

February 2024 Board Packet

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Agenda

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Regular Board Meeting Agenda

Wednesday, February 7, 2024

6:30 PM

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

- 1. Call to Order 6:30 PM
- 2. Approval of Agenda (pg. 3)
- 3. Recognition of Outgoing Board Member Dr. Pam Skinner (pg. 7)
 - A. Presentation by Washington County Commissioner Stan Karwoski
- 4. Consent Agenda: To all be approved with one motion unless removed from consent agenda for discussion.
 - A. Approval of Regular Meeting Minutes January 3, 2024 (pg. 9)
 - B. Treasurer's Report and Bill List (pg. 19)
 - C. Permit Program
 - i. 24-08 Target Woodbury Stormwater Retrofit, Woodbury (pg. 36)
 - ii. 24-09 MnDOT Testing Lab Addition, Maplewood (pg. 40)
 - iii. 24-10 St. Paul Samuel H. Morgan Trail Reconstruction, St. Paul (pg. 44)
 - D. Change Order No. 4 Arbogast Underground Stormwater Filter (pg. 47)
 - E. District Liability Insurance Coverage Waiver (pg. 52)
- 5. Visitor Comments (limited to 4 minutes each)
- 6. Permit Program
 - A. Applications See consent agenda.
 - B. Enforcement Action Report (pg. 55)
- 7. Stewardship Grant Program
 - A. Applications NONE
 - B. Budget Status Update (pg. 62)
- 8. Action Items
 - A. Roosevelt Homes Phase 2 Advertise for Bid (pg. 64)
 - B. Woodbury Target Advertise for Bid (pg. 79)
- 9. Attorney Report
- 10. Board Discussion Topics
- 11. New Reports and/or Presentations
 - A. Kohlman Creek Flood Risk Reduction Feasibility Study Presentation (pg. 117)
 - B. Watershed Approach to Retrofit Projects (WARP) Scope Summary (pg. 132)
- 12. Administrator's Report (pg. 137)
 - A. Meetings Attended
 - B. Upcoming Meetings and Dates
 - C. Board Action Log and Updates

Quality Water for Quality Life.

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- D. Minnesota Watersheds Updates
- E. Staffing Update
- F. Annual Meeting Reminder
- 13. Project and Program Status Reports (pg. 142)
 - **Project Feasibility Studies**
 - A. Kohlman Creek Flood Risk Feasibility Study
 - B. Improvements to Phalen Village
 - C. Ames Lake Area Flood Risk Reduction Planning Study
 - D. Resiliency Study for non-Beltline Tributary Areas
 - E. Owasso Basin/North Star Estates Improvements
 - F. Street Sweeping
 - G. Retrofit Inventory

Research Projects

- H. Kohlman Lake Aquatic Plant Management Effects Study
- I. Shallow Lake Aeration Study

Capital Improvements

- J. Woodbury Target Store Stormwater Retrofit Project
- K. Roosevelt Homes
- L. Targeted Retrofit Projects 2024
- M. Stewardship Grant Program
- N. Arbogast Stormwater Filtration BMP
- O. Pioneer Park Stormwater Reuse
- P. Fish Creek Tributary Improvements
- Q. Cottage Place Wetland Regeneration
- R. County Road C Culvert Project
- CIP Project Repair and Maintenance
 - S. 2024 CIP Maintenance and Repairs Projects
 - T. Beltline Mississippi Branch Outfall Replacement Project
- Program Updates
 - U. Natural Resources Program
 - V. Public Involvement and Education Program
 - W. Communications and Outreach Program
- 14. Manager Comments and Next Month's Meeting
- 15. Adjourn



NOTICE OF BOARD MEETING Wednesday, February 7, 2024 6:30 PM

Hybrid Meeting: In-Person and Web Conference

This month's meeting will be held at the District office (2665 Noel Drive, Little Canada, MN) AND via the video conferencing platform Zoom. Board members, staff, consultants, and general public will be able to join in person or via Zoom. The public will be able to listen to meeting but not participate with the exception of the visitor comments portion of the agenda. Visitor comment may be given in person or via Zoom. Instructions for joining in on the Zoom meeting can be found below.

To access the meeting via webcast, please use this link: <u>https://us02web.zoom.us/j/87217896680?pwd=OUx3bUwrUDVqZmQxMEtqd2VDM1F2UT09</u>

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 **872 1789 6680**. The meeting password is **012371**. If you have any questions, please contact Tina Carstens at <u>tina.carstens@rwmwd.org</u>.

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Outgoing Board Memeber ********

Certificate of Appreciation

Presented to

Dr. Pam Skinner

in recognition and grateful appreciation for **30 years** of dedication, leadership, and service to the Ramsey-Washington Metro Watershed District.



February 7, 2024

Val Eisele, President

Tina Carstens, Administrator

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Consent Agenda

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Ramsey-Washington Metro Watershed District Minutes of Regular Board Meeting January 3, 2024

The Regular Meeting of January 3, 2024, was held at the District Office Board Room, 2665 Noel Drive, Little Canada, Minnesota, and via Zoom web conferencing at 6:30 p.m. A video recording of the meeting can be found at https://youtu.be/FAVI8abRHR4. Video time stamps included after each agenda item in minutes.

