engineering Review						
Engineering Review	$55,000.00	$42,263.00	$12,737.00	$4,743.00	**4123-101**	DW-13
Project Feasibility Studies						
Interim emergency response plan funds for top priority District flooding areas	$60,000.00	$42,937.75	$17,062.25	$4,072.00	**4129-101**	DW-19
Groundwater/Surface Water Next Steps	$50,000.00	$226.00	$49,774.00	$0.00	**4129-101**	DW-16
FEMA Flood Mapping Update (2020)	$109,720.00	$86,783.50	$22,936.50	$0.00	**4129-101**	DW-9
Hillcrest Golf Course (multi-use)	$20,000.00	$228.00	$19,772.00	$138.00	**4129-101**	DW-6
Gold BRT planning	$20,000.00	$0.00	$20,000.00	$0.00	**4129-101**	DW-6
Kohlman Creek flood damage reduction feasibility study	$75,000.00	$42,203.21	$32,796.79	$8,651.50	**4129-101**	DW-9, BELT-3
Grass Lake Berm Wetland	$35,000.00	$13,396.12	$21,603.88	$1,162.00	**4129-101**	
Ames Lake Technical Assisstance and Project Planning with St. Paul	$25,000.00	$29,280.41	-$4,280.41	$7,953.50	**4129-101**	DW-9, BELT-3
Battle Creek PFAS (monitoring, source ID, meetings, communications)	$25,000.00	$0.00	$25,000.00	$0.00	**4129-101**	DW-10
694/494/94 WQ treatment feasibility study	$30,000.00	$0.00	$30,000.00	$0.00	**4129-101**	BCL-3
Subwatershed feasiblity studies for At-Risk creeks (Fish Creek and Gervais Creek)	$35,000.00	$270.00	$34,730.00	$0.00	**4129-101**	DW-1, DW-2, DW-6
Wetland Restoration Workshop, Education, and Planning	$25,000.00	$0.00	$25,000.00	$0.00	**4129-101**	DW-8
Contingency*	$50,000.00	$0.00	$50,000.00	$0.00	**4129-101**	
GIS Maintenance						
GIS Maintenance	$5,000.00	$0.00	$5,000.00	$0.00	**4170-101**	DW-13
Monitoring Water Quality/Project Monitoring						
Lake Water Quality Monitoring (Misc QA/QC)	$10,000.00	$358.18	$9,641.82	$0.00	**4520-101**	DW-2
Annual WQ Report Assistance	$10,000.00	$126.00	$9,874.00	$0.00	**4520-101**	DW-2
Special Project BMP Monitoring	$25,000.00	$18,091.50	$6,908.50	$2,971.36	**4520-101**	DW-12
Permit Processing, Inspection and Enforcement						
Permit Application Inspection and Enforcement	$10,000.00	$2,858.40	$7,141.60	$992.40	**4122-101**	DW-7
Permit Application Review	$55,000.00	$37,317.00	$17,683.00	$2,148.00	**4124-101**	DW-7
Lake Studies/WRPPs/TMDL Reports						
2020 Grant Applications	$40,000.00	$0.00	$40,000.00	$0.00	**4661-101**	DW-13
Tanners Flood Response Tool Model Update	$3,000.00	$3,830.00	-$830.00	$0.00	**4661-101**	TaL-1
WMP Updates - Including Implementation Plan Updates	$20,000.00	$0.00	$20,000.00	$0.00	**4661-101**	DW-13
Prioritization of water quality projects from subwatershed feasibility studies	$15,000.00	$2,289.50	$12,710.50	$0.00	**4661-101**	DW-13
Contingency for Lake Studies	$25,000.00	$0.00	$25,000.00	$0.00	**4661-101**	
Research Projects						
New Technology Mini Case Studies (average 6 per year)	$12,000.00	$11,932.50	$67.50	$1,140.00	**4695-101**	DW-12
Kohlman Permeable Weir Test System - Implement Monitoring Plan	$15,000.00	$8,960.50	$6,039.50	$253.00	**4695-101**	DW-12
Phalen Chain of Lakes Changes in Water Quality	$10,000.00	$7,383.00	$2,617.00	$0.00	**4695-101**	DW-2, DW-12
Shallow Lake Aeration Study	$36,000.00	$44,135.95	-$8,135.95	$5,344.94	**4695-101**	DW-12
Project Operations						
2021 Tanners Alum Facility Monitoring	$15,000.00	$12,445.50	$2,554.50	$203.50	**4650-101**	TaL-3
Beltline Outlet and Keller Channel Operations Plans	$30,000.00	$11,054.34	$18,945.66	$4,395.34	**4650-101**	DW-9, BELT-3
Capital Improvements						
East St. Paul Target	$45,000.00	$53,377.67	-$8,377.67	$426.00	**4128-518**	DW-6
North St. Paul Target	$150,000.00	$151,750.44	-$1,750.44	$7,596.86	**4128-518**	DW-6
Cemstone	$60,000.00	$0.00	$60,000.00	$0.00	**4128-518**	DW-6
Commercial Sites Retrofit Projects 2021 (Targeted Retrofits)	$45,000.00	$6,498.00	$38,502.00	$585.00	**4128-518**	DW-6
School Sites Retrofit Projects 2021 (Targeted Retrofits)	$45,000.00	$10,367.20	$34,632.80	$5,488.20	**4128-518**	DW-6
Church Sites Retrofit Projects 2021 (Targeted Retrofit)	$45,000.00	$19,518.86	$25,481.14	$832.00	**4128-518**	DW-6
BMP Incentive Fund: Gen'l BMP Design Assistance and Review (cases where Dist is approached by landowner, or landowner is not commercial, school, church).	$75,000.00	$35,540.34	$39,459.66	$2,264.50	**4682-529**	DW-6
Willow Lake Area Detention (from feas. Study)	$150,000.00	$0.00	$150,000.00	$0.00	**4128-520**	DW-9, BELT-3
Kohlman Creek Storage and Detention (from feas. Study)	$200,000.00	$0.00	$200,000.00	$0.00	**4128-520**	KC-2
Aldrich Arena (soils and plantings)	$25,000.00	$24,352.89	$647.11	$0.00	**4128-518**	DW-6, WL-1
Wakefield Park/Frost Avenue Stormwater Project	$17,500.00	$23,859.77	-$6,359.77	$0.00	**4128-553**	DW-6, WL-1
Wetland Restoration	$100,000.00	$0.00	$100,000.00	$0.00	**4128-529**	DW-1, DW-8
Keller Channel Weir & Phalen Outet Resiliency Modifications	$250,000.00	$248,546.65	$1,453.35	$2,192.00	**4128-520**	DW-9, BELT-3
Address Internal Load in TMDL lakes	$60,000.00	$0.00	$60,000.00	$0.00	**4661-101**	KL-2, GC-2, WL-3, BL-3
Ryan Drive-Keller Parkway Conveyance	$194,000.00	$180,634.39	$13,365.61	$15,994.74	**4128-520**	DW-9, BELT-3, GC-3
Twin Lake Outlet Easement Acquisition, Permitting, Construction Plans (2020)	$90,000.00	$75,862.87	$14,137.13	$0.00	**4128-520**	DW-9
Place holder for feas. study (other) recommendations	$25,000.00	$0.00	$25,000.00	$0.00	**4128-520**	
CIP Project Repair & Maintenance						
Routine CIP Inspection and Unplanned Maintenance Identification	$75,000.00	$124,002.80	-$49,002.80	$17,520.02	**4128-516**	DW-5
Beltline 5-year Inspection	$70,000.00	$19,092.44	$50,907.56	$37.50	**4128-516**	BELT-2
District Inspection Standardization	$34,200.00	$5,712.50	$28,487.50	$1,321.00	**4128-516**	DW-5
CR D Ravine	$32,500.00	$5,607.50	$26,892.50	$2,897.50	**4128-516**	DW-5
2021 CIP Maintenance and Repairs	$150,000.00	$127,252.96	$22,747.04	$1,474.00	**4128-516**	DW-5
2022 CIP Maintenance and Repairs (planning, bidding, and project setup)	$30,000.00	$0.00	$30,000.00	$0.00	**4128-516**	DW-5
TOTAL PAYABLE FOR PERIOD 09/18/21 - 10/15/21				**$108,709.86**		

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

Ryan Drive and Keller Pkwy Conveyance Upgrades
Progress Payment No. 1
For Work Completed Through October 15, 2021

1.0	Total Completed Through This Period:	$386,848.95		
2.0	Total Previously Completed:		$0.00	
3.0	Total Completed This Period:			$386,848.95
4.0	Amount Previously Retained:		$ -	
5.0	Amount Retained This Period (See Note 1):			$19,342.45
6.0	Total Amount Retained (See Note 1):		$19,342.45	
7.0	Retainage Released Through This Period:			$0.00
8.0	Total Retainage Remaining:		$19,342.45	
9.0	Amounts Previously Paid:	$0.00		
10.0	Amount Due This Estimate:			$367,506.50

Note 1: At rate of 5%.

SUBMITTED BY:
Name: Gary Richter Date: 10/20/2021
Title: Project Manager
Contractor: Fitzgerald Excavating & Trucking
Signature:

RECOMMENDED BY:
Name: Samuel Redinger Date: 10/19/2021
Title: Project Engineer
Engineer: Barr Engineering Co.
Signature:

APPROVED BY:
Name: Lawrence Swope Date:
Title: President
Owner: Ramsey-Washington Metro Watershed District

Signature:

Ryan Drive and Keller Pkwy Conveyance Upgrades
Ramsey-Washington Metro Watershed District
Summary of Work Completed Through October 15, 2021 for Progress Payment No. 1

				Fitzgerald Excavating		(1) Total Completed This Period		(2) Total Completed Previous Periods		(3) Total Completed To Date	
Item	Description	Unit	Bidding Estimated Quantity	Unit Price	Extension	Quantity	Amount	Quantity	Amount	Quantity	Amount
General											
01 55 26.01	Traffic Control	LS	1	$ 15,000.00	$ 15,000.00	0.5	$ 7,500.00		$ -	0.5	$ 7,500.00
01 71 13.01	Mobilization/Demobilization	LS	1	$ 105,000.00	$ 105,000.00	0.65	$ 68,250.00		$ -	0.65	$ 68,250.00
Site 1 - Keller Pkwy											
01 74 23.02	Construction Entrance	EA	2	$ 1,000.00	$ 2,000.00	0	$ -		$ -	0	$ -
01 74 23.04	Silt Fence	LF	550	$ 2.50	$ 1,375.00	0	$ -		$ -	0	$ -
01 74 23.05	Flotation Silt Curtain	LF	80	$ 20.00	$ 1,600.00	80	$ 1,600.00		$ -	80	$ 1,600.00
01 74 23.06	Erosion Control Blanket and Seeding	SY	310	$ 3.00	$ 930.00		$ -		$ -	0	$ -
02 41 00.01	Removal of Trees, Brush, and Debris (Disposal Off Site)	LS	1	$ 15,000.00	$ 15,000.00	1	$ 15,000.00		$ -	1	$ 15,000.00
02 41 00.03	Remove and Dispose of 96-in Wide x 62-in Tall RC Arch Pipe	LF	116	$ 75.00	$ 8,700.00	116	$ 8,700.00		$ -	116	$ 8,700.00
02 41 00.04	Remove and Dispose of Fencing	LF	120	$ 15.00	$ 1,800.00	120	$ 1,800.00		$ -	120	$ 1,800.00
02 41 00.05	Saw-Cut, Bituminous pavement	LF	100	$ 10.00	$ 1,000.00	92	$ 920.00		$ -	92	$ 920.00
02 41 00.06	Remove and Dispose Bituminous Pavement	SY	400	$ 5.00	$ 2,000.00	399	$ 1,995.00		$ -	399	$ 1,995.00
02 41 00.07	Remove and Dispose Bituminous Driveway Pavement	SY	50	$ 10.00	$ 500.00	65	$ 650.00		$ -	65	$ 650.00
31 00 00.01	Strip, Salvage, and Replace Topsoil (6-in Depth)	CY	270	$ 12.00	$ 3,240.00		$ -		$ -	0	$ -
31 00 00.02	Sediment and Muck Excavation, Loading, and Hauling (Regulated)	TON	520	$ 20.00	$ 10,400.00	0	$ -		$ -	0	$ -
31 00 00.03	Sediment and Muck Excavation, Loading, and Hauling (Non-Regulated)	CY	0	$ 40.00	$ -	0	$ -		$ -	0	$ -
31 00 00.04	Sediment and Muck Disposal Fee	TON	520	$ 20.00	$ 10,400.00	0	$ -		$ -	0	$ -
31 00 00.07	Aggregate Base Class 6	CY	60	$ 35.00	$ 2,100.00	48	$ 1,680.00		$ -	48	$ 1,680.00
31 00 00.08	Riprap w/fabric (Mn/DOT CL III)	CY	350	$ 60.00	$ 21,000.00	245	$ 14,700.00		$ -	245	$ 14,700.00
31 00 00.09	Shoulder Aggregate Class 2 (100% Crushed Quarry Rock)	TON	25	$ 45.00	$ 1,125.00	20.84	$ 937.80		$ -	20.84	$ 937.80
31 00 00.10	Topsoil Placement (Borrow)(Allowance)	CY	25	$ 35.00	$ 875.00	0	$ -		$ -	0	$ -
31 23 19.01	Water Management - Keller Pkwy	LS	1	$ 27,000.00	$ 27,000.00	1	$ 27,000.00		$ -	1	$ 27,000.00
32 12 00.02	2.5-in Type 12.5 Non-Wearing Course Mixture (4,B)(SPNWB430B)	TON	60	$ 100.00	$ 6,000.00	89.6	$ 8,960.00		$ -	89.6	$ 8,960.00
32 12 00.04	2.5-in Type SP 9.5 Wearing Course Mixture 4,C (SPWEA440C)	TON	60	$ 105.00	$ 6,300.00	63.63	$ 6,681.15		$ -	63.63	$ 6,681.15
32 12 00.05	2-in Type SP 9.5 Wearing Course Mixture 4,C (SPWEA440C)	TON	50	$ 105.00	$ 5,250.00	50	$ 5,250.00		$ -	50	$ 5,250.00
32 12 00.06	Driveway Patching	TON	10	$ 155.00	$ 1,550.00	13	$ 2,015.00		$ -	13	$ 2,015.00
32 31 13.01	Fencing (Chain Link)	LF	140	$ 50.00	$ 7,000.00		$ -		$ -	0	$ -
33 42 00.03	16-FT Wide X 4-FT Tall Reinf. Conc. Box Culvert End Section (MnDOT Class I, Type III)	EA	4	$ 16,000.00	$ 64,000.00	4	$ 64,000.00		$ -	4	$ 64,000.00
33 42 00.04	16-FT Wide X 4-FT Tall Reinf. Conc. Box Culvert (MnDOT Class I)	LF	86	$ 1,735.00	$ 149,210.00	86	$ 149,210.00		$ -	86	$ 149,210.00
Site 2 - Ryan Drive											
01 74 23.02	Construction Entrance	EA	4	$ 800.00	$ 3,200.00		$ -		$ -	0	$ -
01 74 23.03	Sediment Log (9-in Diameter)	LF	540	$ 5.00	$ 2,700.00		$ -		$ -	0	$ -
01 74 23.04	Silt Fence	LF	600	$ 2.50	$ 1,500.00		$ -		$ -	0	$ -
01 74 23.06	Erosion Control Blanket and Seeding	SY	690	$ 3.00	$ 2,070.00		$ -		$ -	0	$ -
01 74 23.07	Rock Filter Dike	EA	1	$ 500.00	$ 500.00		$ -		$ -	0	$ -
02 41 00.01	Removal of Trees, Brush, and Debris (Disposal Off Site)	LS	1	$ 15,000.00	$ 15,000.00		$ -		$ -	0	$ -
02 41 00.02	Remove and Dispose of 30-inch RC Circ. Pipe	LF	53	$ 55.00	$ 2,915.00		$ -		$ -	0	$ -
02 41 00.04	Remove and Dispose of Fencing	LF	15	$ 50.00	$ 750.00		$ -		$ -	0	$ -
02 41 00.05	Saw-Cut, Bituminous pavement	LF	181	$ 12.00	$ 2,172.00		$ -		$ -	0	$ -
02 41 00.06	Remove and Dispose Bituminous Pavement	SY	327	$ 10.00	$ 3,270.00		$ -		$ -	0	$ -
02 41 00.08	Reclamation (12-in Depth)	SY	1,490	$ 5.00	$ 7,450.00		$ -		$ -	0	$ -
02 41 00.09	Haul Out/Stockpile Millings	CY	500	$ 12.00	$ 6,000.00		$ -		$ -	0	$ -

Ryan Drive and Keller Pkwy Conveyance Upgrades
Ramsey-Washington Metro Watershed District
Summary of Work Completed Through October 15, 2021 for Progress Payment No. 1

				Fitzgerald Excavating		(1) Total Completed This Period		(2) Total Completed Previous Periods		(3) Total Completed To Date	
Item	Description	Unit	Bidding Estimated Quantity	Unit Price	Extension	Quantity	Amount	Quantity	Amount	Quantity	Amount
31 00 00.01	Strip, Salvage, and Replace Topsoil (6-in Depth)	CY	264	$ 14.00	$ 3,696.00		$ -		$ -	0	$ -
31 00 00.02	Sediment and Muck Excavation, Loading, and Hauling (Regulated)	TON	330	$ 20.00	$ 6,600.00		$ -		$ -	0	$ -
31 00 00.03	Sediment and Muck Excavation, Loading, and Hauling (Non-Regulated)	CY	0	$ 45.00	$ -		$ -		$ -	0	$ -
31 00 00.04	Sediment and Muck Disposal Fee	TON	330	$ 20.00	$ 6,600.00		$ -		$ -	0	$ -
31 00 00.05	Roadway Embankment (Select Granular Borrow)	CY	1,160	$ 30.00	$ 34,800.00		$ -		$ -	0	$ -
31 00 00.07	Aggregate Base Class 6	CY	440	$ 35.00	$ 15,400.00		$ -		$ -	0	$ -
31 00 00.08	Riprap w/fabric (Mn/DOT CL III)	CY	120	$ 65.00	$ 7,800.00		$ -		$ -	0	$ -
31 00 00.09	Shoulder Aggregate Class 2 (100% Crushed Quarry Rock)	TON	90	$ 45.00	$ 4,050.00		$ -		$ -	0	$ -
31 00 00.10	Topsoil Placement (Borrow) (Allowance)	CY	25	$ 35.00	$ 875.00		$ -		$ -	0	$ -
31 23 19.02	Water Management - Ryan Drive	LS	1	$ 27,000.00	$ 27,000.00		$ -		$ -	0	$ -
32 12 00.01	2-in Type 12.5 Non-Wearing Course Mixture 3,C (SPNWB340C)	TON	180	$ 100.00	$ 18,000.00		$ -		$ -	0	$ -
32 12 00.06	Driveway Patching	TON	80	$ 100.00	$ 8,000.00		$ -		$ -	0	$ -
32 31 13.01	Fencing (Chain Link)	LF	80	$ 50.00	$ 4,000.00		$ -		$ -	0	$ -
33 42 00.01	14-ft Wide X 5-ft Tall Reinf. Conc. Box Culvert End Section (MnDOT Class, Type I)	EA	2	$ 16,000.00	$ 32,000.00		$ -		$ -	0	$ -
33 42 00.02	14-ft Wide X 5-ft Tall Reinf. Conc. Box Culvert (MnDOT Class I)	LF	38	$ 1,680.00	$ 63,840.00		$ -		$ -	0	$ -
			BASE BID TOTAL		**$750,543.00**		**$386,848.95**		**$0.00**		**$386,848.95**

Bid Alternate 1 (Ryan Drive Wearing Course Paving)											
Item	Description	Unit	Bidding Estimated Quantity	Unit Price	Extension						
32 12 00.03	2-in Type SP 9.5 Wearing Course Mixture 3,C (SPWEA340C)	TON	180	$ 115.00	$ 20,700.00		$ -		$ -	0	$ -
				BID ALTERNATE #1	**$20,700.00**		**$0.00**		**$0.00**		**$0.00**
				TOTAL BASE BID PLUS BID ALTERNATE #1	**$771,243.00**		**$386,848.95**		**$0.00**		**$386,848.95**

CHANGE ORDER - ADDITIONAL ITEMS											
				SUBTOTAL CHANGE ORDERS	**$0.00**		**$0.00**		**$0.00**		**$0.00**
				TOTAL BASE BID PLUS BID ALTERNATE #1, PLUS CHANGE ORDERS	**$771,243.00**		**$386,848.95**		**$0.00**		**$386,848.95**
				RETAINAGE (5% Retainage)	**$38,562.15**		**$19,342.45**	$	-		**$19,342.45**
				TOTAL AMOUNT DUE:			**$367,506.50**		**$0.00**		**$367,506.50**

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

October 19, 2021
File No: 9M

	Balance
General Account	$1,617.00

Permit Application Coversheet

Date November 03, 2021

Project Name Roseville Area High School Baseball Field Project Number 21-30

Applicant Name Todd Lieser, Roseville Area Schools

Type of Development Institutional

Property Description

This project is located at the existing Roseville Area High School, northwest of Highway 36 and Lexington Avenue North in the City of Roseville. The applicant is proposing to regrade a baseball field and add drain tile and irrigation. The total site area is 3.1 acres. All post-construction surfaces are considered pervious, thus Rule C for stormwater does not apply.

Watershed District Policies or Standards Involved:

- ☐ *Wetlands*
- ☑ *Erosion and Sediment Control*
- ☐ *Stormwater Management*
- ☐ *Floodplain*

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

#21-30 Roseville Area High School Baseball Fields

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

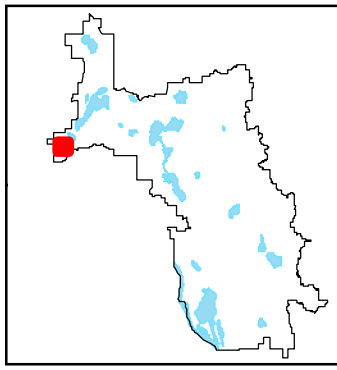
- RWMWD Boundary
- Flow Arrows
- Major Flow Arrows
- Subwatersheds
- Creeks
- Permits
- Ramsey Co Parcels

Highlighted Areas Represent Active Permit

0 200 400
Feet

0 0.0425 0.085
Miles

N

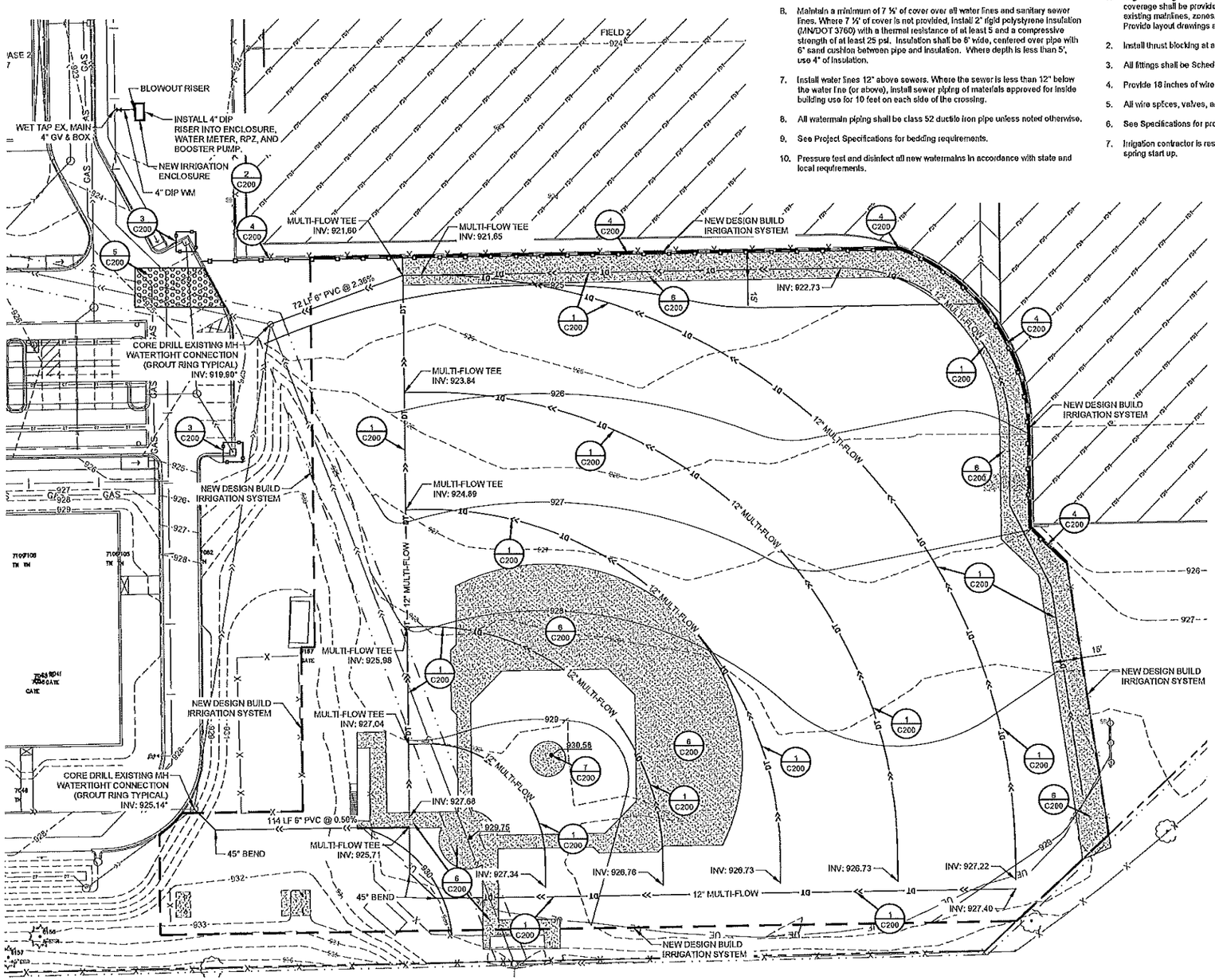


21-30

Special Provisions

1. The applicant shall submit contact information for the trained erosion control coordinator responsible for implementing the Stormwater Pollution Prevention Plan (SWPPP).

2. The applicant shall submit a copy of the Minnesota Pollution Control Agency's NPDES Construction Permit coverage for the project.



P:\Projects\Projects - 2021\12216138 - Roseville HS Baseball Regrading\C. Design\Drawing Files\12216138 - C100 - Site Plan.dwg

UTILITY NOTES

1. It is the responsibility of the contractor to perform or coordinate all necessary utility connections and relocations from existing utility locations to the proposed building, as well as to all onsite amenities. These connections include but are not limited to water, sanitary sewer, cable TV, telephone, gas, electric, site lighting, etc.
2. All service connections shall be performed in accordance with state and local standard specifications for construction. Utility connections (sanitary sewer, watermain, and storm sewer) may require a permit from the City.
3. The contractor shall verify the elevations at proposed connections to existing utilities prior to any demolition or excavation.
4. The contractor shall notify all appropriate engineering departments and utility companies 72 hours prior to construction. All necessary precautions shall be made to avoid damage to existing utilities.
5. Storm sewer requires testing in accordance with Minnesota plumbing code 4714.1109 where located within 10 feet of waterlines or the building.
8. Maintain a minimum of 7 ½' of cover over all water lines and sanitary sewer lines. Where 7 ½' of cover is not provided, install 2" rigid polystyrene insulation (MNDOT 3760) with a thermal resistance of at least 5 and a compressive strength of at least 25 psi. Insulation shall be 8' wide, centered over pipe with 6' sand cushion between pipe and insulation. Where depth is less than 5', use 4" of insulation.
7. Install water lines 12" above sewers. Where the sewer is less than 12" below the water line (or above), install sewer piping of materials approved for inside building use for 10 feet on each side of the crossing.
8. All watermain piping shall be class 52 ductile iron pipe unless noted otherwise.
9. See Project Specifications for bedding requirements.
10. Pressure test and disinfect all new watermains in accordance with state and local requirements.

GRADING NOTES

1. Tree protection consisting of snow fence or safety fence installed at the drip line shall be in place prior to beginning any grading or demolition work at the site.
2. All elevations with an asterisk (*) shall be field verified. If elevations vary significantly, notify the Engineer for further instructions.
3. Grades shown in paved areas represent finish elevation.
4. Restore all disturbed areas with 4" of good quality topsoil and sod.
5. All construction shall be performed in accordance with state and local standard specifications for construction.

IRRIGATION NOTES

1. Irrigation design is the responsibility of the irrigation contractor. Head-to-head coverage shall be provided for all areas noted on the plans. Reconnect existing mainlines, zones, and wiring disrupted by construction activities. Provide layout drawings and calculations for approval.
2. Install thrust blocking at all tees and bends.
3. All fittings shall be Schedule 40.
4. Provide 18 inches of wire slack at each valve.
5. All wire splices, valves, and quick couplers shall be located in valve boxes.
6. See Specifications for product types.
7. Irrigation contractor is responsible for first year's winterizing and the following spring start up.

SYMBOL LEGEND

- 950 — EXISTING CONTOURS
- 950 — PROPOSED CONTOURS - MAJOR INTERVAL
- PROPOSED CONTOURS - MINOR INTERVAL
- DRAINTILE PIPE
- STORM SEWER PIPE
- WATERMAIN PIPE
- GATE VALVE & BOX
- (*) VERIFY EXISTING ELEVATION
- NEW DESIGN BUILD IRRIGATION SYSTEM LIMITS
- SEDIMENT ROLL
- RIP-RAP / ROCK CONST. ENTRANCE
- INLET PROTECTION
- 5" NEW/SALVAGED AGLIME SEE DETAIL 6/C200

EROSION CONTROL NOTES

1. Owner and Contractor shall obtain MPCA-NPDES permit. Contractor shall be responsible for all fees pertaining to this permit. The SWPPP shall be kept onsite at all times.
2. Install temporary erosion control measures (inlet protection, silt fence, and rock construction entrances) prior to beginning any excavation or demolition work at the site.
3. Erosion control measures shown on the erosion control plan are the absolute minimum. The contractor shall install temporary earth dikes, sediment traps or basins, additional siltation fencing, and/or disk the soil parallel to the contours as deemed necessary to further control erosion. All changes shall be recorded in the SWPPP.
4. All construction site entrances shall be surfaced with crushed rock across the entire width of the entrance and from the entrance to a point 50' into the construction zone.
5. The toe of the silt fence shall be trenched in a minimum of 6". The trench backfill shall be compacted with a vibratory plate compactor.
6. All grading operations shall be conducted in a manner to minimize the potential for site erosion. Sediment control practices must be established on all down gradient perimeters before any up gradient land disturbing activities begin.
7. All exposed soil areas must be stabilized as soon as possible to limit soil erosion but in no case later than 7 days after the construction activity in that portion of the site has temporarily or permanently ceased. Temporary stockpiles without significant silt, clay or organic components (e.g., clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) and the constructed base components of roads, parking lots and similar surfaces are exempt from this requirement.
8. The normal wetted perimeter of any temporary or permanent drainage ditch or swale that drains water from any portion of the construction site, or diverts water around the site, must be stabilized within 200 lineal feet from the property edge, or from the point of discharge into any surface water. Stabilization of the last 200 lineal feet must be completed within 24 hours after connecting to a surface water. Stabilization of the remaining portions of any temporary or permanent ditches or swales must be complete within 7 days after connecting to a surface water and construction in that portion of the ditch has temporarily or permanently ceased.
9. Pipe outlets must be provided with energy dissipation within 24 hours of connection to surface water.
10. All riprap shall be installed with a filter material or soil separation fabric and comply with the Minnesota Department of Transportation Standard Specifications.
11. All storm sewers discharging into wetlands or water bodies shall outlet at or below the normal water level of the respective wetland or water body at an elevation where the downstream slope is 1 percent or flatter. The normal water level shall be the invert elevation of the outlet of the wetland or water body.
12. All storm sewer catch basins not needed for site drainage during construction shall be covered to prevent runoff from entering the storm sewer system. Catch basins necessary for site drainage during construction shall be provided with inlet protection.
13. In areas where concentrated flows occur (such as swales and areas in front of storm catch basins and intakes) the erosion control facilities shall be backed by stabilization structure to protect those facilities from the concentrated flows.
14. Inspect the construction site once every seven days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours. All inspections shall be recorded in the SWPPP.
15. All BMPs must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches 1/3 of the BMP capacity. These repairs must be made within 24 hours of discovery, or as soon as field conditions allow access. All repairs shall be recorded in the SWPPP.
16. If sediment escapes the construction site, off-site accumulations of sediment must be removed in a manner and at a frequency sufficient to minimize off-site impacts.
17. All soils tracked onto pavement shall be removed daily.
18. All infiltration areas must be inspected to ensure that no sediment from ongoing construction activity is reaching the infiltration area and these areas are protected from compaction due to construction equipment driving across the infiltration area.
19. Temporary soil stockpiles must have silt fence or other effective sediment controls, and cannot be placed in surface waters, including stormwater conveyances such as curb and gutter systems, or conduits and ditches unless there is a bypass in place for the stormwater.
20. Collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris and other wastes must be disposed of properly and must comply with MPCA disposal requirements.
21. Oil, gasoline, paint and any hazardous substances must be properly stored, including secondary containment, to prevent spills, leaks or other discharge. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with MPCA regulations.
22. External washing of trucks and other construction vehicles must be limited to a defined area of the site. Runoff must be contained and waste properly disposed of. No engine degreasing is allowed onsite.
23. All liquid and solid wastes generated by concrete washout operations must be contained in a leak-proof containment facility or impermeable liner. A compacted clay liner that does not allow washout liquids to enter ground water is considered an impermeable liner. The liquid and solid wastes must not contact the ground, and there must not be runoff from the concrete washout operations or areas. Liquid and solid wastes must be disposed of properly and in compliance with MPCA regulations. A sign must be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities.
24. Upon completion of the project and stabilization of all graded areas, all temporary erosion control facilities (silt fences, hay bales, etc.) shall be removed from the site.
25. All permanent sedimentation basins must be restored to their design condition immediately following stabilization of the site.
26. Contractor shall submit Notice of Termination for MPCA-NPDES permit within 30 days after Final Stabilization.
27. Notify Nicole Sederholm, Ramsey-Washington Metro Watershed District, at 651-792-7976 prior to beginning any and all construction activity for an initial SWPPP inspection.

NORTH
0 15 30 60

Larson Engineering, Inc.
3524 Labore Road
White Bear Lake, MN 55110
651.481.9120 (f) 651.481.9201
www.larsonengr.com

Client:
ROSEVILLE AREA SCHOOLS
1251 COUNTY ROAD B2 W.
ROSEVILLE, MN 55113

Project Title:
ROSEVILLE AREA HIGH SCHOOL BASEBALL FIELD IMPROVEMENTS
1240 COUNTY ROAD B2 W.
ROSEVILLE, MN 55113

I hereby certify that this plan, specifications 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.

Eric G. Meyer, P.E.
Date: 10.12.21 Lic. No.: 44592

Rev.	Date	Description

Project #: 12216138.000
Drawn By: NJN
Checked By: EGM
Issue Date: 10.12.21

Sheet Title:
IMPROVEMENTS PLAN

Sheet:
C100

Stewardship Grant Application Summary

Project Name: Highland Townhomes **Application Number:** 21-38 CS

Board Meeting Date: 11/3/2021

Applicant Name: Valerie Taylor

Residential ☐ **Commercial/Government** ☑

Project Overview:

This project is located at a townhome association located off Edgerton St N and Skillman Ave E in the City of Maplewood. The association is proposing to install native plants and bee lawn to help stabilize an area that experiences erosion and is hard to mow. The association plans to hire the same contractor to do ongoing maintenance and also hopes to expand native planting areas to other problem areas of the property in the future.
This project is eligible for 50% funding up to $15,000.

BMP type(s):

Native Habitat Restoration(1)

Grant Request:

$10,000.00

Recommendation:

Staff recommends approval of this application.

Subwatershed:

Keller Lake

Location Maps:

LEGEND

LOW-GROW FESCUE BLEND AND/OR BEE LAWN MIX (+/- 20,000 SF)
***ALL SEED MIXES SHALL BE SUBMITTED FOR APPROVAL BY RCSWCD STAFF PRIOR TO PURCHASE AND INSTALL**

PROPERTY LINE (APPROX)

2' CONTOUR ELEVATION LINE

SITE PREPARATION & INSTALLATION PROCEDURES (OR APPROVED EQUAL):

1. ALL SEED SHALL BE HAND BROADCAST TWICE OVER FOR PROPER DISTRIBUTION, WITH THE SECOND BROADCAST PERPENDICULAR TO THE FIRST ROUTE OF SEEDING.

2. ALL SEEDED AREAS SHALL BE HAND-RAKED.

3. FOR ALL AREAS WITH BARE SOIL: RAKE SEEDING AREA, BROADCAST SEEDS EVENLY, AND LIGHTLY RAKE AGAIN.

4. FOR ALL AREAS WITH EXISTING LAWN/TURF: AREAS SHOULD BE MOWED TO THE LOWEST POSSIBLE HEIGHT TO 'BURN' EXISTING LAWN. CONTRACTOR SHALL MOW IN WARM/DRY WEATHER. REAPEAT IN APPROXIMATELY 14 DAYS. RAKE SEEDING AREA, BROADCAST SEEDS EVENLY, LIGHTLY RAKE AGAIN.

5. WITHIN 24 HRS IMMEDIATELY POST-SEEDING, ON ALL SLOPES EXCEEDING 4H:1V, AREAS SUSCEPTIBLE TO CHANNEL EROSION, AND ADDITIONAL AREAS NECESSARY, SHALL BE COVERED WITH S75BN EROSION BLANKET (OR APPROVED EQUAL)

6. 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.

7. CONTRACTOR / LANDOWNER SHALL ESTABLISH CONTRACT LANGUAGE AND PLAN FOR PROPER IRRIGATION OF SEEDED AREAS. PROPER WATERING SHALL OCCUR DURING THE ESTABLISHMENT PERIOD OR UNTIL ALL SEEDED AREAS HAVE FULLY FILLED-IN

8. SEEDING RATES SHALL BE 4.5 LBS PER 1,000 SF OR 200 LBS PER ACRE

9. PROJECT LAYOUT, TOTAL AREA, AND MATERIALS MAY VARY WITH RCSWCD STAFF APPROVAL

10. ALL FINAL PLANNED SITE PREPARATION AND INSTALLATION PROCEDURES SHALL BE PROVIDED IN WRITTEN FORMAT FOR APPROVAL BY RCSWCD STAFF PRIOR TO WORK START

RAMSEY COUNTY

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

PROJECT: HIGHLAND TOWNHOMES
LOCATION:
577 SKILLMAN AVE E (VARIES)
MAPLEWOOD, MN 55109

WATERSHED DISTRICT:

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

DESIGNER: MPS
DATE: 08/26/2021
REVISION:
REVISION:
REVISION:
REVISION:
REVISION:
CHECKED BY:
TAA:

NOTES:
CONTRACTOR TO LOCATE ALL UTILITIES PRIOR TO WORK

UTILITIES WITHIN OR NEAR CONSTRUCTION AREA SHALL BE POTHOLED

CONTRACTOR MUST AQCUIRE ALL NECESSARY PERMITS

ORIGINAL SHEET SIZE: 11" x 17"

SCALE: 1"=30'0"

SITE PLAN

N

L100

Stewardship Grant Application Summary

Project Name: Washington County Community Development Ag **Application Number:** 21-39 CS

Board Meeting Date: 11/3/2021

Applicant Name: Kristen Scobie

Residential ☐ **Commercial/Government** ☑

Project Overview:

This project is located at the Washington County Community Development Agency office located off Currell Blvd and Valley Creek Rd in the City of Woodbury. The 1.5 acre property is made up of a large parking lot with significant areas of manicured turf areas. The applicant is looking to revitalize and improve the grounds by converting turf grass areas into native plantings consisting of trees, shrubs, grasses, and perennials.
This project is eligible for 50% coverage up to $15,000

BMP type(s):

Native Habitat Restoration(1)

Grant Request:

$15,000.00

Recommendation:

Staff recommends approval of this application.

Subwatershed:

Battle Creek Lake

Location Maps:

plan created by:
Washington Conservation District
455 Hayward Ave N
Oakdale, MN 55128
(651) 330-8220
www.mnwcd.org

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
2665 Noel Drive - Little Canada, MN 55117
(651) 792-7950 www.rwmwd.org

Project Address	Washington County Community Development Agency 765 Currell Blvd, Woodbury, MN 55125
Project Designer	Andrew Novak Washington Conservation District
Project Title	CDA Landscape Improvements
Sheet Title	Project Overview
CAD File Name	PLAN Wash Cty CDA (2).vwx
Revision	
Drawn By	
Reviewed By	
Date	9/20/21
Scale	
Sheet No.	1 of 6

Consent Agenda Action Item

Board Meeting Date: November 3, 2021 **Agenda Item No:** 3E

Preparer: Tina Carstens, Administrator

Item Description: Change Order No. 7 for the Keller Channel Weir and Phalen Outlet Resiliency Modification Project

Background:

Attached is change order number 7 for the Keller Channel Weir and Phalen Outlet Resiliency Modification Project. This change order includes a reduction in the final contract price due to damage done by the contractor on the native planting areas near the project. The change order details can be found in the attached document.

Applicable District Goal and Action Item:

Goal: Manage risk of flooding – The District will reduce the public's risk to life and property from flooding through programs and projects that protect public safety and well-being.

Action Item: Cooperate with appropriate stakeholders to identify, assess, and address potential flooding problems in the District.

Staff Recommendation:
Approve Change Order No. 7.

Financial Implications:
This change order would decrease the contract price by $3,000.

Board Action Requested:
Approve Change Order No. 7.

Change Order No. 7
Ramsey-Washington Metro Watershed District
Keller Channel Weir and Phalen Outlet Resiliency

DATE OF ISSUANCE: October 26, 2021

Owner: Ramsey-Washington Metro Watershed District
2665 Noel Drive
Little Canada, MN 55117
Attn: Lawrence Swope

Contractor: Pember Companies, Inc.
N4449 469th St.
Menomonie, WI 54751
Attn: Joe Pember

Engineer: Barr Engineering Company
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435
Attn: Brad Lindaman

C.O.7.A Reduction in Final Contract Price

Description of Change:

Following the initial work by the contractor to place seed and erosion control blanket, the crew returned to the site to spray for weeds and to water areas due to dry weather conditions. While performing their work, the crew entered native vegetation areas containing prairie grasses and live plants outside the work limits. Due to their activities, the native areas were contaminated with turf grass seeds that required all seed eradication and replanting. On a second site visit, the crew returned to conduct weed control and inadvertently destroyed live plants just placed in cooperation with local volunteers. To correct these errors, the Owner's Natural Resources staff purchased and planted live plants and grasses in areas that were inappropriately seeded and mowed/destroyed.

The contractor has agreed to adjust the final contract price to provide the necessary compensation for labor and expenses to the owner for which the corrective work was performed and completed. To pay for this, the owner will withhold retainage to cover this cost. The contractor agrees to this amount and records of this statement is attached for the purpose of compensatory tracking.

Measurement and Payment:
None

Change in Contract Time:
None

Total Impact on Contract Price:
$3,000.00 withheld from contract retainage

This Change Order No. 7 is:

Submitted By:
(ENGINEER)

Bradley J. Lindaman, Project Engineer
Barr Engineering Company

Date: October 26, 2021

Authorized By:
(OWNER)

Lawrence Swope, President
Ramsey-Washington Metro Watershed District

Date: _____

Approved By:
(CONTRACTOR)

Joe Pember, Project Manager
Pember Companies, Inc.

Date: 10/26/21

Attachments: Pember Approval Email

CHANGE ORDER NO. 7
OCTOBER 26, 2021
ADJUSTMENT TO FINAL CONTRACT PRICE

From: Joe Pember <JPember@pembercompanies.com>
Sent: Thursday, August 5, 2021 1:42 PM
To: Greg Nelson
Cc: markpolen81@gmail.com
Subject: RE: Lake Phalen Native Vegetation Establishment

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Hi Greg,

$1,000.00 AMOUNT

Yes I heard about it. The guys were mowing weeds and didn't see the plants. I will accept the $1000 deduct.

Thanks,

Joe Pember
Senior Project Manager
Pember Companies, Inc.
N4449 469th Street
Menomonie, WI 54751
jpember@pembercompanies.com
Office 715.235.0316
Mobile 715.556-0602
Fax 715.235.9006

From: Greg Nelson <GNelson@barr.com>
Sent: Thursday, August 5, 2021 1:40 PM
To: Joe Pember <JPember@pembercompanies.com>
Cc: Dave Vlasin <david.vlasin@rwmwd.org>; markpolen81@gmail.com
Subject: Lake Phalen Native Vegetation Establishment

Re: Damage to Live Plants

Hi Joe,

It has been brought to my attention that a Pember team member mowed down live plants that the watershed staff with 3M volunteers planted recently behind the fencing at Lake Phalen. I don't know all the details but I understand that Mark Polen has some knowledge of what happened.

Today Dave asked Bill and Simba (Natural Resources-RWMWD) what the damage assessment replacement cost would be for this. They came up with $1000.00 to pay for new plants and labor to restart the nurturing, watering and maintenance involved. We found this price to be rather reasonable for the level of effort put into it before this incident occurred.

Please ask Mark about the details and let me know if you can accept the additional reduction in retainage to cover this cost. I understand the frustration this may cause but also need to get this out there now so we can resolve it during final payment in a couple weeks.

Thanks,
Greg

From: Joe Pember <JPember@pembercompanies.com>
Sent: Monday, June 7, 2021 10:02 AM
To: Dave Vlasin <david.vlasin@rwmwd.org>; Greg Nelson <GNelson@barr.com>
Subject: RE: Lake Phalen Native Vegetation Establishment

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Hi Dave,

Yes that will work for us.

Thanks,

Joe Pember
Senior Project Manager
Pember Companies, Inc.
N4449 469th Street
Menomonie, WI 54751
jpember@pembercompanies.com
Office 715.235.0316
Mobile 715.556-0602
Fax 715.235.9006

From: David Vlasin <david.vlasin@rwmwd.org>
Sent: Monday, June 7, 2021 9:58 AM
To: Joe Pember <JPember@pembercompanies.com>; 'Greg Nelson' <GNelson@barr.com>
Cc: David Vlasin <david.vlasin@rwmwd.org>
Subject: RE: Lake Phalen Native Vegetation Establishment

Joe,
Thank you for working with us on this! – instead of Pember writing a check, at project close out. Would it be acceptable to simply deduct the $2k for the final pay app?

Thanks,
Dave

Dave Vlasin | Watershed Project Coordinator
Ramsey-Washington Metro Watershed District
2665 Noel Drive | Little Canada, MN | 55117
O- 651-792-7970 | C- 612-810-5885 | www.rwmwd.org

From: Joe Pember <JPember@pembercompanies.com>
Sent: Thursday, May 27, 2021 10:01 AM
To: 'Greg Nelson' <GNelson@barr.com>
Cc: David Vlasin <david.vlasin@rwmwd.org>
Subject: RE: Lake Phalen Native Vegetation Establishment

Hello Everyone, $2,000.00 AMOUNT

Pember accepts the agreement as stated below.

Sincerely,

Joe Pember
Senior Project Manager
Pember Companies, Inc.
N4449 469th Street
Menomonie, WI 54751
jpember@pembercompanies.com
Office 715.235.0316
Mobile 715.556-0602
Fax 715.235.9006

From: Greg Nelson <GNelson@barr.com>
Sent: Thursday, May 27, 2021 9:10 AM
To: Joe Pember <JPember@pembercompanies.com>
Cc: Dave Vlasin <david.vlasin@rwmwd.org>; Greg Nelson <GNelson@barr.com>
Subject: Lake Phalen Native Vegetation Establishment

Hi Joe,

As we discussed over the phone today, the Owner, RWMWD's natural resource staff would like to propose to make the necessary corrections at the Lake Phalen site. The areas where grass seed was applied will require significant effort to eradicate all establishing grasses with a herbicide to clean the soil palette. Once that is achieved, they will seed native plants as previously planned for the project. RWMWD staff would provide you an invoice with detail for time and materials required to eradicate the grasses. The estimated time and materials cost for this effort is $2,000.00. If the

anticipated cost increases by 10 percent, the Owner will notify you in advance before continuation of work.