PRESENT:

Val Eisele, President Matt Kramer, Treasurer Ben Karp, Secretary Mark Gernes, Manager

ALSO PRESENT:

Tina Carstens, District Administrator Nicole Maras, Permit Coordinator Tracey Galowitz, Attorney for District Dave Vlasin, Watershed Project Coordinator Mary Fitzgerald, District Inspector Brad Lindeman, Barr Engineering ABSENT: Dr. Pam Skinner, Vice President

Paige Ahlborg, Project Manager Kristin Seaman, City of Woodbury Eric Lund, Barr Engineering Lyndsey Flaten, Water Monitoring Technician Pat Williamson, Natural resources Specialist

1. CALL TO ORDER

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

2. APPROVAL OF AGENDA (01:05)

<u>Motion</u>: Manager Kramer moved, Manager Gernes seconded, to approve the agenda as presented. Motion carried unanimously.

3. CONSENT AGENDA (01:20)

- A. <u>Approval of Minutes from December 13, 2023</u>
- B. <u>Treasurer's Report and Bill List</u>

C. <u>Permit Program</u>

- i. 24-01 Pioneer Park Stormwater Reuse, Little Canada
- ii. 24-02 Mister Car Wash, Maplewood
- iii. 24-04 Reuter Walton Rice-Demont Apartments, Little Canada
- iv. 24-06 Marly's Center for Early Education, Oakdale

Manager Gernes asked for more information on what type of wetland is involved in permit 24-01 Pioneer Park Stormwater Reuse and how the water fluctuations would affect that wetland.

Nicole Mara stated that she could look into the delineation report to get the exact type of wetland but thought it was a type 3 shallow marsh based on what she saw during her visit to the site. Nicole confirmed that the foot of bounce was approved by BWSR.

Manager Gernes asked if the wetland type could be added to permit applications in the future.

Nicole Maras stated that she could work on adding that information moving forward.

Motion: Manager Gernes moved, Manager Kramer seconded, to approve the consent agenda as presented. Motion carried unanimously.

4. VISITOR COMMENTS (4:41)

No comments.

5. PERMIT PROGRAM (5:19)

A. Applications

Permit #24-03 Woodbury Bielenberg-Currell SIP, Woodbury

Nicole Maras stated that this permit was not included on the consent agenda due to the variance request for a wetland buffer disturbance. Nicole provided information on why this variance request is included and stated that staff are recommending approval.

Manager Gernes asked if there were any stormwater collection points along the sloped trail that would discharge into the wetland.

Nicole Maras stated that there is not a collection point in this location but there is a filtration basin that's proposed to treat impervious area from the street and sidewalk. Nicole stated there is no space to add an additional basin without further disturbing the wetland buffer and that is why it was proposed to slope the sidewalk towards the vegetative buffer on the west side.

President Eisele stated that he appreciated the effort to slope the trail towards the road and that they did their best within the constraints of the location.

Nicole Maras stated that the rules prohibit a direct discharge of impervious without treatment and that is part of the reason for this solution.

President Eisele questioned if the road floods during heavy rain.

Kristen Seaman stated that she was not aware of any flooding of the road and confirmed the existence of an additional stormwater pond in the area. Kristen described the flow of water through the filtration basin into the stormwater pond. Kristen stated that there is plenty of storage and bounce capacity before water goes to the wetland.

<u>Motion:</u> Manger Kramer moved, Manager Gernes seconded to approve permit #24-03 with special provisions and variance. Motion carried unanimously.

Permit #24-05 3M Granada Soil Remediation, Oakdale

Nicole Maras provided information on the proposed permit and stated that it was not included in the consent agenda due to the request for variance for wetland and buffer disturbance. Nicole stated that this project involves cleaning

contaminated soil from a wetland so avoidance is not feasible. Nicole stated that there was a small wetland not included on the map due to that wetland being deemed incidental. Nicole provided more information on the overall plan.

Manager Karp asked for more information on the replacement of wetland soils and if the method being used is a general best practice and questioned if compost materials were looked at.

Eric Lund stated that wetland ecologists were included on the design of what needed to be done to provide stability in the location as well as providing growth medium for vegetation establishment. Eric gave more information on the how the soils will be used to promote vegetation growth.

Manager Gernes asked for more information on precautions or actions that will be taken during the completion of the work during the winter. Manager Gernes questioned if grading will be difficult with frozen soil.

Eric Lund stated that winter construction was chosen to minimize the amount of liquid present during excavation and detailed how it helps keep nuisance conditions from spreading to nearby neighborhoods. Eric stated that restoring the grade will be challenging. Eric provided information on steps taken to mitigate problems with frozen soil.

Nicole Maras stated that it is standard practice to do wetland and pond cleanouts during the winter to minimizes the disturbance to existing vegetation. Nicole stated that this site will be inspected throughout construction and stated that any concerns about the prepping of the site would be addressed prior to seeding.

Manager Gernes asked if the seeding would happen in non-frozen conditions and asked if at that time adjustments could be made to any grading issues.

Eric Lund stated that it would be possible to fix and grading issues at that time and that maintenance and repairs would be made until permit conditions are met.

Nicole Maras stated that an escrow will be collected and that the permit would not be closed if the site is in a substandard condition.

President Eisele questioned if the permit and temporary buffer disturbance were only for the north part of the wetland. President Eisele asked if more contamination is found during the project if the permit could be expanded to other parts of the wetland.

Eric Lund stated the contaminated areas were chosen through multiple lines of evidence. Eric stated that the clean up plan is to remove as much as possible and stepping out if needed. The design was made to include all areas of suspected contamination but there is the possibility of needing to extend the area covered in the permit.

<u>Motion</u>: Manager Karp moved, Manager Gernes seconded, to approve permit #24-05 with special provisions and variance request.

B. Monthly Enforcement Report

During November, 10 notices were sent to address: install/maintain inlet protection (2), contain liquid/solid wastes (2), install/maintain construction entrance (1), stabilize exposed soils (1), sweep streets (2), repair erosion (1), remove discharged sediment (1), improve dewatering methods (1), and maintain temporary sediment basin (1).