Please provide your acceptance to this request for this compensatory arrangement by replying to this email.

Regards and Thanks
Greg Nelson
Project Manager

Greg Nelson

Senior Project Designer
Minneapolis, MN office: 952.832.2770
cell: 612.599.8889
gnelson@barr.com
www.barr.com

Consent Agenda Action Item

Board Meeting Date: November 3, 2021 **Agenda Item No:** 3F

Preparer: Tina Carstens, Administrator

Item Description: Change Order No. 4 for the North St. Paul Target Store Retrofit Project

Background:
Attached is change order number 4 for the North St. Paul Target Store Retrofit Project. This change order corrects the estimated bid quantity for the salt-tolerant sod needed on this project and an adjustment in the bid unit cost. The change order details can be found in the attached document.

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 Items: Implement retrofit water quality improvement projects.

Staff Recommendation:
Approve Change Order No. 4.

Financial Implications:
This request increases the contract price by $13,312.50.

Board Action Requested:
Approve Change Order No. 4.

Change Order No. 4
Ramsey-Washington Metro Watershed District
North St. Paul Target Retail Store Stormwater Retrofits

DATE OF ISSUANCE: October 7, 2021

Owner: Ramsey-Washington Metro Watershed District
2665 Noel Drive
Little Canada, MN 55117
Attn: Larry Swope

Contractor: Peterson Companies, Inc.
8326 Wyoming Trail
Chisago City, MN 55013
Attn: Jake Sikora, Johnathan Peterson

Engineer: Barr Engineering Company
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435
Attn: Brad Lindaman, Katie Turpin-Nagel

C.O.4.A Sodding (Salt Tolerant) Unit Cost and Quantity

Description of Change:

This change corrects an error in the estimated bid quantity for sodding (salt tolerant), additional quantity for sodding (salt tolerant) needed for additional removals due to irrigation line relocation, and an adjustment in the bid unit cost to reflect the larger quantity installed.

Bid Form and Base Bid:
Delete the following from Section 00 41 00 ARTICLE 4.01.A. BID ITEMS:

Bid Item	Description	Unit	Estimated Quantity	Unit Price	Estimated Cost
NNN	Sodding (Salt Tolerant)	SY	125	$18.90	$2,362.50

Add the following to Section 00 41 00 ARTICLE 4.01.A. BID ITEMS:

Bid Item	Description	Unit	Estimated Quantity	Unit Price	Estimated Cost
NNN	Sodding (Salt Tolerant)	SY	1500	$10.45	$15,675.00

Change in Contract Time:

None

Total Impact on Contract Price:

These changes are anticipated to ***increase*** the contract price by ***$13,312.50.***

This Change Order No. 4 is:

Submitted By: _____ Date: October 7, 2021
(ENGINEER) Katelyn Turpin-Nagel, Project Engineer
Barr Engineering Company

Authorized By: _____ Date: _____
(OWNER) Lawrence Swope, President
Ramsey-Washington Metro Watershed District

Approved By: _____ Date: 10/14/2021
(CONTRACTOR) Jake Sikora, Project Manager
Peterson Companies, Inc.

****

Permit Program

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RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

MEMORANDUM

Date: November 3, 2021

To: Board of Managers and Staff

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

Subject: October Enforcement Action Report

During October 2021:

Number of Violations:	**9**
Install/Maintain Inlet Protection	1
Install/Maintain Perimeter Control	2
Sweep Streets	1
Stabilize Exposed Soils	1
Contain Liquid/Solid Waste Materials	2
Remove Discharged Sediment	2

Activities:

Permitting assistance to private developers and public entities, miscellaneous resident inquiries, ongoing ESC site inspections and reporting, WCA administration and site visits, new permit review with Barr Engineering, permit close-out inspections, cost-share team meeting, BMP maintenance site visits, MN Water Resources conference, Victoria Shores EAW review, MPCA MS4 Q&A session, board wetlands workshop, BWSR Academy

Project Updates:

#21-28 Luella Pond Outlet (St. Paul)

The Luella Pond outlet project is underway to install a manually operated gate to the currently landlocked basin. Staff attended an onsite meeting on October 14th to discuss the project schedule and inspect erosion and sediment control items. Staff learned the outlet pipe install schedule would only take a few days, followed by trail install, new sidewalk, and stabilization of all disturbed areas. All necessary erosion and sediment control items were

installed per plan on October 14th, and during a routine inspection on October 22nd, staff found similar well-maintained conditions.

#18-27 McKnight Road Development (North St. Paul)

Staff were notified mid-October that the two stormwater treatment features, an infiltration basin and filtration basin, were going to begin to be excavated and installed. Staff visited the site to observe the installation process on October 14th and October 22nd. Overall the installation process seemed to be going smoothly, and staff will do several post-install inspections to ensure the basins are fully functional. Staff also inspected erosion and sediment control items while onsite and noted that some routine maintenance was needed including perimeter control repair and street sweeping.

#20-22 Maplewood Elementary

Significant progress has been made to the new school building and surrounding site work. Staff visited the site on October 8th for a routine inspection and found a large majority of the site to be seeded with blanket and/or hydroseed. Trees, plugs and mulch had also been installed. This expansive stabilization will put the site in a great position to protect the soil for fall, and will hopefully germinate well and establish in spring. Staff will continue to inspect the site and communicate with site managers and contractors.

48-hour Rainfall Inspections

Staff conducted 48-hour post-rainfall inspections on Friday October 22nd to determine if permit site BMP's were drawing down in required timeframes. Sites inspected include SOS Office Furniture (#20-38), County Road D and Greenbrier SIP (#20-12), White Bear Lake High School South Gym (#20-23) and Tartan High School Redevelopment Phase I (#20-21). All BMPs were determined to be infiltrating properly, and vegetation establishment was deemed acceptable for meeting permit requirements. Staff have communicated these findings and any remaining items needed to close the permits to all necessary parties.

Single Lot Residential Permits Approved by Staff:

None

Permits Closed:

11-15 The Shores (Maplewood)
17-25 Shoreview Community Center Expansion (Shoreview)
18-03 Suite Living North St. Paul (North St. Paul)
18-04 Suite Living Little Canada (Little Canada)
19-14 Shoreview 2019 SIP (Shoreview)
19-24 Woodbury Middle School Parking Lot (Woodbury)
19-27 Shoreview Commons (Shoreview)
19-40 Luther White Bear Subaru Parking (Vadnais Heights)
20-15 Spoon Lake Boat Launch Restoration (Maplewood)
20-17 Woodbury PFAS Treatment Facility (Woodbury)

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Stewardship Grant Program

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Stewardship Grant Program Budget Status Update

November 3, 2021

Homeowner	Coverage	Number of Projects: 26	Funds Allocated
Habitat Restoration and rain garden w/o hard surface drainage	50% Cost Share $15,000 Max	18	$30,248.90
Rain garden w/hard surface drainage, pervious pavement, green roof	75% Cost Share $15,000 Max	6	$45,435
Master Water Steward Project	100% Cost Share $15,000 Max	0	$0
Shoreland Restoration	100% Cost Share $15,000 Max	2	$8,500

Commercial, School, Government, Church, Associations, etc.	Coverage	Number of Projects: 13	Funds Allocated
Habitat Restoration	50% Cost Share $15,000 Max	8	$86,925*
Shoreland Restoration (below 100-year flood elevation w/actively eroding banks)	100% Cost Share $100,000 Max	1	$110,000
Priority Area Projects	100% Cost Share $100,000 Max	0	$0
Non-Priority Area Projects	75% Cost Share $50,000 Max	0	$0
Public Art/Project Research	50% Cost Share	2	$19,000
Aquatic Veg Harvest/LVMP Development	50% Cost Share $15,000 Max	2	$17,460

Maintenance	50% Cost Share $5,000 Max for 5 Years	60	$44,750
Consultant Fees			$57,782
Total Allocated			**$420,100.90**

2021 Stewardship Grant Program Budget	
Budget	$1,000,000
Total Funds Allocated	$420,100.90
Total Available Funds	**$579,899.10**

**This includes applications pending approval at the November 3, 2021 board meeting.*

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Action Items

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Request for Board Action

Board Meeting Date: November 3, 2021 **Agenda Item No.:** 7A

Preparer: Tina Carstens, Administrator

Item Description: 2022 CIP Maintenance and Repair Project Authorization to Finalize Design and Prepare the Bidding Documents and Advertise for Bids.

Background:
Annually, the District completes a project to maintain the existing infrastructure owned and operated by the District, and to assist and facilitate stormwater pond cleanouts to allow other public entities to meet their municipal separate storm sewer system (MS4) requirements.

Staff has put together the 2022 CIP Maintenance/Repair project preliminary design and are seeking authorization from the board at the November 3 meeting to proceed with the bidding process. Attached are select pages of the plan set. The proposed cost information is also included.

If the board deems it appropriate they should consider a motion that "approves the preliminary design, estimate of probable costs, and expected schedule, and directs the staff to prepare the bidding documents and advertise the project for bid". Staff will present bids for the work at the December board meeting and a January construction start is expected.

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 Items: Maintain District projects and consider opportunities to support the maintenance activities of others.

Goal: Manage Risk of Flooding – The District will reduce the public's risk to life and property from flooding through programs and projects that protect public safety and economic well-being.

Action Item: Maintain District flood storage facilities and storm sewer systems.

Staff Recommendation:
Staff recommends that the Board 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.

Financial Implications:

The CIP Maintenance and Repair project is included in the 2022 preliminary budget. Staff will present the engineer's cost estimate for this upcoming project at the meeting.

Board Action Requested:

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.

Ramsey-Washington Metro Watershed District

Capital Improvement Project (CIP)
Maintenance/Repairs 2022

Anticipated Cost Breakdown by Site (Incl. Mob/Demob.)

Site 1	PFS Basins Paver Cleaning/Sweeping	$ 10,000	note 1
Site 2	Tanners Wetland Weir Maintenance	$ 18,000	note 1
Site 3	Gervais Mill Pond Filter Maintenance	$ 15,000	note 1
Site 4	Lower Afton Rd Drainageway	$ 10,000	note 1
Site 5	Kohlman Basin Sand Filter Maintenance	$ 9,000	note 1
Site 6	Wakefield Test Cell Media Replacement	$ 10,000	note 1
Site 7	County Road D Washout Repair	$120,000	note 2
Site 8	Gervais Creek Improvements	$122,200	
Site 9	Meadowood Pond Cleanout (SC-076)	$ 35,000	note 1, 2
Site 10	Ventura Pond Cleanout (SC-242)	$ 23,200	note 1, 2
Site 11	Lake Terrace Pond Cleanout (SC-327)	$116,300	note 1, 2, 3
Site 12	Willow Creek Headwall Grate	$ 3,500	
Site 13	Keller Regional Trail Access	$ 15,000	

note 1 Assumes cost to dispose and transport material removed to a permitted solid waste facility.
note 2 Construction costs to be reimbursed by the city under the RWMWD partnership program.
note 3 Anticipated cost for Option A shown, Anticipated cost for Option B is $45,000.

Construction Subtotal	$507,200
Construction Contingency/Change Orders (20%)	$101,400
Estimated Construction Cost	$608,600
Engineering, Design, and Administration (25%)	$150,000
Estimated Total Project Cost w/Range (-5% to +10%)	**$758,600 (720,000 to 835,000)**

CONTRACT DOCUMENTS

CAPITAL IMPROVEMENT PROJECT MAINTENANCE/REPAIRS 2022
RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

TABLE OF CONTENTS

Division 32 – Exterior Improvements

Division 33 – Utilities

Drawings

Appendices

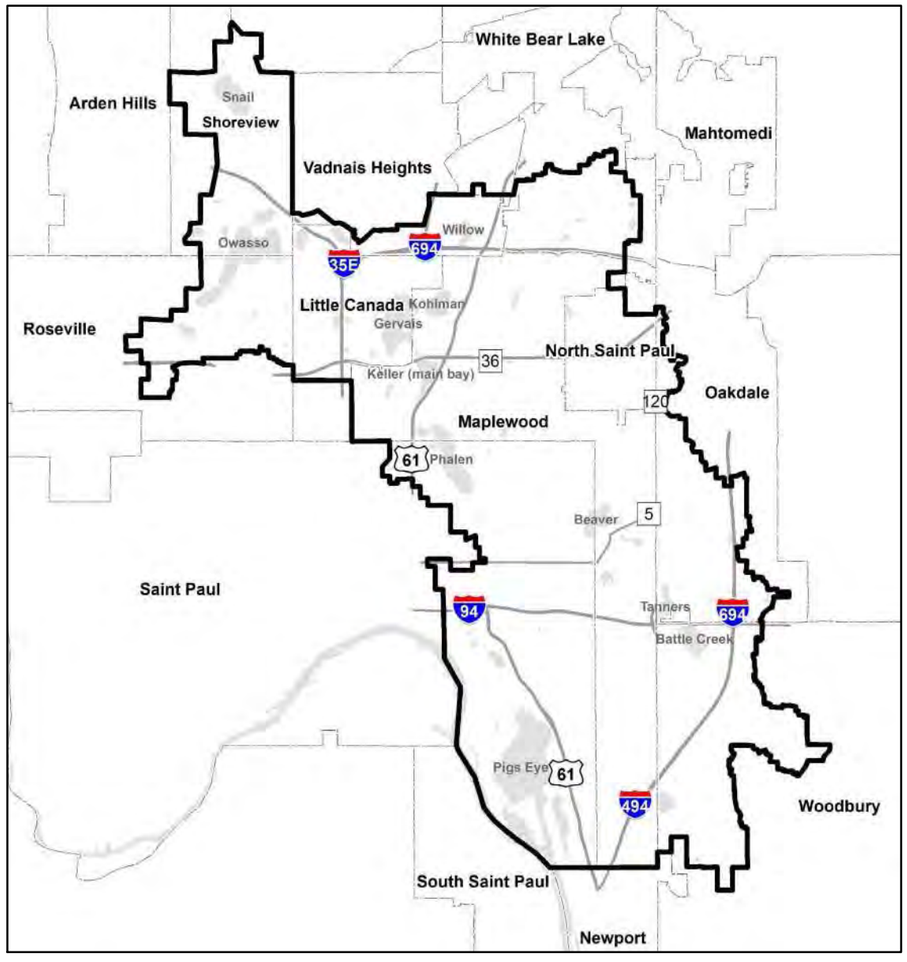
RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

CAPITAL IMPROVEMENT PROJECT (CIP)
MAINTENANCE/REPAIRS 2022

LITTLE CANADA, MINNESOTA

AREA REFERENCE

SITE NO.	SITE NAME	SHEET NO.
①	TAMARACK SWAMP WOODBURY	C-01
②	TANNERS WETLAND OAKDALE	C-02
③	GERVAIS MILL PARK LITTLE CANADA	C-03
④	LOWER AFTON ROAD MAPLEWOOD	C-04
⑤	KOHLMAN BASIN MAPLEWOOD	C-05
⑥	WAKEFIELD LAKE MAPLEWOOD	C-06
⑦	COUNTY ROAD D VADNAIS HEIGHTS	C-07 AND C-08
⑧	GERVAIS CREEK LITTLE CANADA	C-09 AND C10
⑨	MEADOWOOD POND WOODBURY	C-11
⑩	VENTURA POND WOODBURY	C-12
⑪	LAKE TERRACE POND WOODBURY	C-13
⑫	WILLOW CREEK WHITE BEAR	C-14
⑬	KELLER REGIONAL PARK MAPLEWOOD/SAINT PAUL	C-15



VICINITY MAP

SHEET INDEX

G-GENERAL
C-CIVIL

SHEET NO.	TITLE
G-01	SITE LOCATION AND SHEET INDEX
G-02	STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
G-03	EROSION CONTROL DETAILS
C-01	PFS BASINS PAVER CLEANING/SWEEPING
C-02	TANNERS WETLAND WEIR MAINTENANCE
C-03	GERVAIS MILL POND FILTER MAINTENANCE
C-04	LOWER AFTON ROAD DRAINAGEWAY SEDIMENT REMOVAL
C-05	KOHLMAN BASIN SAND FILTER MAINTENANCE
C-06	WAKEFIELD TEST CELL MEDIA REPLACEMENT
C-07	COUNTY ROAD D WASHOUT REPAIR PLAN AND PROFILE
C-08	COUNTY ROAD D WASHOUT REPAIR SECTIONS AND DETAILS
C-09	GERVAIS CREEK IMPROVEMENTS PLAN & PROFILE
C-10	GERVAIS CREEK IMPROVEMENTS SECTIONS AND DETAILS
C-11	MEADOWOOD POND CLEANOUT (SC-076)
C-12	VENTURA POND CLEANOUT (SC-242)
C-13	LAKE TERRACE POND CLEANOUT (SC-327)
C-14	WILLOW CREEK HEADWALL GRATE
C-15	KELLER REGIONAL TRAIL ACCESS

GOPHER STATE ONE CALL

GOPHER STATE ONE CALL:
CALL BEFORE YOU DIG.
1-800-252-1166

CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD-LOCATING ALL SITE UTILITIES, PRIVATE AND PUBLIC, PRIOR TO STARTING THE WORK. ALL UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE. ANY UTILITIES DAMAGED BY CONTRACTOR SHALL BE REPAIRED BY CONTRACTOR TO THE SATISFACTION OF THE UTILITY OWNER.

PRELIMINARY DRAFT
NOT FOR CONSTRUCTION

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

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.

PRINTED NAME BRADLEY J. LINDAMAN
SIGNATURE
DATE _____ LICENSE # 22178

CLIENT	10/27/21							
BID								
CONSTRUCTION								
RELEASED TO/FOR	A	B	C	0	1	2	3	
	DATE RELEASED							

BARR
Corporate Headquarters:
Minneapolis, Minnesota
Ph: 1-800-632-2277

Project Office:
BARR ENGINEERING CO.
4300 MARKETPOINTE DRIVE
Suite 200
MINNEAPOLIS, MN 55435
Ph: 1-800-632-2277
Fax: (952) 832-2601
www.barr.com

Scale	AS SHOWN
Date	10/13/2021
Drawn	BARR
Checked	.
Designed	BARR
Approved	.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

CAPITAL IMPROVEMENT PROJECT (CIP)
MAINTENANCE/REPAIRS 2022

SITE LOCATIONS
AND SHEET INDEX

BARR PROJECT No.	23/62-282.38
CLIENT PROJECT No.	
DWG. No.	G-01
REV. No.	A

GENERAL CONSTRUCTION ACTIVITY INFORMATION:
The Stormwater Pollution Prevention Plan (SWPPP) is required for the General Permit Authorization to Discharge Stormwater Associated with Construction Activity (NPDES Permit) as required by the Minnesota Pollution Control Agency (MPCA) under the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS).

This project is "Capital Improvement Project (CIP) Maintenance/Repairs 2022" for the Ramsey Washington Metro Watershed District. The purpose of the project is to maintain existing facilities and structures and protect the surface waters within the watershed. The project includes a total of 13 sites located throughout the Ramsey Washington Metro Watershed District within Ramsey County and Washington County in the Cities of Little Canada, Maplewood, Oakdale, Vadnais Heights, White Bear, St. Paul, , and Woodbury, Minnesota. Proposed construction will take place within the sites listed below:

Project Sites:
1) Tamarack Swamp; Located in Woodbury, MN. in the SE¼ of Section 8, T28N, R21W Latitude: 44.925, Longitude: -92.948.
2) 5th Street Wetland; Located in Oakdale, MN. in the NW¼ of Section 31, T29N, R22W Latitude: 44.956, Longitude: -92.977.
3) Tanners Wetland; Located in Oakdale, MN. in the NW¼ of Section 31, T29N, R21W Latitude: 44.960, Longitude: -92.982.
4) Gervais Mill Park; Located in Little Canada, MN. in the SW¼ of Section 8, T29N, R22W Latitude: 45.022, Longitude: -93.079.
5) Lower Afton Road; Located in Maplewood, MN. in the NE¼ of Section 11, T28N, R21W Latitude: 44.933, Longitude: -93.010.
6) ABI Diversion Manhole; Located in Oakdale, MN. in the SE¼ of Section 31, T29N, R21W Latitude: 44.949, Longitude: -92.969.
7) Bailey's Nursery; Located in Newport, MN. in the SW¼ of Section 19, T28N, R21W Latitude: 44.898, Longitude: -92.984.
8) Kohlman Basin; Located in Maplewood, MN. in the SW ¼ Section 3, T29N, R22W Latitude: 45.027, Longitude: -93.045.
9) Willow Pond; Located in Roseville, MN. in the NE ¼ Section 10, T29N, R23W, Latitude: 45.016, Longitude: -93.154.
10) Owasso Basin Improvements:
   a. Perimeter Berm Grading; Located in Little Canada, MN. in the NW ¼ Section 6, T29N, R22W, Latitude: 45.036, Longitude: -93.096.
   b. Channel Cleaning and Grading; Located in Little Canada, MN. in the E 1/2 Section 6, T29N, R22W, Latitude: 45.026, Longitude: -93.090.
11) Round Lake Pond; Located in Little Canada, MN. in the SW ¼ Section 6, T29N, R22W, Latitude: 45.026, Longitude: -93.103.
12) Margaret Pond; Located in North St. Paul, MN. in the NE ¼ Section 13, T29N, R22W, Latitude: 45.003, Longitude: -92.991.
13) McKnight Basin; Located in Maplewood, MN. in the NW Section 1, T28N, R22W, Latitude: 44.945, Longitude: -93.004.
14) Grass Lake Overflow; Located in Shoreview, MN. in the NE ¼ Section 25, T30N, R23W, Latitude: 45.058, Longitude: -93.111.

LOCATION MAP
See Title Sheet G-01 of the Construction Plans, Site Location Map and Sheet Index of site locations.

The project Work includes mobilization and demobilization at multiple sites; control of water and or dewatering to perform work; excavation with off site disposal of sediment/muck/vegetation from storm water detention ponds and channels; excavation with off-site disposal of sediment/muck/vegetation from storm water modular block paver basins; debris clearing along and between slots of timber weirs; remove and replace existing filter rock and netting from weir; general site work, earthwork and grading; riprap and filter installation at pond inlets/outlets; removal and replacement of existing concrete weir in manhole; repairs of existing storm sewer; construction of water quality test system; installation of drain pipe around spent lime filter; rebuild/repair existing flood plan berm; channel cleaning and grading; repair of sink holes and erosion, installation of pavers along bituminous trail, site restoration with native seed mixes; temporary and permanent erosion controls. Erosion prevention measures are required to prevent sediment from being transported off site or to nearby surface waters. Refer to project drawings for further details.

The anticipated total area of disturbance is approximately 3.74 acres.

The total area of pre-construction impervious area is approximately 0.30 acres.
The total area of post-construction impervious area is approximately 0.30 acres.

DATES OF CONSTRUCTION: Begin Construction January 2021, Completion July 2021.

RESPONSIBLE PERSONS:
- Below is a list of people responsible for this project who are knowledgeable and experienced in the application of erosion prevention and sediment control BMPs. They shall oversee the implementation of the SWPPP, inspection, and maintenance of erosion prevention, and sediment control BMPs before and during construction.

RESPONSIBLE PERSONS:

OWNER: Ramsey Washington Metro Watershed District		CONTRACTOR:	
MAILING ADDRESS:	2665 Noel Drive Little Canada, MN 55117	MAILING ADDRESS:	
CONTACT PERSON:	Tina Carstens Administrator	CONTACT PERSON:	
PHONE:	651-792-7960	PHONE:	
MOBILE PHONE:		MOBILE PHONE:	
EMAIL:	tina.carstens@rwmd.org	EMAIL:	

Dave Vlasin — Watershed Project Manager
Ramsey Washington Metro Watershed District
2665 Noel Drive
Little Canada, MN 55117
651-792-7972

TRAINED INDIVIDUAL	RESPONSIBILITY	APPLICABLE TRAINING	TRAINING DOCUMENTATION ATTACHED?
Jacob N. Burggraff Barr Engineering Co. 4300 MarketPointe Drive Bloomington, MN 55435 952-832-2743 jburggraff@barr.com	Preparation of SWPPP	Design of Construction SWPPPs U of MN, April 2008, Updated Nov. 2010, March 2014, May 2017 Expires May 31, 2020	No
Greg Nelson Barr Engineering Co. 4300 MarketPointe Drive Bloomington, MN 55435 952-832-2770 612-599-8889 gnelson@barr.com	Oversight of SWPPP Implementation, Revision Amendment	Construction Site Management Barr Engineering	No
TBD Company Address City, MN Zip Phone No. Email	Performance or Supervision of Installation Maintenance, and Repair of BMPs. Performance of SWPPP Inspections.	Construction Site Manager	No

RECEIVING WATERS:

Water Body Name:	Water body ID:	Special Water?	Impaired Water?
Gervais Lake	62-0007-00	No	Yes-Non/Construction
Gervais Creek	Not on List	No	No
Tanners Lake	82-0115-00	No	Yes-Non/Construction
Battle Creek	70-0206-59	No	Yes
Fish Creek	70-0206-60	No	Yes-Non/Construction
Lake Owasso	62-0056-00	No	Yes-Non/Construction
Kohlman Lake	62-0006-00	No	Yes
Kohlman Creek	62-0278-00	No	No
West Vadnais Lake	62-0038-02	No	Yes

Project Area Soil Type: Rural Land, hydrologic soil groups Ta, Sb, HaB, HaB2, Lf, Df.

REGULATORY CONTEXT:
Special or Impaired Waters: This project discharges to impaired waters within one mile of the sites and the project is required to follow the requirements for discharging to an impaired water in 23.1, 23.2, 23.7, 23.8, 23.9, and 23.10 of the permit.

This project stormwater discharge is not anticipated to impact any of the following: Outstanding resource value waters, trout waters, wetlands, calcareous fens, properties listed by the National Register of Historic Places or archaeological sites and is not subject to additional regulations due to any formal environmental reviews, endangered or threatened species.

PROJECT PLANS AND SPECIFICATIONS:

Required Feature	Sheet No.
Site Locations and Sheet Index	G-01
Erosion Control Details	G-03
Construction Limits	C-01 to C-15
Existing and Final Grades with Flow Direction	C-01 to C-15
Impervious Surfaces	C-01 to C-15
Potential Pollution generating activities	C-01 to C-15
Areas not to be disturbed	C-01 to C-15
Areas where construction will be phased	C-01 to C-15
Temporary and Permanent erosion and sediment control BMPs	C-01 to C-15
Standard Details for erosion and sediment control	G-03
Estimated Preliminary BMP Quantities	Bid Documents, Bid Form

TEMPORARY EROSION CONTROL PRACTICES

Timing:
1. Delineate areas of the site not to be disturbed (with flags, stakes, signs, silt fence, etc.) before work begins.
2. Construction phasing will be used when possible to minimize concurrent soil exposure; stabilizing areas as soon as work is completed; and restoring access paths when they are no longer needed.
3. Initiate stabilization immediately whenever any construction activity has permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.
4. Complete stabilization no later than 7 calendar days after the construction activity in any portion of the site has temporarily or permanently ceased.

BMPs:
1. Erosion control and stabilization practices to be installed are depicted on the Drawing No. G-03, and include: silt fence, sediment control logs, rock filter dike, riprap outfall, sediment control dike, inlet drain protection, erosion control blanket, rock construction entrance, flotation silt curtain, and vegetation (through seeding).
2. Soils stockpiles shall be stabilized with fast-growing cover crop and hydro mulch and silt fence or sediment log shall be placed around the perimeter of the stock piles.
3. Erosion control blanket shall be used to cover all disturbed slopes.
4. Direct construction site discharges to vegetated areas where feasible.
5. Install all BMPs in accordance with relevant manufacturer specifications and accepted engineering practices.

TEMPORARY SEDIMENT CONTROL PRACTICES

Timing:
1. Establish sediment control practices on all downgradient perimeters prior to commencing any upgradient land-disturbing activities.
2. If sediment control practices must be adjusted or removed to accommodate short-term activities, complete the activity as quickly as possible and re-install immediately after the activity has been completed or before the next precipitation event (even if the activity is not yet complete).
3. Maintain downgradient sediment control practices until final stabilization has been achieved for upgradient areas.

BMPs:
1. Minimize soil compaction where feasible.
2. Preserve topsoil where feasible; if topsoil must be removed, store in a segregated stockpile for reuse in site restoration.
3. Sediment control practices to be installed are depicted on Sheets G-03 and C-01 to C-15 and include: rock construction entrance, storm sewer pipe rip rap outlet, rock filter dike, floatation silt curtain, sediment dike, silt fence, siltation logs, inlet protection.
4. Install silt fence or siltation logs around the perimeter of temporary soil stockpiles.
5. Any dewatering of site construction areas that have turbid or sediment laden water must be discharged into a filtering device such as containment bin or filter bag for treatment. Any dewatering discharge cannot adversely affect the receiving waters downstream of the construction site.
6. Install rock construction entrances as a vehicle tracking BMP to minimize the track out of sediment from the construction site.
7. Monitor adjacent paved surfaces for track out of sediment from construction site and remove sediment via street sweeping if necessary.
8. Install all BMPs in accordance with relevant manufacturer specifications and accepted engineering practices.

BMP DESIGN FACTORS

1. Expected amount, frequency, intensity, and duration of precipitation: Approximately 2.4 inches of precipitation from the 1-year, 24-hour storm event (Atlas 14).
2. Nature of stormwater runoff and run-on at the sites, including factors such as expected flow from impervious surfaces, slopes, and site drainage features: The sites accumulates runoff from many off site slopes. Contractor shall install all erosion and sedimentation control devices to handle this off site runoff.
3. If any stormwater flow will be channelized at the site, design BMPs to control both peak flow rates and total stormwater volume to minimize erosion at outlets and to minimize downstream channel and streambank erosion: Peak flow rates and total stormwater volume should not be increased during this project. Channelized flow will be routed to vegetated areas where appropriate.
4. Range of soil particle sizes expected to be present on the site and surrounding area: clay, sandy clay, sandy silt, silty sand, sand, gravel.

PERMANENT STORMWATER MANAGEMENT SYSTEM

This project will not generate greater than one acre of new impervious surface and will not require a stormwater management system.

INSPECTION AND MAINTENANCE ACTIVITIES

Inspection Requirements:
1. Inspect the entire construction site at least once every 7 days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours.
2. Contractor must keep inspection log and copies of the log must be submitted with payment applications.
3. Where parts of the site have permanent cover, but work remains on other parts of the site, inspection frequency may be reduced to once per month in areas with permanent cover.
4. Inspect all erosion prevention and sediment control BMPs and pollution prevention management measures for integrity and effectiveness.
5. Inspect surface waters for evidence of erosion and sediment deposition.
6. Inspect construction site vehicle exit locations for evidence of off-site sediment tracking onto paved surfaces and inspect streets and other areas adjacent to the project for evidence of off-site accumulations of sediment.
7. Inspections must be conducted by an appropriately trained individual in accordance with the Construction Stormwater (CSW) Permit.

Maintenance Requirements:
1. Repair, replace, or supplement all nonfunctional BMPs with functional BMPs by the end of the next business day after discovery or as soon as field conditions allow access.
2. Repair, replace or supplement all perimeter control devices when they become nonfunctional or the sediment reaches 1/2 of the height of the device.
3. Remove all deltas and sediment deposited in surface waters and re-stabilize the areas where sediment removal results in exposed soil within 7 days of discovery.
4. Remove tracked sediment from all paved surfaces both on and off site within 24 hours of discovery.
5. Remove off-site accumulations of sediment in a manner and at a frequency sufficient to minimize off-site impacts.
6. Maintain all BMPs accordance with relevant manufacturer specifications and accepted engineering practices.

Recordkeeping:
1. All inspections and maintenance must be recorded within 24 hours in writing and records must be retained with the SWPPP.
2. Records of each inspection and maintenance activity shall include:
   a. Date and time of inspections
   b. Name of person(s) conducting inspections
   c. Findings of inspections, including the specific location where corrective actions are needed.
   d. Corrective actions taken (including dates, times, and party completing maintenance activities).
   e. Date and amount of all rainfall events greater than 0.5 inches in 24 hours; rainfall amounts will be obtained from a properly maintained rain gauge installed onsite, a weather station that is within 1 mile of the site, or a weather reporting system that provides site specific rainfall data from radar summaries.
   f. If any discharge is observed to be occurring during the inspection, a record of all points of the property from which there is a discharge must be made, and the discharge should be described (i.e., color, odor, floating, settled, or suspended solids, foam, oil sheen, and other obvious indicators of pollutants) and photographed.
   g. Any amendments to the SWPPP proposed as a result of the inspection must be incorporated within 7 calendar days.

RECORD RETENTION

Copies of inspection records for the time period of that payment application shall accompany the payment applications.

This SWPPP including, all changes to it, and inspections and maintenance records must be kept at the site during construction in either the field office or in an on-site vehicle during normal working hours.

Upon request make this SWPPP (including all certificates, reports, records, or other information required by the CSW Permit) available to federal, state, and local officials within 72 hours for the duration of the permit and for 3 years following the NOT.

POLLUTION PREVENTION MANAGEMENT MEASURES

1. Minimize exposure to stormwater of the following products, materials, or wastes: building products that have potential to leach pollutants are not expected to be present on site, but if present exposure to stormwater will be minimized through coverage with plastic sheeting; pesticides, herbicides, insecticides, fertilizers, treatment chemicals, and landscape materials through coverage with plastic sheeting; hazardous materials and toxic waste (including oil, diesel fuel, gasoline, hydraulic fluids, paint solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids) through proper storage in sealed containers in restricted access storage areas and in compliance with Minn. R. ch. 7045 including secondary containment as applicable; solid waste through proper storage, collection, and disposal in compliance with Minn. R. ch. 7035.
2. Position portable toilets so that they are secure and will not be tipped or knocked over.
3. Properly dispose of sanitary waste in accordance with Minn. R. ch. 7041.
4. Spill Prevention and Response: Take reasonable steps to prevent the discharge of spilled or leaked chemicals, ensure adequate supplies of absorbent and other dry clean-up materials are available at all times to clean up discharged materials and that an appropriate disposal method is available for recovered spilled materials, report and clean up spills immediately as required by Minn. Stat. §115.061.
5. Fueling and maintenance of equipment and/or vehicles will not occur on-site.
6. Washing of vehicles and/or equipment will not occur on-site.
7. Washout of concrete and/or other similar wastes (such as stucco, paint, form release oils, curing compounds and other construction materials) will not occur on-site.

FINAL STABILIZATION

Ensure final stabilization of the site.
1. For final stabilization to be considered complete, the following must occur:
   a. Complete all soil disturbing activities at the site.
   b. Stabilize all soils with permanent cover, 70% or greater vegetation cover of disturbed areas.
   c. Remove all temporary synthetic and structural erosion prevention and sediment control BMPs.
2. Permanent Cover will consist of seeding, erosion control blanket on slopes and diturbed areas, and seeding and mulching in all other disturbed areas.
3. Storm sewer culverts shall have flared sections and riprap to eliminate erosion.
4. Within 30 days after all activities for final stabilization have been completed, submit a Notice of Termination (NOT) form to the MPCA.

SWPPP AMENDEMENTS OR CHANGES

See Contractor's Inspection Log Records.

INFORMATION TO BE UPDATED DURING FINAL DESIGN

GOPHER STATE ONE CALL

GOPHER STATE ONE CALL:
CALL BEFORE YOU DIG.
1-800-252-1166

CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD-LOCATING ALL SITE UTILITIES, PRIVATE AND PUBLIC, PRIOR TO STARTING THE WORK. ALL UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE. ANY UTILITIES DAMAGED BY CONTRACTOR SHALL BE REPAIRED BY CONTRACTOR TO THE SATISFACTION OF THE UTILITY OWNER.

PRELIMINARY DRAFT
NOT FOR CONSTRUCTION

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION
-	-	-	-	-	-

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.
PRINTED NAME BRADLEY J. LINDAMAN
SIGNATURE
DATE . LICENSE # 22178

CLIENT	10/27/21							
BID								
CONSTRUCTION								
RELEASED TO/FOR	A	B	C	0	1	2	3	
	DATE RELEASED							

BARR
Corporate Headquarters: Minneapolis, Minnesota
Ph: 1-800-632-2277

Project Office:
BARR ENGINEERING CO.
4300 MARKETPOINTE DRIVE
Suite 200
MINNEAPOLIS, MN 55435
Ph: 1-800-632-2277
Fax: (952) 832-2601
www.barr.com

Scale	AS SHOWN
Date	10/13/2021
Drawn	BARR
Checked	.
Designed	BARR
Approved	.

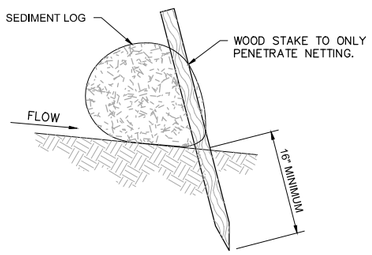
RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

CAPITAL IMPROVEMENT PROJECT (CIP) MAINTENANCE/REPAIRS 2022

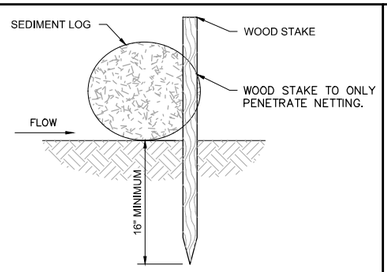
STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

BARR PROJECT No.	23/62-282.38
CLIENT PROJECT No.	
DWG. No.	G-02
REV. No.	A

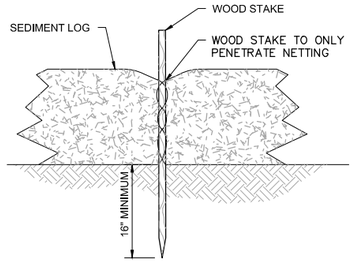
CADD USER: Greg Nelson FILE: M:\DESIGN\23\62\282.00\23628202_G02_SWPPP.DWG PLOT SCALE: 1:2 PLOT DATE: 10/27/2021 11:27 AM



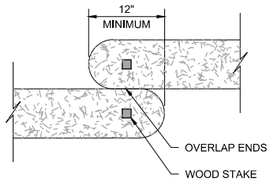
SIDE VIEW ON SLOPE



SIDE VIEW FLAT



FRONT VIEW

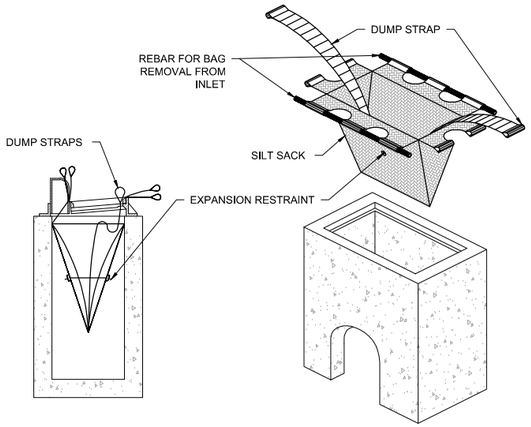


TOP VIEW

NOTES:

1. SEDIMENT LOG SHOULD BE INSTALLED ALONG CONTOURS (CONSTANT ELEVATION).
2. NO GAPS SHALL BE PRESENT UNDER SEDIMENT LOG. PREPARE AREA AS NEEDED TO SMOOTH SURFACE OR REMOVE DEBRIS.
3. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN REACHING 1/2 OF LOG HEIGHT.
4. SEDIMENT LOG SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REPAIRED OR REPLACED AS REQUIRED.

1 - DETAIL: SEDIMENT LOG - STAKING
NOT TO SCALE



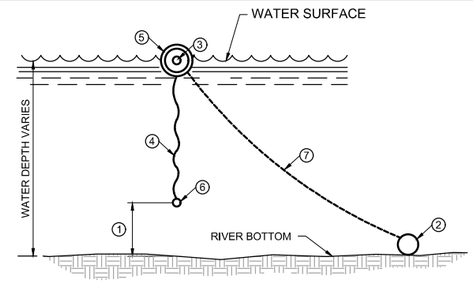
NOTES:

1. INLET PROTECTION SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED OR IMMEDIATELY FOLLOWING CATCHBASIN INSTALLATION, AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
2. MATERIALS SHALL BE SUFFICIENT TO ALLOW FLOW WHILE BLOCKING SEDIMENT, NO HOLES OR GAPS SHALL BE PRESENT IN/AROUND FILTER SACK.
3. FILTER SACK SHOULD BE CLEANED AS REQUIRED TO ALLOW FLOW INTO CATCHBASIN.
4. MATERIALS AND ANY ACCUMULATED SEDIMENT SHALL BE REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.

2 - DETAIL: INLET PROTECTION - FILTER SACK
NOT TO SCALE

NOTES:

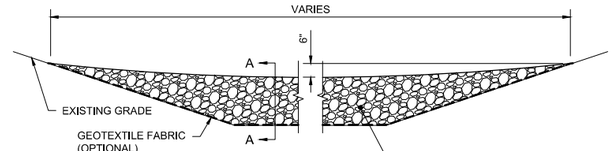
1. 6" MAXIMUM FOR WATER DEPTHS UP TO 3'-0" DEEP AND 1'-0" MAXIMUM FOR DEPTHS OVER 3'-0".
2. 24 LB (MIN.) ANCHOR @ 100'-0" O.C. SPACING (MAX.) ELIMINATE ANCHOR AND ANCHOR CABLE FOR WATER DEPTHS LESS THAN 3'-0" OR DISTANCE BETWEEN SHORE ANCHORS FOR TENSION CABLE OF LESS THAN 100'-0".
3. 5/16"Ø (MIN.) TENSION CABLE. ANCHOR TENSION CABLE AT BOTH SIDES WITH STEEL POSTS OF DIAMETER AND LENGTH TO PREVENT BENDING AND PULL-OUT.
4. 22 OZ VINYL COATED NYLON FABRIC CURTAIN.
5. FLOAT - 8" MINIMUM DIAMETER PLASTIC SEGMENTS.
6. CURTAIN WEIGHT - CONTINUOUS GALVANIZED STEEL CHAIN 5/16"Ø (MIN.), OR SEGMENTS OF 5/16"Ø STEEL CABLE 24" LONG @ 12" O.C. BETWEEN PIECES. CURTAIN WEIGHT TO BE HEAVY ENOUGH TO HOLD CURTAIN VERTICAL IN CURRENT AND WAVES FOR TYPICAL SITE.
7. 5/16"Ø (MIN.) GALVANIZED CABLE. ATTACH CABLE TO TENSION CABLE AND ANCHOR.



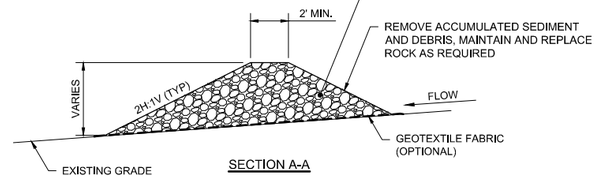
4 - DETAIL: FLOTATION SILT CURTAIN
NOT TO SCALE

GOPHER STATE ONE CALL:
CALL BEFORE YOU DIG.
1-800-252-1166

CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD-LOCATING ALL SITE UTILITIES, PRIVATE AND PUBLIC, PRIOR TO STARTING THE WORK. ALL UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE. ANY UTILITIES DAMAGED BY CONTRACTOR SHALL BE REPAIRED BY CONTRACTOR TO THE SATISFACTION OF THE UTILITY OWNER.



SECTION VIEW

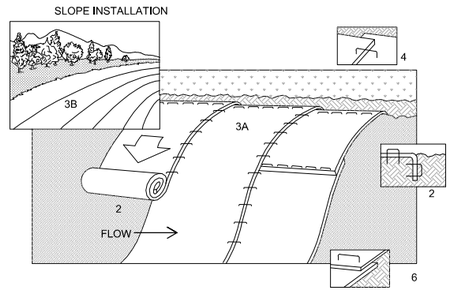


SECTION A-A

NOTES:

1. AGGREGATE SIZE MAY VARY AND DEPENDING ON CHANNEL SIZE, FLOW, SEDIMENT LOAD OR OTHER SITE CONDITIONS. AGGREGATE USED SHOULD BE RELATIVELY FREE OF SEDIMENT PRIOR TO INSTALLATION.
2. ROCK FILTER DIKE SHALL BE CLEANED OR REPLACED WHEN SEDIMENT BUILD UP REACHES 1/2 OF THE DIKE HEIGHT, ALTERNATIVELY A SECOND ROCK FILTER DIKE MAY BE INSTALLED DOWNSTREAM OF THE EXISTING DIKE AT A SUITABLE DISTANCE.
3. ROCK FILTER DIKE SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. ROCK, GEOTEXTILE AND ANY ACCUMULATED SEDIMENT SHALL BE REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.

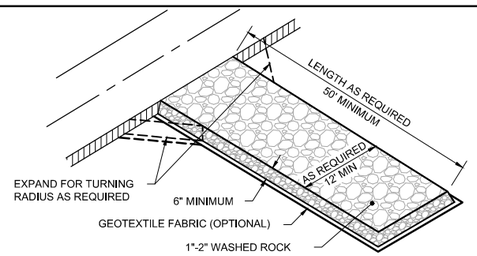
3 - DETAIL: ROCK FILTER DIKE
NOT TO SCALE



NOTES:

1. REFER TO MANUFACTURER RECOMMENDATIONS FOR STAPLE PATTERNS FOR SLOPE INSTALLATIONS.
2. PREPARE SOIL BY LOOSENING TOP 1-2 INCHES AND APPLY SEED (AND FERTILIZER WHERE REQUIRED) PRIOR TO INSTALLING BLANKETS. GROUND SHOULD BE SMOOTH AND FREE OF DEBRIS.
3. BEGIN (A) AT THE TOP OF THE SLOPE AND ROLL THE BLANKETS DOWN OR (B) AT ONE END OF THE SLOPE AND ROLL THE BLANKETS HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 6" OVERLAP, WITH THE UPHILL BLANKET ON TOP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 6" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.
6. BLANKET MATERIALS SHALL BE AS SPECIFIED OR AS APPROVED BY ENGINEER.

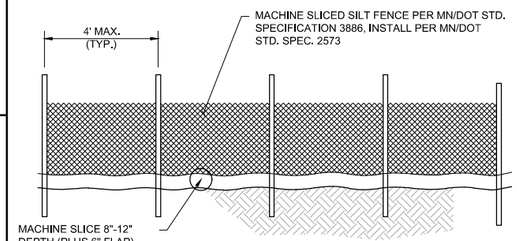
5 - DETAIL: EROSION CONTROL BLANKET - INSTALLATION
NOT TO SCALE



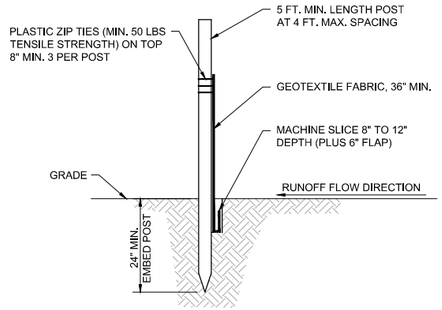
NOTES:

1. ENTRANCE SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REPAIRED OR REPLACED AS REQUIRED TO PREVENT TRACKING OFFSITE.
2. ENTRANCE SHALL BE REMOVED IN CONJUNCTION WITH FINAL GRADING AND SITE STABILIZATION.
3. PROTECTION OF CURB & GUTTER, TRAILS AND SIDEWALKS DUE TO CONTRUCTION ENTRANCE LOCATION SHALL BE CONSIDERED INCIDENTAL.

6 - DETAIL: ROCK CONSTRUCTION ENTRANCE
NOT TO SCALE



DOWNSTREAM VIEW



SECTION VIEW

NOTES:

1. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. SILT FENCE AND ANY ACCUMULATED SEDIMENT SHALL BE REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.
2. SILT FENCE INSTALLATION AND MATERIALS SHALL MEET THE REQUIREMENTS OF MN/DOT SPECIFICATIONS 2573 AND 3886.
3. NO HOLES OR GAPS SHALL BE PRESENT IN/UNDER SILT FENCE. PREPARE AREA AS NEEDED TO SMOOTH SURFACE OR REMOVE DEBRIS.
4. WHEN SEDIMENT BUILD UP REACHES 1/3 OF FENCE HEIGHT, THE SILT FENCE SHOULD BE REMOVED OR A SECOND SILT FENCE INSTALLED UPSTREAM OF THE EXISTING FENCE AT A SUITABLE DISTANCE.
5. WHEN SPLICES ARE NECESSARY MAKE SPLICE AT POST ACCORDING TO SPLICE DETAIL. PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE. ROTATE BOTH POSTS TOGETHER AT LEAST 180 DEGREES TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL. CUT THE FABRIC NEAR THE BOTTOM OF THE POSTS TO ACCOMMODATE THE 6 INCH FLAP. THEN DRIVE BOTH POSTS AND BURY THE FLAP. COMPACT BACKFILL.

7 - DETAIL: SILT FENCE - MACHINE SLICED
NOT TO SCALE

PRELIMINARY DRAFT
NOT FOR CONSTRUCTION

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION
-	-	-	-	-	-

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.
PRINTED NAME BRADLEY J. LINDAMAN
SIGNATURE
DATE . LICENSE # 22178

	10/27/21						
CLIENT							
BID							
CONSTRUCTION							
RELEASED TO/FOR	A	B	C	0	1	2	3
	DATE RELEASED						

BARR
Corporate Headquarters: Minneapolis, Minnesota
Ph: 1-800-632-2277

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Fax: (952) 832-2601
www.barr.com

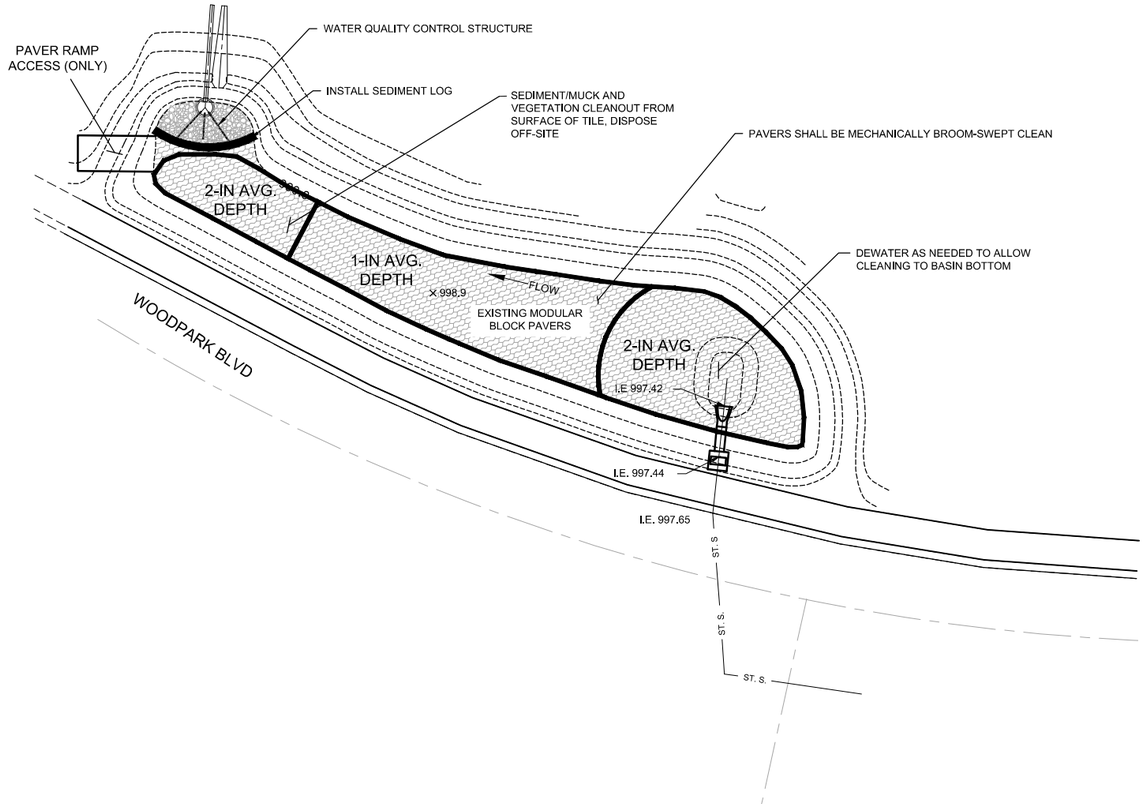
Scale	AS SHOWN
Date	10/13/2021
Drawn	BARR
Checked	.
Designed	BARR
Approved	.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

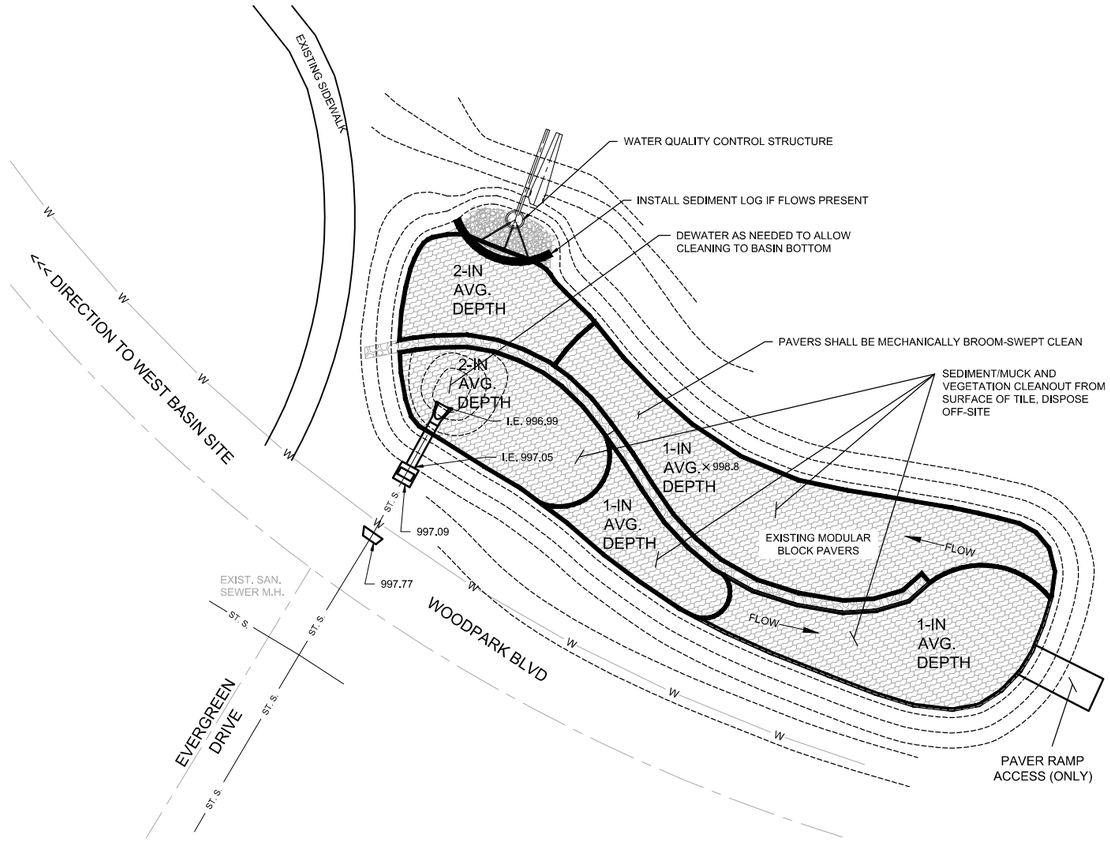
CAPITAL IMPROVEMENT PROJECT (CIP)
MAINTENANCE/REPAIRS 2022

EROSION CONTROL DETAILS

BARR PROJECT No.	
23/62-282.38	
CLIENT PROJECT No.	
DWG. No.	REV. No.
G-03	A



1 PLAN: EXISTING WEST BASIN SITE
0 20 40
SCALE IN FEET



NOTES:

1. NOTIFY DAVE VLASIN, RAMSEY WASHINGTON METRO WATERSHED DISTRICT, AT 651-792-7972 PRIOR TO BEGINNING ANY AND ALL CONSTRUCTION ACTIVITIES TO INSPECT EROSION/SEDIMENT CONTROL PRACTICES.
2. SPECIFIED EROSION/SEDIMENT CONTROL PRACTICES SHOWN ARE THE MINIMUM. ADDITIONAL PRACTICES MAY BE REQUIRED DURING THE COURSE OF CONSTRUCTION.
3. ALL NATIVE VEGETATION SURROUNDING BASINS SHALL BE PROTECTED. DAMAGE TO NATIVE RESTORATION AREAS SHALL BE REPAIRED IN-KIND AND MAINTAINED AT THE COST OF THE CONTRACTOR.
4. PIPE DISCHARGE BASIN POOLS TO BE CLEANED TO DEPTHS SHOWN ON PLANS.
5. ROCK OUTFALL STRUCTURES TO BE PROTECTED. DRAIN TILES EXIST ADJACENT TO PAVERS AND SHALL BE PROTECTED.
6. DISTURBANCE TO TURF TO BE RESTORED WITH SEED AND MULCH BLANKET AS DIRECTED BY THE OWNER.

2 PLAN: EXISTING EAST BASIN SITE
0 20 40
SCALE IN FEET

GOPHER STATE ONE CALL

GOPHER STATE ONE CALL:
CALL BEFORE YOU DIG.
1-800-252-1166

CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD-LOCATING ALL SITE UTILITIES, PRIVATE AND PUBLIC, PRIOR TO STARTING THE WORK. ALL UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE. ANY UTILITIES DAMAGED BY CONTRACTOR SHALL BE REPAIRED BY CONTRACTOR TO THE SATISFACTION OF THE UTILITY OWNER.

PRELIMINARY DRAFT
NOT FOR CONSTRUCTION

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CONSTRUCTION								
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	DATE RELEASED							

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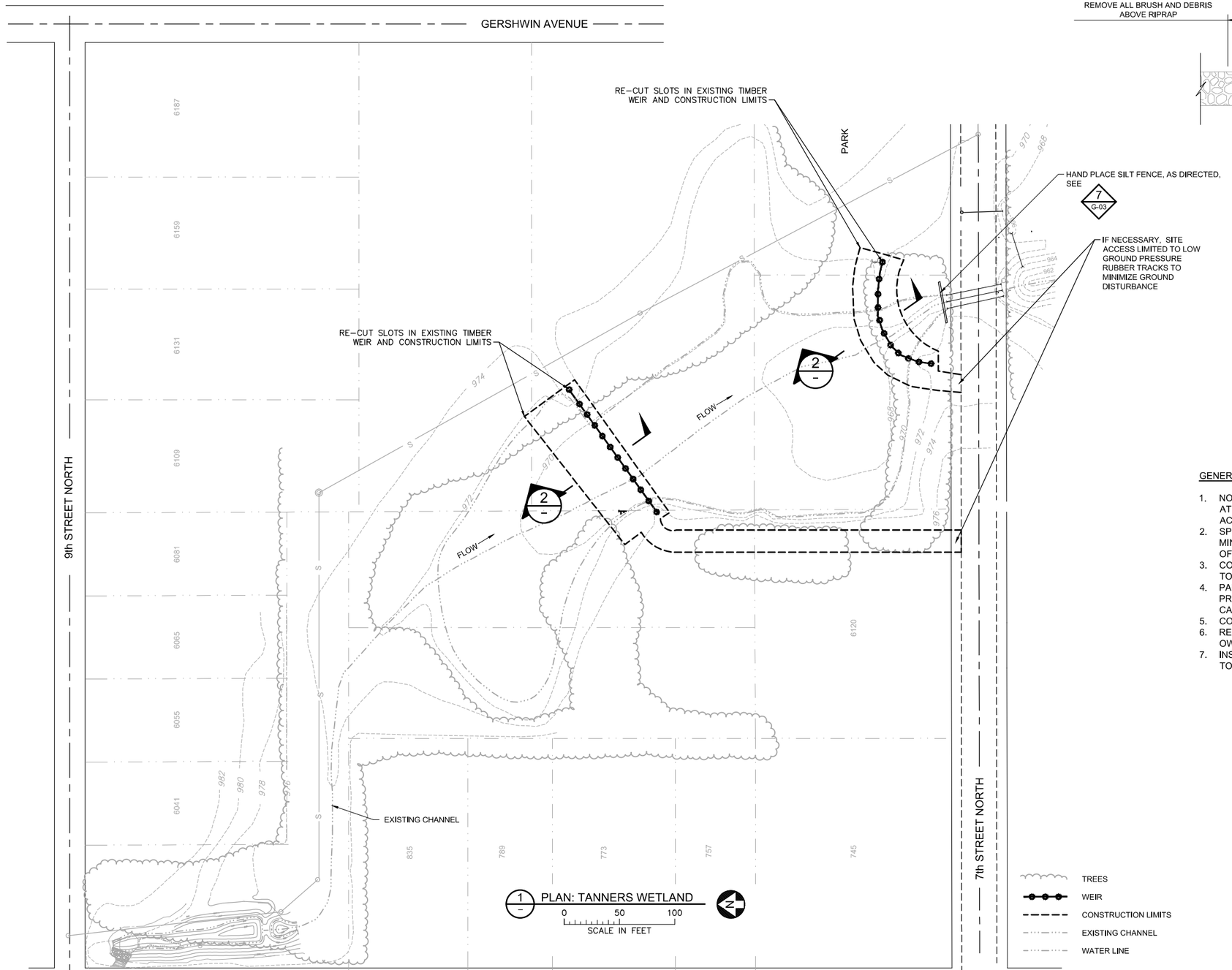
Designed	BARR
Approved	.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

CAPITAL IMPROVEMENT PROJECT (CIP)
MAINTENANCE/REPAIRS 2022

SITE 1
PFS BASINS PAVER CLEANING/SWEEPING

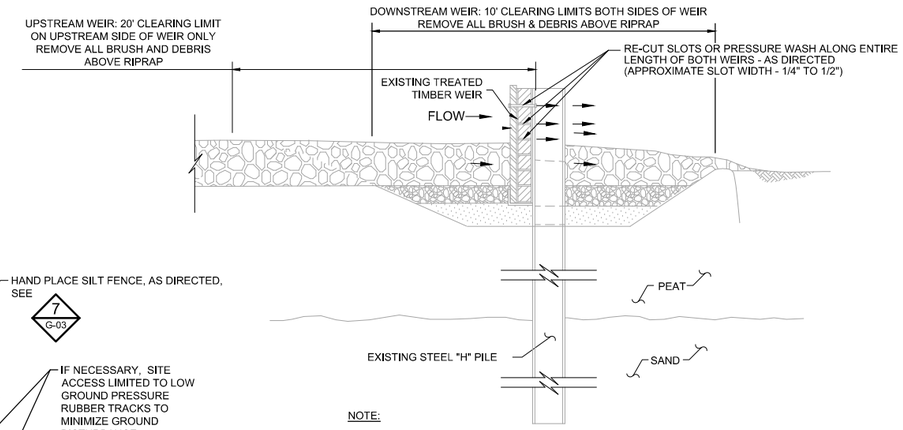
BARR PROJECT No.	23/62-282.38
CLIENT PROJECT No.	
DWG. No.	C-01
REV. No.	A



1 – PLAN: TANNERS WETLAND

0 50 100

SCALE IN FEET



NOTE:

1. BRUSH AND DEBRIS REMOVAL WITHIN CLEARING LIMITS SHALL BE CONSIDERED INCIDENTAL TO RE-CUTTING SLOTS OR PRESSURE WASHING WEIR MAINTENANCE.

2 – SECTION: EXISTING TIMBER WEIR AND RIPRAP ACCESS PAD

NO SCALE

GENERAL NOTES:

1. NOTIFY DAVE VLASIN, RAMSEY WASHINGTON METRO WATERSHED DISTRICT, AT 651-792-7972 PRIOR TO BEGINNING ANY AND ALL CONSTRUCTION ACTIVITIES TO INSPECT EROSION/SEDIMENT CONTROL PRACTICES.
2. SPECIFIED EROSION/SEDIMENT CONTROL PRACTICES SHOWN ARE THE MINIMUM. ADDITIONAL PRACTICES MAY BE REQUIRED DURING THE COURSE OF CONSTRUCTION.
3. CONSTRUCTION LIMITS TO BE STAKED BY ENGINEER PRIOR TO MOBILIZATION TO THIS SITE.
4. PARKING LOT, PATHWAYS AND ALL ASSOCIATED FACILITIES MUST BE PROTECTED. CONTRACTOR RESPONSIBLE FOR REPAIRING ALL DAMAGED CAUSED.
5. CONTRACTOR RESPONSIBLE TO LOCATE ALL EXISTING UTILITIES.
6. RESTORE ALL DISTURBANCE AREAS WITH NATIVE SEED (AS DIRECTED BY OWNER) AND EROSION CONTROL BLANKET.
7. INSTALLATION OF EROSION CONTROL DEVICES SHALL BE CONDUCTED PRIOR TO ALL WORK INSIDE THE WATER BODY.

TREES
WEIR
CONSTRUCTION LIMITS
EXISTING CHANNEL
WATER LINE

GOPHER STATE ONE CALL

GOPHER STATE ONE CALL:
CALL BEFORE YOU DIG.
1-800-252-1166

CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD-LOCATING ALL SITE UTILITIES, PRIVATE AND PUBLIC, PRIOR TO STARTING THE WORK. ALL UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE. ANY UTILITIES DAMAGED BY CONTRACTOR SHALL BE REPAIRED BY CONTRACTOR TO THE SATISFACTION OF THE UTILITY OWNER.

PRELIMINARY DRAFT
NOT FOR CONSTRUCTION

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PRINTED NAME BRADLEY J. LINDAMAN

SIGNATURE

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DATE RELEASED							

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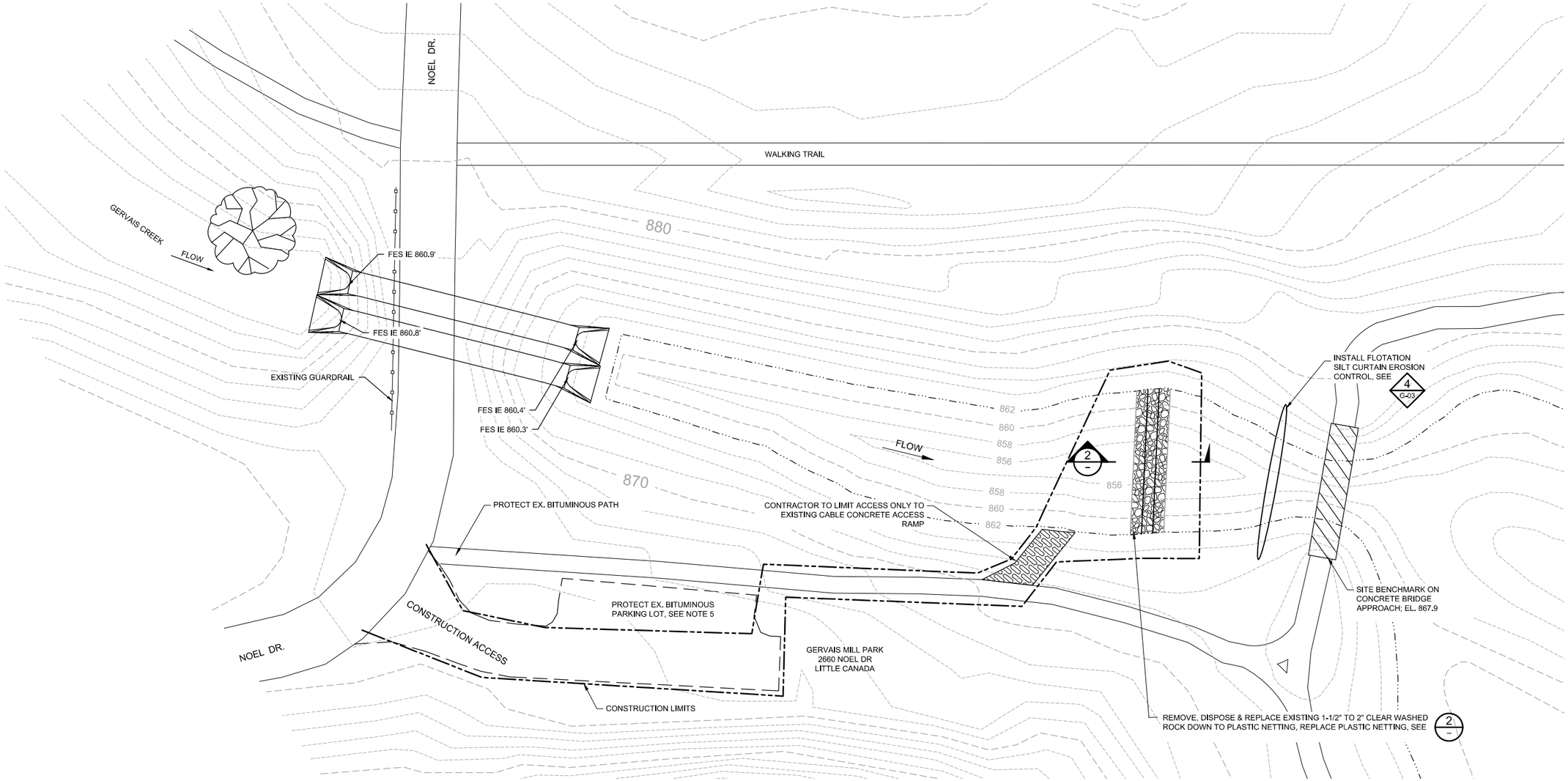
Scale	AS SHOWN
Date	10/13/2021
Drawn	BARR
Checked	.
Designed	BARR
Approved	.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

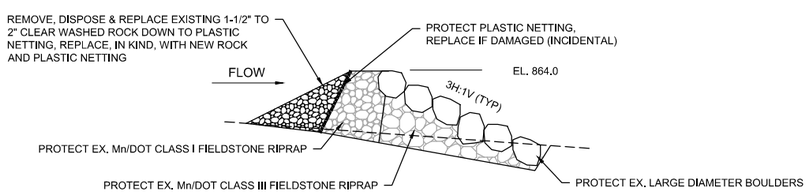
CAPITAL IMPROVEMENT PROJECT (CIP) MAINTENANCE/REPAIRS 2022

SITE 2
TANNER'S WETLAND WEIR MAINTENANCE

BARR PROJECT No.	
23/62-282.38	
CLIENT PROJECT No.	
DWG. No.	REV. No.
C-02	A



1 PLAN: EXCAVATION AND SITE WORK
0 20 40
SCALE IN FEET



2 SECTION: EX. PERMANENT SEDIMENT CONTROL DIKE
0 4 8
SCALE IN FEET

NOTES:

1. NOTIFY DAVE VLASIN, RAMSEY WASHINGTON METRO WATERSHED DISTRICT, AT 651-792-7972 PRIOR TO BEGINNING ANY AND ALL CONSTRUCTION ACTIVITIES TO INSPECT EROSION/SEDIMENT CONTROL PRACTICES.
2. INSTALLATION OF EROSION CONTROL DEVICES SHALL BE CONDUCTED PRIOR TO ALL WORK INSIDE THE WATER BODY.
3. CONTRACTOR RESPONSIBLE FOR RESTORING ALL DISTURBED AREAS OUTSIDE OF CONSTRUCTION LIMITS. ONLY AREAS WITHIN LIMITS WILL BE CONSIDERED FOR PAYMENT.
4. RESTORE ALL DISTURBED AREAS WITH SEED AND EROSION CONTROL BLANKET AS DIRECTED BY OWNER.
5. NO PARKING ON NOEL DRIVE WITHOUT APPROVAL FROM THE CITY OF LITTLE CANADA PUBLIC WORKS DEPT.
6. EXISTING BITUMINOUS PARKING LOT RESURFACED IN 2018. CURB & GUTTER, BITUMINOUS PARKING LOT, AND WALKING PATH TO BE PROTECTED DURING WORK. CONTRACTOR RESPONSIBLE FOR ANY DAMAGE FOUND, INCLUDING SURFACE SCUFFING AND SCRAPING.
7. SITE IS LOCATED IMMEDIATLY NORTHEAST OF THE RAMSEY WASHINGTON METRO WATERSHED DISTRICT OFFICES AT 2665 NOEL DRIVE, LITTLE CANADA, MN.

GOPHER STATE ONE CALL

GOPHER STATE ONE CALL:
CALL BEFORE YOU DIG.
1-800-252-1166

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www.barr.com

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Drawn	BARR
Checked	.
Designed	BARR
Approved	.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

CAPITAL IMPROVEMENT PROJECT (CIP)
MAINTENANCE/REPAIRS 2022

SITE 3
GERVAIS MILL POND FILTER MAINTENANCE

BARR PROJECT No.	
23/62-282.38	
CLIENT PROJECT No.	
DWG. No.	REV. No.
C-03	A

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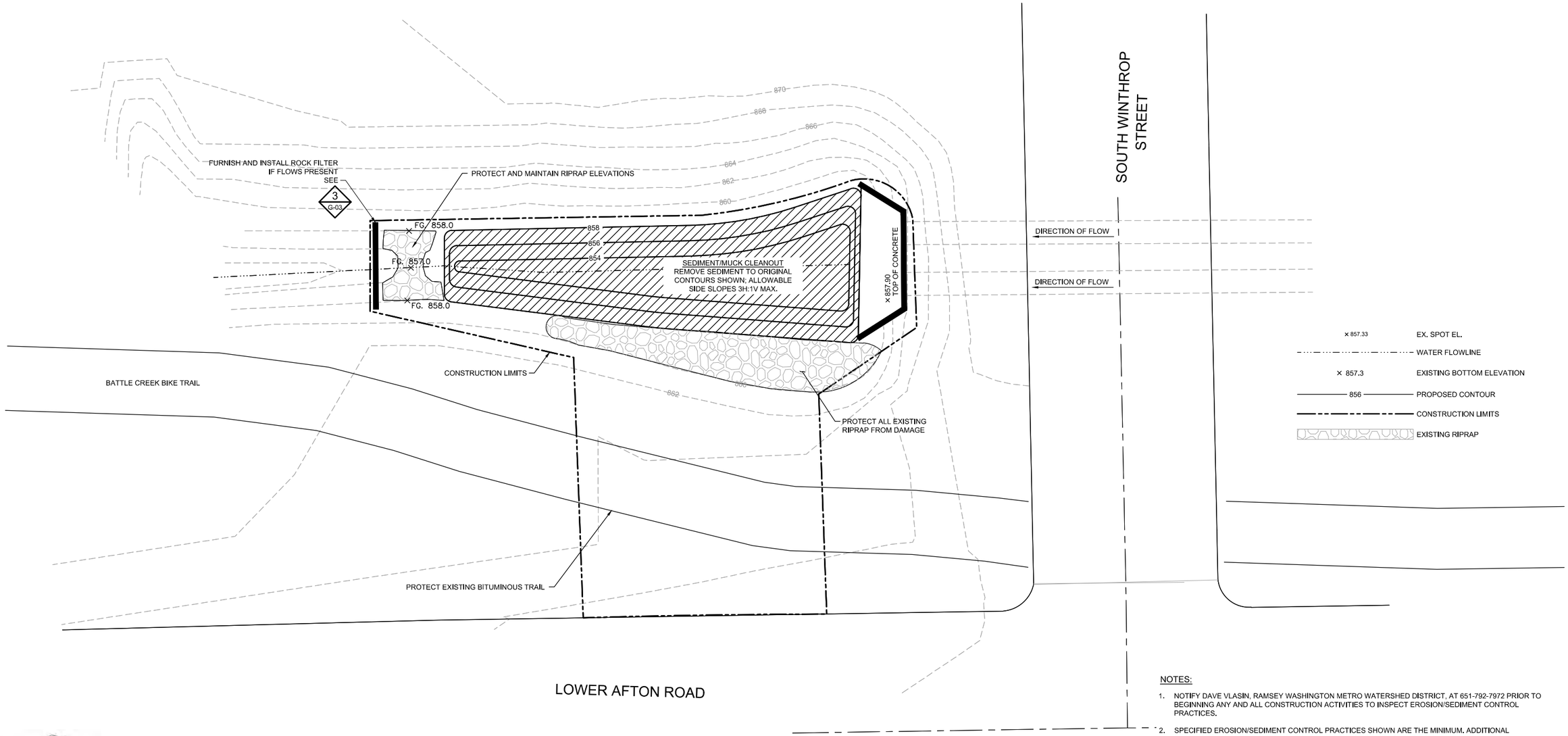

GOPHER STATE ONE CALL:
CALL BEFORE YOU DIG.
1-800-252-1166

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1 – PLAN: LOWER AFTON ROAD DRAINAGEWAY SEDIMENT EXCAVATION

0 10 20
SCALE IN FEET

NOTES:

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2. SPECIFIED EROSION/SEDIMENT CONTROL PRACTICES SHOWN ARE THE MINIMUM. ADDITIONAL PRACTICES MAY BE REQUIRED DURING THE COURSE OF CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND FIELD VERIFYING ALL UTILITITES.
4. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL DISTURBED AREAS. ONLY RESTORATION
5. ONLY AREAS WITHIN THE CONSTRUCTION LIMITS WILL BE CONSIDERED FOR PAYMENT.
6. RESTORE DISTURBED SLOPES WITH NATIVE SEED (AS DIRECTED BY OWNER) AND STRAW MULCH BLANKET.

PRELIMINARY DRAFT
NOT FOR CONSTRUCTION

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION
-	-	-	-	-	-

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PRINTED NAME BRADLEY J. LINDAMAN
SIGNATURE
DATE – LICENSE # 22178

	10/27/21
CLIENT	
BID	
CONSTRUCTION	

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Drawn	BARR
Checked	.
Designed	BARR
Approved	.

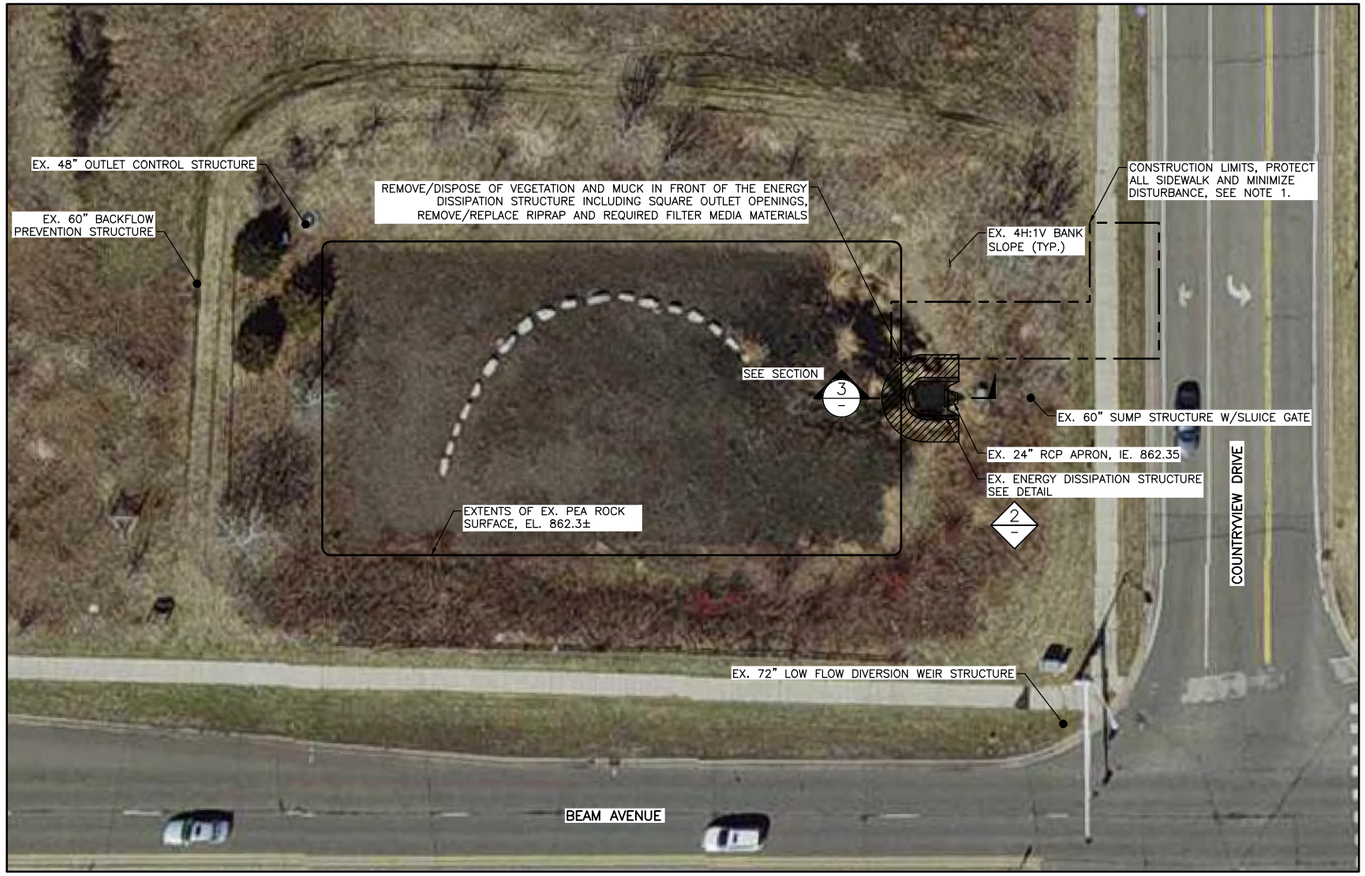
RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

CAPITAL IMPROVEMENT PROJECT (CIP)
MAINTENANCE/REPAIRS 2022

SITE 4 - LOWER AFTON ROAD
DRAINAGEWAY SEDIMENT REMOVAL

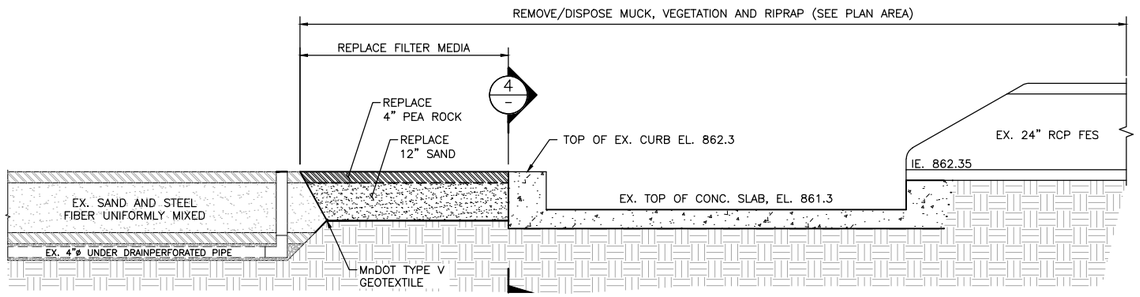
BARR PROJECT No.	
23/62-282.38	
CLIENT PROJECT No.	
DWG. No.	REV. No.
C-04	A

CADD USER: Greg Nelson FILE: M:\DESIGN\23620282.00\23620282B_2022_C04_LOWERAFTON_WINTHROP.DWG PLOT SCALE: 1:2 PLOT DATE: 10/19/2021 8:42 PM



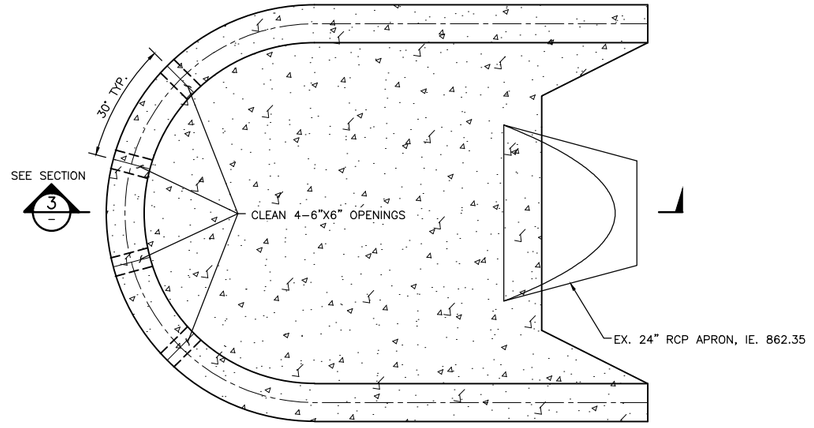
1 PLAN: KOHLMAN BASIN SAND FILTER INLET MODIFICATIONS

0 20 40
SCALE IN FEET



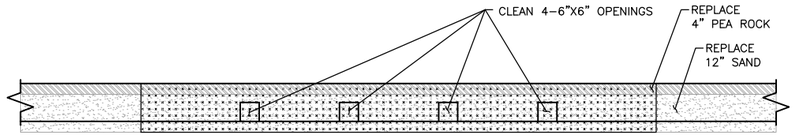
3 SECTION: EXISTING ENERGY DISSIPATION STRUCTURE AND FILTER

0 2 4
SCALE IN FEET



2 DETAIL: EXISTING ENERGY DISSIPATION STRUCTURE

0 2 4
SCALE IN FEET



4 SECTION: EXISTING DRAINAGE NOTCH OPENINGS

0 2 4
SCALE IN FEET

NOTES:

1. SITE RESTORATION TO BE COORDINATED WITH DISTRICT STAFF AND AS DIRECTED.
2. EROSION CONTROL BMP'S SHAL BE INSTALLED AND IN PLACE DURING ALL WORK. STORM WATER MAY BE BYPASSED BY VALVE WITH PERMISSION FROM THE DISTRICT.

GOPHER STATE ONE CALL

GOPHER STATE ONE CALL:
CALL BEFORE YOU DIG.
1-800-252-1166

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PRELIMINARY DRAFT
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SIGNATURE
DATE – LICENSE # 22178

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BID								
CONSTRUCTION								
	DATE RELEASED							

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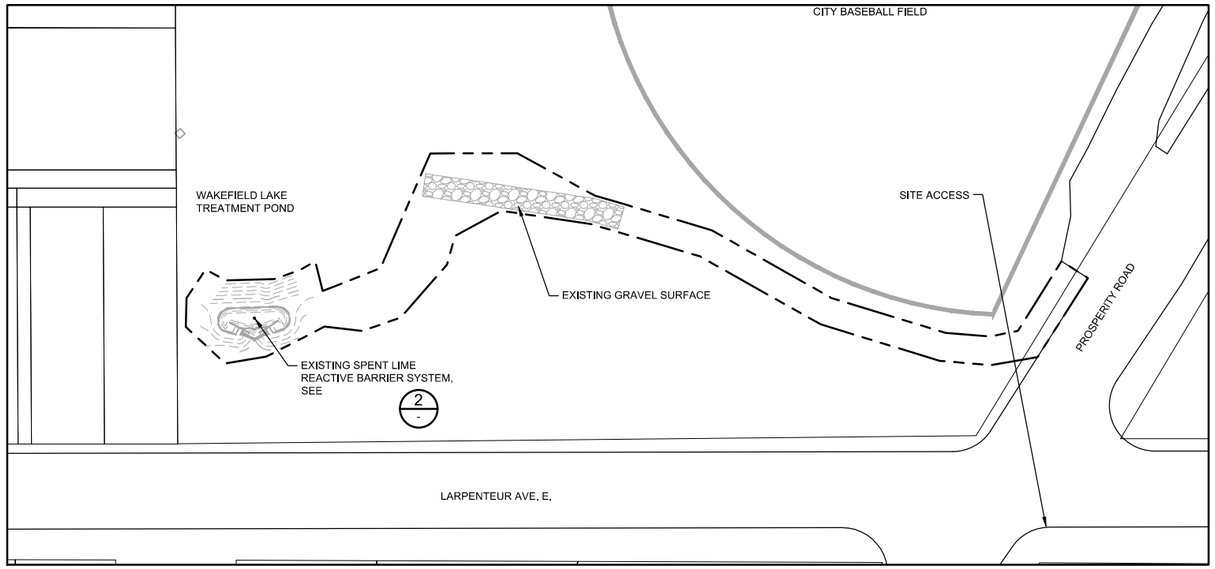
Designed	BARR
Approved	.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

CAPITAL IMPROVEMENT PROJECT (CIP)
MAINTENANCE/REPAIRS 2022

SITE 5
KOHLMAN BASIN SAND FILTER MAINTENANCE

BARR PROJECT No. 23/62-282.38
CLIENT PROJECT No.
DWG. No. C-05
REV. No. A



1 - PLAN: SITE LOCATION AND ACCESS
0 40 80
SCALE IN FEET

GOPHER STATE ONE CALL:
CALL BEFORE YOU DIG.
1-800-252-1166

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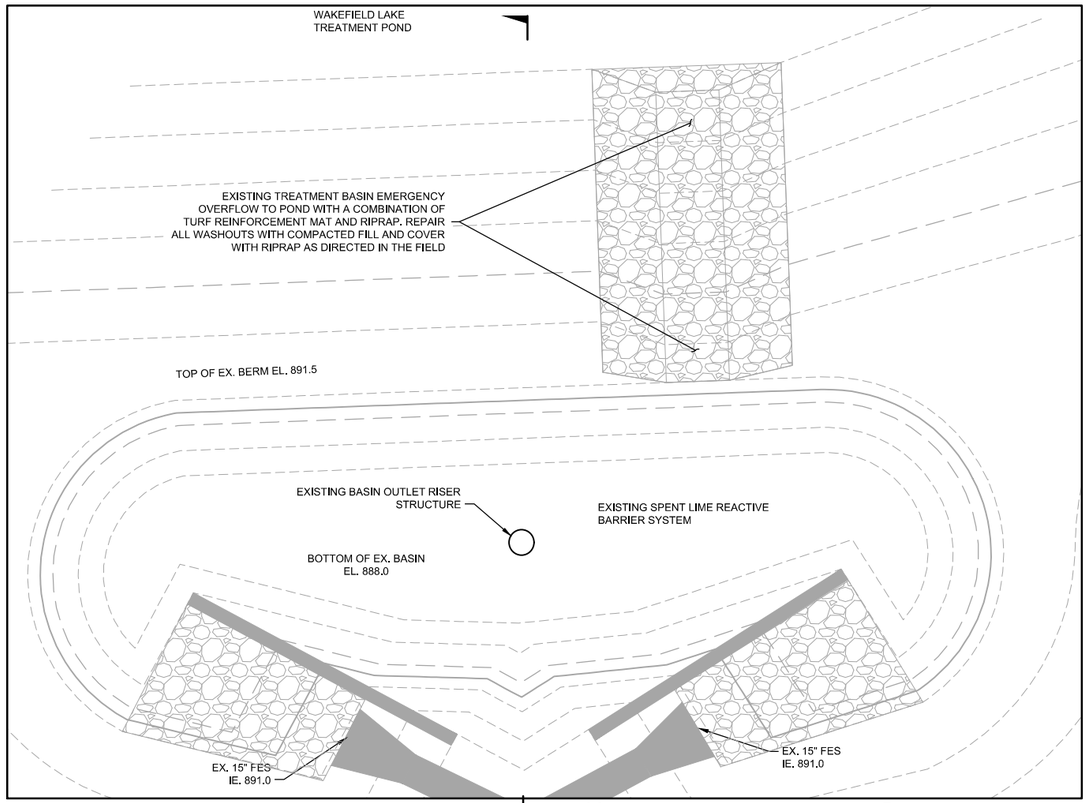
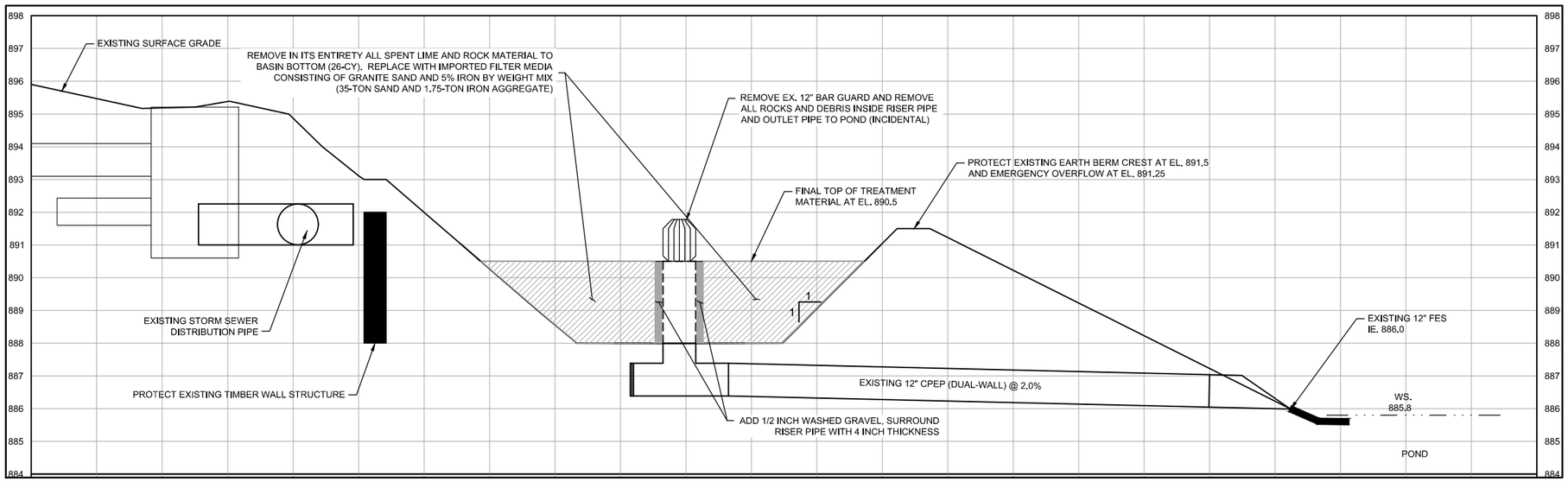
2. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL DISTURBED AREAS. ONLY RESTORATION AREAS WITHIN THE CONSTRUCTION LIMITS WILL BE CONSIDERED FOR PAYMENT.