Nicole Maras gave an overview of the enforcement report and an overview of the permitting work completed in 2023. Nicole also provided insight into the 2023 internship.

C. 2023 Permit Program Summary

Nicole Maras provided information on what is provided in the 2023 permit program summary report. Nicole gave insight into the trends she observed based on the information in the report.

Manager Gernes stated that he noticed the number of violations were higher in 2023 than in previous years. Manager Gernes asked for more information on what may have caused this increase.

Nicole Maras stated that it seemed that there were more violations due to site maintenance not being completed but the sites were not considered non-compliant. Nicole stated that the lack of maintenance may be due to complacency with the lack of rain.

Mary Fitzgerald explained the strategy she uses when giving violations and how that has changed from previous years. Mary continued to explain that she also noticed complacency with not completing mundane action items. Mary stated that these violations were not enough to issue non-compliance and that the violations were issued to disrupt the complacency seen at the sites during periods without rain. Mary stated that the violations were not causing problems due to the lack of rain but wanted to make sure that if rain were to occur that there would not be off site impacts.

Manager Gernes stated that he saw a common issue was installing and maintaining perimeter control. Manager Gernes questioned if this was something that was more frequent in 2023 or if there are other specific violations that were up.

Nicole Maras stated that perimeter control and inlet protection are the most frequent violations due to the maintenance needed. Nicole reiterated that these things were not being done in a timely manner in 2023. Nicole stated the fifth most common violation a lack of onsite inspections, which is considered an admin task related to maintenance. Nicole stated that the site contractors are required to inspect their own sites weekly. Nicole continued to explain that when the same maintenance issues are seen over multiple permit inspections contractor inspection logs are requested to see why things are getting missed. Nicole stated this is a change from previous years.

Mary Fitzgerald reiterated that perimeter control is one of the most frequently seen violations. Mary stated that this could be due to the length of materials needing to be maintained. Mary explained some of the issues she has seen frequently when it comes to perimeter control, including silt fence slouching or biologs that are missing or needing replacement. Mary reiterated that the issues are not extreme and are due to a lack of maintenance.

President Eisele questioned if the lack of self-inspection can be attributed to a dry season and if there is a way to stress the importance of self-regulation in the future.

Nicole Maras stated that it is required by that state so it is not just a good faith effort. Nicole stated that they do not always have access to the personnel needed and tend to look more closely once repeat items are getting missed. Nicole provided information on how the self-inspection reports may differ from what is being seen on site. Nicole explained that the self-inspections need to be done by trained personnel. Nicole stated that the lack of maintenance observed caused an increase in requesting self-inspection reports which lead to finding deficiencies.

President Eisele asked if there are plans for permitting internships in the future.

Mary Fitzgerald stated there are plans for another BMP intern in 2024. Mary stated that there may be an opportunity for future interns to help with construction stormwater inspections to give the interns additional experience. Mary explained that this is being added based on feedback from the 2023 intern.

Nicole Maras stated that there will be some large complex projects in the upcoming year that will take a considerable amount of time to inspect, follow up, and report writing. Nicole explained that some of the smaller less difficult sites would be a good start for interns to inspect.

President Eisele expressed strong support of the internships.

6. STEWARDSHIP GRANT PROGRAM (34:21)

A. Applications

24-01 CS Woodbury Central Park Heated Sidewalks

Paige Ahlborg provided information on the proposed project and how it came to be. Paige stated that the permit was approved last month. Paige reviewed some of the questions that had been asked previously by the Board and reviewed the answers that were given by the City of Woodbury. Paige explained that the city is familiar with these systems, the operation and maintenance needs as they have used them in other locations. Paige explained the proposed cost of the project and that this is in a priority area so it is eligible for 100% coverage up to \$100,000 and added that the city would also be seeing a considerable cost for this project.

Kristen Seaman provided additional information on the city's use of this type of system at the city hall and how that has grown to expand to other areas. Kristen stated that the initial system is getting older but has been working well. Kristen explained that there were issues that were noticed that pushed them to expand the systems. Kristen stated that she appreciates the consideration and that she believes it is a good system for long term chloride reduction. Kristen explained that with the volume of traffic at this location it will also help to educate the public on smart salt use and alternative options available.

Manager Kramer stated that although he will vote yes, he will do so reluctantly. Manager Kramer stated that his reluctancy comes from the lack of metrics demonstrating return on investment for taxpayer dollars. Manager Kramer continued to explain that he strongly believes that larger investments should provide a measurable chloride reduction. Manager Kramer stated that he understands that this information is not available yet but, in the future, he would like information that quantifies return on investment. Manager Kramer suggested there should be a before and after to show the level of chloride reduction.

Tina Carstens stated that a way of measuring would be to get estimates from the city on what how much salt they've used in the past and by how much this will be reduced with the new system installed. Tina went on to state the impact on the lake will be incremental due to this being one parcel in a large subwatershed. Tina explained that it is a start and can be expanded to other areas. Tina explained that there are some measures of reduction in use based on smart salting trainings and explained what information cities use to estimate their reduced chloride use. Tina stated that this information could be found in the cities MS4 reporting for chloride use and a reduction would be seen there based on the changes. Tina continued to explain that the actual impact on the lake would not be measured through a monitoring program.

President Eisele agreed that he also would like to make sure there is a return on investment. President Eisele stated that he has seen claims of benefit from this type of system in other cities where it is in use and would be voting yes due to the benefits stated by those cities. President Eisele stated that he is also concerned about the return on investment from a watershed standpoint. President Eisele asked if a monitoring strategy would come forward as part of this project or if it is something that is in the works.