3. RESTORE DISTURBED AREAS WITH NATIVE SEED (AS DIRECTED BY OWNER) AND STRAW MULCH BLANKET.



3 -

2 - PLAN: WQ TREATMENT BASIN
0 3 6
SCALE IN FEET



3 - SECTION: WQ TREATMENT BASIN
0 1 2 3 4
SCALE IN FEET

PRELIMINARY DRAFT
NOT FOR CONSTRUCTION

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION
-	-	-	-	-	-

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PRINTED NAME BRADLEY J. LINDAMAN
SIGNATURE
DATE - LICENSE # 22178

		A	B	C	0	1	2	3
CLIENT	10/27/21							
BID								
CONSTRUCTION								
RELEASED TO/FOR		DATE RELEASED						

BARR
Corporate Headquarters:
Minneapolis, Minnesota
Ph: 1-800-632-2277

Project Office:
BARR ENGINEERING CO.
4300 MARKETPOINTE DRIVE
Suite 200
MINNEAPOLIS, MN 55435
Ph: 1-800-632-2277
Fax: (952) 832-2601
www.barr.com

Scale	AS SHOWN
Date	10/13/2021
Drawn	BARR
Checked	-
Designed	BARR
Approved	-

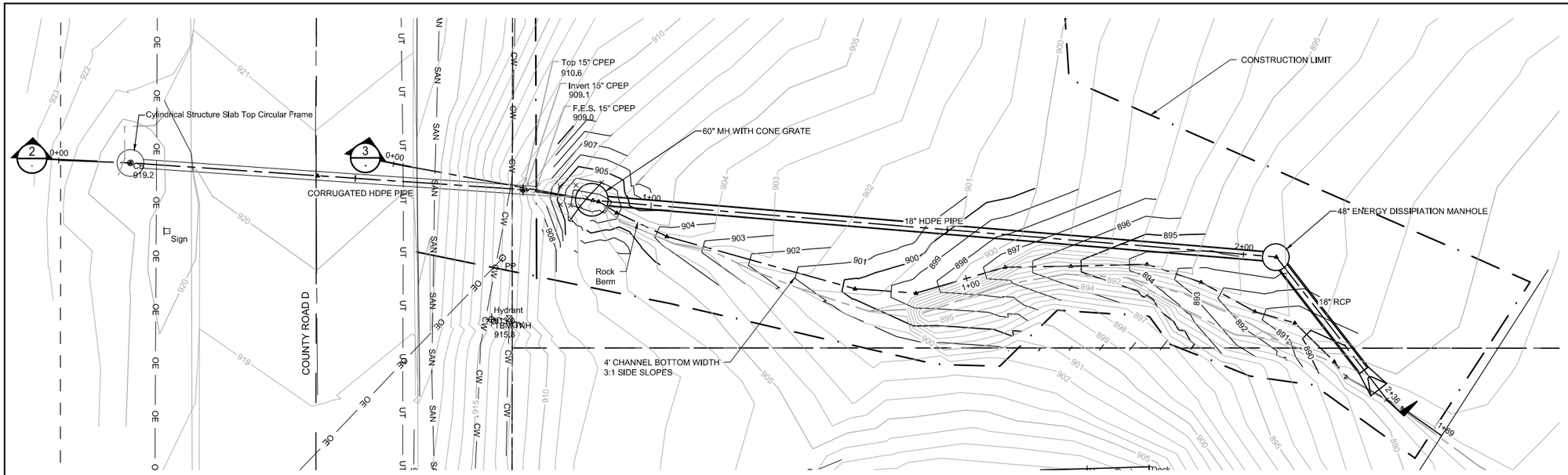
RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

CAPITAL IMPROVEMENT PROJECT (CIP)
MAINTENANCE/REPAIRS 2022

SITE 6
WAKEFIELD TEST CELL MEDIA REPLACEMENT

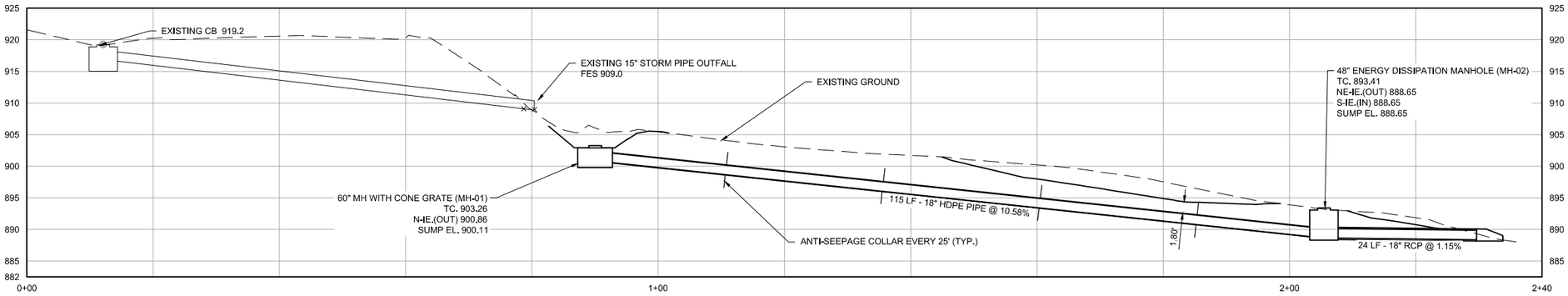
BARR PROJECT No.	
23/62-282.38	
CLIENT PROJECT No.	
DWG. No.	REV. No.
C-06	A

CADD USER: Greg Nelson FILE: M:\DESIGN\23620282.00\23620282B_2022_C06_WAKEFIELD PRETREAT.DWG PLOT SCALE: 1:2 PLOT DATE: 10/21/2021 11:23 AM



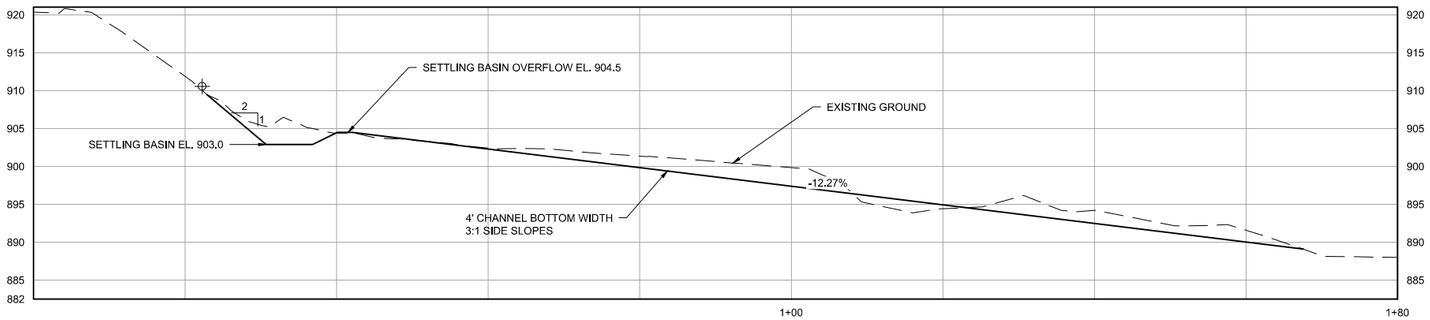
1 PLAN: WASHOUT REPAIR

0 10 20
SCALE IN FEET



2 SECTION: PIPE ALIGNMENT

0 10 20
SCALE IN FEET



3 SECTION: SWALE

0 10 20
SCALE IN FEET

NOTES:

1. DO NOT DISTURB TREES OR VEGETATION BETWEEN RAVINE AND HOME TO EAST.

GOPHER STATE ONE CALL

GOPHER STATE ONE CALL:
CALL BEFORE YOU DIG.
1-800-252-1166

CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD-LOCATING ALL SITE UTILITIES, PRIVATE AND PUBLIC, PRIOR TO STARTING THE WORK. ALL UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE. ANY UTILITIES DAMAGED BY CONTRACTOR SHALL BE REPAIRED BY CONTRACTOR TO THE SATISFACTION OF THE UTILITY OWNER.

PRELIMINARY DRAFT
NOT FOR CONSTRUCTION

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PRINTED NAME BRADLEY J. LINDAMAN

SIGNATURE

DATE . LICENSE # 22178

CLIENT	10/27/21							
BID								
CONSTRUCTION								
RELEASED TO/FOR	A	B	C	0	1	2	3	
DATE RELEASED								

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Scale	AS SHOWN
Date	10/13/2021
Drawn	BARR
Checked	.
Designed	BARR
Approved	.

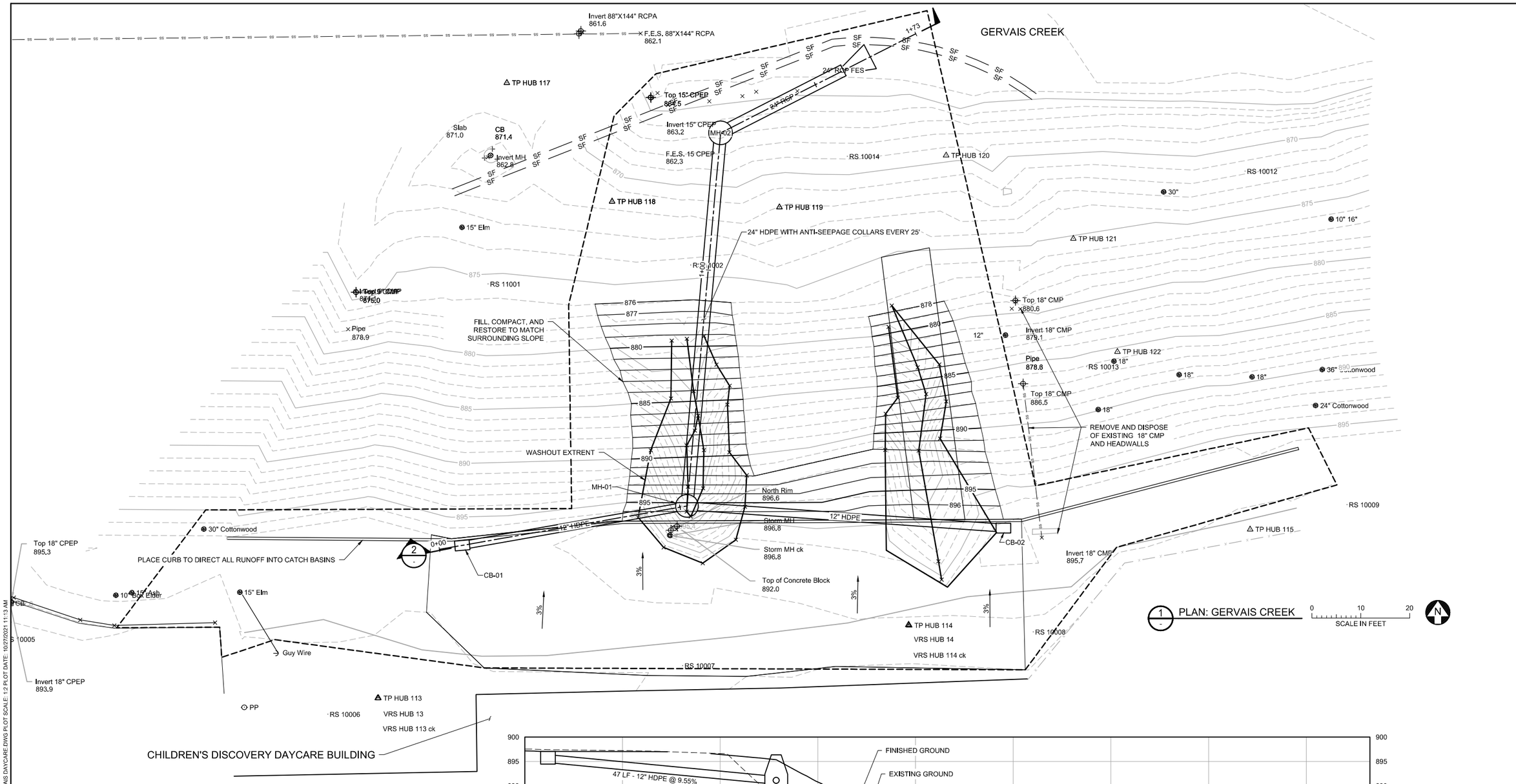
RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

CAPITAL IMPROVEMENT PROJECT (CIP)
MAINTENANCE/REPAIRS 2022

SITE 7 - COUNTY ROAD D WASHOUT REPAIR
PLAN AND PROFILE

BARR PROJECT No.	23/62-282.38
CLIENT PROJECT No.	
DWG. No.	C-07
REV. No.	A

CADD USER: Gareth W. Becker FILE: M:\DESIGN\23620282.000\23620282\30_2022_CO RD D_WASHOUT_OPTION_B.DWG PLOT SCALE: 1:2 PLOT DATE: 10/27/2021 10:50 AM



PRELIMINARY DRAFT
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-	-	-	-	———	-

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SIGNATURE

DATE ——— LICENSE # 22178

CLIENT	
BID	
CONSTRUCTION	
RECORD	

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DATE RELEASED

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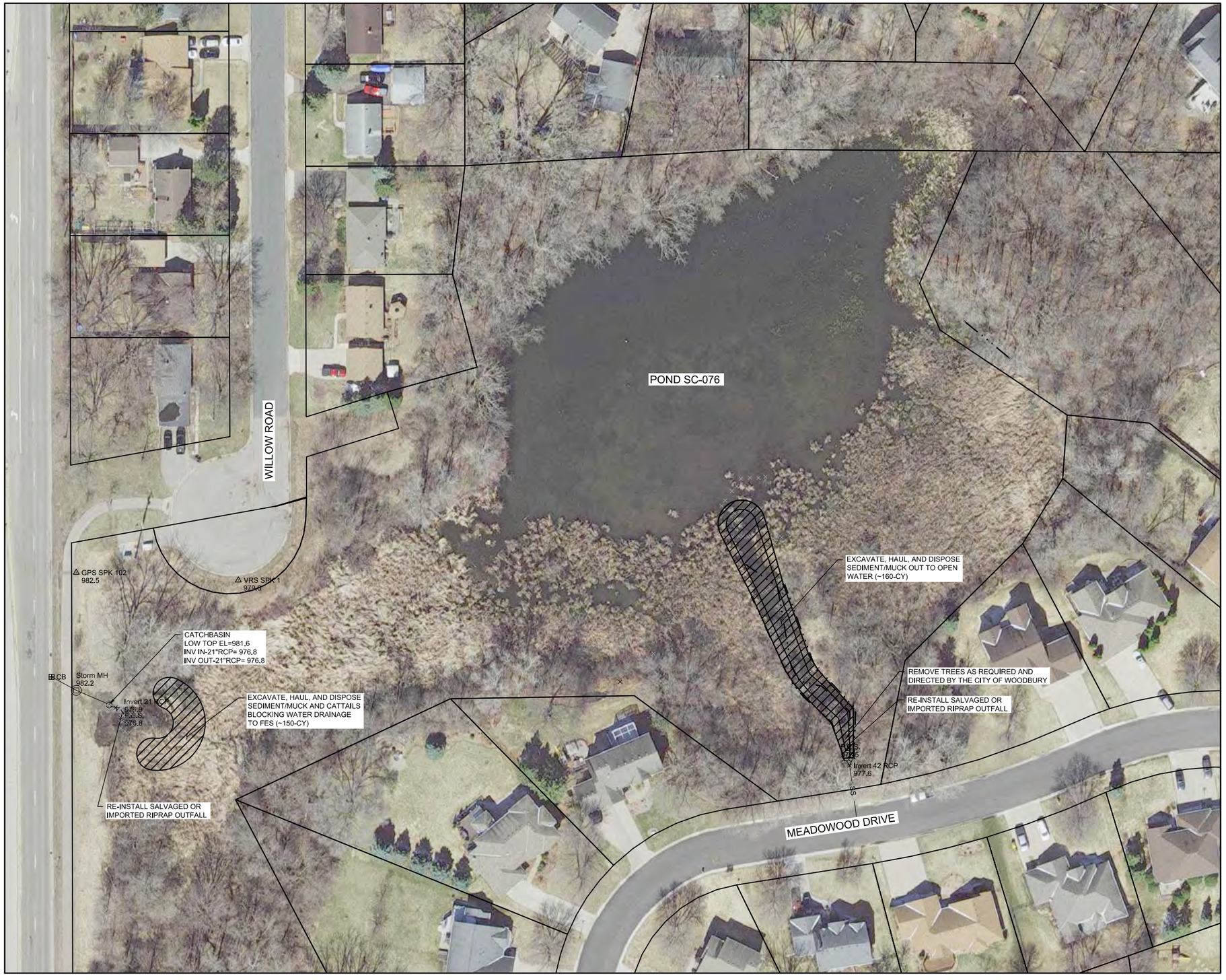
Scale	AS SHOWN
Date	10/13/2021
Drawn	BARR
Checked	.
Designed	BARR
Approved	.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

CAPITAL IMPROVEMENT PROJECT (CIP) MAINTENANCE/REPAIRS 2022

SITE 8 - GERVAIS CREEK IMPROVEMENTS PLAN AND PROFILE

BARR PROJECT No.	23/62-282.38 2022
CLIENT PROJECT No.	
DWG. No.	C-09
REV. No.	A



0 40 80
SCALE IN FEET

SURVEY LEGEND

- GPS CONTROL POINT
- VERTICAL BENCHMARK
- CONTROL HUB \ LATH
- POWER POLE
- GUY WIRE
- LIGHT POLE
- HYDRANT
- GATE VALVE
- SIGN POST
- DECIDUOUS TREE
- CONIFEROUS TREE
- SANITARY MANHOLE
- CATCH BASIN
- STORM SEWER MANHOLE
- ELECTRICAL MANHOLE
- WATER MANHOLE
- COMMUNICATIONS BOX
- PROPERTY LINE
- FENCE LINE
- BACK OF CURB LINE
- FLOW LINE
- CENTER LINE
- GAS LINE
- UNDERGROUND ELECTRIC
- FIBER OPTIC LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- BATHYMETRY POINTS
- DELTA POINTS
- 900 MAJOR CONTOUR
- 901 MINOR CONTOUR
- WATER'S EDGE
- SWALES
- THALWEG

GOPHER STATE ONE CALL

GOPHER STATE ONE CALL:
CALL BEFORE YOU DIG.
1-800-252-1166

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CONSTRUCTION							
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	DATE RELEASED						

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Date	10/13/2021
Drawn	BARR
Checked	.
Designed	BARR
Aproved	.

RAMSEY:WASHINGTON METRO WATERSHED DISTRICT

CAPITAL IMPROVEMENT PROJECT (CIP) MAINTENANCE/REPAIRS 2022

SITE 9
MEADOWOOD POND CLEANOUT (SC-076)

BARR PROJECT No.	
23/62-282.38	
CLIENT PROJECT No.	
DWG. No. C-11	REV. No. A

CADD USER: Greg Nelson FILE: M:\DESIGN\23\62\282.00\236\282838_2022_C11_MEADOWOOD.DWG PLOT SCALE: 1:2 PLOT DATE: 10/28/2021 10:16 AM

0 30 60
SCALE IN FEET

SURVEY LEGEND

- GPS CONTROL POINT
- VERTICAL BENCHMARK
- CONTROL HUB \ LATH
- POWER POLE
- GUY WIRE
- LIGHT POLE
- HYDRANT
- GATE VALVE
- SIGN POST
- DECIDUOUS TREE
- CONIFEROUS TREE
- SANITARY MANHOLE
- CATCH BASIN
- STORM SEWER MANHOLE
- ELECTRICAL MANHOLE
- WATER MANHOLE
- COMMUNICATIONS BOX
- PROPERTY LINE
- FENCE LINE
- BACK OF CURB LINE
- FLOW LINE
- CENTER LINE
- GAS LINE
- UNDERGROUND ELECTRIC
- FIBER OPTIC LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- 900 MAJOR CONTOUR
- 901 MINOR CONTOUR
- WATER'S EDGE
- SWALES
- CATTAIL EDGE

GOPHER STATE ONE CALL

GOPHER STATE ONE CALL:
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1-800-252-1166

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BID							
CONSTRUCTION							
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	DATE RELEASED						

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Drawn	BARR
Checked	.
Designed	BARR
Approved	.

RAMSEY:WASHINGTON METRO WATERSHED DISTRICT

CAPITAL IMPROVEMENT PROJECT (CIP) MAINTENANCE/REPAIRS 2022

SITE 10
VENTURA POND CLEANOUT (SC-242)

BARR PROJECT No.	
23/62-282.38	
CLIENT PROJECT No.	
DWG. No.	REV. No.
C-12	A

CADD USER: Greg Nelson FILE: M:\DESIGN\23\62\282.00\23628228_2022_C12_VENTURA.DWG PLOT SCALE: 1:2 PLOT DATE: 10/28/2021 10:18 AM

0 30 60
SCALE IN FEET

SURVEY LEGEND

- GPS CONTROL POINT
- VERTICAL BENCHMARK
- CONTROL HUB \ LATH
- POWER POLE
- GUY WIRE
- LIGHT POLE
- HYDRANT
- GATE VALVE
- SIGN POST
- DECIDUOUS TREE
- CONIFEROUS TREE
- SANITARY MANHOLE
- CATCH BASIN
- STORM SEWER MANHOLE
- ELECTRICAL MANHOLE
- WATER MANHOLE
- COMMUNICATIONS BOX
- PROPERTY LINE
- FENCE LINE
- BACK OF CURB LINE
- FLOW LINE
- CENTER LINE
- GAS LINE
- UE UNDERGROUND ELECTRIC
- FO FIBER OPTIC LINE
- SAN SANITARY SEWER LINE
- SS STORM SEWER LINE
- 900 MAJOR CONTOUR
- 901 MINOR CONTOUR
- WATER'S EDGE
- SWALES
- CATTAIL EDGE

GOPHER STATE ONE CALL

GOPHER STATE ONE CALL:
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SIGNATURE _____

DATE _____ LICENSE # 22178

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CLIENT	10/27/21							
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Date	10/13/2021
Drawn	BARR
Checked	.
Designed	BARR
Approved	.

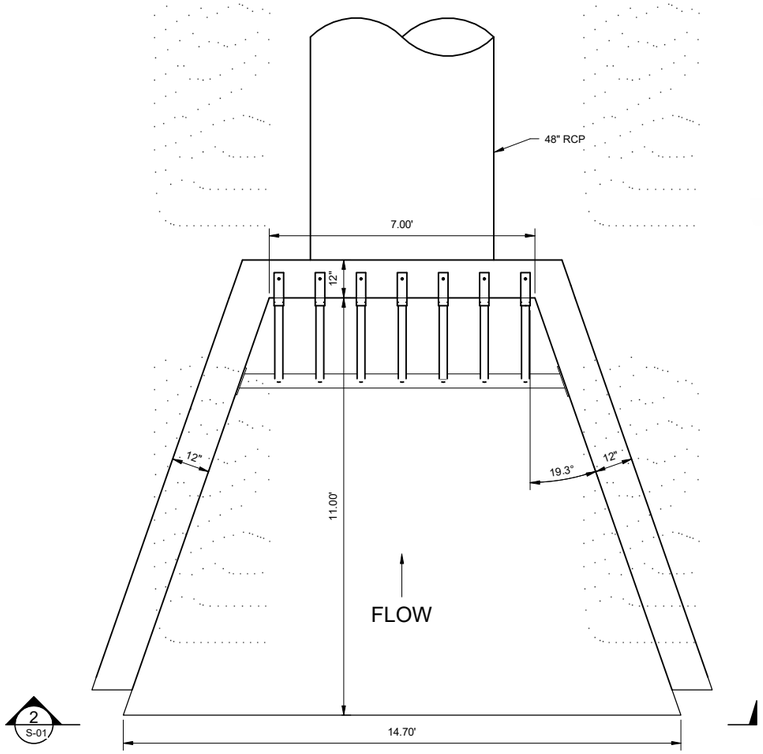
RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

CAPITAL IMPROVEMENT PROJECT (CIP) MAINTENANCE/REPAIRS 2022

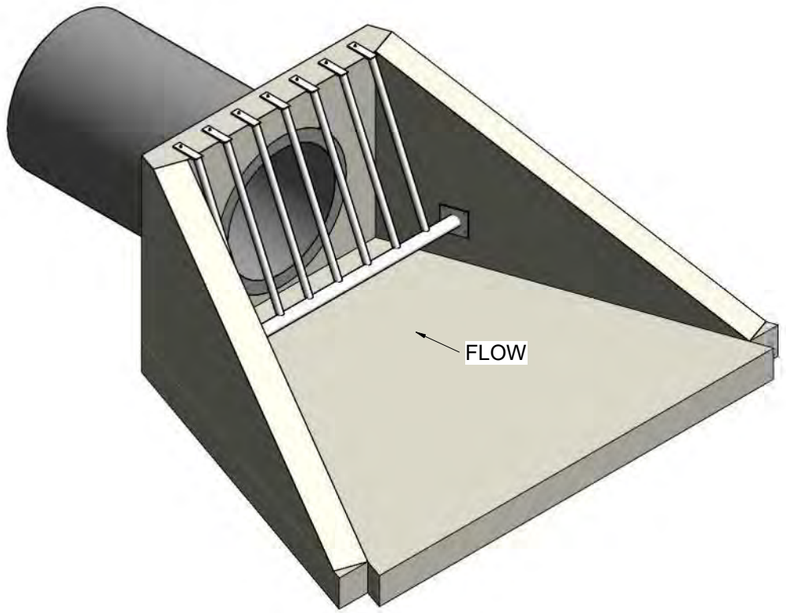
SITE 11
LAKE TERRACE POND CLEANOUT (SC-327)

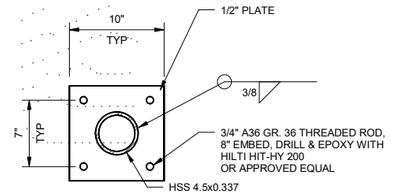
BARR PROJECT No.	23/62-282.38
CLIENT PROJECT No.	
DWG. No.	C-13
REV. No.	A

CADD USER: Greg Nelson FILE: M:\DESIGN\23620282.00\23620282.00_C13_TERRACE.DWG PLOT SCALE: 1:2 PLOT DATE: 10/28/2021 10:19 AM



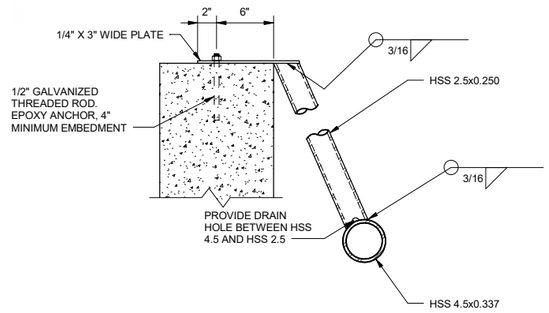
2 S-01





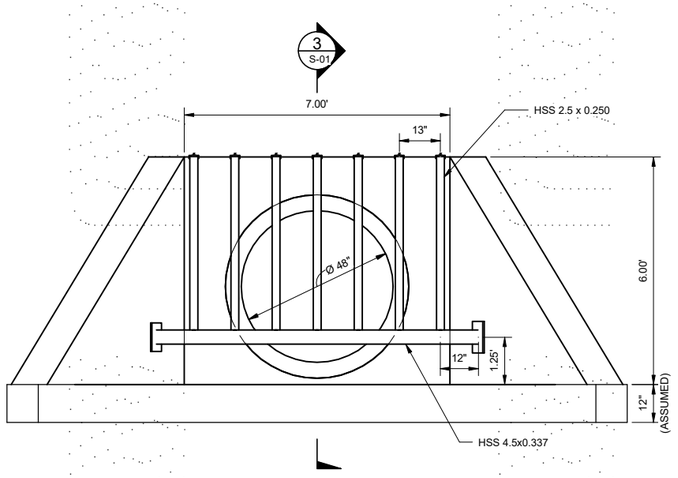
DETAIL NOTE: AT CONTRACTOR'S OPTION, ATTACH END PLATE TO PIPE AFTER GALVANIZATION AND TOUCH UP AS NEEDED. GALVANIZATION OF INTERIOR OF PIPES AND A SEALED CONDITION IS REQUIRED.

5 – DETAIL: HSS CONNECTION
1 1/2" = 1'-0"



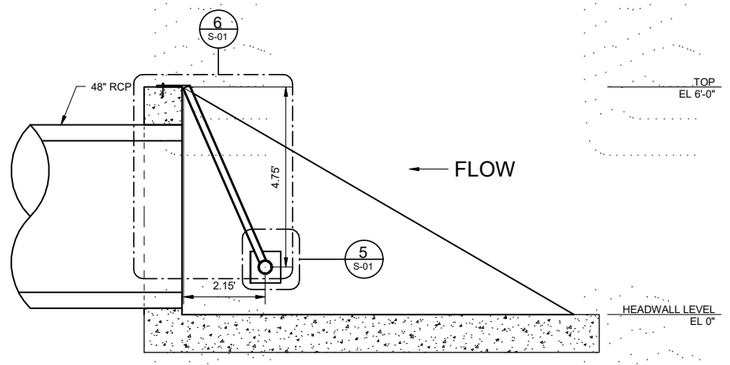
6 – DETAIL: HSS CONNECTION
1 1/2" = 1'-0"

1 S-01 PLAN: EXISTING CONCRETE HEADWALL STRUCTURE
1/2" = 1'-0"



2 S-01 SECTION: EXISTING CONCRETE HEADWALL STRUCTURE
1/2" = 1'-0"

4 – EXISTING CONCRETE HEADWALL STRUCTURE



3 S-01 SECTION: EXISTING CONCRETE HEADWALL STRUCTURE
1/2" = 1'-0"

GENERAL REQUIREMENTS AND SUBMITTAL

A. **GENERAL**
1. DO NOT SCALE DRAWINGS
2. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR PREPARATION AND INSTALLATION OF PURCHASED MATERIALS AND EQUIPMENT.
3. PERFORM WORK IN COMPLIANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS.
4. PROVIDE SUBMITTALS TO OWNER AT A MINIMUM OF TWO WEEKS PRIOR TO INCORPORATION INTO THE WORK.

B. DESIGN LOADS
1. HALF HYDRAULIC LOAD FROM 100 YEAR FLOOD ELEVATION OF 914.9'

C. EXISTING CONDITIONS
1. VERIFY ALL EXISTING CONDITIONS SHOWN ON DRAWINGS FOR ACCURACY, VERICIATION OF FIELD DIMENSIONS ARE NOT PART OF ENGINEER'S RESPONSIBILITY.
2. NOTIFY OWNER IMMEDIATELY IF SITE CONDITIONS DIFFERE SIGNFICANTLY FROM THAT SHOWN.

D. SAFETY
1. CONTRACTOR IS RESPONSIBLE FOR JOB-SITE CONDITIONS AND SAFETY PROCEDURES AND PROGRAMS. THIS REQUIREMENT APPLIES CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS.
2. MEET ALL FEDERAL, STATE, AND LOCAL RULES AND REGULATIONS PERTAINING TO SAFETY, INCLUDING OSHA RULES.

STRUCTURAL STEEL

A. GENERAL
1. FABRICATE AND ERECT STRUCTURAL STEEL IN ACCORDANCE WITH THE CODE PROVISIONS OF THE "AISC STEEL CONSTRUCTION MANUAL, 14TH EDITION."

B. SUMITTALS
1. STRUCTUAL STEEL FABRICATOR SHOP DRAWINGS

C. PRODUCTS
1. HSS TUBES: A500 GR. C, FY = 46 KSI
2. STEEL PLATES AND BARS: ASTM A36, FY = 36 KSI

D. FIELD WELD ON STRUCTURAL MEMBERS ONLY WHERE SHOWN ON THE SHOP DRAWINGS IN ACCORDANCE WITH THE AWS.

E. VISUALLY INSPECT ALL WELDS AND COMPLETE NECESSARY CORRECTION OF ALL DEFICIENCIES IN MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH AWS D1.1.

FASTENING AND ANCHORAGE

A. PRODUCTS
1. POST INSTALLED ANCHORS:
   a. ADHESIVE ANCHORS: HILTI HIT-HY 200 EPOXY ADHESIVE ANCHORING SYSTEM WITH GALVANIZED ASTM F1554 THREADED GR. 36 ROD.

COATINGS AND FINISHES

A. STEEL: GALVANIZED FOR EXTERIOR CONDITIONS

PRELIMINARY DRAFT
NOT FOR CONSTRUCTION

NO.	BY	CHK	APP	DATE	REVISION DESCRIPTION
A	DWU	MGF	BJS	10/22/2021	PRELIMINARY DRAFT

RELEASED TO/FOR	DATE RELEASED
CLIENT	10/22
A	

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Scale	AS SHOWN
Date	10/22/21
Drawn	KLF/BRH
Checked	KAG
Designed	MGF
Approved	BJS

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

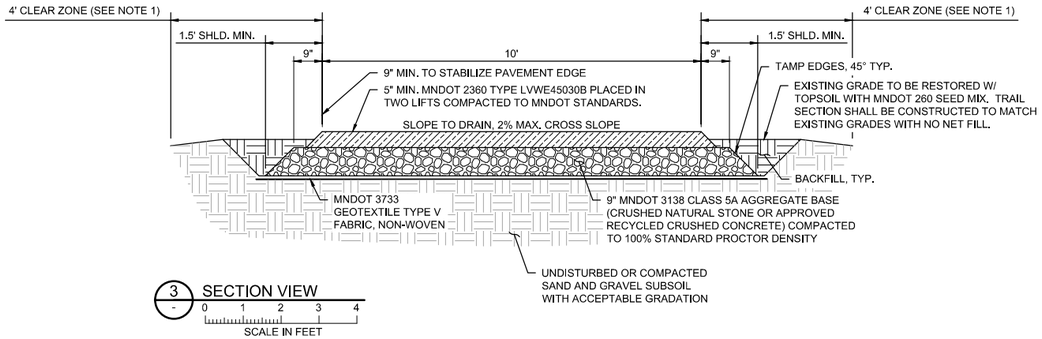
CAPITAL IMPROVEMENT PROJECT (CIP)
MAINTENANCE/REPAIRS 2022

SITE 12
WILLOW CREEK STRUCTURAL GRATE

BARR PROJECT NO.	
23/62-0282.38	
CLIENT PROJECT NO.	
DWG NO. S-01	REV NO. A

M:\Design\23620282.00\Revit\23620282.00_R19_S_Willow Creek Trash Rack_Central.rvt
M:\Design\23620282.00\Revit\23620282.00_R19_S_Willow Creek Trash Rack_Central
10/22/2021 1:47:36 PM

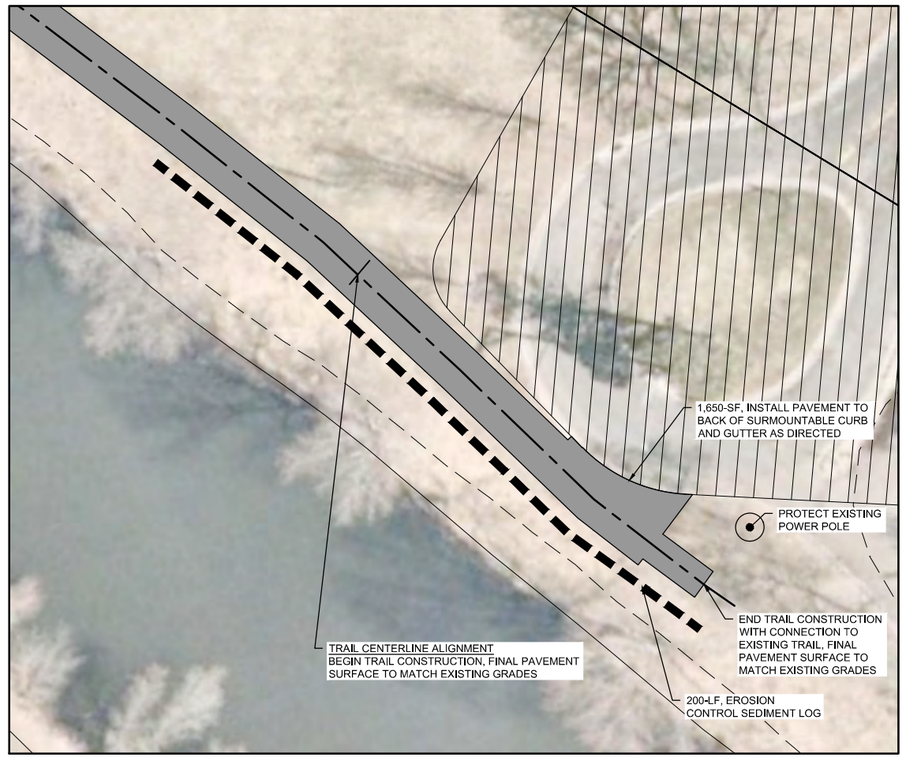
1/- PLAN VIEW
0 50 100
SCALE IN FEET



3/- SECTION VIEW
0 1 2 3 4
SCALE IN FEET

TRAIL CONSTRUCTION NOTES:

1. RESTORE CLEAR ZONE AREAS WITH TOPSOIL, SEED AND EROSION CONTROL BLANKET AS DIRECTED BY RWMWD.
2. TRAIL CONNECTION TO CITY PARK TO BE COORDINATED WITH THE CITY OF ST. PAUL PARKS & REC. DEPT.
3. ANY ORGANIC MATERIAL ENCOUNTERED SHOULD BE REMOVED AND REPLACED PRIOR TO PAVEMENT CONSTRUCTION.



3/- DETAIL
0 50 100
SCALE IN FEET

GOPHER STATE ONE CALL

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GENERAL NOTES:

1. CONTRACTOR IS RESPONSIBLE TO LOCATE AND FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO WORK.
2. CONTRACTOR SHALL INSTALL AND MAINTAIN ALL EROSION CONTROL BMPS THROUGHOUT THE DURATION OF WORK.
3. CONSTRUCTION LIMITS TO BE COORDINATED WITH PARKS STAFF AS DIRECTED.
4. COMPACTED SOIL MUST BE DECOMPACTED AS REQUIRED IN PROJECT SPECIFICATIONS.

PRELIMINARY DRAFT
NOT FOR CONSTRUCTION

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RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

CAPITAL IMPROVEMENT PROJECT (CIP)
MAINTENANCE/REPAIRS 2022

SITE 13
KELLER REGIONAL TRAIL ACCESS

BARR PROJECT No.	
23/62-282.38	
CLIENT PROJECT No.	
DWG. No.	REV. No.
C-15	A

CADD USER: Greg Nelson FILE: M:\DESIGN\23620282\00\23920282\238_2022_C15_KELLER REGIONAL TRAIL ACCESS.DWG PLOT SCALE: 1:2 PLOT DATE: 10/28/2021 10:21 AM

Request for Board Action

Board Meeting Date: November 3, 2021 **Agenda Item No:** 7B

Preparer: Tina Carstens, Administrator

Item Description: District Public Art Policy

Background:
The district has a long history of incorporating public art and artful design in our district projects. These components in a project help educate the public on the benefits of treating stormwater in a more visual and interpretative way. Public art can also increase a project's aesthetics and facilitate community involvement, especially when the art is interactive. You can see examples of art in our projects at the Maplewood Mall, Living Streets, and Enhanced Sand Filter projects. We also incorporate artful design in many of our projects with our planting plans or the shape of BMPs.

In developing the current watershed management plan, an action item was approved to "develop a program to incorporate public art into District programs and projects." (IE16). Art is considered in district-led projects depending on the location, the potential interaction with the public, and the education opportunities. For the Stewardship Grant Program, the board had approved the development of funding for public art within the program several years ago. It is considered an eligible project with the potential for a 50% cost share. And while that has been available, a clear definition of the goals and acceptable project under the public art category hasn't been established.

The attached proposed public art policy was drafted based on the discussion of the board at their October 6, 2021 meeting and is available for further discussion and/or adoption at this meeting.

Applicable District Goal and Action Item:

Goal: Inform and Empower Communities – The District will inform and empower communities to become partners in improving and protecting the watershed through its own efforts.

Action Items: Develop a program to incorporate public art into District programs and projects.

Staff Recommendation:
Review and adopt the proposed Public Art Policy.

Financial Implications:
The board of managers may annually review the budget allocated to the Stewardship Grant Fund as well as the amount allocated for public art through that program and on district projects.

Board Action Requested:
Adopt the Public Art policy.

PUBLIC ART POLICY

Adopted: November 3, 2021

A. Mission

To further communicate and educate through public art and artful design, the overall district mission of protecting, managing, and improving our natural resources.

B. Goals

Public art funded through the district, whether through our projects or our programs, shall further one or more of the goals below:

1. Making invisible water systems visible.
2. Creating features that bring attention to water features in a public space.
3. Creating features that inspire the implementation of other water projects.
4. Creating an aesthetic interface between the natural and built environments.
5. Creating innovative best management water practices.

C. Process for Art on District Projects

The district shall meet one or more of the above goals when planning public art on a district projects. The board of managers shall approve public art components as part of the project approval process.

D. Process for Community Art Grants

- Community applicants for public art installations shall come through the Stewardship Grant Program and support a water or natural resources project and not be a standalone art project.

- Applications will be accepted year-round.

- Public art projects are eligible for 50% funding up to $15,000 per application.

- Additional funding may be requested by the applicant and approved by the board of managers based on location in the watershed, audience served, and the type of project proposed.

- Projects must be approved by the board of managers before starting work.

- Projects are funded through reimbursement upon completion and final inspection.

- Materials and labor are eligible for reimbursement.

- In-kind services are not eligible for reimbursement and will not be considered for matching contributions.

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Presentations

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Minnesota Stormwater Research Council

Research Funding Support Request
Join us as a financial partner to achieve or surpass the 2021 goal of
$175K

The Minnesota Stormwater Research Council (Council) in partnership with the University of Minnesota Water Resources Center (WRC) is soliciting funds to complete collaborative applied research to address priority stormwater management needs for Minnesota.

Over the past four years, more than $493K was contributed and pooled together from watershed units, cities, organizations and private businesses. These were then leveraged with Clean Water Legacy funds to support 23 research projects and support the use of that information by professionals, practitioners, and policy makers. This collective and collaborative work helps prevent, minimize and mitigate the impacts of urban stormwater runoff across Minnesota.

The accompanying **Program Highlights** summarizes the research completed and recognizes the partners that have made it possible.

Why contribute?

These investments in research result in discoveries that help Minnesota professionals, practitioners, and policymakers across cities, watersheds, counties, and private businesses

- Evaluate and design more effective stormwater practices
- Manage urban runoff to prevent or reduce impacts to lakes, streams, rivers and groundwater
- Maintain investments in stormwater infrastructure for continued effective operation.

Your organization's financial contribution to the Council directly supports research important to you. Pooling resources adds up and provides a mechanism for completing work together.

Join the growing list of watersheds, cities, private businesses and organizations supporting urban stormwater research.

Use the online form HERE to indicate your organization's financial support by October 31st.

How your contribution will be invested in the future

Your 2021 contribution to the research funding pool will support a new suite of research projects to be solicited in late 2021 and chosen in early 2022. A competitive application process is used to solicit proposals.

About the Minnesota Stormwater Research Council

Learn more about how cities, watersheds, consultants, state agencies, and research institutions are coming together to guide stormwater research in the *Minnesota Stormwater Research Council Framework*.

Management and use of funds

- ✔ The use of pooled applied research funds will be managed by the Advisory Board of the Council in partnership with the Water Resources Center.
- ✔ Submissions and projects will be reviewed, ranked, and awarded as determined by the Advisory Board of the Council and by the Center.
- ✔ All researchers, professionals, and experts from Minnesota will be invited to submit proposals. Organizations contributing funds and their staff are eligible to apply.
- ✔ Acknowledgement of funding partners is required by the researchers for each project and on Center and Council reports, website and other publications.

Please contact one of the following Council Advisory Board Members for more information.

Ross Bintner, City of Edina	RBintner@edinamn.gov	952-903-5713
Lisa Volbrecht, City of St. Cloud	Lisa.Vollbrecht@ci.stcloud.mn.us	320.650.2834
Bob Fossum, Capitol Region Watershed District	bob@capitolregionwd.org	651-644-8888
Rena Weis, WENCK/Stantec	rweis@wenck.com	763-252-6889.
John Bilotta, Water Resources Center	jbilotta@umn.edu	612-624-7708

This letter is distributed on behalf of the Minnesota Stormwater Research Council Advisory Board.

Minnesota Stormwater Research Council
&
Minnesota Stormwater Research Program

2021 **HIGHLIGHTS**

Advancing science, technology and management of stormwater in Minnesota by investing in and facilitating research to prevent, minimize, and mitigate the impacts of runoff from the built environment.

wrc.umn.edu/stormwater

The Stormwater Research Program in partnership with the Minnesota Stormwater Research Council

This collaboration pools financial resources to support research, shares research outcomes and engages stakeholders to determine research needs.

Visit wrc.umn.edu/msrc to learn more, view the Advisory Board members, and subscribe to our mailing list.

CURRENT STORMWATER RESEARCH PROJECTS

Can spent lime from water treatment facilities be used to control phosphorus release from urban stormwater ponds?

How can soil mixes in biofiltration practices impact phosphorus capture and release and plant growth?

How prevalent are pathogens, viruses and bacteria in stormwater reuse systems?

Will city-specific climate change reports provide more precise information for future stormwater infrastructure planning and management?

Are underground sand filters performing as designed and what type of future maintenance is needed?

Will the addition of biochar help filter practices remove bacteria and dissolved contaminants?

How can we improve monitoring of the first flush and concentrations of pollutants?

At what level are gross organic solids contributing to stormwater pollutant loading?

Can we combine stormwater monitoring data from various cities, watersheds and agencies to more specifically characterize urban runoff quantity and quality?

Recent Achievements

COMPLETED RESEARCH PROJECTS

Final reports and additional project information can be found on our website.

Example discoveries...

- **Detecting phosphorus release from urban stormwater ponds**
  Discovered that many urban stormwater ponds are stratified, with low dissolved oxygen that may result in phosphorus release rather than phosphorus capture. The project also revealed that duckweed and wind sheltering by trees and vegetation are important pond characteristics that need to be considered for a complete picture of what is happening with phosphorus in stormwater ponds.

- **Developing a street sweeping credit for stormwater phosphorus source reduction**
  Discovered that higher tree canopies can be an indicator of mass and nutrient pollution loads on streets. The research was used by the team and the Minnesota Pollution Control Agency to develop a street sweeping credit calculator cities and other MS4s can use to determine phosphorus removal for their unique street sweeping practices.

- **Pathogens and antibiotic resistant genes in urban stormwater reuse systems**
  Discovered that some antibiotic resistant genes, virus, E.coli and other bacteria are making their way into stormwater reuse systems. Levels of detection occurred both before and after treatment. No seasonal dynamics were detected. More importantly this study revealed we need more data. Therefore phase II of this project is currently underway.

- **Inspiring Community Action for Stormwater Management**
  Discovered Minnesota water scientists, policymakers and managers can accelerate progress towards clean water by listening to new and diverse audiences and changing the way we discuss water with citizens.

The value for urban stormwater research discoveries

Discoveries from research help Minnesota professionals, practitioners and policymakers:

- ☐ *Evaluate and design more effective stormwater practices*
- ☐ *Manage runoff to prevent or reduce impacts to lakes, rivers, streams and groundwater*
- ☐ *Maintain investments in stormwater infrastructure for continued operation*

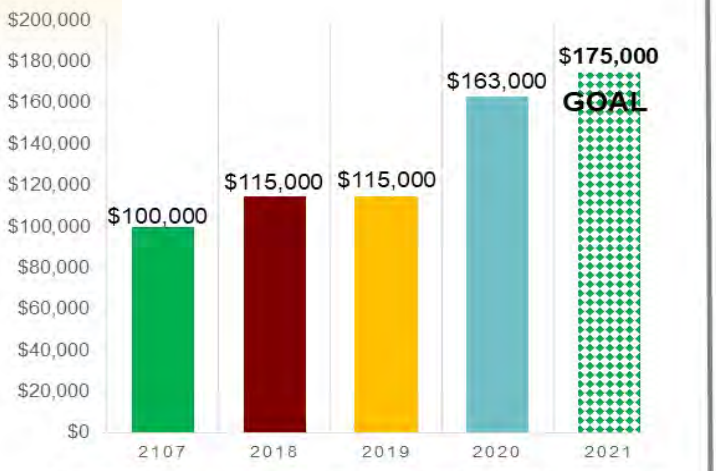
Financial Partners

FINANCIAL SUPPORT for the Stormwater Research and Technology Transfer Program is provided by the Clean Water Fund from the State of Minnesota's Clean Water, Land and Legacy Amendment. Additional support comes from the Minnesota Stormwater Research Council and it's member cities, watersheds, private businesses, The University of Minnesota Water Resources Center, the College of Food, Agriculture, and Natural Resource Sciences, and the National Institutes for Water Resources funded by the US Geological Survey.

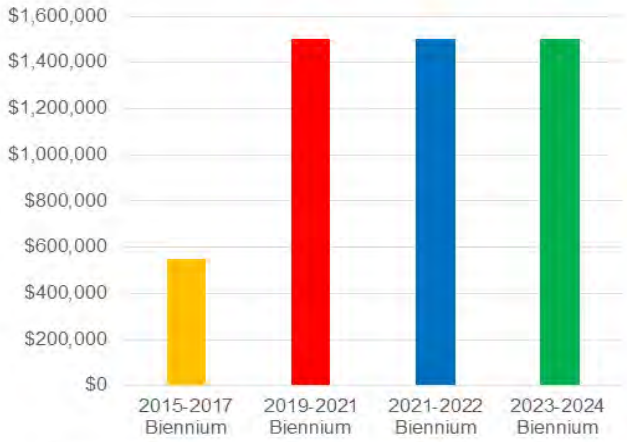
JOIN US as a financial partner to achieve or surpass this year's goal:

2021 GOAL

$175K



Pooled funds from watersheds, cities, organizations, and private industry.



Program funds from the Minnesota Clean Water, Land and Legacy Amendment.

CLEAN WATER LAND & LEGACY AMENDMENT

Thank you to the following cities, watershed organizations, and private sector businesses which provide, or have provided, financial support for the Program and Council beginning 2017:

- Barr Engineering Company
- Capitol Region Watershed District
- City of Bloomington
- City of Edina
- City of Minnetonka
- City of Woodbury
- Comfort Lake-Forest Lake Watershed District
- Minnesota Cities Stormwater Coalition
- Mississippi Watershed Management Organization
- Nine Mile Creek Watershed District
- Ramsey-Washington Metro Watershed District
- South Washington Watershed District
- Upper Mississippi River Source Water Protection Project
- Valley Branch Watershed District
- Wenck Associates

Contact:
John Bilotta
Senior Research and Extension Coordinator
jbilotta@umn.edu, 1.612.624.7708
wrc.umn.edu/projects/stormwater

Water Resources Center
University of Minnesota
Driven to Discover℠

SAINT PAUL MEDIA
INTERACTIVE STUDIO

EXECUTIVE RECOMMENDATIONS

Ramsey-Washington Metro Watershed District

Oct 25, 2021

Executive Recommendations

1. **Resources or educational content repositories with a search and filter functionality** that maintains relevance and is filterable by various (as of yet undetermined) taxonomies. This is highly recommended by Saint Paul Media in order to accomplish two things:

    - Organic traffic will be enhanced by bringing in educational materials focused on the general public, giving the watershed district an opportunity to cross-link those educational resources to certain content in specific areas of the site that might help increase engagement with their constituents.

    - This will satisfy the overwhelming desire of the board and certain constituents that were interviewed to have a repository of educational materials that they can point the public to when questions arise about best practices in the watershed district and how individuals, particularly land owners, can improve water quality and help to avoid erosion and flooding as well.

2. **Building an accessible, visible funnel for engineers and professionals** in the field of watershed management to find reports, documentation, statistics, maps, and other data-centric content easier. This section should be designed in such a way that while it is easy to find, it should make use of content to clue users into the fact that this information is almost exclusively accessed by professionals in the field. Certainly, the public is welcome to explore this section of the site, but the audiences visiting this part of the site should know what to expect as they will be digging through technical documents that use terms and acronyms that they may not be familiar with.

3. **Contact point hints should be put in place to help constituents understand who on staff at the watershed district is responsible for addressing their needs**, should they decide to contact them directly. While this didn't come up as a major challenge for anyone during end-user or stakeholder interviews, it is always a good idea to guide your users as much as possible, especially when your organization is publicly funded and is, at times, targeted by parties interested in singular issues (ie. the flooding of their personal property). To her credit, reports by both end-users and stakeholders have concluded that Tina is great at her job, but we should consider doing whatever is possible to reduce her workload so that she can help people who are truly struggling either with the website or with water-related issues.

4. **Developing user personas and building very clear user pathways that make sense for those user personas.** This is included in every full website design process that Saint Paul Media orchestrates, but it should be noted that this particular organization (the watershed district) would do well by building very definite user pathways for certain audience groups. There was some pushback from individuals during interviews about

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the tendency of the organization to funnel users too quickly, but we believe building explicit user pathways is beneficial to organizations, like the watershed district, who have so many audience groups. Examples of some user personas would be:

- *Connie Constituent:* Connie is a long-time homeowner in Roseville who is experiencing flooding on a street that disallows her from accessing her property from a major transportation artery. She needs to know a few things: can the watershed district help her navigate the civic system to help solve the problem; who at the watershed district is available to help her begin the process of navigating toward a solution; and, what can she do in the future to help resolve or reduce the problems of flooding in the future?

- *Edward Engineer:* Edward is an employee of the city who relies on the watershed district's data collection services and GIS information to make informed decisions about roadway and rain collection design. He has very specific needs with regard to the information that he is looking for (see: Recommendation 2), but finds himself from time-to-time being interested in other projects that the watershed district is working on in his city. He needs to have quick access to the data that he needs to get his job done (so he can help Connie), but including links to relevant projects or projects of interest would help him engage with the organization in a more meaningful way--and may, in fact, encourage him to share what he learns about those projects with others in his workplace, and even in the community that he serves.

5. **A Wordpress-native, simplified event calendar** would be a great addition to the site. Because the watershed district does have a board and does hold public meetings, it should be in their better interest to build out a section of the site dedicated to events. Keeping in mind the breadth of the audiences that the watershed district serves, it would be ideal to have an events calendar or feed that is filterable by interest.

6. **Better mapping system with more engaging, or more intuitive, visual graphics** to help all audience groups get a better understanding of where the organization is focusing its efforts and what those efforts are. While the current mapping system on the site does a great job already (in our opinion), there are certainly areas that could use improvement. Iconography, clickability, readability, and accessibility are all areas that could be improved upon in the next iteration of the mapping systems in place. One person in particular recommended that the ArcGIS mapping system be made easier to find and that certain interactive options be tweaked to make it easier for them to find the data they were looking for (flow of water, water levels, and other scientific data).

7. **A volunteering and/or engagement section of the site** whose content is prioritized by the level of engagement required by the general public would be a good way to get citizens involved in the conservation and restoration of natural habitats and resources. Right now, it's unclear what, if anything, your average citizen can do to help the

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watershed district get their job done. There are people out there, very passionate people who want to help, but the content and messaging they need to encourage them to engage is either hidden or considered too overwhelming once they find it. Simplifying potential calls to action and building smaller sections and web forms dedicated to recruiting volunteers would be a great addition to the website.

8. **A better permitting system would be ideal.** Several interviewees and even some internal stakeholders have lamented the current system, but can't seem to find a way to fix the problem. This may require some additional scope and discovery to find a solution that will help alleviate some of the hurdles that potential permit applicants and grantees are experiencing with the current process. This is an interesting challenge as both permitting staff and permit seekers have lamented the system for being clunky, but insist that the process be dependent upon static documents in PDF and Word format.

9. **Use the marketing and communications of the cities that are encompassed by the watershed district.** Several of the interviewees noted that they had first come into contact with the organization by way of the city they lived in. Rather, they were directed to the watershed district because "the city" told them that the watershed district was responsible for handling whatever challenges they were having. This brought up the point more than once that the watershed district should be approaching cities to help bolster their communications and marketing to those constituents who happened to be within the district's boundaries.

10. **Increase the use of electronic newsletters and communications in general.** Most folks who were asked if they received communications from the watershed district said that they did not receive regular, direct, targeted communications. Whether this is the case or not, people feel like more could be done to reach them and keep them updated on the happenings within the watershed district. Integrating eNewsletter sign ups into websites is an easy first step toward achieving better, more regular communications with people who want to communicate with the organization.

11. **Build a board / community engagement section that is more visible.** Right now, the current board meetings, agendas, and minutes are buried in a menu system that doesn't make a lot of sense (ie. the hamburger / mobile menu in the primary navigation). The entire navigation system of the site will be revisited, revised, and improved, but for the sake of transparency and explicit communication, this is something that cannot be ignored; this is especially important to those members of the district's constituency that are suspicious of the government and their perception that civic agencies lack transparency.

12. **Embrace visuals in the new design of the website that highlight bodies of water that the watershed district's constituents can be proud of.** A large segment of the people interviewed said that they really loved the photography on the current website because it shows lakes and streams that are healthy and well taken care of. We should

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continue to support that sense of pride in our water quality by using photography and visual language that enhances and highlights recognition of the work done by the watershed district's dedicated staff (and volunteers).

13. **Remove popups or at least get Mailchimp's built-in javascript to takeover newsletter signup functionality.** At the moment, users find the popup for newsletter signups to be getting in their way. It's likely being caused by cookies not working correctly. Switching this functionality over to the code developed in-house at Mailchimp will allow RWMWD to still get newsletter signup opportunities in front of people, but without the hassle of always having to close that window every time someone reloads a page or visits the site for the umpteenth time.

14. **Rework and refactor some language and terminology to be focused on the public by offering a glossary of terms.** Some of the reports and findings published on the site are simply not meant for public consumption. While we have to understand that engineers (and the people writing these reports) do not have time to deal with yet another shared language system, as that would impede efficient communication between other engineers, we can at least provide the public who are interested in these reports a glossary of terms so that they don't feel left in the dark.

15. **Add a contact form on a contact page.** Offering people another way to contact the organization via an interactive form will allow the organization to guide the user and direct their messages to the appropriate contact point while simultaneously discouraging spam bots from flooding the system by using an unobtrusive spam-filtering (reCaptcha) software to discourage exploitation of the contact form.

16. **Optimize space on the homepage.** Right now, the home hero (the photo with scrolling languages) should be considered precious space that is not being used. This space could still use a photograph, perhaps even the same one, and be given content containers that users could cycle through to see upcoming board meetings, upcoming events, news and updates, and other relevant information for both constituents and professionals. A full redesign of the homepage will be part of the design process, regardless, but it's good to have the data we need (thanks to the staff and end-user interviewees) to help us decide which content should be included on the homepage.

17. **Compose and publish a Land Acknowledgement Statement.** This should go without saying, but land acknowledgement statements are par for the course now for public, private, and nonprofit organizations. If RWMWD needs assistance with drafting a Land Acknowledgment statement, we would direct them to the newly redesigned (by us, of course) and soon-to-be-launched Native Governance Center's website. On that site, staff will be able to find resources relevant to helping them understand why land acknowledgements are necessary, and what they can do beyond simply putting a statement up on their website.

18. **Automation of content, content feeds, and content updates.** Include as many opportunities as possible to design a backend user interface that will allow Lauren and other staff members to update the website without having to dig through multiple content paths, or to track down tiny pieces of content that are impossible to find. Synchronization, syndication, and automated cross-linking between resources, educational materials, events, news, and other dynamic content sources will allow Lauren to improve her workflow and be more effective as a communications professional.

19. **Include dates in the Projects listings for projects that are ongoing and projects that have been completed.** It has been a challenge for several users to find their way through upcoming, recent, or current projects simply because start dates and end dates are not included in the Project listings. This is an easy fix using a custom field in each of the individual project listings.

20. **Include a sitewide announcement banner that is based on conditional logic** (when content is populated in the appropriate field). These announcement banners are very popular these days, and they're just a very simple, quick fix to getting a major message like offices being closed for holidays or stock / inventory being out, or even major event messaging like registration being open or COVID-19 related announcements. Without that optional site-wide banner, the communications department will struggle to respond with immediacy when immediacy is most important for them.

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Memorandum

To: RWMWD Board of Managers
From: Erin Anderson Wenz, Gareth Becker, Tyler Olsen, Lulu Fang, Kim Baker and Parker Brown (Barr Enginering)
Subject: Update on RWMWD Emergency Response Plans, Kohlman Creek Subwatershed Flood Risk Reduction Study, and Ames Lake Area Flood Risk Reduction Study
Date: October 28, 2021
Project: 23621200.20 and 23621200.21
c: Tina Carstens and Brad Lindaman

The purpose of this technical memorandum is to provide project update reference materials that will be discussed at the November Board meeting. Barr Engineering Co. (Barr) will give another update to the Board at the December meeting.

1.1 Background

In 2018, the Ramsey-Washington Metro Watershed District (District) completed an evaluation to identify potentially flood-prone habitable structures based on updated rainfall depths published in Atlas 14. As a result, numerous structures were identified in flood-risk areas upstream of the District's Beltline storm sewer. Barr detailed this work in a technical memorandum dated September 4, 2018, titled "Identification and Prioritization of Potentially Flood-Prone Structures."

In 2020, the District completed the Beltline Resiliency Study, which evaluated potential system modifications that could be implemented in the Beltline watershed to reduce flood risk to habitable structures. Much of that study focused on optimizing the use of the Beltline to lower flood levels upstream. That study assumed that (1) the size and/or peak capacity of the Beltline would not be increased, and (2) flood-prone homes upstream of the Beltline would not be purchased and removed from the flood plain. Detailed background information on the Beltline Resiliency Study can be found in the Barr report titled *System-Wide Evaluation of Flood-Risk Mitigation Options: Beltline Resiliency* Study (November 2020).

Since then, the District has conducted feasibility studies that further evaluate the concept-level modifications proposed in the Beltline Resiliency Study through a series of phases listed below and shown in Figure 1.

- Phase 1: Gervais Creek
- Phase 2: Grass Lake
- Phase 3: Kohlman Creek and Willow Creek
- Phase 4: Phalen Chain of Lakes (including the Ames Lake area just south of Lake Phalen)
- Phase 5: Beaver Lake

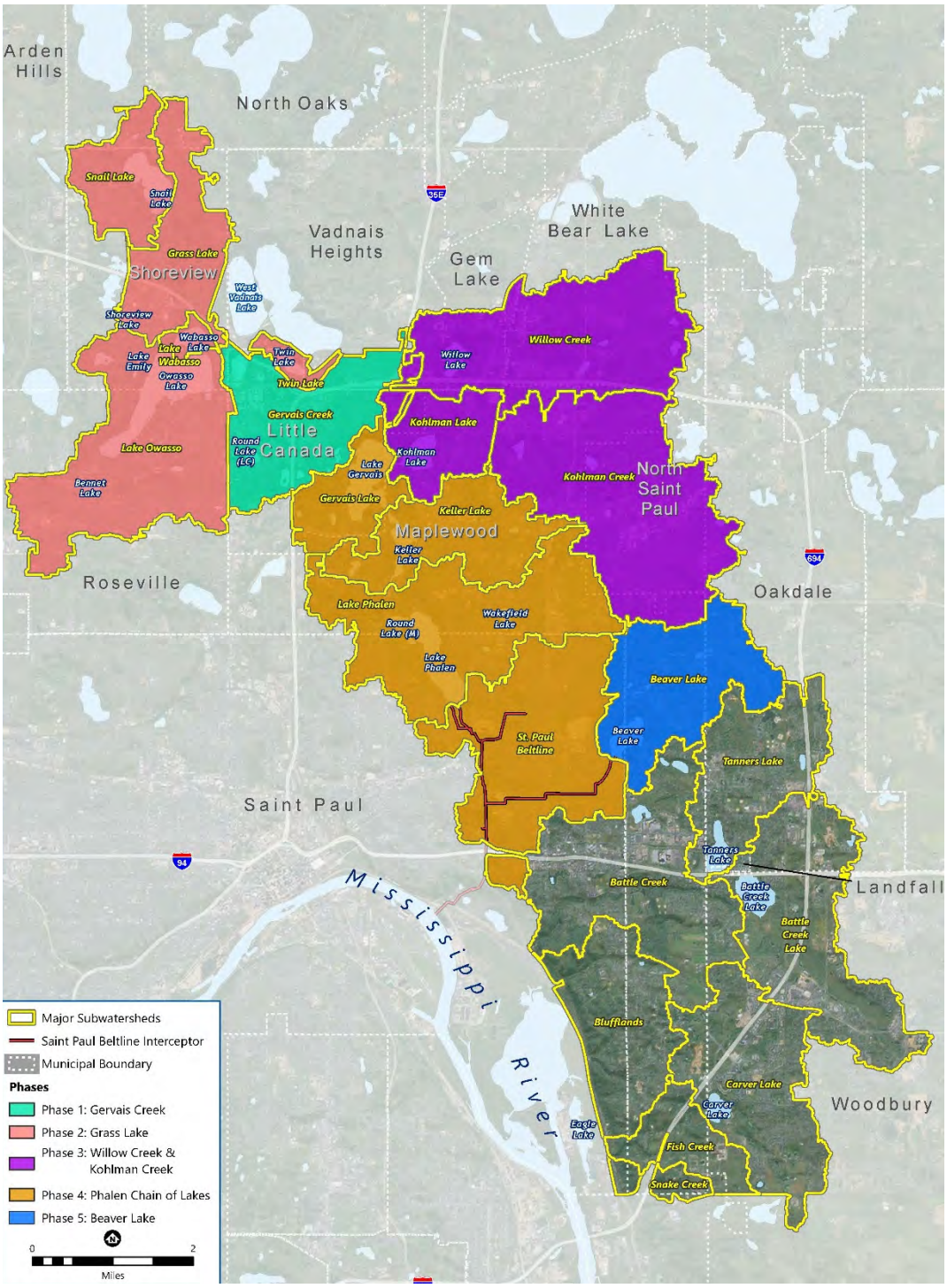


Figure 1 Beltline Resiliency Study Phases

Detailed maps of flood-prone structures and modeled inundation areas for each phase can be found on the District's Beltline Resiliency Story Map at the following web address:

https://maps.barr.com/RWMWD/BeltlineResiliency/StoryMapSeries/index.html

Phases 3 and 4 are the focus of this memorandum and are described in greater detail below.

1.2 Phase 3: Kohlman Creek and Willow Creek

Detailed maps of flood-prone structures and modeled inundation areas for Phase 3 are on the tab marked "3.3 Phase 3 Inundation- DRAFT" on the Beltline Resiliency Story Map.

Potentially flood-prone structures are distributed throughout the Kohlman Creek subwatershed. Near the upstream end of the watershed, there are flood-prone structures near the North Saint Paul Ecology Center. Downstream, there are flood-prone structures near PCU Pond, east of White Bear Avenue North, Markham Pond, and Kohlman Basin.

Most potentially flood-prone structures in the Willow Creek subwatershed are near Burke Road Pond and its upstream wetland. However, many of the structures initially identified as potentially at-risk have since been surveyed (2020) and were found to be at higher elevations than LiDAR information suggested.

1.3 Phase 4: Phalen Chain of Lakes (including the Ames Lake area)

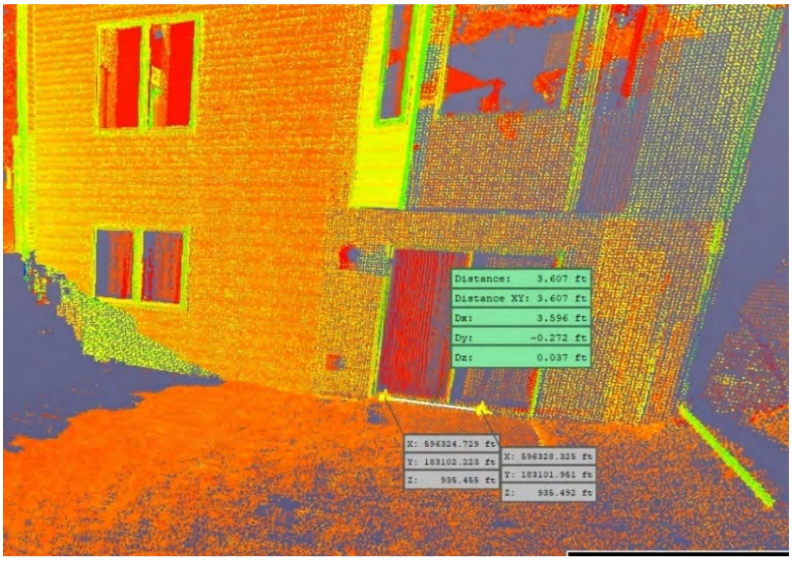
Detailed maps of flood-prone structures and modeled inundation areas for Phase 3 are on the tab marked "3.4 Phase 4 Inundation- DRAFT" on the Beltline Resiliency Story Map.

The Phalen Chain of Lakes includes Kohlman Lake, Gervais Lake, Keller Lake, and Lake Phalen. The outlet from Lake Phalen is the upstream end of the Beltline. The total tributary area to the Beltline is 25,618 acres. In 2021, the focus has primarily been on the Ames Lake area (shown in this screenshot from the Beltline Resiliency Study story map).

Ames Lake and the surrounding developed area are within a topographic depression. Flooding in this area is a combination of local runoff and overland flow from the upstream watershed. Potential system modifications evaluated to mitigate flood risk in this area include rerouting upstream storm sewer, adding new detention ponds, and expanding existing ponds. Numerous homes, particularly those along Clarence Avenue and Mechanic Avenue, have low-entry elevations 1 to 2 feet (or more) lower than the modeled 100-year flood elevation.

2.0 Topographic Surveys to Confirm Low-Entry Elevations

In Phase 2 and 3 areas, an important part of the District's work in 2020 and 2021 has been extensive surveying to confirm the low-entry elevations of habitable structures deemed by the Beltline Resiliency Study to be at risk of flooding. In 2020, surveys focused primarily on the Willow Lake Subwatershed and the Ames Lake area. In 2021, surveys have focused on the Kohlman Creek Subwatershed and any remaining areas in the Phase 4 area.



In 2021, laser scanning technology was used to survey low-entry elevations so that thousands of elevation points could be collected at once. This was done to aid the design of future flood risk reduction strategies, including emergency response plans.

This image (left) shows the "point cloud" collected during these scans. Each point has latitude, longitude, and elevation data.

Tables 1, 2, and 3 show the updated elevations for the lowest adjacent grade (or surveyed low entry) and the updated 100-year water surface elevation adjacent to each address. Lowest adjacent grades/low-entry elevations noted in **red** appear lower than a 100-year flood elevation immediately adjacent to the property. These properties are considered to remain at risk of flooding during a 100-year flood event. Non-highlighted elevations show structures no longer considered to be at risk of flooding. These tables were created during the Beltline Resiliency Study and have been updated to reflect surveying work and model updates. In some cases, Barr staff members were not permitted to perform a topographic survey on private property. In these cases, the lowest adjacent grade/low-entry elevation was estimated using the LiDAR topographic data leveraged during the Beltline Resiliency Study.

As shown in the tables, many structures are still considered at risk of flooding:

- **Twenty-four** in the Kohlman Creek Subwatershed
- **Two** in the Willow Creek Subwatershed
- **Seventy-two** in the Phalen Chain of Lakes Subwatershed (33 of these are due to "local" flooding issues, such as local storm sewer capacity, and 41 are related to flooding adjacent to, or related to, District facilities)

Table 1: Updated List of Potentially Flood-Prone Structures in the Kohlman Creek Subwatershed

Address	Lowest Adjacent Grade/Low-Entry Elevation	Source for Lowest Adjacent Grade/Low-Entry Elevation	Existing 100-year Water Surface Elevation
2145 5TH ST, North Saint Paul, 55109	949.6	Past Survey	945.7
2220 36, North Saint Paul, 55109	**939.2**	2021 Survey	941.3
2204 36, North Saint Paul, 55109	**939.6**	2021 Survey	941.3
2600 WHITE BEAR AVE, Maplewood, 55109	**919.7**	2021 Survey	922.6
2806 MAPLEWOOD DR, Maplewood, 55109	**867.8**	Past Survey	870.4
1570 BEAM AVE, Maplewood, 55109	890.9	2021 Survey	886.1
1670 BEAM AVE, Maplewood, 55109	896.1	2021 Survey	889.8
2157 SOUTH AVE, North Saint Paul, 55109	**940.7**	LiDAR	941.3
2159 SOUTH AVE, North Saint Paul, 55109	**939.3**	LiDAR	941.3
2159 SOUTH AVE, North Saint Paul, 55109	**939.5**	LiDAR	941.3
2187 6TH ST, North Saint Paul, 55109	**940.3**	LiDAR	941.3
2172 6TH ST, North Saint Paul, 55109	**940.3**	LiDAR	941.3
2205 6TH ST, North Saint Paul, 55109	**940.4**	LiDAR	941.3
1807 GERVAIS CT, Maplewood, 55109	**912.9**	Past Survey	913.6
1801 GERVAIS AVE, Maplewood, 55109	**913.0**	Past Survey	913.6
1801 GERVAIS AVE, Maplewood, 55109	**913.3**	Past Survey	913.6
1801 GERVAIS AVE, Maplewood, 55109	**912.0**	Past Survey	913.6
2268 13TH AVE, North Saint Paul, 55109	938.0	2021 Survey	937.9
2133 13TH AVE, North Saint Paul, 55109	**937.0**	Past Survey	937.2
2139 13TH AVE, North Saint Paul, 55109	941.1	Past Survey	937.2
2127 13TH AVE, North Saint Paul, 55109	**934.1**	Past Survey	937.2

2119 13TH AVE, North Saint Paul, 55109	**933.6**	Past Survey	937.2
2138 14TH AVE, North Saint Paul, 55109	**936.3**	2021 Survey	937.2
2132 14TH AVE, North Saint Paul, 55109	**937.1**	2021 Survey	937.2
2570 SEANS WAY, North Saint Paul, 55109	**932.6**	LiDAR	937.2
2576 SEANS WAY, North Saint Paul, 55109	**935.5**	2021 Survey	937.2
2599 ARIEL ST, Maplewood, 55109	**922.2**	2021 Survey	922.6
1876 C, Maplewood, 55109	**911.6**	LiDAR	913.6
1862 C, Maplewood, 55109	**911.9**	LiDAR	913.6

Table 2: Updated List of Potentially Flood-Prone Structures in the Willow Creek Subwatershed

Address	Lowest Adjacent Grade/Low Entry Elevation	Source for Lowest Adjacent Grade/Low Entry Elevation	Existing 100-year Water Surface Elevation
1803 BUERKLE RD, White Bear Lake, 55110	918.2	2020 Survey	914.2
1851 BUERKLE RD, White Bear Lake, 55110	916.8	2020 Survey	914.2
1825 BUERKLE RD, White Bear Lake, 55110	917.2	2020 Survey	914.2
1805 BUERKLE RD, White Bear Lake, 55110	918.2	2020 Survey	914.2
1791 BUERKLE CIR, White Bear Lake, 55110	917.2	2020 Survey	914.2
3200 ORCHARD CT, White Bear Lake, 55110	**913.4**	2020 Survey	**914.2**
3210 ORCHARD CT, White Bear Lake, 55110	914.7	2020 Survey	914.2
3215 ORCHARD CT, White Bear Lake, 55110	914.7	2020 Survey	914.2
3230 ORCHARD CT, White Bear Lake, 55110	915.1	2020 Survey	914.2
3240 ORCHARD CT, White Bear Lake, 55110	915.1	2020 Survey	914.2
3255 ORCHARD CT, White Bear Lake, 55110	914.7	2020 Survey	914.2
1790 ORCHARD LN, White Bear Lake, 55110	**913.6**	2020 Survey	**914.2**

Table 3: Updated List of Potentially Flood-Prone Structures in the Phalen Chain of Lakes Subwatershed (Including the Ames Lake Area)

District or Local	Address	Lowest Adjacent Grade	Source for Lowest Adjacent Grade/Low-Entry Elevation	Existing 100-Year Water Surface Elevation
District	1177 Clarence St, St. Paul 55106	861.5	2021 Survey	861.3
Local	1205 Clarence St, St. Paul 55106	**858.8**	2021 Survey	860
Local	1207 Clarence St, St. Paul 55106	**859.8**	2021 Survey	860
Local	1209 Clarence St, St. Paul 55106	**859.7**	2021 Survey	860
Local	1211 Clarence St, St. Paul 55106	**859.7**	2021 Survey	860
Local	1213 Clarence St, St. Paul 55106	**859.7**	2021 Survey	860
Local	1221 Clarence St, St. Paul 55106	**858.6**	2021 Survey	860
Local	1223 Clarence St, St. Paul 55106	**858.6**	2021 Survey	860
Local	1225 Clarence St, St. Paul 55106	**858.6**	2021 Survey	860
Local	1227 Clarence St, St. Paul 55106	**858.6**	2021 Survey	860
Local	1229 Clarence St, St. Paul 55106	**858.5**	2021 Survey	860
Local	1235 Clarence St, St. Paul 55106	**858.1**	2021 Survey	860
Local	1237 Clarence St, St. Paul 55106	**858.0**	2021 Survey	860
Local	1239 Clarence St, St. Paul 55106	**858.0**	2021 Survey	860
Local	1241 Clarence St, St. Paul 55106	**858.0**	2021 Survey	860
Local	1243 Clarence St, St. Paul 55106	**857.9**	2021 Survey	860
Local	1251 Clarence St, St. Paul 55106	**858.6**	2021 Survey	860
Local	1253 Clarence St, St. Paul 55106	**858.6**	2021 Survey	860
Local	1255 Clarence St, St. Paul 55106	**858.6**	2021 Survey	860
Local	1267 Cook Ave E, Saint Paul 55106	**863.0**	2004 Survey	863.2018
District	1275 Magnolia Ave, Saint Paul 55106	**859.0**	2004 Survey	860.7164
Local	1305 Maryland Ave, St. Paul 55106	**857.7**	2020 Survey	860
Local	1333 Maryland Ave, St. Paul 55106	860.3	2021 Survey	860
Local	1335 Maryland Ave, St. Paul 55106	860.3	2021 Survey	860
Local	1337 Maryland Ave, St. Paul 55106	860.4	2021 Survey	860
Local	1339 Maryland Ave, St. Paul 55106	860.4	2021 Survey	860
District	1340 Phalen Blvd, St. Paul 55106	**856.3**	2020 Survey	857.9
District	1342 Phalen Blvd, St. Paul 55106	**855.9**	2020 Survey	857.9

District	1343 Magnolia Ave, St. Paul 55106	**856.7**	2020 Survey	857.9
District	1350 Phalen Blvd, St. Paul 55106	**856.6**	2020 Survey	857.9
District	1355 Magnolia Ave, St. Paul 55106	**857.2**	2020 Survey	857.9
District	1360 Phalen Blvd, St. Paul 55106	**857.1**	2020 Survey	857.9
District	1381 Mechanic Ave, St. Paul 55106	**854.9**	2020 Survey	858.4
District	1389 Mechanic Ave, St. Paul 55106	**855.6**	2020 Survey	858.4
District	1393 Mechanic Ave, St. Paul 55106	**856.5**	2020 Survey	858.4
District	1397 Mechanic Ave, St. Paul 55106	**856.9**	2020 Survey	858.4
District	1401 Mechanic Ave E, St. Paul 55106	**856.5**	2020 Survey	858.4
District	1405 Mechanic Ave, St. Paul 55106	**856.8**	2020 Survey	858.4
District	1415 Mechanic Ave, St. Paul 55106	**857.6**	LiDAR	858.4
District	1421 Mechanic Ave, St. Paul 55106	**858.3**	2020 Survey	858.4
District	1433 Mechanic Ave, St. Paul 55106	**856.8**	2020 Survey	858.4
District	1437 Mechanic Ave, St. Paul 55106	**857.6**	2020 Survey	858.4
Local	1438 Mechanic Ave, St. Paul 55106	**863.0**	2020 Survey	863.5
Local	1442 Mechanic Ave, St. Paul 55106	**862.4**	2020 Survey	863.5
Local	1465 Ames Ave, St. Paul 55106	**859.5**	2004 Survey	863.5
Local	1577 Clear Ave, St. Paul 55106	**916.9**	LiDAR	918.2
Local	1583 Clear Ave, St. Paul 55106	**916.4**	LiDAR	918.2
Local	1589 Clear Ave, St. Paul 55106	**915.9**	2020 Survey	918.2
Local	1592 Sherwood Ave, St. Paul 55106	**923.2**	LiDAR	923.3
Local	1598 Sherwood Ave, St. Paul 55106	923.5	2020 Survey	923.3
Local	1600 Sherwood Ave, St. Paul 55106	923.5	2020 Survey	923.3
Local	1604 Maryland Ave E, Saint Paul 55106	**893.8**	LiDAR	894.0765
District	1638 Frost Ave, Maplewood 55109	**901.5**	LiDAR	903.4
Local	1655 Cottage Ave, St. Paul 55106	**921.3**	2020 Survey	923.2
Local	1658 Sherwood Ave, St. Paul 55106	924.0	2020 Survey	923.2

Local	1659 Cottage Ave, St. Paul 55106	**922.3**	2020 Survey	923.2
Local	1660 Cottage Ave, St. Paul 55106	923.8	2020 Survey	923.2
Local	1662 Sherwood Ave, St. Paul 55106	923.8	2020 Survey	923.2
Local	1665 Cottage Ave, St. Paul 55106	923.4	2020 Survey	923.2
District	1671 Hoyt Ave, St. Paul 55106	**927.6**	2021 Survey	928
District	1680 Montana Ave, St. Paul 55106	**927.5**	LiDAR	928
District	1684 Montana Ave, St. Paul 55106	**927.5**	LiDAR	928
Local	1688 Lacrosse St, St. Paul 55106	**909.7**	LiDAR	909.8
Local	1688 Nevada Ave, St. Paul 55106	**929.9**	LiDAR	929.9
District	1690 Montana Ave, St. Paul 55106	**927.7**	LiDAR	928
Local	1696 Iowa Ave, St. Paul 55106	928.8	2021 Survey	928
District	1696 Montana Ave, St. Paul 55106	**927.4**	LiDAR	928
District	1720 Hoyt Ave, St. Paul 55106	**928.0**	LiDAR	928
Local	1739 Nebraska Ave, St. Paul 55106	932.5	2021 Survey	932.5
Local	1745 Nebraska Ave, St. Paul 55106	933.0	2021 Survey	932.5
Local	1751 Nebraska Ave, St. Paul 55106	933.1	2021 Survey	932.5
District	1858 East Shore Dr, Maplewood 55109	**863.0**	LiDAR	863
District	1870 Maryknoll Ave, Maplewood 55109	**901.9**	LiDAR	903.4
District	1871 Maryknoll Ave, Maplewood 55109	**903.0**	LiDAR	903.4
District	1872 Prosperity Rd, Maplewood 55109	**901.9**	LiDAR	903.4
District	1880 East Shore Dr, Maplewood 55109	**861.7**	LiDAR	863.2
District	1880 East Shore Dr, Maplewood 55109	**862.4**	LiDAR	863.2
District	1880 Maryknoll Ave, Maplewood 55109	**901.6**	LiDAR	903.4
District	1885 Maryknoll Ave, Maplewood 55109	**903.4**	LiDAR	903.4
District	1894 Maryknoll Ave, Maplewood 55109	**902.7**	LiDAR	903.4
District	1904 Maryknoll Ave, Maplewood 55109	**901.8**	LiDAR	903.4

District	1936 Kennard St, Maplewood 55109	**903.3**	LiDAR	904.1
District	1944 Kennard St, Maplewood 55109	**904.1**	LiDAR	904.1
District	1948 Kennard St, Maplewood 55109	**903.9**	LiDAR	904.1
District	2009 Arcade St, Maplewood 55109	**861.4**	LiDAR	861.8
District	675 B2, Little Canada 55117	862.2	2014 Gervais Lake ERP	861.8
District	681 B2, Little Canada 55117	862.0	2014 Gervais Lake ERP	861.8
District	737 Carla Ln, Little Canada 55109	**860.7**	2014 Gervais Lake ERP	861.8
District	750 Carla Ln, Little Canada 55109	861.5	2014 Gervais Lake ERP	861.8

2.1 System Modifications Considered and Evaluated

The District stormwater model is being used to evaluate possible modifications to the stormwater system within the Phase 2 and 3 areas. Several types of modifications are being considered to determine which, if any, recommendations for future feasibility studies could be made. In general, potential system modifications are in the following general categories:

- **Decrease conveyance capacity**—Reducing the conveyance capacity through culverts and lake outlet structures upstream of potentially flood-prone structures where there is excess capacity upstream (the 100-year water level is more than 2 feet lower than the low adjacent grade of existing structures)
- **Flood storage volume**—Providing additional flood storage volume either aboveground (e.g., excavating stormwater ponds to increase surface area or creating new stormwater ponds) or underground (e.g., storage chambers).
- **Modification of overflow**—Modifications to existing overflows to either redirect runoff or provide additional upstream storage volume. Overflow modifications evaluated include raising roads and/or trails.
- **Modification to storm sewer system**—Storm sewer modifications that redirect drainage from flood-prone areas to downstream locations with available storage volume.
- **Mechanical operation of outlet structures**—Operation of the Lake Phalen and Keller Lake outlet structures to optimize floodplain storage in the Phalen Chain of Lakes and control discharge into the Beltline. Mechanical operation is also being considered for outlet structures from smaller stormwater ponds and wetlands.

- **Increase conveyance capacity**—Increasing the conveyance capacity of culverts, storm sewer, or lake outlets in locations where options for providing additional floodplain storage volume are limited. In locations where conveyance capacity is increased as a part of the evaluations, downstream system modifications are also evaluated to mitigate increases in 100-year water elevations in those areas.

- **Site specific flood-proofing**—In a few locations, site-specific flood proofing (i.e., localized grading or structural modifications) are being considered, typically for locations where the 100-year water level was a few tenths above the adjacent low grade/low-entry elevation.

The goal of each system modification evaluated is to lower the 100-year floodplain elevation below the low adjacent grade of the lowest habitable structure. Providing freeboard above the flood elevation generated by the 100-year event is not evaluated, and potential increases to the 100-year floodplain as a result of climate change are not considered.

Some early drafts of system modifications being considered for sites throughout the Kohlman Creek Subwatershed are included in Figures 2, 3, and 4.

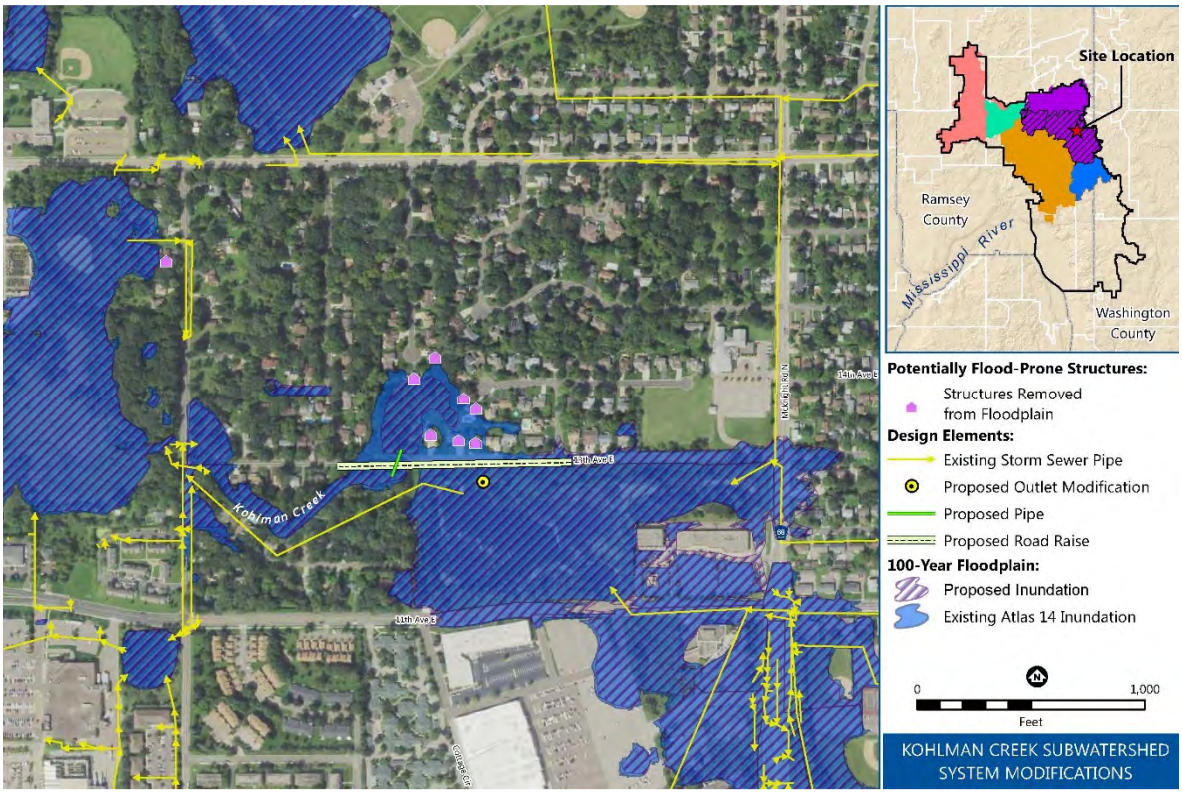


Figure 2 Example of Kohlman Creekk Subwatershed System Modifications Currently Being Considered for PCU Pond

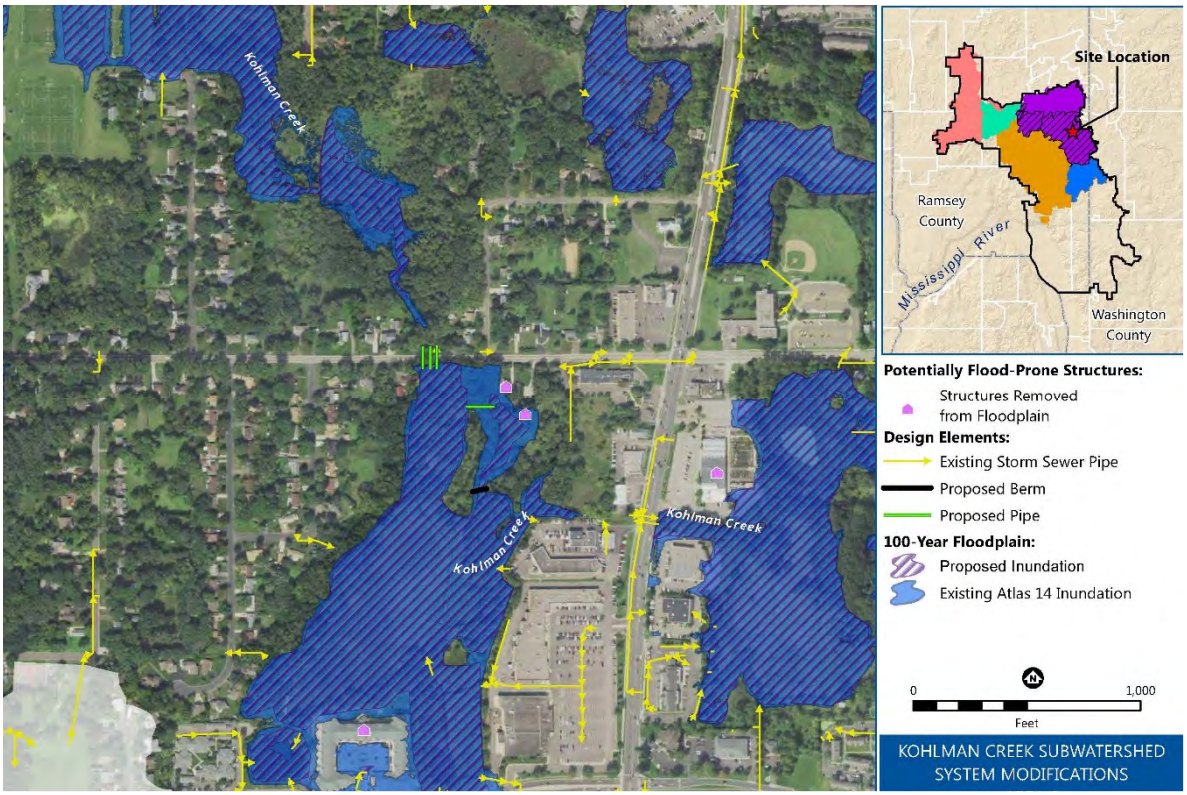
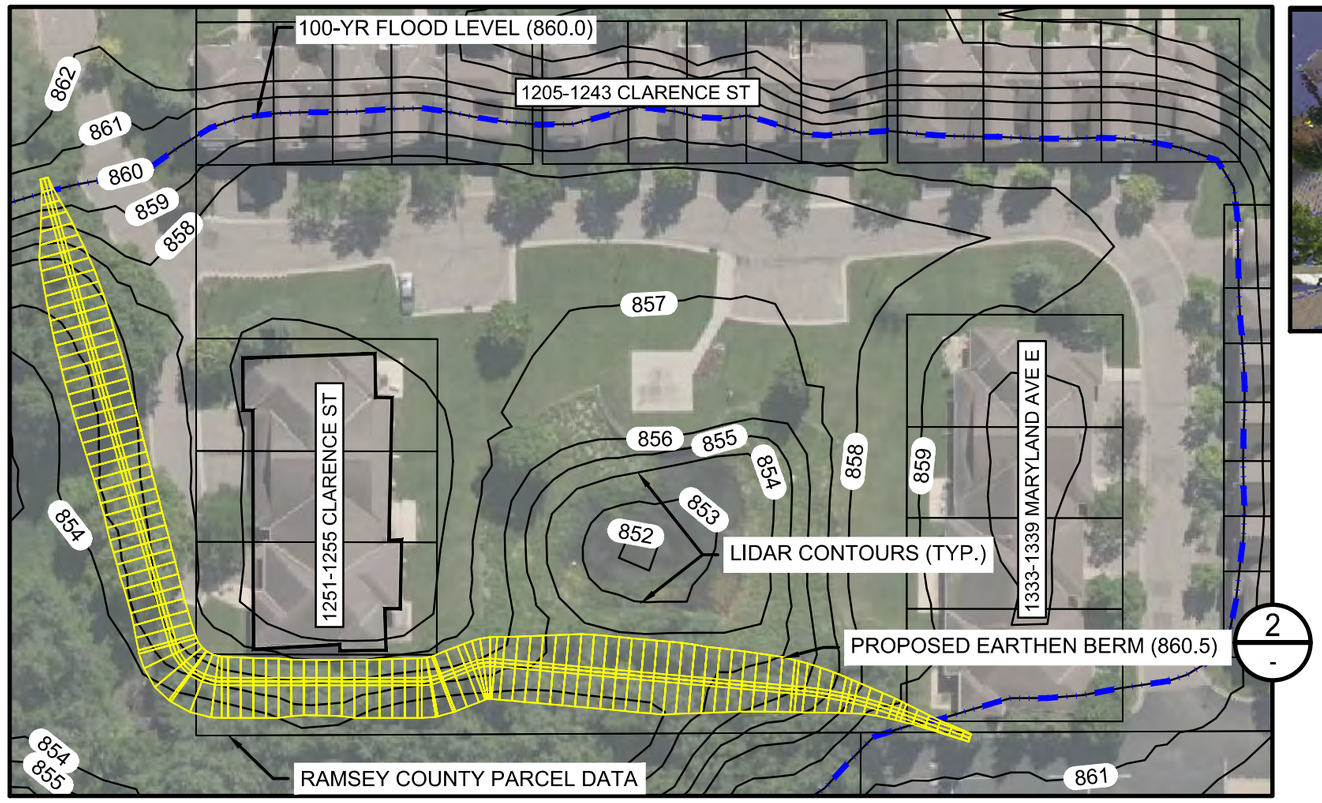
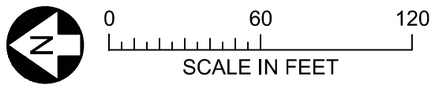
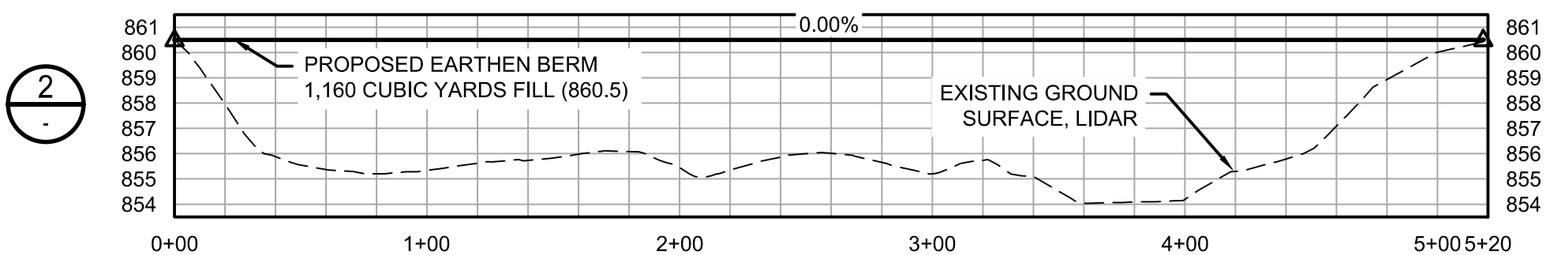


Figure 3 Example of Kohlman Creek Subwatershed System Modifications Currently Being Considered near County Road C and White Bear Avenue along Kohlman Creek.