Tina Carstens explained there is not a monitoring strategy from a water quality monitoring standpoint but stated that a chloride reduction could be seen through the city's reporting.

Kristen Seaman stated that a program to measure the reduction is not currently developed but she likes the idea of having a way to know what the reduction is. Kristen stated that she can not speak to the specifics of the implementation of a monitoring program would look like without having more information. Kristen stated they would have to work through what that would look like with comparing milder winters with more severe winters.

President Eisele stated that the stewardship grant is improving impaired waters but there are a lot of secondary benefits which he is comfortable with but still questions the outcome. President Eisele stated that if this type of sidewalk

treatment has a good effect then a different conversation should be had in regards to funding allocation but at this time he remains skeptical.

Kristen Seaman explained that she appreciates the responses. Kristen explained that the public works department of Woodbury has been working to reduce their salt use and implement new techniques and technologies learned through training. Kristen stated that she believes that this is valuable to fund and build partnerships around, similar to what has been done with street sweeping and other successful BMP projects.

Manager Gernes questioned the phrasing in the overview that stated the design takes melt run off into account. Manager Gernes expressed concern that the melt run off could cause issues in other areas.

Kristen Seaman explained that with their previous experience at the city hall where melting was taking place the run off slip hazard moved and refroze which caused issues. Kristen stated when looking at this project they looked into where the melting run off will refreeze and that was taken into consideration when planning.

Manager Gernes wanted confirmation that they expanding the extent of the heating element instead of adding a slope or directing the water to a catch in non-tread area.

Kristen Seaman explained that the parking lots are a replacement project and not reconstruction so the grade will not be changed and there is not enough space to add catch basin and doing so would expand the scope of the project. Kristen stated that the eastern side of the lot will have reconstruction which will add geothermal and underground filtration basin as well as pervious pavers. Kristen reiterated that this project will help with chloride and improve safety.

Manager Karp stated that he agrees that we have to start somewhere and that he would like staff to look into how these projects are looked at in the future. Manager Karp proposed a phasing plan to take a site to a low or no salt facility as infrastructure is updated.

Tina Carstens agreed that it would be useful to look holistically at the entire site and that implementing different phases as improvements are made.

President Eisele stated that he appreciates the effort to implement multiple techniques to reduce chloride and gathering data to see the reduction happening from the combined efforts.

Tina Carstens stated that data can be pulled from MS4 reporting and seasonal reporting can also be looked into to see the impact of the projects have on salt use reduction.

<u>Motion:</u> Manager Gernes moved, Manager Kramer seconded, to grant approve application 24-01 CS. Motion carried unanimously.

B. <u>Budget Status Update</u>

Paige Ahlborg gave an overview of the budget status.

7. ACTION ITEMS (53:47) - None

8. ATTORNEY REPORT (53:55)

Tracy Galowitz reviewed items being worked on including reviewing contractor documents, reviewing an agreement for Arlington Pond, and reviewing Fitzgerald Excavating CIP documents. Tracy stated that there is a more serious concern with the Halo development permit. Tracy stated that the concern is that the person the permit was granted to is not the one performing the work. Tracy explained that she will be sending the documents for a transfer of the permit and that if they do not respond a cease and desist could be brought to the board next month.

President Eisele asked if the communication had been sent recently.

Tracy Galowitz stated that this has been ongoing since early November. Tracey stated that there has been minimal communication with the contractor and she has had trouble getting documents signed by the person taking over. Tracy stated that she feels they are not being transparent and that is why she is considering escalating the situation.

Nicole Maras provided some additional background on the situation and how it relates to the permit.

President Eisele requested clarification on who the contractor is and the information he has seen in regards to other issues that the contractor has been reported to have.

Tracey stated she would not be able to comment on that as she didn't have that information.

Manager Karp asked if there are additional activities taking place that were not permitted.

Nicole Maras stated that the project has not changed but confirmed that since this is a residential development with multiple lots there could be additional builders on the site. Nicole stated the District would need to be able to enforce erosion and sediment control and the builders would need separate permits if the developer did not want to take the responsibility for the builder's work. Nicole stated that since only the developer is listed on the permit getting responses on the enforcement reports has been difficult. Nicole stated that there is more clarification needed from the developer for who is responsible for different aspects of the project and the remaining work that needs to be done.

President Eisele asked what would prevent a cease and desist order right away instead of waiting until the beginning of February.

Tracey Galowitz stated that the February date is given due to the cost of litigation, making sure the Board is comfortable with the enforcement as well as giving the developer a last opportunity to provide transparency and sign the documents. Tracey explains the cease and desist does have tight timelines and once the process is started it is hard to turn back.

President Eisele agreed with using diplomacy but given the issues a cease and desist may need to be done.

Tina Carstens stated that the violations have been mostly minor maintenance issues.

Mary Fitzgerald confirmed that the mass grading is completed and the site has been stabilized and that the noncompliance comes from lack of inspection records, lack of having a certified inspector on site as well as minor maintenance issues. Mary stated that the site is well contained and that the future filtration basin is also being used as a temporary filtration basin so any runoff is going directly to that.

Tracey Galowitz stated that if something does go wrong immediate action will be needed and she will keep pursuing the cease and desist so that the District can be aggressive if needed.

Tina Carstens stated that with Spring around the corner the District does not want to be stuck in a position where larger issues arise.

President Eisele agreed that this is the right course of action.

9. BOARD DISCUSION TOPICS (1:03:19)

Lake Shoreline Conditions

President Eisele gave an overview of a paper written in July 2023 that was discussed at the Minnesota Watershed conference. President Eisele explained the paper was written about the correlation of shoreline health and water

quality. President Eisele wanted to discuss potential directives to give to staff in regards to the information learned from this paper.