PLAN & PROFILE: 1205-1255 CLARENCE STREET, ST. PAUL





DRAFT

NOTES:

1. THIS SITE REQUIRES 13,000 SANDBAGS TO PROTECT TO THE 100-YEAR FLOOD ELEVATION (860.0) . THIS NUMBER IS BASED ON 0.5 CUBIC FEET OF SAND PER SANDBAG.
2. RAMSEY WASHINGTON METRO WATERSHED DISTRICT SHALL NOT BE HELD RESPONSIBLE FOR THE DATA PROVIDED ON THIS DRAWING OR FOR ANY USE OTHER THAN ITS INTENDED PURPOSE.
3. AERIAL IMAGE IS BING MAPS 2021
4. DRAWING IS IN RAMSEY COUNTY COORDINATES NAD83, NAVD88, US FOOT

FIGURE 4:

EXAMPLE BERM ALIGNMENT

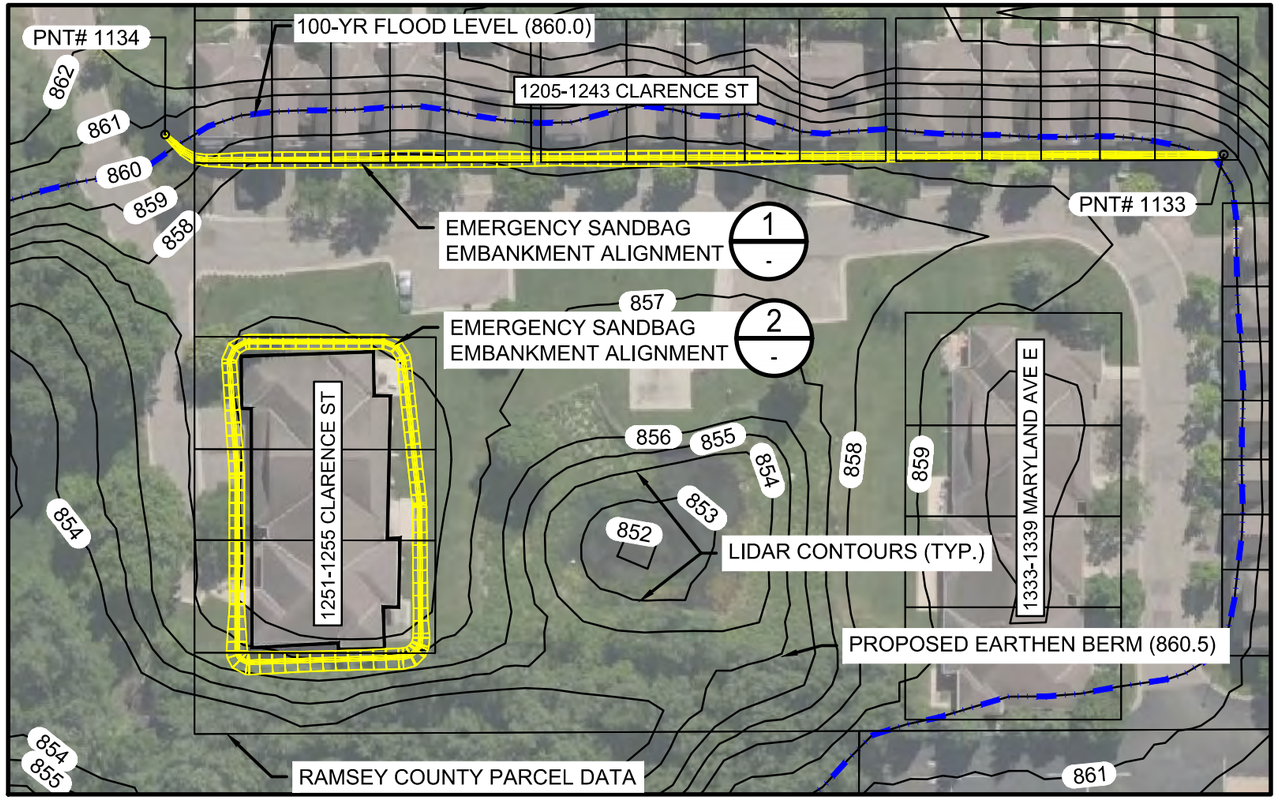
ST. Paul, Minnesota
Prepared by RWMWD

2.2 Emergency Response Plans

The purpose of an emergency response plan (ERP) 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. ERPs address areas for which there is (1) no feasible project identified to protect structures or (2) a project that cannot be implemented in the near future due to logistical and/or budgeting reasons. As more permanent flood risk reduction options are evaluated throughout the Phase 3 and 4 areas as described above, Barr staff have also been developing emergency responses plans for each of the habitable structures listed in Tables 1, 2, and 3 with lowest adjacent grade or low-entry elevation shown in red (indicating that they are lower than the estimated 100-year flood elevation).

Each ERP describes the responsibilities for operation and emergency procedures to provide flood protection during extreme flooding events. ERPs do not address flood protection of homes when the lake level exceeds the 100-year flood elevation or flooding results from wind action. The ERP also does not address homes that may have less than 2 feet of freeboard during the 100-year flood level or lesser events. Only homes with low-entry elevations at or below the 100-year flood level are addressed with an ERP.

A central feature of an ERP is a detailed sheet for each low-lying site that indicates what could be done to temporarily protect a property during the 100-year flood event. Two example sheets are included below for an area south of Lake Phalen. Note that the ERP for the Clarence Avenue area is not particularly actionable, given the large number of sandbags that would be need to be placed in short period of time. For this reason, more permanent solutions are also being evaluated for this area (as discussed in Section 2.1).



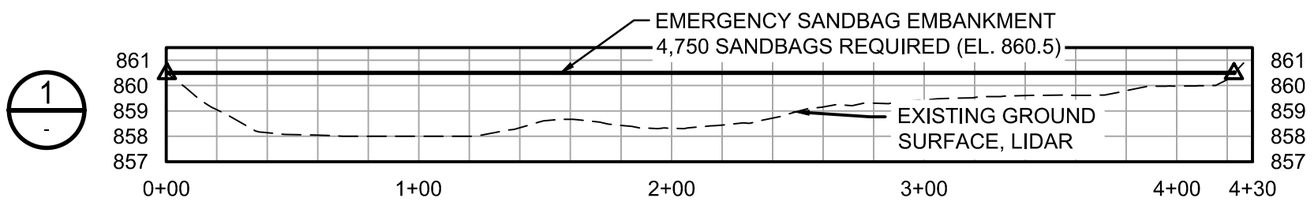
PLAN & PROFILE: 1205-1255 CLARENCE STREET, ST. PAUL

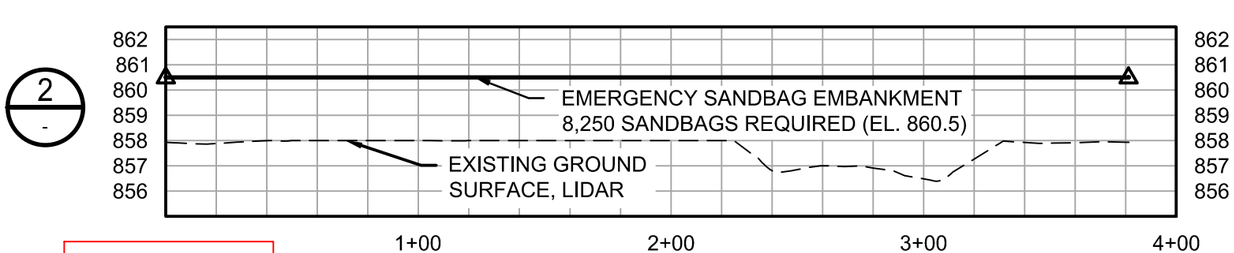
N

0 60 120

SCALE IN FEET

CONTROL POINTS				
POINT #	DESCRIPTION	ELEVATION	NORTHING	EASTING
1133	SANDBAG END	860.5	168278.7	587940.0
1134	SANDBAG START	860.5	168697.8	587947.8





DRAFT

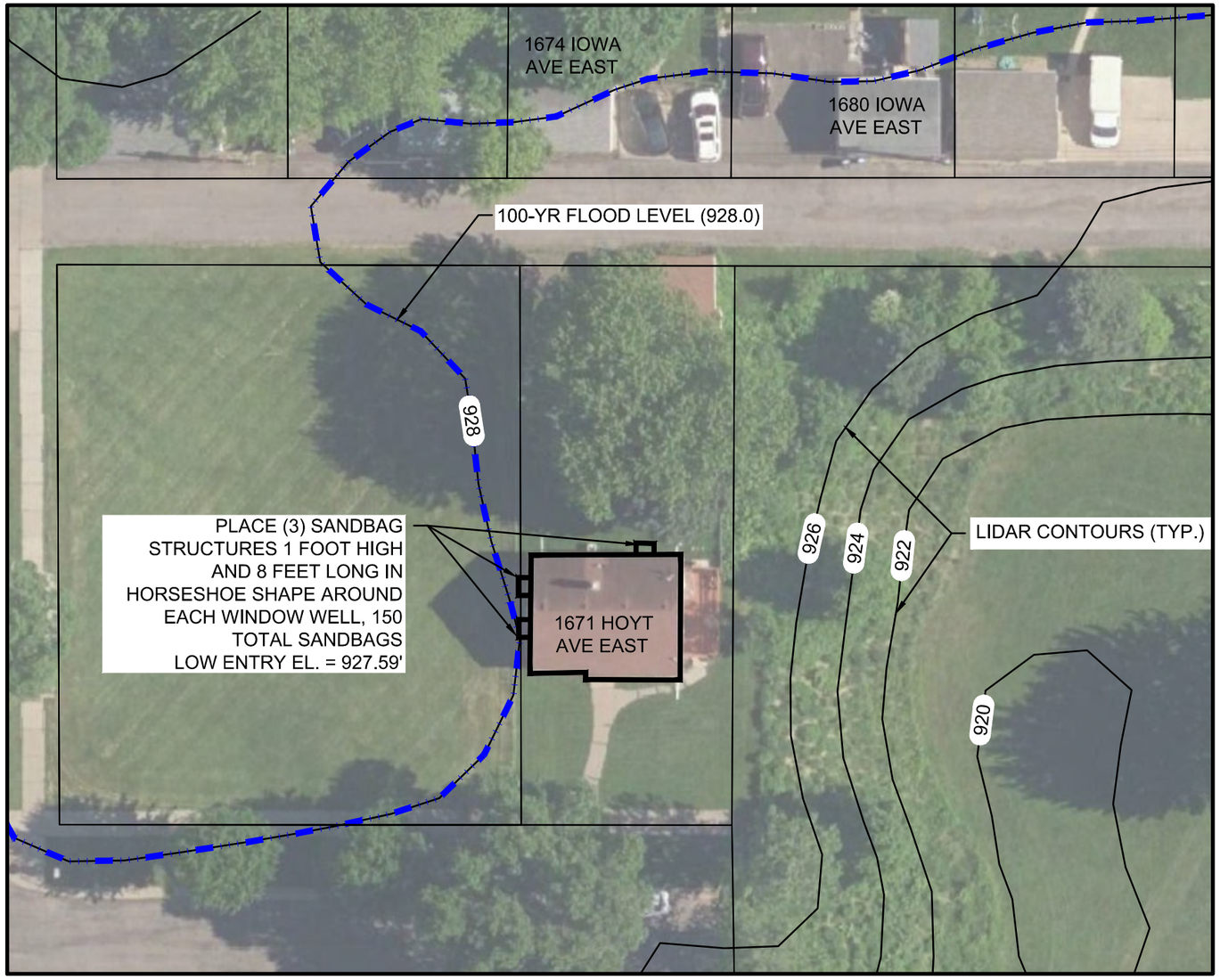
NOTE:

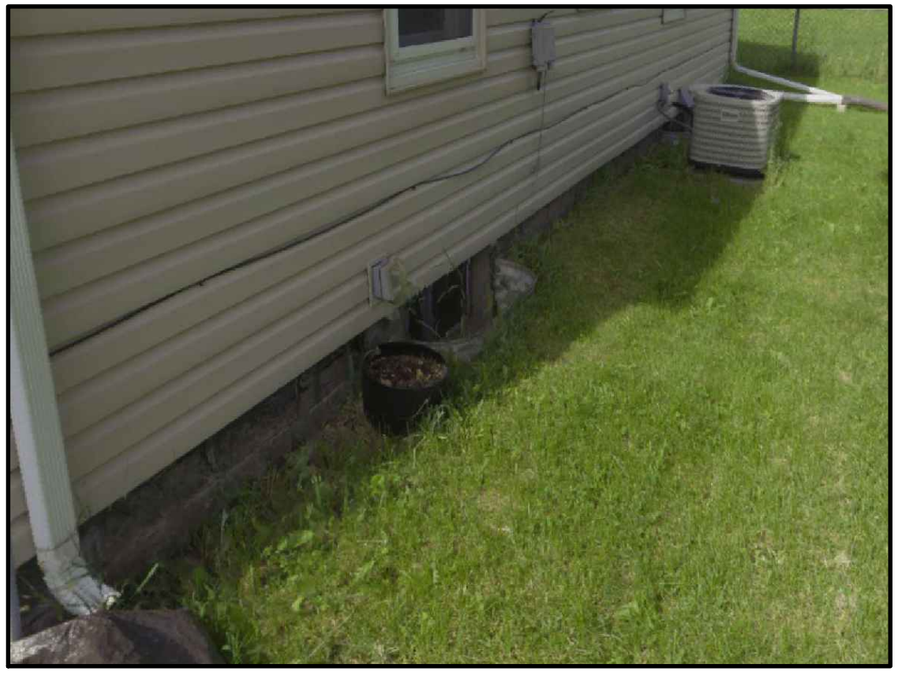
1. THIS SITE REQUIRES 13,000 SANDBAGS TO PROTECT TO THE 100-YEAR FLOOD ELEVATION (860.0) . THIS NUMBER IS BASED ON 0.5 CUBIC FEET OF SAND PER SANDBAG.
2. 2021 SURVEY PERFORMED TO VERIFY GROUND SURFACE ELEVATIONS ALONG PROPOSED TEMPORARY EMBANKMENT LOCATION. HORIZONTAL AND VERTICAL POSITIONS OBTAINED UTILIZING MNDOT VRS BASE STATION WITH HDS LASER SCAN.
3. RAMSEY WASHINGTON METRO WATERSHED DISTRICT SHALL NOT BE HELD RESPONSIBLE FOR THE DATA PROVIDED ON THIS DRAWING OR FOR ANY USE OTHER THAN ITS INTENDED PURPOSE.
4. AERIAL IMAGE IS BING MAPS 2021
5. DRAWING IS IN RAMSEY COUNTY COORDINATES, NAD83, NAVD88, US FOOT

FIGURE 5:

EXAMPLE FLOOD WARNING EMERGENCY RESPONSE PLAN FOR CLARENCE STREET

ST. Paul, Minnesota
Prepared by RWMWD





1671 HOYT AVE EAST

N

0 30 60

SCALE IN FEET

NOTE:

1. THIS SITE REQUIRES 150 SANDBAGS TO PROTECT TO THE 100-YEAR FLOOD ELEVATION (928.0). THIS NUMBER IS BASED ON 0.5 CUBIC FEET OF SAND PER SANDBAG.
2. 2021 SURVEY PERFORMED TO VERIFY GROUND SURFACE ELEVATIONS ALONG PROPOSED TEMPORARY EMBANKMENT LOCATION. HORIZONTAL AND VERTICAL POSITIONS OBTAINED UTILIZING MNDOT VRS BASE STATION AND HDS LASER SCANNING.
3. RAMSEY WASHINGTON METRO WATERSHED DISTRICT SHALL NOT BE HELD RESPONSIBLE FOR THE DATA PROVIDED ON THIS DRAWING OR FOR ANY USE OTHER THAN ITS INTENDED PURPOSE.
4. AERIAL IMAGE IS BING MAPS 2021
5. DRAWING IS IN RAMSEY COUNTY COORDINATES NAD 83, NAVD88, US FOOT

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FIGURE 6:

EXAMPLE FLOOD WARNING EMERGENCY RESPONSE PLAN FOR HOYT AVE

ST. Paul, Minnesota
Prepared by RWMWD

2.3 Next Steps

In November, staff will continue to develop concepts for flood risk reduction system modifications for the Phase 3 and 4 areas, and will update managers at the December Board meeting. Throughout the month of December, staff will work to create planning-level cost estimates and cost benefit analyses for proposed alternatives, with the goal of having a technical memo for Board review by the end of the year. Staff will also continue creating ERPs to share with cities. Staff expect that work may extend into 2022, especially to allow time for meetings with city representatives.

Once recommendations have been finalized, phased final design work can begin in Phase 3 starting in 2022. For Phase 4, staff expect that 2022 efforts will largely consist of communications and coordination with the City of Saint Paul, given the nature of the flooding throughout the Ames Lake and nearby areas.

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Administrator's Report

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MEMO

TO: Board of Managers and Staff

FROM: Tina Carstens, Administrator

SUBJECT: November Administrator's Report

DATE: October 28, 2021

A. Meetings Attended

Tuesday, October 5	12:00 PM	Meet with VLAWMO
Wednesday, October 6	3:30 PM	Hodgson Road Project Meeting
	6:30 PM	Board Meeting
Thursday, October 7	11:30 AM	Debbie's Retirement Lunch
Wednesday, October 13	11:30 PM	Grants Team Meeting
	3:00 PM	MAWD Events Committee
Thursday, October 14	9:00 AM	Daylighting Phalen Creek Meeting
	11:00 AM	Project Planning with Barr Engineering
Monday, October 25	8:00 AM	MAWD Board Meeting
	6:30 PM	Board Wetlands Workshop
Thursday, October 28	9:00 AM	MAWA Executive Committee

B. Upcoming Meetings and Dates

MAWD Annual Meeting (Virtual)	December 1-4, 2021
December Board Meeting	December 8, 2021
CAC Meeting	December 7, 2021

C. Ongoing Administrator Updates

Ramsey County Permitting – This is ongoing. Ramsey County staff are drafting the agreement based on our discussions. I would expect to see a completed draft in the next several weeks.

PFCs and Alum Use – Barr and district staff are talking about these two topics and how to bring information forward for the board. We are planning to have information to the board in an early 2022 board meeting.

Victoria Shores/Reiling Development – The Roseville council determined that the Environmental Assessment Worksheet (EAW) was complete and submitted back to the Environmental Quality Board (EQB) for publication in the EQB Monitor starts a 30 day public comment period. The comment period ends on November 4th. I am preparing a comment letter and will send it to the board ahead of the meeting for your information.

D. **MS4 Permit Issuance – Nicole Soderholm**

RWMWD staff submitted a permit application for coverage under the new state Municipal Separate Storm Sewer System (MS4) General Permit MNR040000 on April 14, 2021. After review for completeness, the permit application (SWPPP) was noticed for 30-day public comment on September 7, 2021, at which time the SWPPP document was posted to the District's website and the MPCA's public notice webpage. No comments were received during the comment period. The MPCA issued permit coverage to the District on October 28, 2021. Staff will have 12 months to review their individual program areas to ensure our work is compliant with new MS4 requirements. I have attached the permit letter and documentation for your information.

MINNESOTA POLLUTION CONTROL AGENCY

520 Lafayette Road North | St. Paul, Minnesota 55155-4194 | 651-296-6300

800-657-3864 | Use your preferred relay service | info.pca@state.mn.us | Equal Opportunity Employer

October 28, 2021

Tina Carstens
Ramsey-Washington Metro Watershed District - MS4
2665 Noel Drive
Little Canada, MN 55117-1237

RE: Issuance of Coverage under the Small Municipal Separate Storm Sewer Systems General Permit MNR040000 for Ramsey-Washington Metro Watershed District MS4

Dear Tina Carstens:

In accordance with Minn. R. 7001.0140, the Minnesota Pollution Control Agency (MPCA) is issuing coverage under the Small Municipal Separate Storm Sewer System (MS4) General Permit MNR040000 (MS4 General Permit) to the Ramsey-Washington Metro Watershed District MS4, effective October 28, 2021. Enclosed is your official Notice of Coverage, which includes the above referenced MS4 General Permit requirements.

Our final decision to issue permit coverage was based on the following:

- You submitted a complete application; and
- No applicable comments were received or all applicable comments received have been addressed.

If you were covered under the August 1, 2013, MS4 General Permit, coverage under that permit is immediately terminated as of the date on this letter.

You must:

- Comply with the requirements of the MS4 General Permit and your Stormwater Pollution Prevention Program (SWPPP) Document;
- Meet the new requirements in the MS4 General Permit within 12 months of the date of receiving permit coverage;
- Retain your SWPPP Document and all records pertinent to it for at least three (3) years beyond the term of the MS4 General Permit;
- Report on activities that were required or committed to under the previous permit. Your annual report, due June 30 of each year, must cover all activities and permit requirements of the previous calendar year regardless which permit those activities are conducted under; and
- Retain this letter as documentation of your coverage under the MS4 General Permit.

The issuance of coverage does not preclude the MPCA from conducting inspections or audits.

If you have questions, please contact Jeremy Sanoski at 218-316-3888 or jeremy.sanoski@state.mn.us.

Sincerely,

Duane Duncanson

This document has been electronically signed.

Duane Duncanson
Supervisor
Municipal Stormwater Unit
Municipal Division

DD/JS:map

Enclosure

cc: GEN20180001 @ 93338

MINNESOTA POLLUTION CONTROL AGENCY

AUTHORIZATION TO DISCHARGE STORMWATER

ASSOCIATED WITH SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)/

STATE DISPOSAL SYSTEM (SDS) PROGRAM

MS400190

Permittee:	Ramsey-Washington Metro Watershed District
Coverage issuance date:	October 28, 2021
Expiration date:	November 15, 2025

The state of Minnesota, on behalf of its citizens through the Minnesota Pollution Control Agency (MPCA), authorizes the Permittee to operate a small municipal separate storm sewer system (MS4) and to discharge from the small MS4 to receiving waters, in accordance with the requirements of the Small Municipal Separate Storm Sewer Systems General Permit MNR040000 (General Permit).

The goal of the General Permit is to reduce pollutant levels in point source discharges and protect water quality in accordance with the U.S. Clean Water Act, Minnesota statutes and rules, and federal laws and regulations.

The MPCA issued the General Permit on November 16, 2020, however the permittee received coverage under the General Permit on the coverage issuance date identified above. The General Permit expires at midnight on the expiration date identified above.

Signature: Duane Duncanson *for the* Minnesota Pollution Control Agency

This document has been electronically signed.

Duane Duncanson
Supervisor
Municipal Stormwater Unit
Municipal Division

If you have questions about the General Permit, including specific permit requirements, permit reporting, or permit compliance status, please contact the MPCA at:

Municipal Stormwater Program
Municipal Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194
Telephone: 651-296-6300 or toll free in Minnesota: 800-657-3864

Table of Contents

1.1	**Eligibility**. [Minn. R. 7090]
1.2	To be eligible for authorization to discharge stormwater under the Small Municipal Separate Storm Sewer Systems General Permit (General Permit), the applicant must be an owner and/or operator (owner/operator) of a small Municipal Separate Storm Sewer System (MS4) and meet one or more of the criteria requiring permit issuance as specified in Minn. R. 7090.1010. [Minn. R. 7090.1010]
2.1	**Authorized Stormwater Discharges**. [Minn. R. 7090]
2.2	The General Permit authorizes stormwater discharges from small MS4s as defined in 40 CFR 122.26(b)(16). [Minn. R. 7090]
3.1	**Authorized Non-Stormwater Discharges**. [Minn. R. 7090]
3.2	The following categories of non-stormwater discharges or flows are authorized under the General Permit to enter the permittee's small MS4 only if the permittee does not identify them as significant contributors of pollutants (i.e., illicit discharges), in which case the discharges or flows must be addressed in the permittee's Stormwater Pollution Prevention Program (SWPPP): water line flushing, landscape irrigation, diverted stream flows, rising groundwaters, uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(b)(20)), uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, street wash water, and discharges or flows from firefighting activities. [Minn. R. 7090]
4.1	**Limitations on Authorization**. [Minn. R. 7090]
4.2	The following discharges or activities are not authorized by the General Permit: a. non-stormwater discharges, except those authorized by the permittee in item 3.2; b. discharges of stormwater to the small MS4 from activities requiring a separate NPDES/SDS permit. The General Permit does not replace or satisfy any other permitting requirements; c. the General Permit does not replace or satisfy any environmental review requirements, including those under the Minnesota Environmental Policy Act (Minn. Stat. 116D), or the National Environmental Policy Act (42 U.S.C. 4321 et seq.); d. the General Permit does not replace or satisfy any review requirements for endangered or threatened species, from new or expanded discharges that adversely impact or contribute to adverse impacts on a listed endangered or threatened species, or adversely modify a designated critical habitat; e. the General Permit does not replace or satisfy any review requirements for historic places or archeological sites, from new or expanded discharges which adversely affect properties listed or eligible for listing in the National Register of Historic Places or affecting known or discovered archeological sites; and f. discharges to prohibited outstanding resource value waters pursuant to Minn. R. 7050.0335, subp. 3. Only the permittee's small MS4 and the portions of the storm sewer system that are under the permittee's operational control are authorized by the General Permit. [Minn. R. 7090]
5.1	**Permit Authorization**. [Minn. R. 7001]
5.2	The applicant must submit a complete application in accordance with Sections 9 through 12 in order to obtain authorization to discharge stormwater from a small MS4 under the General Permit. [Minn. R. 7001]
5.3	The Commissioner reviews the General Permit application for completeness. After review, the Commissioner will do one of the following: a. if an application is determined to be incomplete, the Commissioner will notify the applicant in writing, indicate why the application is incomplete, and request that the applicant resubmit the application; or b. if an application is determined to be complete, the Commissioner will make a preliminary determination as to whether coverage under the General Permit should be issued or denied in accordance with Minn. R. 7001. [Minn. R. 7001]
5.4	The Commissioner provides a public notice with the opportunity for a hearing on the preliminary determination to issue coverage under the General Permit. [Minn. R. 7001]
5.5	Upon receipt of written notification of final approval of the application from the Commissioner, the applicant is authorized to discharge stormwater from the small MS4 under the terms and conditions of the General Permit. [Minn. R. 7001]

6.1	**Transfer of Ownership or Control**. [Minn. R. 7001, Minn. R. 7090.0080]
6.2	Where the ownership or significant operational control of the small MS4 changes after the submittal of an application in accordance with Sections 9 through 12, the new owner/operator must submit a new application in accordance with Sections 9 through 12. [Minn. R. 7090]
7.1	**Issuance of Individual Permits**. [Minn. R. 7001]
7.2	The permit applicant may request an individual permit in accordance with Minn. R. 7001.0210, subp. 6, for authorization to discharge stormwater associated with a small MS4. [Minn. R. 7001.0210, subp. 6]
7.3	The Commissioner may require an individual permit for the permit applicant or permittee covered by a general permit, in accordance with Minn. R. 7001.0210, subp. 6. [Minn. R. 7001.0210, subp. 6]
8.1	**Rights and Responsibilities**. [Minn. R. 7001, Minn. R. 7090]
8.2	The Commissioner may modify the General Permit or issue other permits, in accordance with Minn. R. 7001, to include more stringent effluent limitations or permit requirements that modify or are in addition to the Minimum Control Measures of the General Permit, or both. These modifications may be based on the Commissioner's determination that such modifications are needed to protect water quality. [Minn. R. 7001]
8.3	The Commissioner may designate additional small MS4s for coverage under the General Permit in accordance with Minn. R. 7090. The owner/operator of a small MS4 that is designated for coverage must comply with the permit requirements by the dates specified in the Commissioner's determination. [Minn. R. 7090]
9.1	**Application for Reissuance**. [Minn. R. 7001]
9.2	If an existing permittee desires to continue permit coverage beyond the expiration date, the permittee must submit an application for permit reissuance: Due by 180 days prior to permit expiration. [Minn. R. 7001.0040, subp. 3]
10.1	**New Permittee Applicants**. [Minn. R. 7090]
10.2	To become a new permittee authorized to discharge stormwater under the General Permit, the owner/operator of a small MS4 must submit an application, on a form provided by the Agency, in accordance with the schedule in Appendix B, Table 3, and the following requirements: a. submit Part 1 of the permit application (includes the permit application fee); and b. submit Part 2 of the permit application, also known as the Stormwater Pollution Prevention Program (SWPPP) document, in accordance with Section 12. [Minn. R. 7090]
11.1	**Existing Permittee Applicants**. [Minn. R. 7090]
11.2	All existing permittees seeking to continue discharging stormwater associated with a small MS4 after the issuance date of the General Permit must submit Part 2 of the permit application: Due by 150 days after permit issuance. Existing permittees were required to submit Part 1 of the permit application prior to the expiration date (July 31, 2018) of the Agency's small MS4 general permit No.MNR040000, effective August 1, 2013. [Minn. R. 7090]
12.1	**Stormwater Pollution Prevention Program (SWPPP) Document**. [Minn. R. 7090]
12.2	All applicants must submit a SWPPP Document (i.e., Part 2 of the permit application) when seeking coverage under the General Permit. The SWPPP Document will become an enforceable part of the General Permit upon approval by the Agency. Modifications to the SWPPP Document that are required or allowed by the General Permit (see Section 24) will also become enforceable provisions. The applicant must submit the SWPPP Document on a form provided by the Agency. The applicant's SWPPP Document must include items 12.3 through 12.11, as applicable. [Minn. R. 7090]
12.3	The applicant must provide a description of partnerships with another regulated small MS4(s), into which the applicant has entered in order to satisfy one or more requirements of the General Permit. [Minn. R. 7090]
12.4	The applicant must provide a description of each program the applicant has developed and implemented to satisfy the Minimum Control Measure (MCM) requirements, including: a. the Best Management Practices (BMPs) the applicant has implemented for each MCM at the time of application; b. the status of each required component of the program; and c. name(s) of individual(s) or position titles responsible for implementing and/or coordinating each component of the program.

	If the program has not been developed at the time of application (e.g., new permittee applicants), or revised to meet new requirements of the General Permit (e.g., existing permittee applicants); the applicant must satisfy the permit requirements in accordance with the schedule in Appendix B, Table 2 (existing permittee applicants), or Table 3 (new permittee applicants). [Minn. R. 7090]
12.5	The applicant must indicate whether each storm sewer system map requirement of Section 14 is satisfied at the time of application. For each requirement of Section 14 that is not satisfied at the time of application, the applicant must satisfy the permit requirements in accordance with the schedule in Appendix B, Table 2 (existing permittee applicants), or Table 3 (new permittee applicants). [Minn. R. 7090]
12.6	The applicant must provide a description of existing regulatory mechanism(s) the applicant has developed, implemented, and enforced to satisfy the requirements of Sections 18, 19, and 20. At a minimum, the applicant must provide the following information: a. the type(s) of regulatory mechanism(s) the applicant has in place at the time of application that will be used to satisfy the requirements; b. the status of each required component of the regulatory mechanism(s); and c. if available, a website address to the regulatory mechanism(s). If the regulatory mechanism(s) have not been developed at the time of application (e.g., new permittee applicants), or revised to meet new requirements of the General Permit (e.g., existing permittee applicants); the applicant must satisfy the permit requirements in accordance with the schedule in Appendix B, Table 2 (existing permittee applicants), or Table 3 (new permittee applicants). [Minn. R. 7090]
12.7	The applicant must provide a description of existing enforcement response procedures (ERPs) the applicant has developed and implemented that satisfy the ERP requirements of items 18.14, 19.12, and 20.19. If the applicant has not yet developed ERPs (e.g., new permittee applicants), or existing ERPs must be updated to satisfy new requirements, the applicant must satisfy the permit requirements in accordance with the schedule in Appendix B, Table 2 (existing permittee applicants), or Table 3 (new permittee applicants). [Minn. R. 7090]
12.8	The applicant must submit a compliance schedule for each applicable Waste Load Allocation (WLA) not being met for oxygen demand, nitrate, total suspended solids (TSS), and total phosphorus (TP). The applicant may develop a compliance schedule to include multiple WLAs. The applicant's compliance schedule must include the following information: a. proposed BMPs or progress toward implementation of BMPs to be achieved during the permit term; b. the year each BMP is expected to be implemented; c. a target year the applicable WLA(s) will be achieved; and d. if the applicant has an applicable WLA for TSS or TP, a cumulative estimate of TSS and TP load reductions (in pounds) to be achieved during the permit term and the Agency-approved method used to determine the estimate. Agency-approved methods include "Program for Predicting Polluting Particle Passage thru Pits, Puddles, and Ponds (P8) Urban Catchment Model", "Source Loading and Management Model for Windows (WinSLAMM)", "Minimal Impact Design Standards (MIDS) calculator", "Minnesota Pollution Control Agency (MPCA) simple estimator tool", or any other method that receives Agency-approval. [Minn. R. 7090]
12.9	For each applicable WLA where a reduction in pollutant loading is required for bacteria, chloride, and temperature, the applicant must provide a description of any existing BMPs the applicant has developed and implemented to satisfy the requirements of items 22.3 through 22.7, including: a. the BMPs the applicant has implemented for each required component at the time of application; b. the status of each required component; and c. name(s) of individual(s) or position titles responsible for implementing and/or coordinating each required component. If the required components have not been developed at the time of application (e.g., new permittee applicants), or revised to meet new requirements of the General Permit (e.g., existing permittee applicants); the applicant must satisfy the permit requirements in accordance with the schedule in Appendix B, Table 2 (existing permittee applicants), or Table 3 (new permittee applicants). [Minn. R. 7090]

12.10	If the applicant is claiming to meet an applicable WLA where a reduction in pollutant loading is required for oxygen demand, nitrate, TSS, or TP, the applicant must provide documentation to demonstrate the applicable WLA is being met. At a minimum, the applicant must provide the following information: a. a list of all structural stormwater BMPs implemented to achieve the applicable WLA, including the BMP type (e.g., constructed basin, infiltrator, filter, swale or strip, etc.), location in geographic coordinates, owner, and year implemented; and b. documentation using an Agency-approved method, which demonstrates the estimated reductions of oxygen demand (or its surrogate pollutants), nitrate, TSS, or TP from BMPs meet the MS4 WLA reductions included in the TMDL report, if that information is available (e.g., percent reduction or pounds reduced); or c. documentation using an Agency-approved method, which demonstrates the applicant's existing load meets the WLA. [Minn. R. 7090]
12.11	For the requirements of Section 23, alum or ferric chloride phosphorus treatment systems, if applicable, the applicant must submit the following information: a. location of the system in geographic coordinates; b. name(s) of the individual(s) or position titles responsible for the operation of the system; c. information described in item 23.11, if the system is constructed at the time the applicant submits the application to the Agency; d. indicate if the system complies with the requirements in Section 23; and e. if applicable, for each requirement in Section 23 that the applicant's system does not comply with at the time of application, the applicant must bring the system into compliance in accordance with the schedule in Appendix B, Table 2 (existing permittee applicants), or Table 3 (new permittee applicants). [Minn. R. 7090]
13.1	**Stormwater Pollution Prevention Program (SWPPP)**. [Minn. R. 7090]
13.2	The permittee must develop, implement, and enforce a SWPPP designed to reduce the discharge of pollutants from the small MS4 to the Maximum Extent Practicable (MEP) and to protect water quality. Existing permittees regulated within the urbanized area as defined by the United States Census Bureau, the applicable urbanized area for which the permittee must develop, implement, and enforce a SWPPP can be based on the most recent decennial census of 2010 for the duration of the General Permit. [Minn. R. 7090]
13.3	If the permittee enters into a partnership for purposes of meeting SWPPP requirements, the permittee maintains legal responsibility for compliance with the General Permit. [Minn. R. 7090]
13.4	Existing permittees must revise their SWPPP developed under the Agency's small MS4 general permit No.MNR040000 that was effective August 1, 2013, to meet the requirements of the General Permit in accordance with the schedule in Appendix B, Table 2. New permittees must develop, implement, and enforce their SWPPP in accordance with the schedule in Appendix B, Table 3. The permittee's SWPPP must consist of Sections 14 through 23, as applicable. [Minn. R. 7090]
14.1	**Mapping**. [Minn. R. 7090]
14.2	New permittees must develop, and existing permittees must update, as necessary, a storm sewer system map that depicts the following: a. the permittee's entire MS4 as a goal, but at a minimum, all pipes 12 inches or greater in diameter, including stormwater flow direction in those pipes; b. outfalls, including a unique identification (ID) number assigned by the permittee, and an associated geographic coordinates; c. structural stormwater BMPs that are part of the permittee's MS4; and d. all receiving waters. [Minn. R. 7090]
15.1	**Minimum Control Measures (MCMs)**. [Minn. R. 7090.1040]
15.2	The permittee must incorporate the following six MCMs into the SWPPP. [Minn. R. 7090.1040]
16.1	**MCM 1: Public Education and Outreach**. [Minn. R. 7090]
16.2	New permittees must develop and implement, and existing permittees must revise their current program, as necessary, and continue to implement, a public education program to distribute educational materials or equivalent outreach that informs the public of the impact stormwater discharges have on waterbodies and that includes actions citizens, businesses,

	and other local organizations can take to reduce the discharge of pollutants to stormwater. The permittee may use existing materials if they are appropriate for the message the permittee chooses to deliver, or the permittee may develop its own educational materials. The permittee may partner with other MS4 permittees, community groups, watershed management organizations, or other groups to implement its education and outreach program. The permittee must incorporate Section 16 requirements into their program. [Minn. R. 7090]
16.3	During the permit term, the permittee must distribute educational materials or equivalent outreach focused on at least two (2) specifically selected stormwater-related issues of high priority to the permittee (e.g., specific TMDL reduction targets, changing local business practices, promoting adoption of residential BMPs, lake improvements through lake associations, household chemicals, yard waste, etc.). The topics must be different from those described in items 16.4 through 16.6. [Minn. R. 7090]
16.4	At least once each calendar year, the permittee must distribute educational materials or equivalent outreach focused on illicit discharge recognition and reporting illicit discharges to the permittee. [Minn. R. 7090]
16.5	For cities and townships, at least once each calendar year, the permittee must distribute educational materials or equivalent outreach to residents, businesses, commercial facilities, and institutions, focused on the following: a. impacts of deicing salt use on receiving waters; b. methods to reduce deicing salt use; and c. proper storage of salt or other deicing materials. [Minn. R. 7090]
16.6	For cities and townships, at least once each calendar year, the permittee must distribute educational materials or equivalent outreach focused on pet waste. The educational materials or equivalent outreach must include information on the following: a. impacts of pet waste on receiving waters; b. proper management of pet waste; and c. any existing permittee regulatory mechanism(s) for pet waste. [Minn. R. 7090]
16.7	The permittee must develop and implement an education and outreach plan that consists of the following: a. target audience(s) (e.g., residents, businesses, commercial facilities, institutions, and local organizations; consideration should be given to low-income residents, people of color, and non-native English speaking residents. A resource to help identify these areas is available on the Agency's environmental justice website); b. name or position title of responsible person(s) for overall plan implementation; c. specific activities and schedules to reach each target audience; and d. a description of any coordination with and/or use of stormwater education and outreach programs implemented by other entities, if applicable. [Minn. R. 7090]
16.8	The permittee must document the following information: a. a description of all specific stormwater-related issues identified by the permittee in item 16.3; b. all information required under the permittee's education and outreach plan in item 16.7; c. activities held, including dates, to reach each target audience; d. quantities and descriptions of educational materials distributed, including dates distributed; and e. estimated audience (e.g., number of participants, viewers, readers, listeners, etc.) for each completed education and outreach activity. [Minn. R. 7090]
16.9	The permittee must conduct an annual assessment of the public education program to evaluate program compliance, the status of achieving the measurable requirements in Section 16, and determine how the program might be improved. Measurable requirements are activities that must be documented or tracked as applicable to the MCM (e.g., education and outreach efforts, implementation of written plans, etc.). The permittee must perform the annual assessment prior to completion of each annual report and document any modifications made to the program as a result of the annual assessment. [Minn. R. 7090]
17.1	**MCM 2: Public Participation/Involvement**. [Minn. R. 7090]
17.2	New permittees must develop and implement, and existing permittees must revise their current program, as necessary, and continue to implement, a Public Participation/Involvement program to solicit public input on the SWPPP and involve the public in activities that improve or protect water quality. The permittee must incorporate Section 17 requirements into

	their program. [Minn. R. 7090]
17.3	Each calendar year, the permittee must provide a minimum of one (1) opportunity for the public to provide input on the adequacy of the SWPPP. The permittee may conduct a public meeting(s) to satisfy this requirement, provided appropriate local public notice requirements are followed and the public is given the opportunity to review and comment on the SWPPP. [Minn. R. 7090]
17.4	The permittee must provide access to the SWPPP Document, annual reports, and other documentation that supports or describes the SWPPP (e.g., regulatory mechanism(s), etc.) for public review, upon request. All public data requests are subject to the Minnesota Government Data Practices Act, Minn. Stat. 13. [Minn. Stat. 13]
17.5	The permittee must consider oral and written input regarding the SWPPP submitted by the public to the permittee. [Minn. R. 7090]
17.6	Each calendar year, the permittee must provide a minimum of one (1) public involvement activity that includes a pollution prevention or water quality theme (e.g., rain barrel distribution event, rain garden workshop, cleanup event, storm drain stenciling, volunteer water quality monitoring, adopt a storm drain program, household hazardous waste collection day, etc.). [Minn. R. 7090]
17.7	The permittee must document the following information: a. all relevant written input submitted by persons regarding the SWPPP; b. all responses from the permittee to written input received regarding the SWPPP, including any modifications made to the SWPPP as a result of the written input received; c. date(s), location(s), and estimated number of participants at events held for purposes of compliance with item 17.3; d. notices provided to the public of any events scheduled to meet item 17.3, including any electronic correspondence (e.g., website, e-mail distribution lists, notices, etc.); and e. date(s), location(s), description of activities, and estimated number of participants at events held for the purpose of compliance with item 17.6. [Minn. R. 7090]
17.8	The permittee must conduct an annual assessment of the Public Participation/Involvement program to evaluate program compliance, the status of achieving the measurable requirements in Section 17, and determine how the program might be improved. Measurable requirements are activities that must be documented or tracked as applicable to the MCM (e.g., public input and involvement opportunities, etc.). The permittee must perform the annual assessment prior to completion of each annual report and document any modifications made to the program as a result of the annual assessment. [Minn. R. 7090]
18.1	**MCM 3: Illicit Discharge Detection and Elimination (IDDE)**. [Minn. R. 7090]
18.2	New permittees must develop, implement, and enforce, and existing permittees must revise their current program as necessary, and continue to implement and enforce, a program to detect and eliminate illicit discharges into the MS4. The permittee must incorporate Section 18 requirements into their program. [Minn. R. 7090]
18.3	The permittee must maintain a map of the permittee's MS4, as required in Section 14. [Minn. R. 7090]
18.4	To the extent allowable under state or local law, the permittee must develop, implement, and enforce a regulatory mechanism(s) that prohibits non-stormwater discharges into the permittee's MS4, except those non-stormwater discharges authorized in item 3.2. A regulatory mechanism(s) for the purposes of the General Permit may consist of contract language, an ordinance, permits, standards, written policies, operational plans, legal agreements, or any other mechanism, that will be enforced by the permittee. The regulatory mechanism(s) must also include items 18.5 and 18.6, as applicable. [Minn. R. 7090]
18.5	For cities, townships, and counties, the permittee's regulatory mechanism(s) must require owners or custodians of pets to remove and properly dispose of feces on permittee owned land areas. [Minn. R. 7090]
18.6	For cities and townships, the permittee's regulatory mechanism(s) must require proper salt storage at commercial, institutional, and non-NPDES permitted industrial facilities. At a minimum, the regulatory mechanism(s) must require the following: a. designated salt storage areas must be covered or indoors; b. designated salt storage areas must be located on an impervious surface; and c. implementation of practices to reduce exposure when transferring material in designated salt storage areas (e.g., sweeping, diversions, and/or containment). [Minn. R. 7090]

18.7	The permittee must incorporate illicit discharge detection into all inspection and maintenance activities conducted in items 21.9, 21.10, and 21.11. Where feasible, the permittee must conduct illicit discharge inspections during dry-weather conditions (e.g., periods of 72 or more hours of no precipitation). [Minn. R. 7090]
18.8	At least once each calendar year, the permittee must train all field staff in illicit discharge recognition (including conditions which could cause illicit discharges), and reporting illicit discharges for further investigation. Field staff includes, but is not limited to, police, fire department, public works, and parks staff. Training for this specific requirement may include, but is not limited to, videos, in-person presentations, webinars, training documents, and/or emails. [Minn. R. 7090]
18.9	The permittee must ensure that individuals receive training commensurate with their responsibilities as they relate to the permittee's IDDE program. Individuals includes, but is not limited to, individuals responsible for investigating, locating, eliminating illicit discharges, and/or enforcement. The permittee must ensure that previously trained individuals attend a refresher-training every three (3) calendar years following the initial training. [Minn. R. 7090]
18.10	The permittee must maintain a written or mapped inventory of priority areas the permittee identifies as having a higher likelihood for illicit discharges. At a minimum, the permittee must evaluate the following for potential inclusion in the inventory: a. land uses associated with business/industrial activities; b. areas where illicit discharges have been identified in the past; and c. areas with storage of significant materials that could result in an illicit discharge. [Minn. R. 7090]
18.11	To the extent allowable under state or local law, the permittee must conduct additional illicit discharge inspections in areas identified in item 18.10. [Minn. R. 7090]
18.12	The permittee must implement written procedures for investigating, locating, and eliminating the source of illicit discharges. At a minimum, the written procedures must include: a. a timeframe in which the permittee will investigate a reported illicit discharge; b. use of visual inspections to detect and track the source of an illicit discharge; c. tools available to the permittee to investigate and locate an illicit discharge (e.g., mobile cameras, collecting and analyzing water samples, smoke testing, dye testing, etc.); d. cleanup methods available to the permittee to remove an illicit discharge or spill; and e. name or position title of responsible person(s) for investigating, locating, and eliminating an illicit discharge. [Minn. R. 7090]
18.13	The permittee must implement written procedures for responding to spills, including emergency response procedures to prevent spills from entering the MS4. The written procedures must also include the immediate notification of the Minnesota Department of Public Safety Duty Officer at 800-422-0798 (toll free) or 651-649-5451 (Metro area), if the source of the illicit discharge is a spill or leak as defined in Minn. Stat. 115.061. [Minn. R. 7090]
18.14	The permittee must maintain written enforcement response procedures (ERPs) to compel compliance with the permittee's regulatory mechanism(s) in Section 18. At a minimum, the written ERPs must include: a. a description of enforcement tools available to the permittee and guidelines for the use of each tool; b. timeframes to complete corrective actions; and c. name or position title of responsible person(s) for conducting enforcement. [Minn. R. 7090]
18.15	The permittee must document the following information: a. date(s) and location(s) of IDDE inspections conducted in accordance with items 18.7 and 18.11; b. reports of alleged illicit discharges received, including date(s) of the report(s), and any follow-up action(s) taken by the permittee; c. date(s) of discovery of all illicit discharges; d. identification of outfalls, or other areas, where illicit discharges have been discovered; e. sources (including a description and the responsible party) of illicit discharges (if known); and f. action(s) taken by the permittee, including date(s), to address discovered illicit discharges. [Minn. R. 7090]
18.16	For each training in item 18.8 and 18.9, the permittee must document:

	a. general subject matter covered; b. names and departments of individuals in attendance; and c. date of each event. [Minn. R. 7090]
18.17	The permittee must document any enforcement conducted pursuant to the ERPs in item 18.14, including verbal warnings. At a minimum, the permittee must document the following: a. name of the person responsible for violating the terms and conditions of the permittee's regulatory mechanism(s); b. date(s) and location(s) of the observed violation(s); c. description of the violation(s); d. corrective action(s) (including completion schedule) issued by the permittee; e. referrals to other regulatory organizations (if any); and f. date(s) violation(s) resolved. [Minn. R. 7090]
18.18	The permittee must conduct an annual assessment of the IDDE program to evaluate program compliance, the status of achieving the measurable requirements in Section 18, and determine how the program might be improved. Measurable requirements are activities that must be documented or tracked as applicable to the MCM (e.g., trainings, inventory, inspections, enforcement, etc.). The permittee must perform the annual assessment prior to completion of each annual report and document any modifications made to the program as a result of the annual assessment. [Minn. R. 7090]
19.1	**MCM 4: Construction Site Stormwater Runoff Control**. [Minn. R. 7090]
19.2	New permittees must develop, implement, and enforce, and existing permittees must revise their current program, as necessary, and continue to implement and enforce, a Construction Site Stormwater Runoff Control program. The program must address construction activity with a land disturbance of greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, within the permittee's jurisdiction and that discharge to the permittee's MS4. The permittee must incorporate Section 19 requirements into their program. [Minn. R. 7090]
19.3	To the extent allowable under state or local law, the permittee must develop, implement, and enforce a regulatory mechanism(s) that establishes requirements for erosion, sediment, and waste controls that is at least as stringent as the Agency's most current Construction Stormwater General Permit (MNR100001), herein referred to as the CSW Permit. A regulatory mechanism(s) for the purposes of the General Permit may consist of contract language, an ordinance, permits, standards, written policies, operational plans, legal agreements, or any other mechanism, that will be enforced by the permittee. [Minn. R. 7090]
19.4	When the CSW Permit is reissued, the permittee must revise their regulatory mechanism(s), if necessary, within 12 months of the issuance date of that permit, to be at least as stringent as the requirements for erosion, sediment, and waste controls described in the CSW Permit. [Minn. R. 7090]
19.5	The permittee's regulatory mechanism(s) must require that owners and operators of construction activity develop site plans that must be submitted to the permittee for review and confirmation that regulatory mechanism(s) requirements have been met, prior to the start of construction activity. The regulatory mechanism(s) must require the owners and operators of construction activity to keep site plans up-to-date with regard to stormwater runoff controls. The regulatory mechanism(s) must require that site plans incorporate the following erosion, sediment, and waste controls that are at least as stringent as described in the CSW Permit: a. erosion prevention practices; b. sediment control practices; c. dewatering and basin draining; d. inspection and maintenance; e. pollution prevention management measures; f. temporary sediment basins; and g. termination conditions. [Minn. R. 7090]
19.6	The permittee must implement written procedures for site plan reviews conducted by the permittee prior to the start of all construction activity, to ensure compliance with requirements of the regulatory mechanism(s). At a minimum, the procedures must include: a. written notification to owners and operators proposing construction activity, including projects less than one acre that

	are part of a larger common plan of development or sale, of the need to apply for and obtain coverage under the CSW Permit; and b. use of a written checklist, consistent with the requirements of the regulatory mechanism(s), to document the adequacy of each site plan required in item 19.5. [Minn. R. 7090]
19.7	The permittee must implement an inspection program that includes written procedures for conducting site inspections, to determine compliance with the permittee's regulatory mechanism(s). The inspection program must also meet the requirements in items 19.8 and 19.9. [Minn. R. 7090]
19.8	The permittee must maintain written procedures for identifying high-priority and low-priority sites for inspection. At a minimum, the written procedures must include: a. a detailed explanation describing how sites will be categorized as either high-priority or low-priority; b. a frequency at which the permittee will conduct inspections for high-priority sites; c. a frequency at which the permittee will conduct inspections for low-priority sites; and d. the name(s) of individual(s) or position title(s) responsible for conducting site inspections. [Minn. R. 7090]
19.9	The permittee must implement a written checklist to document each site inspection when determining compliance with the permittee's regulatory mechanism(s). At a minimum, the checklist must include the permittee's inspection findings on the following areas, as applicable to each site: a. stabilization of exposed soils (including stockpiles); b. stabilization of ditch and swale bottoms; c. sediment control BMPs on all down gradient perimeters of the project and up gradient of buffer zones; d. storm drain inlet protection; e. energy dissipation at pipe outlets; f. vehicle tracking BMPs; g. preservation of a 50 foot natural buffer or redundant sediment controls where stormwater flows to a surface water within 50 feet of disturbed soils; h. owner/operator of construction activity self-inspection records; i. containment for all liquid and solid wastes generated by washout operations (e.g., concrete, stucco, paint, form release oils, curing compounds, and other construction materials); and j. BMPs maintained and functional. [Minn. R. 7090]
19.10	The permittee must implement written procedures for receipt and consideration of reports of noncompliance or other stormwater related information on construction activity submitted by the public to the permittee. [Minn. R. 7090]
19.11	The permittee must ensure that individuals receive training commensurate with their responsibilities as they relate to the permittee's Construction Site Stormwater Runoff Control program. Individuals includes, but is not limited to, individuals responsible for conducting site plan reviews, site inspections, and/or enforcement. The permittee must ensure that previously trained individuals attend a refresher-training every three (3) calendar years following the initial training. [Minn. R. 7090]
19.12	The permittee must maintain written enforcement response procedures (ERPs) to compel compliance with the permittee's regulatory mechanism(s) in item 19.3. At a minimum, the written ERPs must include: a. a description of enforcement tools available to the permittee and guidelines for the use of each tool; and b. name or position title of responsible person(s) for conducting enforcement. [Minn. R. 7090]
19.13	For each site plan review conducted by the permittee, the permittee must document the following: a. project name; b. location; c. total acreage to be disturbed; d. owner and operator of the proposed construction activity; e. proof of notification to obtain coverage under the CSW Permit, as required in item 19.6, or proof of coverage under the CSW Permit; and f. any stormwater related comments and supporting completed checklist, as required in item 19.6, used by the permittee to determine project approval or denial. [Minn. R. 7090]