Manager Gernes agreed that looking into the condition of the shoreline would be worth considering.

President Eisele discussed how this could be incorporated into the upcoming watershed management plan update.

Tina Carstens explained that shoreline assessments have been done and that this information can be put together so that the board can see what the current state of the shorelines within the District.

Manager Karp agreed that this would be good information to see and discussed how having an urban area may impact the amount of water running through shorelines versus stormwater conveyance systems.

Tina Carstens stated that the District would look into quantifying how shoreline restoration contributes to a healthy ecosystem.

The board submitted a formal request for staff to gather more information.

Tina Carstens stated that staff will work on getting this information together to share with the board.

Manager Gernes discussed the opportunities to look into pervious surfaces for parking lots as well as reducing parking spaces for new projects. Manager Gernes stated that funds have been used for retrofit projects to update parking lots and questioned if it would be worthwhile to find new ways to implement these options.

Tina Carstens stated that both are looked at through the targeted retrofit program as well as the stewardship grant program. Tina continued to explain that impervious surface reduction has always been a component of those programs.

Paige Ahlborg agreed that the District is always trying to promote a decrease in impervious surfaces. Paige Highlighted prior projects where this work has been done.

Nicole Maras stated that incentivizing impervious surface reduction has been something discussed in regards to permitting and that it could be something that is looked into with future rule changes.

Manager Gernes reiterated that he is thinking this should be something looked into as new construction is happening.

Tina Carstens stated that a lot of the projects the District works on are improvements or renovations of existing development. Tina agreed that in the cases of new development this would be a good strategy to look into.

Manager Karp asked to have more information provided on how the District could provide incentives and how that would work with city codes.

The board requested to have information presented on reducing parking spaces and impervious surfaces and how it can be implemented in future projects and how incentives can be applied.

Tina Carstens confirmed that data could be complied for the Board to discuss.

10. NEW REPORTS AND/OR PRESENTATIONS (1:19:48)

A. Approach to Cost Estimating on RWMWD Projects

Brad Lindeman gave an overview of the process that is used when estimating the cost of District projects.

President Eisele questioned if there could be opportunities lost by over estimating and how that relates to the budget planning.

Brad Lindaman stated that he did not believe that the current process causes any limitations.

Tina Carstens confirmed that the current budgeting process has been able to cover all of the programs effectively. Tina continued to give more detail on how the cost estimates are used in budgeting. Tina explained that the current process does provide opportunity and that left-over funds are carried over which helps with the levy. Tina provided more information on how emergency projects like the belt line repair can be covered based on the current process.

Manager Gernes stated that he understands that low bids are going to happen occasionally and he does not see a need to account for low bids with future projects.

President Eisele questioned what the strategy is when a low bid is received and there are additional funds leftover. President Eisele asked if the left-over funds from a low bid can be reallocated to other projects.

Tina Carstens confirmed that reallocating the funds can be done and provided information on how that is currently processed.

Manager Karp stated that he would feel more comfortable with the left-over funds being discussed during the beginning and end of year budget discussions and that moving money around to allocate to new projects mid-year may cause issues when unplanned projects arise. Manager Karp stated that he is comfortable with the current process.

11. ADMINISTRATOR'S REPORT (1:33:50)

- A. <u>Meetings Attended</u> No comments.
- B. Upcoming Meetings and Dates

Tina Carstens reviewed the upcoming meetings and dates.

C. Board Action Log and Updates

No comments.

D. Minnesota Watersheds Updates

No comments.

12. PROJECT AND PROGRAM STATUS REPORTS (1:36:32)

Project Feasibility Studies

- A. Kohlman Creek Flood Risk Feasibility Study
- B. Improvements to Phalen Village
- C. Ames Lake Area Flood Risk Reduction Planning Study
- D. <u>Resiliency Study for Non-Beltline Tributary Areas</u>
- E. <u>Owasso Basin/North Start Estates Improvements</u>

President Eisele asked if there is any feedback from St. Paul Water as to what is going on with this project.

Brad Lindeman explained that there was not support given when looking at using St. Paul Water's property. Brad stated that the District can continue to offer ideas and explain how it would impact their conduits that run through the property. Brad continued to explain that St. Paul Water is uncertain of the process and time it would take for them to review the proposed project. Brad went on to provide more information on what has been discussed with North Star Estates in regards to them hiring their own engineer.

President Eisele questioned what is causing the current delays.

Brad Lindeman stated that he feels the parties involved are being cautious of the situation and the potential impact the project would have but he does not see it as being a permanent road block.

Dave Vlasin stated that he believes all parties involved are doing their due diligence and he believes the project will be completed once they have reviewed all of the information.

President Eisele stated that he sees there will be a lot of benefit gained from this project.

F. <u>Street Sweeping</u> *Research Projects*G. <u>Kohlman Lake Aquatic Plants Management Effects Study</u> *H.* <u>Shallow Lake Aeration Study</u> *Project Operations*I. <u>Lake Level Station Maintenance and Rain Gauge Installation</u>

Capital Improvements

- J. <u>Woodbury Target Store Stormwater Retrofit Project</u>
- K. <u>Roosevelt Homes</u>
- L. <u>Stewardship Grant Program</u>
- M. <u>Arbogast Stormwater Filtration BMP</u>

Brad Lindeman provided more information on the non-compliance based on the specifications of the concrete samples. Brad provided more information on the typical testing procedures and what differed during this round of testing and explained that there is a meeting scheduled with the contractor. Brad stated that Barr is not concerned about the overall strength of the structure. Brad provided more information on the testing results and stated that because the testing shows 97% to 98% compliance that the remaining percentage should be withheld from the total fee based on the noncompliance with the spec.

President Eisele asked if that would be brought to the board as a formal motion.

Brad Lindeman stated that it would most likely be brought back as a change order.

- N. <u>Pioneer Park Stormwater Reuse</u>
- 0. <u>Fish Creek Tributary Improvements</u>
- P. <u>County Road C Culvert Project</u>

CIP Project Repair and Maintenance

- Q. <u>Routine CIP Inspections and Unplanned Maintenance Identification</u>
- R. <u>Beltline Mississippi Branch Outfall Replacement Project</u>
- S. <u>2024 CIP Maintenance and Repairs Project</u>

Program Updates

- T. <u>Natural Resources Program</u>
- U. <u>Public Involvement and Education Program</u>
- V. <u>Communications and Outreach Program</u>

13. MANAGER COMMENTS AND NEXT MONTH'S MEETING (1:50:44)

No additional comments.

14. ADJOURN

<u>Motion</u>: Manager Skinner moved, Manager Gernes seconded, to adjourn the meeting at 8:21 p.m. Motion carried unanimously.

RWMWD BUDGET STATUS REPORT

Administrative & Program Budget Fiscal Year 2024 1/31/2024

1/31/2024					Current		Current	
		Account	Original	Budget	Month	Year-to-Date	Budget	Percent
Budget Category	Budget Item	Number	Budget	Transfers	Expenses	Expenses	Balance	of Budget
Manager	Per diems	4355	\$7,000.00	-	-	-	\$7,000.00	0.00%
	Manager expenses	4360	3,000.00	-	-	-	3,000.00	0.00%
Committees	Committee/Bd Mtg. Exp.	4365	4,000.00	-	322.46	322.46	3,677.54	8.06%
	Sub-Total: Managers/Committees:		\$14,000.00	\$0.00	\$322.46	\$322.46	\$13,677.54	2.30%
Employees	Staff salary/taxes/benefits	4010	2,000,000.00	-	131,187.36	131,187.36	1,868,812.64	6.56%
	Employee expenses	4020	10,000.00	-	78.86	78.86	9,921.14	0.79%
	District training & education	4350	75,000.00	-	4,864.16	4,864.16	70,135.84	6.49%
	Sub-Total: Employees:		\$2,085,000.00	\$0.00	136,130.38	\$136,130.38	\$1,948,869.62	6.53%
Administration/	Data Base/GIS Maintenance	4170	20,000.00	-	1,472.25	1,472.25	18,527.75	7.36%
Office	Office Equipment Maintenance	4305	2,000.00	-	-	-	2,000.00	0.00%
	Telephone	4310	2,000.00	-	201.38	201.38	1,798.62	10.07%
	Office supplies	4320	7,000.00	-	106.38	106.38	6,893.62	1.52%
	Postage/Delivery	4330	2,000.00	-	-	-	2,000.00	0.00%
	Printing/copying	4335	5,000.00	-	708.60	708.60	4,291.40	14.17%
	Dues & publications	4338	17,000.00	-	12,985.00	12,985.00	4,015.00	76.38%
	Janitorial/Trash Service	4341	15,000.00	-	349.67	349.67	14,650.33	2.33%
	Utilities	4342	20,000.00	-	1,751.00	1,751.00	18,249.00	8.76%
	Building Maintenance	4343	100,000.00	-	1,957.09	1,957.09	98,042.91	1.96%
	Miscellaneous	4390	5,000.00	-	-	-	5,000.00	0.00%
	Insurance	4480	65,000.00	-	-	-	65,000.00	0.00%
	Office equipment	4703	80,000.00	-	16,016.57	16,016.57	63,983.43	20.02%
	District Vehicles/Maintenance	4810-40	60,000.00	-	1,124.32	1,124.32	58,875.68	1.87%
	Metro INET	4325	100,000.00		8,264.30	8,264.30	91,735.70	8.26%
	Outside Consulting Services	4160	40,000.00		-	-	40,000.00	0.00%
	Sub-Total: Administration/Office:		\$540,000.00	\$0.00	44,936.56	44,936.56	\$363,327.74	8.32%
Consultants/	Auditor/Accounting	4110	80,000.00	-	361.00	361.00	79,639.00	0.45%
Outside Services	Engineering-Administration	4121	122,000.00	-	5,185.50	5,185.50	116,814.50	4.25%
	Engineering-Permit I&E	4122	10,000.00	-	-	-	10,000.00	0.00%
	Engineering-Review	4123	75,000.00	-	1,915.50	1,915.50	73,084.50	2.55%
	Engineering-Permit Application Review	4124	65,000.00	-	3,613.00	3,613.00	61,387.00	5.56%
	Project Feasibility Studies	4129	260,000.00	-	5,593.50	5,593.50	254,406.50	2.15%
	GIS Maintenance	4171	5,000.00		-	-	5,000.00	0.00%
	Attorney-permits	4130	5,000.00		-	-	5,000.00	0.00%
	Attorney-general	4131	40,000.00	-	3,933.20	3,933.20	36,066.80	9.83%
	Sub-Total: Consultants/Outside Services:		\$662,000.00	\$0.00	20,601.70	\$20,601.70	\$641,398.30	3.11%
Programs	WMP/Lakes/TMDLs/Grants	4661	154,500.00	-	2,507.60	2,507.60	163,492.40	1.51%
i logi di li s	Natural Resources Program	4670	120,000.00		556.99	556.99	3,443.01	13.92%
	Water Monitoring Program	4520-30	285,000.00		1,804.37	1,804.37	1,084,695.63	0.17%
	Outside Program Support	4683	57,000.00		10,000.00	10,000.00	47,000.00	17.54%
	Research Projects	4695	150,000.00		5,511.50	5,511.50	144,488.50	3.67%
	Project Operations	4650	150,000.00		1,349.15	1,349.15	148,650.85	0.90%
	Communications/Outreach/Events	4030	166,000.00		4,687.87	4,687.87	161,312.13	2.82%
	Health and Safety Program	4697	4,000.00		-,007.07	-,007.07	4,000.00	0.00%
	Sub-Total: Programs:	1057	\$1,086,500.00	\$0.00	26,417.48	26,417.48	\$1,757,082.52	2.43%
GENERAL FUND TOT	-		\$4,387,500.00	\$0.00	\$228,408.58	\$228,408.58	\$4,724,355.72	5.21%
CIP's	Debt Services-Beltline/Maplewood Mall	526	394,963.00	<i>\$0.00</i>	276,481.25	276,481.25	118,481.75	70.00%
0.1 5	Targeted Retrofit Projects	518	1,950,000.00	_	24,781.00	24,781.00	1,925,219.00	1.27%
	Flood Risk Reduction Fund	520	5,400,000.00	-	28,023.62	28,023.62	5,371,976.38	0.52%
		520	1,250,000.00	-	6,837.77	6,837.77	1,243,162.23	0.55%
	Stowardshin Grant Fund		1,230,000.00	-				
	Stewardship Grant Fund				727 00	727 00	1 27/ 262 00	
	Fish Creek Tributary Improvements	537	1,375,000.00		737.00	737.00	1,374,263.00	0.05%
	Fish Creek Tributary Improvements Project Repair & Maintenance	537 516	1,375,000.00 2,125,000.00	-	737.00 29,369.00	737.00 29,369.00	2,095,631.00	1.38%
CIP BUDGET TOTAL	Fish Creek Tributary Improvements	537	1,375,000.00	-				