19.14	For each training in item 19.11, the permittee must document: a. general subject matter covered; b. names and departments of individuals in attendance; and c. date of each event. [Minn. R. 7090]
19.15	The permittee must document any enforcement conducted pursuant to the ERPs in item 19.12, including verbal warnings. At a minimum, the permittee must document the following: a. name of the person responsible for violating the terms and conditions of the permittee's regulatory mechanism(s); b. date(s) and location(s) of the observed violation(s); c. description of the violation(s); d. corrective action(s) (including completion schedule) issued by the permittee; e. referrals to other regulatory organizations (if any); and f. date(s) violation(s) resolved. [Minn. R. 7090]
19.16	The permittee must conduct an annual assessment of the Construction Site Stormwater Runoff Control program to evaluate program compliance, the status of achieving the measurable requirements in Section 19, and determine how the program might be improved. Measurable requirements are activities that must be documented or tracked as applicable to the MCM (e.g., inventory, trainings, site plan reviews, inspections, enforcement, etc.). The permittee must perform the annual assessment prior to completion of each annual report and document any modifications made to the program as a result of the annual assessment. [Minn. R. 7090]
20.1	**MCM 5: Post-Construction Stormwater Management**. [Minn. R. 7090]
20.2	New permittees must develop, implement, and enforce, and existing permittees must revise their current program, as necessary, and continue to implement and enforce, a Post-Construction Stormwater Management program that prevents or reduces water pollution after construction activity is completed. The program must address construction activity with land disturbance of greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, within the permittee's jurisdiction and that discharge to the permittee's MS4. The permittee must incorporate Section 20 requirements into their program. [Minn. R. 7090]
20.3	To the extent allowable under state or local law, the permittee must develop, implement, and enforce a regulatory mechanism(s) that incorporates items 20.4 through 20.15. A regulatory mechanism(s) for the purposes of the General Permit may consist of contract language, an ordinance, permits, standards, written policies, operational plans, legal agreements, or any other mechanism, that will be enforced by the permittee. [Minn. R. 7090]
20.4	The permittee's regulatory mechanism(s) must require owners of construction activity to submit site plans with post-construction stormwater management BMPs designed with accepted engineering practices to the permittee for review and confirmation that regulatory mechanism(s) requirements have been met, prior to start of construction activity. [Minn. R. 7090]
20.5	The permittee's regulatory mechanism(s) must require owners of construction activity to treat the water quality volume on any project where the sum of the new impervious surface and the fully reconstructed impervious surface equals one or more acres. [Minn. R. 7090]
20.6	For construction activity (excluding linear projects), the water quality volume must be calculated as one (1) inch times the sum of the new and the fully reconstructed impervious surface. [Minn. R. 7090]
20.7	For linear projects, the water quality volume must be calculated as the larger of one (1) inch times the new impervious surface or one-half (0.5) inch times the sum of the new and the fully reconstructed impervious surface. Where the entire water quality volume cannot be treated within the existing right-of-way, a reasonable attempt to obtain additional right-of-way, easement, or other permission to treat the stormwater during the project planning process must be made. Volume reduction practices must be considered first, as described in item 20.8. Volume reduction practices are not required if the practices cannot be provided cost effectively. If additional right-of-way, easements, or other permission cannot be obtained, owners of construction activity must maximize the treatment of the water quality volume prior to discharge from the MS4. [Minn. R. 7090]
20.8	Volume reduction practices (e.g., infiltration or other) to retain the water quality volume on-site must be considered first when designing the permanent stormwater treatment system. The General Permit does not consider wet sedimentation basins and filtration systems to be volume reduction practices. If the General Permit prohibits infiltration as described in

	item 20.9, other volume reduction practices, a wet sedimentation basin, or filtration basin may be considered. [Minn. R. 7090]
20.9	Infiltration systems must be prohibited when the system would be constructed in areas: a. that receive discharges from vehicle fueling and maintenance areas, regardless of the amount of new and fully reconstructed impervious surface; b. where high levels of contaminants in soil or groundwater may be mobilized by the infiltrating stormwater. To make this determination, the owners and/or operators of construction activity must complete the Agency's site screening assessment checklist, which is available in the Minnesota Stormwater Manual, or conduct their own assessment. The assessment must be retained with the site plans; c. where soil infiltration rates are more than 8.3 inches per hour unless soils are amended to slow the infiltration rate below 8.3 inches per hour; d. with less than three (3) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock; e. of predominately Hydrologic Soil Group D (clay) soils; f. in an Emergency Response Area (ERA) within a Drinking Water Supply Management Area (DWSMA) as defined in Minn. R. 4720.5100, subp. 13, classified as high or very high vulnerability as defined by the Minnesota Department of Health; g. in an ERA within a DWSMA classified as moderate vulnerability unless the permittee performs or approves a higher level of engineering review sufficient to provide a functioning treatment system and to prevent adverse impacts to groundwater; h. outside of an ERA within a DWSMA classified as high or very high vulnerability unless the permittee performs or approves a higher level of engineering review sufficient to provide a functioning treatment system and to prevent adverse impacts to groundwater; i. within 1,000 feet up-gradient or 100 feet down gradient of active karst features; or j. that receive stormwater runoff from these types of entities regulated under NPDES for industrial stormwater: automobile salvage yards; scrap recycling and waste recycling facilities; hazardous waste treatment, storage, or disposal facilities; or air transportation facilities that conduct deicing activities. See "higher level of engineering review" in the Minnesota Stormwater Manual for more information. [Minn. R. 7090]
20.10	For non-linear projects, where the water quality volume cannot cost effectively be treated on the site of the original construction activity, the permittee must identify, or may require owners of the construction activity to identify, locations where off-site treatment projects can be completed. If the entire water quality volume is not addressed on the site of the original construction activity, the remaining water quality volume must be addressed through off-site treatment and, at a minimum, ensure the requirements of items 20.11 through 20.14 are met. [Minn. R. 7090]
20.11	The permittee must ensure off-site treatment project areas are selected in the following order of preference: a. locations that yield benefits to the same receiving water that receives runoff from the original construction activity; b. locations within the same Department of Natural Resource (DNR) catchment area as the original construction activity; c. locations in the next adjacent DNR catchment area up-stream; or d. locations anywhere within the permittee's jurisdiction. [Minn. R. 7090]
20.12	Off-site treatment projects must involve the creation of new structural stormwater BMPs or the retrofit of existing structural stormwater BMPs, or the use of a properly designed regional structural stormwater BMP. Routine maintenance of structural stormwater BMPs already required by the General Permit cannot be used to meet this requirement. [Minn. R. 7090]
20.13	Off-site treatment projects must be completed no later than 24 months after the start of the original construction activity. If the permittee determines more time is needed to complete the treatment project, the permittee must provide the reason(s) and schedule(s) for completing the project in the annual report. [Minn. R. 7090]
20.14	If the permittee receives payment from the owner of a construction activity for off-site treatment, the permittee must apply any such payment received to a public stormwater project, and all projects must comply with the requirements in items 20.11 through 20.13. [Minn. R. 7090]
20.15	The permittee's regulatory mechanism(s) must include the establishment of legal mechanism(s) between the permittee and owners of structural stormwater BMPs not owned or operated by the permittee, that have been constructed to meet

	the requirements in Section 20. The legal mechanism(s) must include provisions that, at a minimum: a. allow the permittee to conduct inspections of structural stormwater BMPs not owned or operated by the permittee, perform necessary maintenance, and assess costs for those structural stormwater BMPs when the permittee determines the owner of that structural stormwater BMP has not ensured proper function; b. are designed to preserve the permittee's right to ensure maintenance responsibility, for structural stormwater BMPs not owned or operated by the permittee, when those responsibilities are legally transferred to another party; and c. are designed to protect/preserve structural stormwater BMPs. If structural stormwater BMPs change, causing decreased effectiveness, new, repaired, or improved structural stormwater BMPs must be implemented to provide equivalent treatment to the original BMP. [Minn. R. 7090]
20.16	The permittee must maintain a written or mapped inventory of structural stormwater BMPs not owned or operated by the permittee that meet all of the following criteria: a. the structural stormwater BMP includes an executed legal mechanism(s) between the permittee and owners responsible for the long-term maintenance, as required in item 20.15; and b. the structural stormwater BMP was implemented on or after August 1, 2013. [Minn. R. 7090]
20.17	The permittee must implement written procedures for site plan reviews conducted by the permittee prior to the start of construction activity, to ensure compliance with requirements of the permittee's regulatory mechanism(s). [Minn. R. 7090]
20.18	The permittee must ensure that individuals receive training commensurate with their responsibilities as they relate to the permittee's Post-Construction Stormwater Management program. Individuals includes, but is not limited to, individuals responsible for conducting site plan reviews and/or enforcement. The permittee must ensure that previously trained individuals attend a refresher-training every three (3) calendar years following the initial training. [Minn. R. 7090]
20.19	The permittee must maintain written enforcement response procedures (ERPs) to compel compliance with the permittee's regulatory mechanism(s) required in Section 20. At a minimum, the written ERPs must include: a. a description of enforcement tools available to the permittee and guidelines for the use of each tool; and b. name or position title of responsible person(s) for conducting enforcement. [Minn. R. 7090]
20.20	For each site plan review conducted by the permittee, the permittee must document the following: a. supporting documentation used to determine compliance with Section 20 of the General Permit, including any calculations for the permanent stormwater treatment system; b. the water quality volume that will be treated through volume reduction practices (e.g., infiltration or other) compared to the total water quality volume required to be treated; c. documentation associated with off-site treatment projects authorized by the permittee, including rationale to support the location of permanent stormwater treatment projects in accordance with items 20.10 and 20.11; d. payments received and used in accordance with item 20.14; and e. all legal mechanisms drafted in accordance with item 20.15, including date(s) of the agreement(s) and name(s) of all responsible parties involved. [Minn. R. 7090]
20.21	For each training in item 20.18, the permittee must document: a. general subject matter covered; b. names and departments of individuals in attendance; and c. date of each event. [Minn. R. 7090]
20.22	The permittee must document any enforcement conducted pursuant to the ERPs in item 20.19, including verbal warnings. At a minimum, the permittee must document the following: a. name of the person responsible for violating the terms and conditions of the permittee's regulatory mechanism(s); b. date(s) and location(s) of the observed violation(s); c. description of the violation(s); d. corrective action(s) (including completion schedule) issued by the permittee; e. referrals to other regulatory organizations (if any); and f. date(s) violation(s) resolved. [Minn. R. 7090]

20.23	The permittee must conduct an annual assessment of the Post-Construction Stormwater Management program to evaluate program compliance, the status of achieving the measurable requirements in Section 20, and determine how the program might be improved. Measurable requirements are activities that must be documented or tracked as applicable to the MCM (e.g., inventory, trainings, site plan reviews, inspections, enforcement, etc.). The permittee must perform the annual assessment prior to completion of each annual report and document any modifications made to the program as a result of the annual assessment. [Minn. R. 7090]
21.1	**MCM 6: Pollution Prevention/Good Housekeeping For Municipal Operations**. [Minn. R. 7090]
21.2	New permittees must develop and implement, and existing permittees must revise their current program, as necessary, and continue to implement, an operations and maintenance program that prevents or reduces the discharge of pollutants to the MS4 from permittee owned/operated facilities and operations. The permittee must incorporate Section 21 requirements into their program. [Minn. R. 7090]
21.3	The permittee must maintain a written or mapped inventory of permittee owned/operated facilities that contribute pollutants to stormwater discharges. The permittee must implement BMPs that prevent or reduce pollutants in stormwater discharges from all inventoried facilities. Facilities to be inventoried may include, but is not limited to: a. composting; b. equipment storage and maintenance; c. hazardous waste disposal; d. hazardous waste handling and transfer; e. landfills; f. solid waste handling and transfer; g. parks; h. pesticide storage; i. public parking lots; j. public golf courses; k. public swimming pools; l. public works yards; m. recycling; n. salt storage; o. snow storage; p. vehicle storage and maintenance (e.g., fueling and washing) yards; and q. materials storage yards. [Minn. R. 7090]
21.4	The permittee must implement BMPs that prevent or reduce pollutants in stormwater discharges from the following municipal operations that may contribute pollutants to stormwater discharges, where applicable: a. waste disposal and storage, including dumpsters; b. management of temporary and permanent stockpiles of materials such as street sweepings, snow, sand and sediment removal piles (e.g., effective sediment controls at the base of stockpiles on the down gradient perimeter); c. vehicle fueling, washing, and maintenance; d. routine street and parking lot sweeping; e. emergency response; f. cleaning of maintenance equipment, building exteriors, dumpsters, and the disposal of associated waste and wastewater; g. use, storage, and disposal of significant materials; h. landscaping, park, and lawn maintenance; i. road maintenance, including pothole repair, road shoulder maintenance, pavement marking, sealing, and repaving; j. right-of-way maintenance, including mowing; and k. application of herbicides, pesticides, and fertilizers. [Minn. R. 7090]
21.5	The permittee must implement the following BMPs at permittee owned/operated salt storage areas: a. cover or store salt indoors; b. store salt on an impervious surface; and c. implement practices to reduce exposure when transferring material from salt storage areas (e.g., sweeping, diversions,

	and/or containment). [Minn. R. 7090]
21.6	The permittee must implement a written snow and ice management policy for individuals that perform winter maintenance activities for the permittee. The policy must establish practices and procedures for snow and ice control operations (e.g., plowing or other snow removal practices, sand use, and application of deicing compounds). [Minn. R. 7090]
21.7	Each calendar year, the permittee must ensure all individuals that perform winter maintenance activities for the permittee receive training that includes: a. the importance of protecting water quality; b. BMPs to minimize the use of deicers (e.g., proper calibration of equipment and benefits of pretreatment, pre-wetting, and anti-icing); and c. tools and resources to assist in winter maintenance (e.g., deicing application rate guidelines, calibration charts, Smart Salting Assessment Tool). The permittee may use training materials from the Agency's Smart Salting training or other organizations to meet this requirement. [Minn. R. 7090]
21.8	The permittee must maintain written procedures for the purpose of determining the TSS and TP treatment effectiveness of all permittee owned/operated ponds constructed and used for the collection and treatment of stormwater. [Minn. R. 7090]
21.9	The permittee must inspect structural stormwater BMPs (excluding stormwater ponds, which are under a separate schedule below) each calendar year to determine structural integrity, proper function, and maintenance needs unless the permittee determines either of the following conditions apply: a. complaints received or patterns of maintenance indicate a greater frequency is necessary; or b. maintenance or sediment removal is not required after completion of the first two calendar year inspections; in which case the permittee may reduce the frequency of inspections to once every two (2) calendar years. [Minn. R. 7090]
21.10	Prior to the expiration date of the General Permit, the permittee must conduct at least one inspection of all ponds and outfalls (excluding underground outfalls) in order to determine structural integrity, proper function, and maintenance needs. [Minn. R. 7090]
21.11	Based on inspection findings, the permittee must determine if repair, replacement, or maintenance measures are necessary in order to ensure the structural integrity and proper function of structural stormwater BMPs and outfalls. The permittee must complete necessary maintenance as soon as possible. If the permittee determines necessary maintenance cannot be completed within one year of discovery, the permittee must document a schedule(s) for completing the maintenance. [Minn. R. 7090]
21.12	The permittee must implement a stormwater management training program commensurate with individual's responsibilities as they relate to the permittee's SWPPP, including reporting and assessment activities. The permittee may use training materials from the United States Environmental Protection Agency (USEPA), state and regional agencies, or other organizations as appropriate to meet this requirement. The training program must: a. address the importance of protecting water quality; b. cover the requirements of the permit relevant to the responsibilities of the individual not already addressed in items 18.8, 18.9, 19.11, 20.18, and 21.7; and c. include a schedule that establishes initial training for individuals, including new and/or seasonal employees, and recurring training intervals to address changes in procedures, practices, techniques, or requirements. [Minn. R. 7090]
21.13	The permittee must document the following information associated with the operations and maintenance program: a. date(s) and description of findings, including whether or not an illicit discharge is detected, for all inspections conducted in accordance with items 21.9 and 21.10; b. any adjustments to inspection frequency as authorized in item 21.9; c. date(s) and a description of maintenance conducted as a result of inspection findings, including whether or not an illicit discharge is detected; d. schedule(s) for maintenance of structural stormwater BMPs and outfalls as required in item 21.11; and e. stormwater management training events, including general subject matter covered, names and departments of individuals in attendance, and date of each event. [Minn. R. 7090]

21.14	The permittee must document pond sediment excavation and removal activities, including: a. a unique ID number and geographic coordinates of each stormwater pond from which sediment is removed; b. the volume (e.g., cubic yards) of sediment removed from each stormwater pond; c. results from any testing of sediment from each removal activity; and d. location(s) of final disposal of sediment from each stormwater pond. [Minn. R. 7090]
21.15	The permittee must conduct an annual assessment of the operations and maintenance program to evaluate program compliance, the status of achieving the measurable requirements in Section 21, and determine how the program might be improved. Measurable requirements are activities that must be documented or tracked as applicable to the MCM (e.g., inventory, trainings, inspections, maintenance activities, etc.). The permittee must perform the annual assessment prior to completion of each annual report and document any modifications made to the program as a result of the annual assessment. [Minn. R. 7090]
22.1	**Discharges to Impaired Waters with a USEPA-Approved TMDL that Includes an Applicable WLA**. [Minn. R. 7090]
22.2	If the permittee has an applicable WLA not being met for oxygen demand, nitrate, TSS, or TP, the permittee must provide a summary of the permittee's progress toward achieving those applicable WLAs with the annual report. The summary must include the following information: a. a list of all BMPs applied towards achieving applicable WLAs for oxygen demand, nitrate, TSS, and TP; b. the implementation status of BMPs included in the compliance schedule at the time of final application submittal; and c. an updated estimate of cumulative TSS and TP load reductions. [Minn. R. 7090]
22.3	If the permittee has an applicable WLA where a reduction in pollutant loading is required for bacteria, the permittee must maintain a written or mapped inventory of potential areas and sources of bacteria (e.g., dense populations of waterfowl or other bird, dog parks). [Minn. R. 7090]
22.4	If the permittee has an applicable WLA where a reduction in pollutant loading is required for bacteria, the permittee must maintain a written plan to prioritize reduction activities to address the areas and sources identified in the inventory in item 22.3. The written plan must include BMPs the permittee will implement over the permit term, which may include, but is not limited to: a. water quality monitoring to determine areas of high bacteria loading; b. installation of pet waste pick-up bags in parks and open spaces; c. elimination of over-spray irrigation that may occur at permittee owned areas; d. removal of organic matter via street sweeping; e. implementation of infiltration structural stormwater BMPs; or f. management of areas that attract dense populations of waterfowl (e.g., riparian plantings). [Minn. R. 7090]
22.5	If the permittee has an applicable WLA where a reduction in pollutant loading is required for chloride, the permittee must document the amount of deicer applied each winter maintenance season to all permittee owned/operated surfaces. [Minn. R. 7090]
22.6	If the permittee has an applicable WLA where a reduction in pollutant loading is required for chloride, each calendar year the permittee must conduct an assessment of the permittee's winter maintenance operations to reduce the amount of deicing salt applied to permittee owned/operated surfaces and determine current and future opportunities to improve BMPs. The permittee may use the Agency's Smart Salting Assessment Tool or other available resources and methods to complete this assessment. The permittee must document the assessment. The assessment may include, but is not limited to: a. operational changes such as pre-wetting, pre-treating the salt stockpile, increasing plowing prior to deicing, monitoring of road surface temperature, etc.; b. implementation of new or modified equipment providing pre-wetting, or other capability for minimizing salt use; c. regular calibration of equipment; d. optimizing mechanical removal to reduce use of deicers; or e. designation of no salt and/or low salt zones. [Minn. R. 7090]
22.7	If the permittee has an applicable WLA where a reduction in pollutant loading is required for temperature (i.e., City of Duluth, City of Hermantown, City of Rice Lake, City of Stillwater, MnDOT Outstate, St. Louis County, University of Minnesota

	- Duluth, and Lake Superior College), the permittee must maintain a written plan that identifies specific activities the permittee will implement to reduce thermal loading during the permit term. The written plan may include, but is not limited to: a. implementation of infiltration BMPs such as bioinfiltration practices; b. disconnection and/or reduction of impervious surfaces; c. retrofitting existing structural stormwater BMPs; or d. improvement of riparian vegetation. [Minn. R. 7090]
23.1	**Alum or Ferric Chloride Phosphorus Treatment Systems**. [Minn. R. 7090]
23.2	If the permittee uses an alum or ferric chloride phosphorus treatment system, the permittee must comply with Section 23 requirements. [Minn. R. 7090]
23.3	The permittee's alum or ferric chloride phosphorus treatment system must comply with the following: a. the permittee must use the treatment system for the treatment of phosphorus in stormwater. Non-stormwater discharges must not be treated by this system; b. the treatment system must be contained within the conveyances and structural stormwater BMPs of the MS4. The utilized conveyances and structural stormwater BMPs must not include any receiving waters; c. phosphorus treatment systems utilizing chemicals other than alum or ferric chloride must receive written approval from the Agency; and d. in-lake phosphorus treatment activities are not authorized under the General Permit. [Minn. R. 7090]
23.4	The permittee's alum or ferric chloride phosphorus treatment system must meet the following design parameters: a. the treatment system must be constructed in a manner that diverts the stormwater flow to be treated from the main conveyance system; b. a high flow bypass must be part of the inlet design; and c. a flocculant storage/settling area must be incorporated into the design, and adequate maintenance access must be provided (minimum of 8 feet wide) for the removal of accumulated sediment. [Minn. R. 7090]
23.5	A designated person must perform visual monitoring of the treatment system for proper performance at least once every seven (7) days, and within 24 hours after a rainfall event greater than 2.5 inches in 24 hours. Following visual monitoring which occurs within 24 hours after a rainfall event, the next visual monitoring must be conducted within seven (7) days after that rainfall event. [Minn. R. 7090]
23.6	Three (3) benchmark monitoring stations must be established. Table 1 in Appendix A must be used for the parameters, units of measure, and frequency of measurement for each station. [Minn. R. 7090]
23.7	Samples must be collected as grab samples or flow-weighted 24-hour composite samples. [Minn. R. 7090]
23.8	Each sample, excluding pH samples, must be analyzed by a laboratory certified by the Minnesota Department of Health and/or the Agency, and: a. sample preservation and test procedures for the analysis of pollutants must conform to 40 CFR Part 136 and Minn. R. 7041.3200; b. detection limits for dissolved phosphorus, dissolved aluminum, and dissolved iron must be a minimum of 6 micrograms per liter, 10 micrograms per liter, and 20 micrograms per liter, respectively; and c. pH must be measured within 15 minutes of sample collection using calibrated and maintained equipment. [Minn. R. 7090]
23.9	In the following situations, the permittee must perform corrective action(s) and immediately notify the Minnesota Department of Public Safety Duty Officer at 800-422-0798 (toll free) or 651-649-5451 (Metro area): a. the pH of the discharged water is not within the range of 6.0 and 9.0; b. any indications of toxicity or measurements exceeding water quality standards which could endanger human health, public drinking water supplies, or the environment; or c. a spill or discharge or alteration resulting in water pollution as defined in Minn. Stat. 115.01, subd. 13, of alum or ferric chloride.

	If item b is applicable, the permittee must also report the non-compliance to the Commissioner as required in item 26.11. [Minn. R. 7001.0150, subp. 3(K), Minn. R. 7090]
23.10	If the permittee discovers indications of toxicity or measurements exceeding water quality standards that the permittee determines does not endanger human health, public drinking water supplies, or the environment, the permittee must report the non-compliance to the Commissioner as required in item 26.12. [Minn. R. 7001.0150, subp. 3(L), Minn. R. 7090]

23.11	The permittee must submit the following information with the annual report. The annual report must include a month-by-month summary of:
	
	a. date(s) of operation;
	b. chemical(s) used for treatment;
	c. gallons of water treated;
	d. gallons of alum or ferric chloride treatment used;
	e. calculated pounds of phosphorus removed; and
	f. any performance issues and the corrective action(s), including the date(s) when corrective action(s) were taken. [Minn. R. 7090]

23.12	A record of the design parameters in items 23.13 through 23.15 must be kept on-site. [Minn. R. 7090]
23.13	Site-specific jar testing conducted using typical and representative water samples in accordance with the most current approved version of ASTM D2035. [Minn. R. 7090]
23.14	Baseline concentrations of the following parameters in the influent and receiving waters: a. aluminum or iron; and b. phosphorus. [Minn. R. 7090]
23.15	The following system parameters and how each was determined: a. flocculant settling velocity; b. minimum required retention time; c. rate of diversion of stormwater into the system; d. the flow rate from the discharge of the outlet structure; and e. range of expected dosing rates. [Minn. R. 7090]
23.16	The following site-specific procedures must be developed and a copy kept on-site: a. procedures for the installation, operation and maintenance of all pumps, generators, control systems, and other equipment; b. specific parameters for determining when the solids must be removed from the system and how the solids will be handled and disposed of; and c. procedures for cleaning up and/or containing a spill of each chemical stored on-site. [Minn. R. 7090]
24.1	**Stormwater Pollution Prevention Program (SWPPP) Modification**. [Minn. R. 7090]
24.2	The Commissioner may require the permittee to modify the SWPPP as needed, in accordance with the procedures of Minn. R. 7001, and may consider the following factors: a. discharges from the MS4 are impacting the quality of receiving waters; b. more stringent requirements are necessary to comply with state or federal regulations; and c. additional conditions are deemed necessary to comply with the goals and applicable requirements of the Clean Water Act and protect water quality. [Minn. R. 7090]
24.3	Modifications that the permittee chooses to make to the SWPPP other than modifications authorized in item 24.4, must be approved by the Commissioner in accordance with the procedures of Minn. R. 7001. All requests must be in writing, setting forth schedules for compliance. The request must discuss alternative program modifications, assure compliance with requirements of the permit, and meet other applicable laws. [Minn. R. 7090]
24.4	The permittee may modify the SWPPP without prior approval of the Commissioner provided the Commissioner is notified of the modification in the annual report for the year the modification is made and the modification falls under one of the following categories:

	a. a BMP is added, and none subtracted, from the SWPPP; or b. a less effective BMP is replaced with a more effective BMP. The alternate BMP must address the same, or similar, concerns as the ineffective or failed BMP. [Minn. R. 7090]
25.1	**Annual Assessment, Annual Reporting, and Recordkeeping**. [Minn. R. 7090]
25.2	The permittee must conduct an annual assessment to evaluate compliance with the terms and conditions of the General Permit, including the effectiveness of the components of the SWPPP and the status of achieving the measurable requirements in the General Permit. Measurable requirements are activities that must be documented or tracked (e.g., education and outreach efforts, implementation of written plans, inventories, trainings, site plan reviews, inspections, enforcement, etc.). The permittee must perform the annual assessment prior to completion of each annual report and document any modifications made to the SWPPP as a result of the annual assessment. [Minn. R. 7090]
25.3	The permittee must submit an annual report : Due annually, by the 30th of June. The annual report must cover the portion of the previous calendar year during which the permittee was authorized to discharge stormwater under the General Permit. The annual report shall be submitted to the Agency, in a manner determined by the Agency, that includes but is not limited to: a. the status of compliance with permit terms and conditions, including an assessment of the appropriateness of BMPs identified by the permittee and progress towards achieving the measurable requirements of each of the MCMs. The assessment must be based on results of information collected and analyzed, including monitoring (if any), inspection findings, and public input received during the reporting period; b. the stormwater activities the permittee plans to undertake during the next reporting cycle; c. a change in any identified BMPs for any of the MCMs; d. the summary required in item 22.2 to demonstrate progress toward achieving applicable WLAs; e. information required to be recorded or documented in Sections 13 through 24; and f. a statement that the permittee is relying on a partnership(s) with another regulated small MS4(s) to satisfy one or more permit requirements (if applicable), and what agreements the permittee has entered into in support of this effort. [Minn. R. 7090]
25.4	The permittee must make records, including components of the SWPPP, available to the public at reasonable times during regular business hours (see 40 CFR 122.7 for confidentiality provision). [Minn. R. 7090]
25.5	The permittee must retain copies of the permit application, all documentation necessary to comply with SWPPP requirements, all data and information used by the permittee to complete the application process, and any information developed as a requirement of the General Permit or as requested by the Commissioner, for a period of at least three (3) years beyond the date of permit expiration. This period is automatically extended during the course of an unresolved enforcement action regarding the small MS4 or as requested by the Commissioner. [Minn. R. 7001.0080, Minn. R. 7090]
25.6	The permittee must, when requested by the Commissioner, submit within a reasonable time the information and reports that are relevant to the control of pollution regarding the construction, modification, or operation of the facility covered by the General Permit or regarding the conduct of the activity covered by the General Permit. [Minn. R. 7001.0150, subp. 3(H), Minn. R. 7090]
25.7	The permittee must use an electronic submittal process, as provided by the Agency, to submit information required by the General Permit. If electronic submittal is not available, the permittee must use the following mailing address: Supervisor, Municipal Stormwater Unit Minnesota Pollution Control Agency 520 Lafayette Road North St. Paul, Minnesota 55155-4194. [Minn. R. 7090]
26.1	**General Conditions**. [Minn. R. 7090]
26.2	The Agency's issuance of a permit does not release the permittee from any liability, penalty, or duty imposed by Minnesota or federal statutes or rules or local ordinances, except the obligation to obtain the General Permit. [Minn. R. 7001.0150, subp. 3(A)]
26.3	The Agency's issuance of a permit does not prevent the future adoption by the Agency of pollution control rules, standards, or orders more stringent than those now in existence and does not prevent the enforcement of these rules, standards, or

	orders against the permittee. [Minn. R. 7001.0150, subp. 3(B)]
26.4	The General Permit does not convey a property right or an exclusive privilege. [Minn. R. 7001.0150, subp. 3(C)]
26.5	The Agency's issuance of a permit does not obligate the Agency to enforce local laws, rules or plans beyond that authorized by Minnesota statutes. [Minn. R. 7001.0150, subp. 3(D)]
26.6	The permittee must perform the actions or conduct the activity authorized by the permit in accordance with the plans and specifications approved by the Agency and in compliance with the conditions of the permit. [Minn. R. 7001.0150, subp. 3(E)]
26.7	The permittee must at all times properly operate and maintain the facilities and systems of treatment and control and the appurtenances related to them which are installed or used by the permittee to achieve compliance with the conditions of the General Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. The permittee must install and maintain appropriate backup or auxiliary facilities if they are necessary to achieve compliance with the conditions of the General Permit and, for all permits other than hazardous waste facility permits, if these backup or auxiliary facilities are technically and economically feasible. [Minn. R. 7001.0150, subp. 3(F)]
26.8	The permittee may not knowingly make a false or misleading statement, representation, or certification in a record, report, plan, or other document required to be submitted to the Agency or to the Commissioner by the General Permit. The permittee must immediately upon discovery report to the Commissioner an error or omission in these records, reports, plans, or other documents. [Minn. R. 7001.0150, subp. 3(G), Minn. R. 7001.1090, subp. 1(G), Minn. R. 7001.1090, subp. 1(H), Minn. Stat. 609.671]
26.9	When authorized by Minn. Stat. 115.04, 115B.17, subd. 4, and 116.091, and upon presentation of proper credentials, the Agency, or an authorized employee or agent of the Agency, must be allowed by the permittee to enter at reasonable times upon the property of the permittee to examine and copy books, papers, records, or memoranda pertaining to the activity covered by the General Permit; and to conduct surveys and investigations, including sampling or monitoring, pertaining to the construction, modification, or operation of the facility covered by the permit or pertaining to the activity covered by the General Permit. [Minn. R. 7001.0150, subp. 3(I)]
26.10	If the permittee discovers, through any means, including notification by the Agency, that noncompliance with a condition of the General Permit has occurred, the permittee must take all reasonable steps to minimize the adverse impacts on human health, public drinking water supplies, or the environment resulting from the noncompliance. [Minn. R. 7001.0150, subp. 3(J)]
26.11	If the permittee discovers that noncompliance with a condition of the General Permit has occurred which could endanger human health, public drinking water supplies, or the environment, the permittee must, within 24 hours of the discovery of the noncompliance, orally notify the Commissioner. Within five days of the discovery of the noncompliance, the permittee must submit to the Commissioner a written description of the noncompliance; the cause of the noncompliance; the exact dates of the period of the noncompliance; if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [Minn. R. 7001.0150, subp. 3(K)]
26.12	The permittee must report noncompliance with the General Permit not reported under item 26.11 as a part of the next report which the permittee is required to submit under the General Permit. If no reports are required within 30 days of the discovery of the noncompliance, the permittee must submit the information listed in item 26.11 within 30 days of the discovery of the noncompliance. [Minn. R. 7001.0150, subp. 3(L), Minn. R. 7090]
26.13	The permittee must give advance notice to the Commissioner as soon as possible of planned physical alterations or additions to the permitted facility (MS4) or activity that may result in noncompliance with a Minnesota or federal pollution control statute or rule or a condition of the General Permit. [Minn. R. 7001.0150, subp. 3(M)]
26.14	The General Permit is not transferable to any person without the express written approval of the Agency after compliance with the requirements of Minn. R. 7001.0190. A person to whom the permit has been transferred must comply with the conditions of the General Permit. [Minn. R. 7001.0150, subp. 3(N)]
26.15	The General Permit authorizes the permittee to perform the activities described in the permit under the conditions of the General Permit. In issuing the permit, the state and Agency assume no responsibility for damage to persons, property, or the environment caused by the activities of the permittee in the conduct of its actions, including those activities authorized, directed, or undertaken under the permit. To the extent the state and Agency may be liable for the activities of its employees, that liability is explicitly limited to that provided in the Tort Claims Act, Minn. Stat. 3.736. [Minn. R. 7001.0150,

	subp. 3(O)]
26.16	The General Permit incorporates by reference the applicable portions of 40 CFR 122.41 and 122.42(c) and (d), and Minn. R. 7001.1090, which are enforceable parts of the General Permit. [Minn. R. 7090]
26.17	The provisions of the General Permit are severable, and if any provision of the General Permit, or the application of any provision of the General Permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of the General Permit shall not be affected thereby. [Minn. R. 7090]
27.1	**Definitions**. [Minn. R. 7090]
27.2	"Active karst" means a terrain having distinctive landforms and hydrology created primarily from the dissolution of soluble rocks within 50 feet of the land surface. [Minn. R. 7090]
27.3	"Agency" means the Minnesota Pollution Control Agency or MPCA. [Minn. Stat. 116.36, subd. 2]
27.4	"Alum or Ferric Chloride Phosphorus Treatment System" means the diversion of flowing stormwater from a MS4, removal of phosphorus through the use a continuous feed of alum or ferric chloride additive, flocculation, and the return of the treated stormwater back into a MS4 or receiving water. [Minn. R. 7090]
27.5	"Applicable WLA" means a Waste Load Allocation assigned to the permittee and approved by the USEPA prior to the issuance date of the General Permit. [Minn. R. 7090]
27.6	"Best Management Practices" or "BMPs" means practices to prevent or reduce the pollution of the waters of the state, including schedules of activities, prohibitions of practices, and other management practices, and also includes treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge, or waste disposal or drainage from raw material storage. [Minn. R. 7001.1020, subp. 5]
27.7	"Commissioner" means the Commissioner of the Minnesota Pollution Control Agency or the Commissioner's designee. [Minn. Stat. 116.36, subd. 3]
27.8	"Common Plan of Development or Sale" means a contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, on different schedules, but under one proposed plan. One plan is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land-disturbing activities may occur. [Minn. R. 7090]
27.9	"Construction Activity" means activities including clearing, grading, and excavating, that result in land disturbance of equal to or greater than one acre, including the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one acre. This includes a disturbance to the land that results in a change in the topography, existing soil cover, both vegetative and nonvegetative, or the existing soil topography that may result in accelerated stormwater runoff that may lead to soil erosion and movement of sediment. Construction activity does not include a disturbance to the land of less than five acres for the purpose of routine maintenance performed to maintain the original line and grade, hydraulic capacity, and original purpose of the facility. Routine maintenance does not include activities such as repairs, replacement and other types of non-routine maintenance. Pavement rehabilitation that does not disturb the underlying soils (e.g., mill and overlay projects) is not construction activity. [Minn. R. 7090]
27.10	"DNR Catchment Area" means the Hydrologic Unit 08 areas delineated and digitized by the Minnesota DNR. The catchment areas are available for download at the Minnesota DNR Geospatial Commons website. DNR catchment areas may be locally corrected, in which case the local corrections may be used. [Minn. R. 7090]
27.11	"Existing Permittee" means an owner/operator of a small MS4 that has been authorized to discharge stormwater under a previously issued general permit for small MS4s in the state of Minnesota. [Minn. R. 7090]
27.12	"Fully reconstructed" means areas where impervious surfaces have been removed down to the underlying soils. Activities such as structure renovation, mill and overlay projects, and other pavement rehabilitation projects that do not expose the underlying soils beneath the structure, pavement, or activity are not considered fully reconstructed. Maintenance activities such as catch basin repair/replacement, utility repair/replacement, pipe repair/replacement, lighting, and pedestrian ramp improvements are not considered fully reconstructed. [Minn. R. 7090]
27.13	"General permit" means a permit issued under Minn. R. 7001.0210 to a category of permittees whose operations, emissions, activities, discharges, or facilities are the same or substantially similar. [Minn. R. 7001.0010, subp. 4]
27.14	"Geographic Coordinates" means the point location of a stormwater feature expressed by X, Y coordinates of a standard Cartesian coordinate system (i.e. latitude/longitude) that can be readily converted to Universal Transverse Mercator (UTM), Zone 15N in the NAD83 datum. For polygon features, the geographic coordinates will typically define the approximate

	center of a stormwater feature. [Minn. R. 7090]
27.15	"High Flow Bypass" means a function of an inlet device that allows a certain flow of water through, but diverts any higher flows away. High flow bypasses are generally used for BMPs that can only treat a designed amount of flow and that would be negatively affected by higher flows. [Minn. R. 7090]
27.16	"Illicit Discharge" means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities. [40 CFR 122.26(b)(2)]
27.17	"Impaired Water" means waters identified as impaired by the Agency, and approved by the USEPA, pursuant to section 303(d) of the Clean Water Act (33 U.S.C. 303(d)). [Minn. R. 7090]
27.18	"Linear project" means construction of new or fully reconstructed roads, trails, sidewalks, or rail lines that are not part of a common plan of development or sale. For example, roads being constructed concurrently with a new residential development are not considered linear projects because they are part of a common plan of development or sale. [Minn. R. 7090]
27.19	"Maximum Extent Practicable" or "MEP" means the statutory standard (33 U.S.C. 1342(p)(3)(B)(iii)) that establishes the level of pollutant reductions that an owner or operator of regulated MS4s must achieve. The USEPA has intentionally not provided a precise definition of MEP to allow maximum flexibility in MS4 permitting. The pollutant reductions that represent MEP may be different for each small MS4, given the unique local hydrologic and geologic concerns that may exist and the differing possible pollutant control strategies. Therefore, each permittee will determine appropriate BMPs to satisfy each of the six Minimum Control Measures (MCMs) through an evaluative process. The USEPA envisions application of the MEP standard as an iterative process. [Minn. R. 7090]
27.20	"Municipal separate storm sewer system" or "MS4" means a conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains: a. owned or operated by a state, city, town, county, district, association, or other public body, created by or pursuant to state law, having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district, or drainage district or similar entity, or an Indian tribe or an authorized Indian tribe organization, or a designated and approved management Agency under section 208 of the federal Clean Water Act, United States Code, title 33, section 1288, that discharges into waters of the state; b. designed or used for collecting or conveying stormwater; c. that is not a combined sewer; and d. that is not part of a publicly owned treatment works as defined in 40 CFR 122.2. Municipal separate storm sewer systems do not include separate storm sewers in very discrete areas, such as individual buildings. [Minn. R. 7090.0080, Subp. 8]
27.21	"New Permittee" means an owner/operator of a small MS4 that has not been authorized to discharge stormwater under a previously issued General Stormwater Permit for small MS4s in the state of Minnesota and that applies for, and obtains coverage under the General Permit. [Minn. R. 7090]
27.22	"Non-Stormwater Discharge" means any discharge not composed entirely of stormwater. [Minn. R. 7090]
27.23	"Operator" means the person with primary operational control and legal responsibility for the MS4. [Minn. R. 7090.0080, subp. 10]
27.24	"Outfall" means the point source where a MS4 discharges to a receiving water, or the stormwater discharge permanently leaves the permittee's MS4. It does not include diffuse runoff or conveyances that connect segments of the same stream or water systems (e.g., when a conveyance temporarily leaves an MS4 at a road crossing). [Minn. R. 7090]
27.25	"Owner" means the person that owns the MS4. [Minn. R. 7090.0080, Subp. 11]
27.26	"Permittee" means a person or persons, that signs the permit application submitted to the Agency and is responsible for compliance with the terms and conditions of the General Permit. [Minn. R. 7090]
27.27	"Person" means the state or any Agency or institution thereof, any municipality, governmental subdivision, public or private corporation, individual, partnership, or other entity, including, but not limited to, association, commission or any interstate body, and includes any officer or governing or managing body of any municipality, governmental subdivision, or public or private corporation, or other entity. [Minn. Stat. 115.01, subd. 10]

27.28	"Pipe" means a closed manmade conveyance device used to transport stormwater from location to location. The definition of pipe does not include foundation drain pipes, irrigation pipes, land drain tile pipes, culverts, and road sub-grade drain pipes. [Minn. R. 7090]
27.29	"Receiving Water" means any lake, river, stream or wetland that receives stormwater discharges from an MS4. [Minn. R. 7090]
27.30	"Reduce" means reduce to the Maximum Extent Practicable (MEP) unless otherwise defined in the context in which it is used. [Minn. R. 7090]
27.31	"Seasonally Saturated Soil" means the highest seasonal elevation in the soil in a reduced chemical state because of soil voids filled with water causing anaerobic conditions. Seasonally saturated soil is evidenced by the presence of redoximorphic features or other information determined by scientifically established methods or empirical field measurements. [Minn. R. 7090]
27.32	"Section" includes all item numbers of the same whole number. For example, "Section 5" of the General Permit refers to items 5.1 through 5.5. [Minn. R. 7090]
27.33	"Significant Materials" includes, but is not limited to: raw materials, fuels, materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); any chemical the facility is required to report pursuant to Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA); fertilizers, pesticides, and waste products such as ashes, slag, and sludge that have the potential to be released with stormwater discharges. When determining whether a material is significant, the physical and chemical characteristics of the material should be considered (e.g. the material's solubility, transportability, and toxicity characteristics) to determine the material's pollution potential. [40 CFR 122.26(b)(12)]
27.34	"Small Municipal Separate Storm Sewer System" or "small MS4", means all separate storm sewers that are: a. Owned or operated by the United States, a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management Agency under section 208 of the CWA that discharges to waters of the United States. b. Not defined as "large" or "medium" Municipal Separate Storm Sewer Systems pursuant to 40 CFR 122.26 paragraphs (b)(4) and (b)(7) or designated under paragraph (a)(1)(v). c. This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings. [Minn. R. 7090]
27.35	"Stormwater" means stormwater runoff, snow melt runoff, and surface runoff and drainage. [Minn. R. 7090.0080, subp. 12]
27.36	"Stormwater flow direction" means the direction of predominant flow within a pipe. Flow direction can be discerned if pipe elevations can be displayed on the storm sewer system map. [Minn. R. 7090]
27.37	"Stormwater Pollution Prevention Program" or "SWPPP" means a comprehensive program developed by the permittee to manage and reduce the discharge of pollutants in stormwater to and from the small MS4. [Minn. R. 7090]
27.38	"Structural Stormwater BMP" means a stationary and permanent BMP that is designed, constructed, and operated to prevent or reduce the discharge of pollutants in stormwater. [Minn. R. 7090]
27.39	"Total Maximum Daily Load" or "TMDL" means the sum of the individual Waste Load Allocations for point sources and load allocations for nonpoint sources and natural background, as more fully defined in 40 CFR 130.2, paragraph (i). A TMDL sets and allocates the maximum amount of a pollutant that may be introduced into a water of the state and still assure attainment and maintenance of water quality standards. [Minn. R. 7052.0010, subp. 42]
27.40	"Waste Load Allocation" or "WLA" means the portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution, as more fully defined in Code of Federal Regulations, title 40, section 130.2, paragraph (h). In the absence of a TMDL approved by USEPA under 40 CFR 130.7, or an assessment and remediation plan developed and approved according to Minn. R. 7052.0200, subp. 1(C), a WLA is the allocation for an individual point source that ensures that the level of water quality to be achieved by the point source is derived from and complies with all applicable water quality standards and criteria. [Minn. R. 7052.0010, subp. 45]

27.41	"Water pollution" means (a) the discharge of any pollutant into any waters of the state or the contamination of any waters of the state so as to create a nuisance or render such waters unclean, or noxious, or impure so as to be actually or potentially harmful or detrimental or injurious to public health, safety or welfare, to domestic, agricultural, commercial, industrial, recreational or other legitimate uses, or to livestock, animals, birds, fish or other aquatic life; or (b) the alteration made or induced by human activity of the chemical, physical, biological, or radiological integrity of waters of the state. [Minn. Stat. 115.01, subd. 13]
27.42	"Water Quality Standards" means those provisions contained in Minn. R. 7050 and 7052. [Minn. R. 7090]
27.43	"Water Quality Volume" means either: a. for construction activity (excluding linear projects), one (1) inch of runoff from the sum of the new and fully reconstructed impervious surfaces created by the project (calculated as an instantaneous volume); or b. for linear projects, the greater of one (1) inch of runoff from the new impervious surface or one-half (0.5) inch of runoff from the sum of the new and fully reconstructed impervious surfaces created by the project (calculated as an instantaneous volume). [Minn. R. 7090]
27.44	"Waters of the State" means all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof. [Minn. Stat. 115.01, subd. 22]
27.45	"Wetlands" means those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Constructed wetlands designed for wastewater treatment are not waters of the state. Wetlands must have the following attributes: a. a predominance of hydric soils; b. inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in a saturated soil condition; and c. under normal circumstances support a prevalence of such vegetation. [Minn. R. 7050.0186, subp. 1a.B]

Appendix A. Alum or Ferric Chloride Phosphorus Treatment Systems

Table 1:
Monitoring parameters during operation

Station	Alum parameters	Ferric parameters	Units	Frequency
Upstream-background	Total Phosphorus	Total Phosphorus	mg/L	1 x week
	Dissolved Phosphorus	Dissolved Phosphorus	mg/L	1 x week
	Total Aluminum	Total Iron	mg/L	1 x month
	Dissolved Aluminum	Dissolved Iron	mg/L	1 x week
	pH	pH	SU	1 x week
	Flow	Flow	Mgd	Daily
Alum or Ferric Chloride Feed	Alum	Ferric	Gallons	Daily total dosed in gallons
Discharge from treatment	Total Phosphorus	Total Phosphorus	mg/L	1 x week
	Dissolved Phosphorus	Dissolved Phosphorus	mg/L	1 x week
	Total Aluminum	Total Iron	mg/L	1 x month
	Dissolved Aluminum	Dissolved Iron	mg/L	1 x week
	pH	pH	SU	1 x week
	Flow	Flow	Mgd	Daily

Appendix B. Schedules

Table 2:
Existing Permittees - Schedule of permit requirements

Permit requirement	*Schedule*
Section 12. Stormwater Pollution Prevention Program (SWPPP) Document • *Submit the SWPPP Document completed in accordance with Section 12.*	• Within 150 days after General Permit issuance date.
Section 13. Stormwater Pollution Prevention Program (SWPPP) • *Complete revisions to incorporate the new requirements of Sections 14 - 23 into current SWPPP.*	• Within 12 months of the date General Permit coverage is extended, unless other timelines have been specifically established in the General Permit and identified below.
Section 19. Construction Site Stormwater Runoff Control • *Complete revisions to Construction Site Stormwater Runoff Control program, including revisions to regulatory mechanism(s), if necessary.* • *When the CSW Permit is reissued, revise regulatory mechanism(s), if necessary, to be at least as stringent as the requirements for erosion, sediment, and waste controls described in the CSW Permit.*	• Within 12 months of the date General Permit coverage is extended. • Within 12 months of the issuance date of the CSW Permit (expected issuance date of the CSW Permit is August 1, 2023).
Section 21. Pollution Prevention/Good Housekeeping for Municipal Operations • *Conduct structural stormwater best management practice (BMP) inspections.* • *Conduct pond and outfall inspections.*	• Each calendar year. • Prior to the expiration date of the General Permit.
Section 22. Discharges to Impaired Waters with a USEPA-Approved TMDL that includes an Applicable WLA • *Submit all information required in item 22.2.* • *Meet requirements for applicable WLAs for bacteria, chloride, and temperature in Section 22.*	• With each annual report. • Within 12 months of the date General Permit coverage is extended.
Section 25. Annual Assessment, Annual Reporting, and Recordkeeping • *Conduct assessment of the SWPPP.* • *On a form provided by the Agency, submit an annual report.*	• Prior to completion of each annual report. • By June 30th of each calendar year.