Current Fund Balances:						
						Unaudited
	Unaudited Beginning Fund	Fund	Year to date	Current Month	Year to Date	Fund Balance
Fund:	Balance @ 12/31/23	Transfers	Revenue	Expenses	Expense	@ 1/31/24
101 - General Fund	\$3,177,051.04	-	7,062.62	228,408.58	228,408.58	2,955,705.08
516 - Project Repair & Maintenance	872,232.70	-	782.52	29,369.00	29,369.00	843,646.22
518 - Targeted Retrofit Projects	476,410.31	-	1,676.82	24,781.00	24,781.00	453,306.13
520 - Flood Risk Reduction Fund	4,726,296.76	-	212.40	28,023.62	28,023.62	4,698,485.54
526 - Debt Services-Beltline/Maplewood Mall	157,575.04	-	-	-	276,481.25	(118,906.21)
529 - Stewardship Grant Fund	211,026.49	-	894.31	894.31	6,837.77	205,083.03
536 - Stormwater Impact Fund	1,336,819.50	-	-	-	-	1,336,819.50
537 - Fish Creek Tributary Improvements	121,092.62	-	223.58	223.58	737.00	120,579.20
540 - Wetland Restoration Projects	498,036.00	-	-	-	-	498,036.00
580 - Contingency Fund	1,465,487.00	-	-	-	-	1,465,487.00
Total District Fund Balance	\$13,042,027.46	\$0.00	\$ 10,852.25	\$ 311,700.09	\$594,638.22	\$12,458,241.49