Table 3:
New Permittees - Schedule of permit requirements

Permit requirement	*Schedule*
Section 10. New Permittee Applicants • *Submit Part 1, and Part 2 of the permit application as required by Section 12.*	• Within 18 months of written notification from the Commissioner that the MS4 meets the criteria in Minn. R. 7090.1010, subp. 1.A. or B. and General Permit coverage is required.
Section 13. Stormwater Pollution Prevention Program (SWPPP) • *Complete all requirements of Sections 14 - 23.*	• Within 36 months of the date General Permit coverage is extended, unless other timelines have been specifically established in the General Permit and identified below; or • Within timelines established by the Commissioner in item 8.3.
Section 14. Mapping • *Develop a storm sewer system map.*	• Within 24 months of the date General Permit coverage is extended.
Section 18. Illicit Discharge Detection and Elimination • *Develop, implement, and enforce an Illicit Discharge Detection and Elimination Program.*	• Within 12 months of the date General Permit coverage is extended.
Section 19. Construction Site Stormwater Runoff Control • *Develop, implement, and enforce a Construction Site Stormwater Runoff Control Program.* • *When the CSW Permit is reissued, revise regulatory mechanism(s), if necessary, to be at least as stringent as the requirements for erosion, sediment, and waste controls described in the CSW Permit.*	• Within 12 months of the date General Permit coverage is extended. • Within 12 months of the issuance date of the CSW Permit (expected issuance date of the CSW Permit is August 1, 2023).
Section 20. Post-Construction Stormwater Management • *Develop, implement, and enforce a Post-Construction Stormwater Management program.*	• Within 24 months of the date General Permit coverage is extended.
Section 21. Pollution Prevention/Good Housekeeping for Municipal Operations • *Conduct structural stormwater BMP inspections.* • *Conduct pond and outfall inspections.*	• Each calendar year. • Prior to the expiration date of the General Permit.
Section 22. Discharges to Impaired Waters with a USEPA-Approved TMDL that includes an Applicable WLA • *Submit all information required in item 22.2.* • *Meet requirements for applicable WLAs for bacteria, chloride, and temperature in Section 22.*	• With each annual report. • Within 12 months of the date General Permit coverage is extended.
Section 23. Alum or Ferric Chloride Phosphorus Treatment Systems (if applicable) • *Meet requirements for treatment systems in Section 23.*	• Within 12 months of the date General Permit coverage is extended.
Section 25. Annual SWPPP Assessment, Annual Reporting, and Recordkeeping • *Conduct assessment of the SWPPP.* • *On a form provided by the Agency, submit an annual report.*	• Prior to completion of each annual report. • By June 30th of each calendar year.

E. **Daylighting Phalen Creek Update – Paige Ahlborg**

Attached are documents sent to you by Sam Wegner, program manager for the Daylighting Phalen Creek project. It provides a substantial update on the progress in funding for the project as well as other information about the process.

Lower Phalen Creek Project
804 Margaret Street
Saint Paul MN 55106
651.370.2016
lowerphalencreek.org

EIN 27-5469929

October 26, 2021

Attn: Ramsey-Washington Metro Watershed District Board of Managers

To whom it may concern,

Lower Phalen Creek Project is pleased to announce that on October 7th, 2021, the twelve members of the Lessard-Sams Outdoor Heritage Council unanimously voted to recommend a funding award of $2,859,000 to Proposal HRE 11: Daylighting Phalen Creek. From the proposal abstract: *Lower Phalen Creek Project, with widespread support from local residents, community organizations, and a wide array of government entities and additional stakeholders, proposes to daylight Phalen Creek for a ¼-mile stretch south of Lake Phalen. This daylit channel will restore and enhance critical habitat south of the vibrant Phalen Regional Park ecosystem and provide a range of recreational and educational opportunities for the community.*

While the recommended funding amount represents roughly 45% of the original request, Lower Phalen Creek Project has worked closely with project consultants to trim project cost estimates, and additional funding will be leveraged from external sources to ensure achievement of project outcomes. Recommended funding amounts for individual projects will be submitted as a package to the Minnesota legislature in the 2022 legislative session. Accordingly, Lower Phalen Creek Project expects to begin project activities with Lessard-Sams Outdoor Heritage Council funding in July 2022. The design process for the daylit channel is expected to be completed by February 2023; channel construction is expected to be completed by June 2024; and plant warranty & replacement, as well as project close-out activities, are expected to be completed by June 2026. Further project and process details — including the original HRE 11 proposal, council meeting notes and funding recommendations, and all related updates — can be accessed at https://www.lsohc.mn.gov/ in the FY 2023 / ML 2022 row of the Request for Funding tab, and in the 2021 Meetings/Materials row of the Council Meetings tab.

Lower Phalen Creek Project is grateful for the financial support provided by Ramsey-Washington Metro Watershed District for this project, and eagerly awaits the district's continued participation in the design, construction, and maintenance stages of this project.

Sincerely,

Sam Wegner
Environmental Stewardship Program Manager

Daylighting Phalen Creek

Supporting over 40 Species of Greatest Conservation Need

About the Project

This project represents a longstanding effort to restore Phalen Creek in the middle of Saint Paul's East Side.

Phalen Creek is an important waterway for people and wildlife, once serving as a travel route and a source of psiŋ (wild rice) for Dakota people.

Project Outcomes:

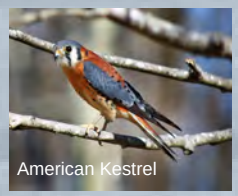
- 1,500 linear feet of daylighted stream
- 9 acres of wildlife habitat
- Critical ecological reconnection
- Fishing and wildlife viewing experiences

Nibi Walk, a water ceremony often conducted by Anishinaabe women water-bearers

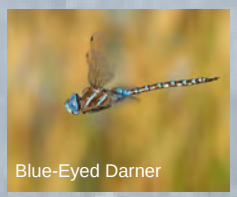
Sky-Blue Aster

Cup Plant

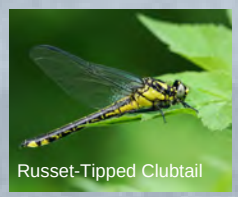
Belted Kingfisher



American Kestrel

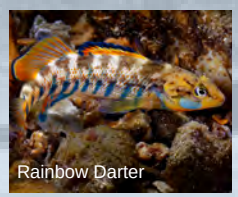


Blue-Eyed Darner



Russet-Tipped Clubtail

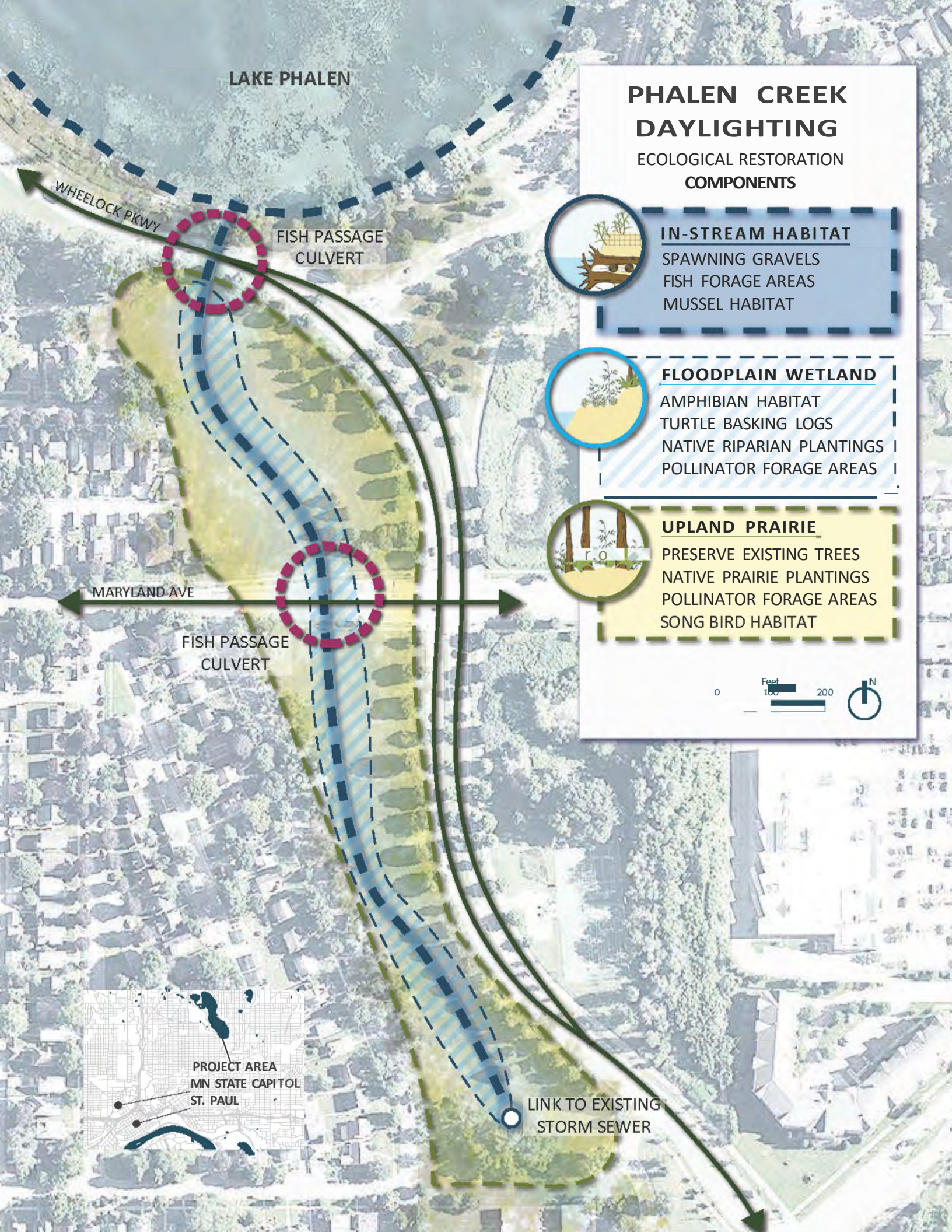
Blanding's Turtle



Rainbow Darter

Project Funding Request

$6.3M


LAKE PHALEN
WHEELOCK PKWY
FISH PASSAGE CULVERT
MARYLAND AVE
FISH PASSAGE CULVERT
LINK TO EXISTING STORM SEWER
PROJECT AREA
MN STATE CAPITOL
ST. PAUL
PHALEN CREEK DAYLIGHTING
ECOLOGICAL RESTORATION
COMPONENTS
IN-STREAM HABITAT
SPAWNING GRAVELS
FISH FORAGE AREAS
MUSSEL HABITAT
FLOODPLAIN WETLAND
AMPHIBIAN HABITAT
TURTLE BASKING LOGS
NATIVE RIPARIAN PLANTINGS
POLLINATOR FORAGE AREAS
UPLAND PRAIRIE
PRESERVE EXISTING TREES
NATIVE PRAIRIE PLANTINGS
POLLINATOR FORAGE AREAS
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SAINT PAUL
MINNESOTA

DEPARTMENT OF PARKS & RECREATION
DESIGN AND CONSTRUCTION

City Hall Annex
25 West 4th Street, Suite 400
Saint Paul, MN 55102
Tel: 651-266-6400

September 9, 2021

Lessard-Sams Outdoor Heritage Council
Legislative Coordinating Commission
100 Rev. Dr. Martin Luther King Jr. Blvd.
Saint Paul, Minnesota 55155

Dear Lessard-Sams Outdoor Heritage Council:

The City of Saint Paul Parks and Recreation supports the ongoing project to daylight Phalen Creek near Johnson Parkway and Maryland Avenue. The department will work in collaboration with our project partners to:

- Provide available parkland not currently used for other recreation programming, easements or future improvements;
- Assist with community engagement on the east side Saint Paul;
- Contribute to preliminary designs and conduct plan review for the daylighting of Phalen Creek, in accordance with contractor findings, regional watershed management plans and best management practice methods, and requirements of the City of Saint Paul in its capacity as the land-owning entity;
- Assist with volunteer and educational events within our natural areas;
- Support future grant applications and construction phases;
- Retain official ownership of the daylit channel, with maintenance to be shared by Ramsey-Washington Metro Watershed District, private organizations like LPCP and with other regional entities (Metro Transit, Metropolitan Council, Ramsey County, etc.)

Along with enhancing the parkland, the improvements will help to celebrate water and help to educate the general public about healthy water systems. Studies show that the natural outdoor environments produce positive physiological and psychological responses that reduce stress and give a general sense of well-being. We are confident this project will benefit our park system, community and people of all ages.

Please feel free to contact me about our involvement with the project.

Sincerely,


michael hahm (Sep 9, 2021 11:45 CDT)

Mike Hahm, CPRP
Director / Parks and Recreation Department

****

Project and Program Status Reports

****

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

resourceful. naturally. engineering and environmental consultants BARR

Memorandum

To: Board of Managers and Staff

From: Tina Carstens and Brad Lindaman

Subject: Project and Program Status Report – November 2021

Date: October 28, 2021

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.

Fifteen properties were added to the "to-be-surveyed" group, and Barr is preparing to complete this additional work before snow creates challenges. In October and November, we are regenerating maps of structures deemed to be at risk of flooding by comparing newly surveyed low elevations against the updated 100-year flood inundation extent generated after model updates are completed. We continue to develop the emergency response plans for the roughly 50 individual sites shown to have low entry elevations below the 100-year flood elevation. This number is likely to grow slightly after the remaining additional sites are surveyed. Example plans, which will be presented at the November board meeting, will show the activities that cities can pursue to reduce the risk of these properties flooding during a 100-year event.

A project update will be provided at the November board meeting. For review in advance of the meeting, background materials are provided as a technical memorandum in the November board packet.

Kohlman Creek flood risk reduction feasibility study (Barr project manager: Erin Anderson Wenz; RWMWD project manager: Tina Carstens)

The purpose of this study is to evaluate the benefit-cost relationships of infrastructure changes throughout the Kohlman Creek subwatershed by reviewing potential 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 of removing habitable structures from the 100-year floodplain in this area. This study is a follow-up step to the Beltline resiliency study.

An update on this project will be provided at the November board meeting. For review in advance of the meeting, background materials are provided as a technical memorandum in the November board packet.

Ames Lake flood risk reduction feasibility study (Barr project manager: Erin Anderson Wenz; RWMWD project manager: Tina Carstens)

The purpose of this study is to evaluate the benefit-cost relationships of infrastructure changes that would remove habitable structures from the floodplain in this area. This study will be phased. The first phase (currently underway) involves communications with the City of Saint Paul about how to approach flood management in this area, which involves both regional and localized flooding issues. The second phase (if pursued) will encompass reviewing potential 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, as defined in partnership with the city. This study is a follow-up step to the Beltline resiliency study.

An update on this project will be provided at the November board meeting. For review in advance of the meeting, background materials are provided as a technical memorandum in the November board packet.

Monitoring water quality/project monitoring

Special project best management practice (BMP) monitoring (Barr project manager: Katie Turpin-Nagel; RWMWD project manager: Paige Ahlborg)

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 which leverage continuous monitoring and adaptive control (CMAC) technology.

The Willow Pond CMAC spent lime filter is operational and will be ready for monitoring starting next spring. Until winterization of the system in late 2021, Staff will continue monitoring the pond and CMAC system to verify that they are functioning as intended, including being remotely connected to the system's modem.

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.

Earlier this summer, Keith Pilgrim inspected the test cells, and minor field modifications were made to the filters to verify that the hydraulics can be evaluated properly once testing is fully underway. Temporary stilling well and level sensors were installed to identify the treatment capacity of the cells as a function of water height at the upstream weir. During the most recent period, the level sensors continued to record water levels. However, few useable data have been collected due to little rain since installation. Monitoring is ongoing, and level sensors will be removed prior to ice formation. Activity during this period included planning for sensor removal, which will be followed by data analysis.

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.

In late June and July, sampling was conducted in both Frog and Markham ponds. Data received to date indicate that both ponds have internal phosphorus release; hence, the original intent of this study to determine if aeration can reduce internal phosphorus loading can be tested with these systems. Activities during this period included the final monitoring event, which was completed at the end of September. Data analysis is anticipated to be complete by December 2021.

Project operations

Keller channel and Phalen outlet operations plans (Barr project manager: Brandon Barnes; RWMWD project manager: Dave Vlasin)

The purpose of this project is to develop an operation plan for the Keller Lake and Lake Phalen outlet structures. Operating the structures under certain conditions will help reduce upstream flood levels where homes exist in the floodplain. This is an implementation item from the Beltline resiliency study.

Received comments are being addressed and incorporated into the final document, and an updated plan will be provided to the RWMWD after the contractor submits the remaining documentation for the control system. The plan describes conditions in which the outlet gates should be operated, routine maintenance activities, frequency of maintenance activities, and logs for documenting operation and maintenance activities.

Capital improvements

North Saint Paul Target (Barr project manager: Katie Turpin-Nagel; RWMWD project manager: Paige Ahlborg)

The purpose of this project is to design, provide bid assistance for, and oversee construction of BMP retrofits.

Construction for this project began on July 12, 2021, at the North Saint Paul Target store and is now largely complete. Outstanding tasks, including installing sod and the remaining plants in rain garden 4, should be completed during the last week of October. Peterson Companies was able to obtain the flared end section earlier than anticipated; it was installed at the end of October. Peterson Companies is waiting to submit pay application 2 until November. Change order 4 is included in this month's board packet to address and issue with the salt tolerant sod quantity for the site. There was an error in the original bid quantity, and more area was disturbed than originally anticipated due to complications with the irrigation reroute. Peterson Companies was able to lower the unit cost for the sod because of the larger restoration effort needed.

Targeted retrofit projects (Barr project manager: Matt Kumka; 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.

Several sites have been identified for potential BMP retrofits in 2022. Sites being considered via the Equity Initiative and/or in prior subwatershed feasibility studies include Conway Recreation Center, Nokomis Montessori South Campus, Acorn Park, St. Pascal Regional Catholic School, Muriel Sahlon Arboretum, Pleasantview Park, and Wildlife Rehab Center.

Barr is currently conceptualizing BMPs, including rain gardens and permeable pavers, to present to site owners before prioritizing and recommending to the board. The sites in Roseville—namely Acorn Park, Muriel Sahlon Arboretum, and the Wildlife Rehab Center—have been postponed until a future date after discussions with the city. Pending site owner and district approval of the BMP concepts, project design will continue over the winter, with construction planned for 2022.

Preliminary opinions of costs are listed below. The amounts are based on high-level sketches of potential BMP locations and sizes. These costs should be considered for planning-level project assessment only. Site surveying is underway, and after which design and engineering of each BMP will begin. After the next round of design, estimates for the annualized cost per lb of phosphorus removed by each BMP will be calculated and submitted for the managers' consideration.

Retrofit sites	Preliminary opinion of construction cost
Conway Recreation Center	$222,860
Nokomis Montessori South Campus	$70,365
Pleasantview Park	$18,805
Mounds Park Academy	$32,420
Total	**$344,450**

Project	Preliminary opinion of construction cost	25% contingency	Engineering including construction observation (20% const. est.)	Total opinion of project cost
Total BMP retrofit projects	**$ 344,450**	**$ 86,113**	**$ 68,890**	**$ 499,453**

Keller channel weir and Phalen outlet resiliency modifications (Barr project manager: Greg Nelson; RWMWD project manager: Tina Carstens)

This project includes design, bid document development, bidding, permitting, and project procurement of modifications to the Keller channel structure and the Phalen outlet structure. The purpose is to implement a design that will allow the RWMWD to remotely adjust the weir heights on the Keller channel structure and the Phalen outlet structure in accordance with an approved operating plan.

Operation of the structures under certain conditions will help reduce upstream flood levels where homes exist in the floodplain. This CIP is an implementation item from the Beltline resiliency study.

All items have been submitted, and the project is considered complete and ready for final payment. One last change order has been prepared and submitted to reflect a hold back of $3,000 from the contract retainage to cover labor and expenses completed by district staff for site restoration and maintenance. That change order is in the consent agenda.

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 at Keller Parkway is substantially complete, with the road open to the public again. Remaining work at the site includes fence installation along both sides of the roadway across the culverts; Fitzgerald Excavating and Trucking, Inc. ordered the material, which is expected to be delivered in November.

During the week of October 18, Fitzgerald began mobilizing equipment to the Ryan Drive site and implementing traffic control. Construction is anticipated to begin on October 25.

Pay application 1 is included in this month's packet for board review and approval for payment.

CIP project repair and maintenance

District inspection standardization (Barr project manager: Tyler Olsen; RWMWD project manager: Tina Carstens)

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

This period, Barr continued categorizing inspection criteria and project types to be used in the inspection tool, including incorporating manager feedback from the October board meeting into the tool layout and planning for future components. We also began developing a spreadsheet version of the tool for select inspection categories for which we have past data that can be used to help "calibrate" the tool. Next steps include continuing to input the inspection categories and criteria into the spreadsheet version of the tool as well as selecting example past projects and maintenance needs to use as a template for tool development. Additionally, Barr will structure the tool's scoring system in the coming month.

County Road D ravine (Barr project manager: Brandon Barnes; RWMWD project manager: Dave Vlasin)

The purpose of this project is to repair erosion and stabilize a ravine north of County Road D east of Highridge Court. The ravine conveys runoff from Maplewood and County Road D north into Vadnais Heights.

This month, Barr began developing preliminary plans for ravine restoration, including a pipe to convey flow down the slope, restoration of eroded material, and site restoration. This month, we are

completing a geotechnical review of proposed restoration modifications. Ravine restoration design will be included in the RWMWD's 2022 CIP maintenance/repairs project.

CIP maintenance/repairs 2021 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 MS4 requirements.

As mentioned in last month's report, the project is still on hold until actual work occurs at the Owasso Basin outlet channel. Channel cleanout has not been scheduled but is anticipated to start during the second week of November. The deadline for final contract payment is December 31.

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 MS4 requirements.

Preliminary design for the CIP maintenance/repairs 2022 project is complete, and a draft set of drawings and a specification outline are included with this board packet. An estimate of probable construction costs, along with other project expenses, is also provided.

New technology review

Clean Beach System by Dane County (Barr project manager: Matt Kumka; RWMWD project manager: Tina Carstens)

The purpose of this project is to educate the board and RWMWD staff on new and interesting technologies and design strategies related to water quality improvement and other issues of concern within the district. The information below is based on manufacturer's claims and has not been a product that has been specifically tested by district staff or Barr unless stated as such.

Innovative technology	▪ The water exclosure is composed of a five-sided polypropylene barrier to provide an enclosed swimming area from the water surface to the lakebed ▪ Water in the enclosed area is treated by a combination of three technologies to remove plants, particles, algae, pathogens, bacteria, and viruses
Use	Provides a treated swimming area so that beaches do not need to be closed due to presence of algae or E. coli
Benefits	▪ Decreases beach closures ▪ Provides safe and clean swimming areas ▪ Chemical-free system

Drawbacks	▪ Does not address source of an agal bloom or E. coli contamination ▪ Requires electricity to power the treatment system ▪ Requires maintenance, such as replacement of sand filters ▪ Requires removal during winter months
Case studies	▪ Goodland County Park; Madison, WI ▪ Mendota County Park; Madison, WI
Suppliers/contacts	▪ Joe Parisi, Dane County executive who led installation efforts of WETS in Dane County (parisi@countyofdane.com) ▪ Chin Wu, professor who helped design the product (chinwu@engr.wisc.edu)
Conclusion	▪ Allows beaches to stay open longer, providing social and economic benefits ▪ High capital and maintenance cost due to the system's seasonal nature ▪ Provides a regional solution to algal blooms on lakes

Technology description

The Water Exclosure Treatment System (called Clean Beach System by Dane County) is a system that can be installed on lakes that are frequently closed due to algal blooms or other contamination concerns. The system provides a contained swimming area (figure 1), which is defined by a five-sided polypropylene barrier that extends above the lake surface and to the bed of the lake [1]. The barrier contains the treated water as well as prevents vegetation from entering the swimming zone.

Figure 1: A Water Exclosure Treatment System installed at Brittingham Beach in Madison, Wisconsin [1]

Water enclosed in the system is pumped to a nearby treatment facility, as seen in figure 2. The treatment system is composed of three components: strainer, sand filer, and ultraviolet (UV) disinfection purifiers [1]. The first step in treatment is the use of a strainer to remove large derbis such as aquatic vegetation. Secondly, a sand filter can remove fine particles (diameter greater than 40 µm). Finally, two UV disinfection purifiers use short wave radaition to kill pathogens, cyanobacteria, bacteria, and viruses [1].

Figure 2: Annoated Water Exclsoure Treatment System that shows water movement [2]

Water quality improvements

Results from the initial study found that the Water Exclosure Treatment System was effective at providing a safe swimming area. Turbidity (total dissolved solids) levels inside the exclosure were up to 15 times lower than the water outside the exclosure. In addition, E. coli could also decrease. The 25th and 75th percentile for concentration of E. coli outside the closure were 7.5 to 90 MPN/100 mL, while inside was 4.5 to 15 MPN/100 mL. The exclosure also effectively minimized the colonies of cyanobacteria; the median number of colonies for one type of cyanobactiera species was 595 colonies/mL in the exclosure, while outside the exclosure was 8,000 colonies/mL [1]. The water samples in figure 3 demonstrate similar results.

Figure 3: From left to right: tap water, water from the exclosure, and water from outside the exclosure

Video: https://www.nbc15.com/2020/07/09/dane-co-unveils-new-technology-to-clean-lakes/

Note: While the system is not the subject of video, it can be seen in the background at the end.

Cost

A Water Exclosure Treatment System costs approximately $100,000. In addition, electric requirements are typically $5 to $8 a day. Although unclear how often, the sand in the sand filters needs to be replaced occasionally, which costs several hundred dollars [3].

Installation and maintenance

Installation of the Water Exclosure Treatment system at Brittingham Beach in Madison, Wisconsin, required two barges and two boats [1]. The primary maintenance concern is upkeep of the treatment system, such as changing sand filters [3]. The system also must be removed and winterized before winter, which involves a cost at the start and end of the swimming season.

Conclusion

The Water Exclosure Treatment System provides social and economic benefits by allowing beaches to remain open even if the remainder of the lake poses water quality concerns. The system has been proven to reduce turbidity, E. coli, and cyanobacteria, and installation could benefit lakes that are prone to agal blooms and beach closures. One drawback is the cost of repetitive installation/removal and maintenance, which may exceed the economic benefits of keeping beaches open during the summer. In addition, the Water Exclosure Treatment System is a regional solution and does not address larger issues, such as the cause of algal blooms.

References:

1. https://www.sciencedirect.com/science/article/abs/pii/S0048969717337634?via%3Dihub
2. *https://parks-lwrd.countyofdane.com/recreation/swimming-beaches*
3. https://madison.com/ct/news/local/govt-and-politics/dane-county-madison-partner-to-bring-water-treatment-systems-to-five-city-beaches/article_a578d569-727a-5859-a382-72751f138fca.html

Natural Resources Update – November 2021

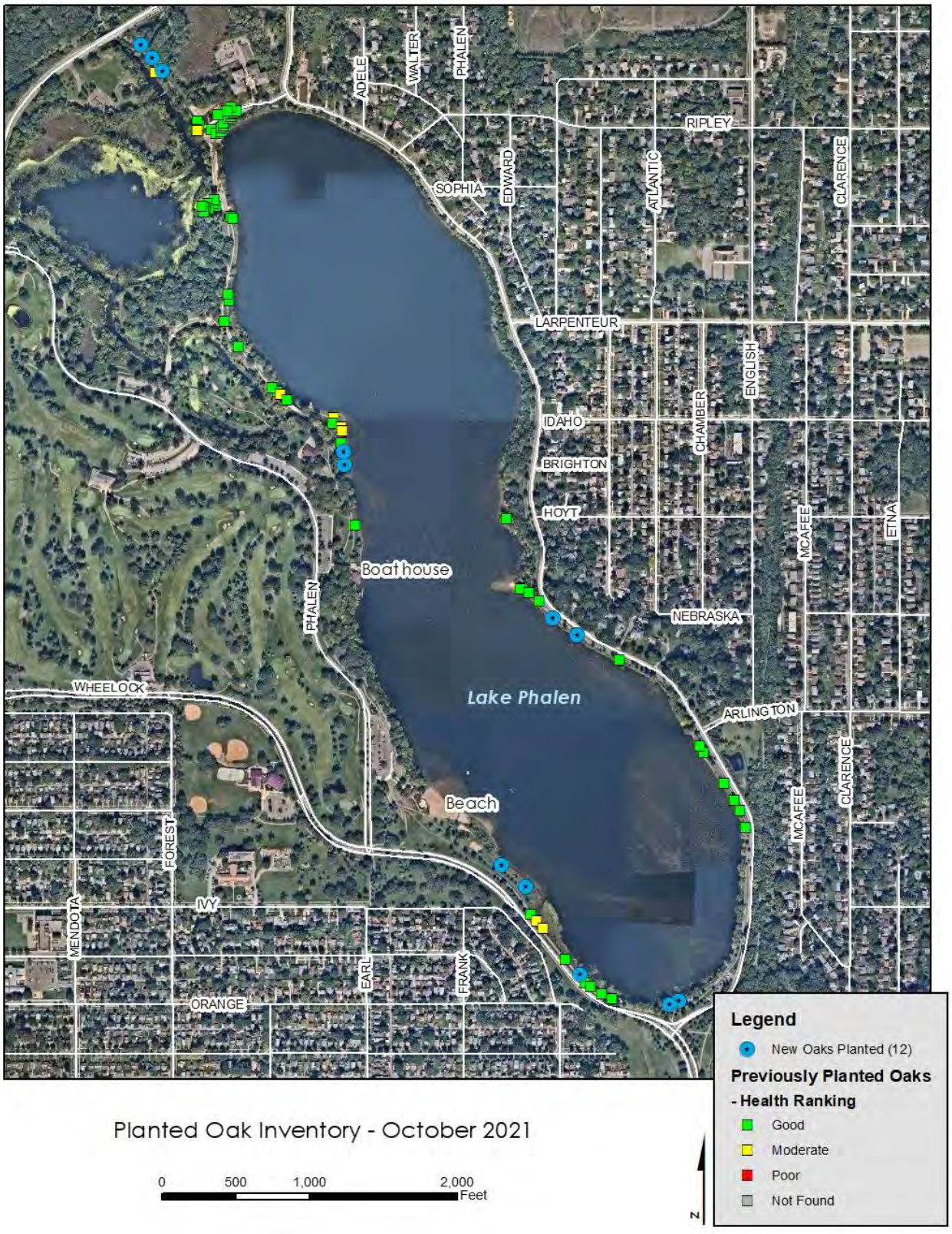
Bill Bartodziej and Simba Blood

Lake Phalen Shoreland Buffer – oak planting and foot traffic repair

Over the years, as a component of the ecological restoration, we have had the opportunity to introduce bur oaks in prairie shoreland areas devoid of trees. This ongoing oak establishment effort is in partnership with St. Paul Parks.

In late summer, we conducted an inventory of the young oaks and ranked the overall health of each tree. This year, even with the severe drought conditions, trees that were planted 1 to 5 years ago, were generally in good shape. We only had one tree that did not make it through the summer. We were really thrilled with the results of this inventory. This fall, St. Paul secured 12 oaks (5' to 7' tall), and we worked together with their staff to identify prime planting locations around the lake (see map below). All of the trees were installed two weeks ago, and city staff are watering the trees up until we experience heavy freeze conditions. The trees should be in great condition going into next spring.

This healthy oak was installed near the new outlet control structure.


ADELE
WALTER
PHALEN
RIPLEY
SOPHIA
EDWARD
ATLANTIC
CLARENCE
LARPENTEUR
ENGLISH
CHAMBER
IDAHO
BRIGHTON
HOYT
MCAFEE
ETNA
Boathouse
PHALEN
NEBRASKA
WHEELOCK
Lake Phalen
ARLINGTON
Beach
FOREST
MENDOTA
IVY
EARL
FRANK
ORANGE
Legend
New Oaks Planted (12)
Previously Planted Oaks
- Health Ranking
Good
Moderate
Poor
Not Found
Planted Oak Inventory - October 2021
0
500
1,000
2,000
Feet
N

For more information on oaks, Dr. Doug Tallamy, University of Delaware, recently presented a talk titled: “The Nature of Oaks: The Rich Ecology of our Most Essential Native Trees.” This is a really nice summary of oaks and ecosystem function. He also touches on the importance of oaks to our watersheds. Here is the link: https://www.youtube.com/watch?v=8YxehIqY-t0

One of the main stressors to the buffer restoration is foot traffic that takes place from the paved pathway to the shore. Most of this activity is from shore fishermen. This kind of impact is inevitable when you have a quality fishing resource that is located in a very popular urban park. On occasion, we have these informal pathways experience erosion and begin to impact the integrity of the shore slope. This fall we repaired a couple of these eroded areas with fill soil, prairie seed, erosion control blanket, and plant plugs. They will be signed and fenced off for two growing seasons in order for the slope to become fully revegetated.

A short grass prairie seed mix was spread on the slope and then covered with a degradable erosion control blanket. Plant plugs were then planted through the blanket.

The kayakers gave us a solid “thumbs up” after inspecting the shoreland repair.

Public Involvement and Education Program-Sage Passi

Lights….Camera….Action!!! October Signals a Busy Year Ahead

Mounds Park Academy tenth graders tackle burdock in their wetland buffer on campus.

L'Etoile du Nord 5th graders plant natives at East Side Boys and Girls Club demo garden.

East Side Boys and Girls Club youth prepare hillside garden area for contractor's work.

Hazel Park Academy science teacher explores flood prevention work near his school campus.

RWMWD Education staff have been working to rebuild relationships with schools this fall after a year and a half of interruption due to Covid. Last spring we were able to interface with youth in our watershed education program with several schools including L'Etoile du Nord in St. Paul, Central Park Elementary in Roseville, and Weaver Elementary Schools in Maplewood doing seed starting, transplanting, rain garden clean-up, a trash clean-up and a scavenger hunt at Ames Lake. Those relationships are continuing. We have engaged with two L'Etoile du Nord fifth grade classes this fall who helped plant the large-scale native garden at the East Side Boys and Girls Club. They also engaged in research about the large diversity of plants that are being added to this once turf-dominated site. We resumed engagement with Mounds Park Academy science teacher Mitch Thomsen's 10th grade science classes in Maplewood on October 26 to support the work of removing burdock in their buffer. We also have plans to eliminate Siberian elm in their prairie restoration and rain garden basin buffers with classes at the school the first week in November. Paige Ahlborg was invited to meet with Mitch, Sage and Cathy Troendle to discuss the possibility of removing parking spots adjacent to the wetland buffer to make space for a rain garden to cut down on sediment that is filling in the pond that the schools uses intensively for nature studies. This wetland drains to impaired Wakefield Lake.

We scheduled a field trip for L'Etoile du Nord fifth graders to Ames Lake to do water quality monitoring at the wetland, engage in a habitat diversity activity and a lesson about oak trees on October 27 but have rescheduled it for the first week in November due to rain. Preliminary plans are in the works for a leaf removal project/water quality service learning project in city streets/a nearby neighborhood by Central Park's 6th graders in early November. We are working to recruit multiple classes for the upcoming shoreline restoration project at Lake Owasso. Education staff met several new teachers at Farnsworth Aerospace and discussed plans for future collaborations. These teachers indicated an interest in participating in the spring shoreline restoration project at Lake Owasso and other activities still to be planned.

Left: John Weimholdt explores the cattail marsh near his school.

Right: This Mounds Park Academy wetland that drains to Wakefield Lake supports a large diversity of wildlife.

This fall Sage connected with the ESL Science teacher at Hazel Park Academy, John Weimholt and the Avid teachers from his school and from Farnsworth Aerospace upper campus to discuss future collaborations. Sage and John did a hike on the school's campus and nearby neighborhood to explore a wetland complex, an ephemeral wetland behind the school and other study areas that John uses periodically with his science classes. Sage also met with Avid team teachers whose students were participating in a field day at Lake Phalen sponsored by Wilderness Inquiry.

Below left: Avid teams learn canoeing skills at Lake Phalen with Wilderness Inquiry.

Below Right: Paige Alborg discusses possible pavement removal at Mounds Park Academy next to their wetland and potential installation of a rain garden to reduce sediment run-off into the pond.

Adopt-A-Drain Sign Distribution By Water Stewards/Volunteers Begins

It's our second year of connecting with our new adopters to bring them yard signs that recognize their stewardship and identify which subwatershed (body of water) they are protecting by cleaning one or

more storm drains and reporting their efforts to Watershed Partners. Below is the tally of new adopters since our Watershed District began to distribute signs to cities/neighborhoods last fall in addition to those that we contract with Hamline University students to deliver in St. Paul. To date the number of adopters since late fall last year outside of St. Paul include Gervais Creek (2), Lake Wabasso (1), Lake Owasso (12), Snail Lake (6), Grass Lake (6), Kohlman Creek (9), Willow Creek (4), Tanners Lake (4), Carver Lake (1), Battle Creek (5), Sucker/Vadnais Lake (1), Lake Emily (2), Bennett Lake (1), Wakefield Lake (2) and Beaver Lake in cities other than St. Paul (5). The tally for new St. Paul adopters who receive signs from Hamline has yet to be tabulated by our watershed. I ran out of time to data crunch this for this report!

Preparations Begin for Our Watershed Recognition Event on November 18

We have been working with our Communication Coordinator to record video intros for our Watershed Excellence Award winners for 2021, collaborating with staff to compile our invitation lists for this annual event (last held in 2019) that involves recognizing teachers and youth volunteers, Water Stewards, Master Gardeners, volunteers, CAC members, LEAP team and LEAP award winners, artists, interns, community partners, city and county staff, consultants, WaterFest sponsors and volunteers, and award winners who we want to recognize for their contributions in 2021. It's a huge undertaking but a rewarding one because it helps us remember that it takes a village and reminds us to feel gratitude for our community of support. Thank you to everyone for making 2021 a year to remember! We look forward to seeing you at our virtual event on November 18.

Here are a couple photos taken as we were meeting with several of our Watershed Excellence Award winners onsite at several locations this past week. It was refreshing to connect in person on a beautiful fall day, reminiscence and acknowledge their many accomplishments. We look forward to honoring everyone's contributions and gifts they bring to our Watershed and our shared community efforts.

Communications Report – Lauren Hazenson

Website Redesign

The following tasks and meetings were completed this month:

- End-user interviews completed 10/12
- Key Insights: completed 10/25
    - This document covers the key findings of research conducted by St. Paul Media, including an overall summary of feedback from stakeholder meetings, end-user interviews, and the analytics review. It also contains executive recommendations from the web team on changes to make to the website.
- Project Scoping: completed 10/21
    - This document contains the requirements for the website. This document helps the project stay on budget and the website delivered on time.
- User Personas: to be completed 10/28
    - User personas are an easy, accessible way to outline the primary audience groups for a website and what they plan to accomplish using the site. We will use the user personas to ensure the website is designed to suit our primary audiences.

The key findings and user personas will be presented to the Board by Lauren Hazenson and St. Paul Media at the November Board meeting.

Planned November tasks:

- Information Architecture (IA)
    - IA focuses on organizing website content, which includes beginning to form the basic website structure. Four information architecture meetings are planned for next month.
- Writing for the Web Workshop, November 30
    - This workshop, led by St. Paul Media, will train key staff on how to write content for public-facing posts and pages

Recognition Awards Planning

In October, Communications took on the project management role for the awards planning team, which includes creating our event planning calendar, event agenda, staff roles, planning the event "dress rehearsal", and keeping the team on schedule. Since the decision was made to move the event to Zoom, I also began filming introduction videos for each Watershed Excellence Award winner. Other tasks completed for the event have included the event invites, registration, and post-event surveys.

Publications/ Original Content

Videos

Boys and Girls Club Project Filming

Filming began on the Boys and Girls Club project video, which will track the planting, sculpture design and installation, and celebration. I interviewed several volunteers and Eastside Boys and Girls Club Director Koreena Moua this month in addition to filming a school volunteer planting day.

Wetland A Project Video Reshoots

Quality concerns with our mic system led to a need to reshoot several staff interviews, which were completed this month. The video is still planned to be published in November.

Minnesota Water Steward Promo Video

At the request of Education Specialist Sage Passi, I filmed Minnesota Water Steward couple, Rachel and Bill, at their home this month. A volunteer promotional video will be sent out via Facebook and other social media ads to boost the water steward recruitment effort this fall.

Stewardship Grant Site Signage

The final designs for the signage were completed this month and will be sent to our city and county partners for review before fabrication.

Enewsletter

October 8
1,416 recipients
Open rate: 33.4%
Article link clicks: 5.1%

Social Media (Facebook, Twitter, Instagram)
Numbers as of October 26:
Audience: 2,704
Impressions/Post Views: 4,167
Engagement (likes, comments, shares): 273
Nextdoor
Minnesota Water Steward promotion, posted October 12

- The entire district, 2,208 impressions

Keller Parkway Update, posted October 18

- Five neighborhoods, 228 impressions

Resident Communications/Professional Development/Misc.

- North St. Paul resident communications assistance
- Water Resources Conference, October 19 and 20
- Minnesota Association of Government Communicators Conference, October 20
- BWSR Academy, October 26, 27, 28
- CAC meeting presentation, October 26

Citizen Advisory Committee Update – Carrie Magnuson

The Citizen Advisory Commission met on October 26th, 2021 at 6:30 pm via Zoom. In attendance were 14 CAC members, Board of Managers liaison, Cliff Aichinger, and 4 staff members. The following initiatives were discussed and further developed

1. RWMWD Staff, Simba Blood, gave a presentation on **Natives vs Cultivars**. CAC members had indicated that this was a topic of interest, particularly as it applies to their community service work with rain gardens, District events, assisting on restoration projects, and for use in conversations with their neighbors. Simba's presentation focused on the ecological benefits of native plants, including for pollinators, habitat, and water quality. She presented research on how birds and insects utilize the different plants, and gave recommendations on how to purchase native plants and avoid those that have been highly modified.

2. **Carp Fishing Contest Pilot** organizer, Lauren Hazenson, gave the group a summary of the two events that happened over the summer on Gervais and Owasso Lakes. The CAC helped brainstorm logistics, promotional opportunities and how the group could be useful for planning next year's event.

3. RWMWD Communications Coordinator, Lauren Hazenson, reviewed the status of the **Lake Phalen Chain of Lakes Video Series Project**. This project built on the static Phalen Chain of Lakes Water Trail map developed by the CAC. The primary goals that Lauren and the CAC established were communicated in an earlier update to the Board. Lauren indicated the next step would be to diversify the communications strategy towards promoting the Phalen Chain of Lakes Water Trail. Focus moving forward will be around distribution of the existing printed map, developing strategic social media posts, using WaterFest as a promotional event, and creating compelling temporary signage.

4. The **Casey Lake Rain Garden Cleanup Project** took place in the fall of 2020 and again this year on October 19th. Seven CAC members and staff member Simba Blood came together for this community service/habitat/water quality work. Two large gardens on Mohawk Drive, owned by residents who are not physically able to manage the rain gardens, had a large number of common weeds removed. Sediment was removed from 7 gardens from this same project. Thirty-two 5-gallon buckets of sediment and a truckload of weeds/brush were removed. Some flowers were added to the Mohawk Drive rain gardens after weeds were removed to ensure the gardens continue to thrive.

5. **Work Plan:** Each year, the CAC uses their time and expertise to assist several projects that help advance RWMWD projects and programs. The group, including 7 new members, discussed continuing the following efforts and discussed logistics:
    a. Assist in planning and hosting WaterFest – Carrie & Lauren – *Completed 6/27/21*
    b. CAC/LEAP Team Planting at Wetland A – Bill – *Completed on 8/17/21.*
    c. Casey Lake Rain Garden Cleanup Project – Simba – *Completed on 10/18/21*
    d. LEAP Program nominations and subcommittee - Mark & Dana – *Completed on 9/28/21*
    e. Watershed Excellence Awards & Volunteer Recognition Dinner planning – *In progress*
    f. CAC Work Plan and training opportunities – Dana & Carrie – *Planned for 12/7/21*

More details on these discussions will be available on the CAC website when meeting minutes are approved. Future meetings – Zoom or In-Person: December 7th