RWMWD BUDGET STATUS REPORT

Administrative & Program Budget Fiscal Year 2023

12/31/2023 -UPDATED 2/1/24

Rudget Cetegory	Dudget Hom	Account Number	Original Budget	Budget Transfers	Current Month	Year-to-Date	Current Budget Balance	Percent of Budget
Budget Category Manager	Budget Item Per diems	4355	\$7,000.00	Transfers	Expenses	Expenses 375.00	\$6,625.00	5.36%
Wallager	Manager expenses	4360	3,000.00	_	_	-	3,000.00	0.00%
Committees	Committee/Bd Mtg. Exp.	4365	3,500.00	-	110.88	5,085.56	(1,585.56)	145.30%
	Sub-Total: Managers/Committees:		\$13,500.00	\$0.00	\$110.88	\$5,460.56	\$8,039.44	40.45%
Employees	Staff salary/taxes/benefits	4010	1,860,000.00	-	135,996.29	1,728,296.00	131,704.00	92.92%
Linployees	Employee expenses	4020	15,000.00	-	430.85	11,014.28	3,985.72	73.43%
	District training & education	4350	75,000.00	-	8,099.43	30,748.50	44,251.50	41.00%
	Sub-Total: Employees:		\$1,950,000.00	\$0.00	\$144,526.57	\$1,770,058.78	\$179,941.22	90.77%
Administration/	GIS system maint. & equip.	4170	10,000.00	-	220.00	3,559.25	6,440.75	35.59%
Office	Data Base/GIS Maintenance	4171	20,000.00	-	273.94	2,950.76	17,049.24	14.75%
	Equipment maintenance	4305	2,000.00	-	670.00	670.00	1,330.00	33.50%
	Telephone	4310	2,000.00	-	-	593.56	1,406.44	29.68%
	Office supplies	4320	7,000.00	-	60.95	6,877.22	122.78	98.25%
	IT/Internet/Web Site/Software Lic.	4325	85,000.00	-	8,827.30	89,924.13	(4,924.13)	105.79%
	Postage	4330	2,000.00	_	1,295.96	2,294.59	(294.59)	114.73%
	Printing/copying	4335	5,000.00	_	294.00	5,681.48	(681.48)	113.63%
	Dues & publications	4338	15,000.00		254.00	14,860.00	140.00	99.07%
	Janitorial/Trash Service	4341	15,000.00			8,120.06	6,879.94	54.13%
	Utilities/Bldg.Contracts	4341	30,000.00	-	1,452.21	13,887.68	16,112.32	46.29%
	Bldg/Site Maintenance	4342	125,000.00	-	1,572.99	115,173.26	9,826.74	92.14%
	Miscellaneous	4343	5,000.00	-	1,372.99	113,173.20	5,000.00	0.00%
	Insurance	4390	60,000.00	-	-	- 57,143.00	2,857.00	95.24%
		4480	100,000.00	-	- 22,490.56	42,938.90	57,061.10	42.94%
	Office equipment Vehicle lease, maintenance	4703	20,000.00	-	1,541.00	42,958.90 8,454.91	11,545.09	42.94%
		4610-40	\$503,000.00	\$0.00	\$38,698.91	\$373,128.80	\$129,871.20	42.27% 74.18%
6	Sub-Total: Administration/Office:	4440		ŞU.UU				
Consultants/	Auditor/Accounting	4110	75,000.00	-	5,621.10	65,789.81	9,210.19	87.72%
Outside Services	Engineering-administration	4121	132,000.00	-	9,882.87	87,509.24	44,490.76	66.29%
	Engineering-permit I&E	4122	10,000.00	-	-	1,605.13	8,394.87	16.05%
	Engineering-eng. review	4123	70,000.00	-	8,956.00	62,533.50	7,466.50	89.33%
	Engineering-permit review	4124	59,000.00	-	3,477.50	49,120.50	9,879.50	83.26%
	Project Feasibility Studies	4129	395,000.00	-	40,482.86	271,259.70	123,740.30	68.67%
	Attorney-permits	4130	5,000.00	-	-	110.16	4,889.84	2.20%
	Attorney-general	4131	40,000.00	-	2,880.00	28,822.36	11,177.64	72.06%
	Outside Consulting Services	4160	20,000.00	-	-	-	20,000.00	0.00%
	Sub-Total: Consultants/Outside Services:		\$806,000.00	\$0.00	\$71,300.33	\$566,750.40	\$239,249.60	70.32%
Programs	Educational programming	4370	70,000.00	-	1,474.74	32,204.14	37,795.86	46.01%
	Communications & Marketing	4371	50,000.00	-	4,451.50	18,855.62	31,144.38	37.71%
	Events	4372	51,000.00	-	257.23	58,823.33	(7,823.33)	115.34%
	Water QM-Engineering	4520-30	240,000.00	-	8,512.52	255,178.70	(15,178.70)	106.32%
	Project operations	4650	200,000.00	-	5,190.29	51,629.09	148,370.91	25.81%
	SLMP/TMDL Studies	4661	142,000.00	-	739.50	7,828.00	134,172.00	5.51%
	Natural Resources/Keller Creek	4670-72	120,000.00	-	43,518.65	87,452.31	32,547.69	72.88%
	Outside Prog.Support/Weed Mgmt.	44683	57,000.00	-	10,600.58	32,208.57	24,791.43	56.51%
	Research Projects	4695	155,000.00	-	11,750.89	171,615.37	(16,615.37)	110.72%
	Health and Safety Program	4697	4,000.00	-	-	2,797.64	1,202.36	69.94%
	Sub-Total: Programs:		\$1,089,000.00	\$0.00	86,495.90	\$718,592.77	\$370,407.23	65.99%
			\$4,361,500.00	\$0.00	\$341,132.59	\$3,433,991.31	\$927,508.69	78.73%
GENERAL FUND TOT	AL						273,969.64	81.74%
	CIP Project Repair & Maintenance	516	1,500,000.00	-	159,019.15	1,226,030.36	275,909.04	
		516 518	1,500,000.00 1,500,000.00	-	159,019.15 50,445.55	1,226,030.36 1,235,357.85	264,642.15	82.36%
	CIP Project Repair & Maintenance			- -				82.36%
	CIP Project Repair & Maintenance Targeted Retrofit Projects Flood Risk Reduction Fund	518 520	1,500,000.00 5,200,000.00	- - -	50,445.55 24,105.81	1,235,357.85 685,830.78	264,642.15 4,514,169.22	82.36% 13.19%
	CIP Project Repair & Maintenance Targeted Retrofit Projects Flood Risk Reduction Fund Debt Services-96-97 Beltline/MM/Battle Creek	518 520 526	1,500,000.00 5,200,000.00 395,404.00		50,445.55 24,105.81 550.00	1,235,357.85 685,830.78 394,333.56	264,642.15 4,514,169.22 1,070.44	82.36% 13.19% 99.73%
	CIP Project Repair & Maintenance Targeted Retrofit Projects Flood Risk Reduction Fund Debt Services-96-97 Beltline/MM/Battle Creek Stewardship Grant Program Fund	518 520 526 529	1,500,000.00 5,200,000.00	- - - -	50,445.55 24,105.81 550.00 298,337.73	1,235,357.85 685,830.78 394,333.56 1,005,719.78	264,642.15 4,514,169.22	82.36% 13.19% 99.73%
GENERAL FUND TOT CIP's	CIP Project Repair & Maintenance Targeted Retrofit Projects Flood Risk Reduction Fund Debt Services-96-97 Beltline/MM/Battle Creek Stewardship Grant Program Fund Stormwater Impact Fund	518 520 526 529 536	1,500,000.00 5,200,000.00 395,404.00 1,128,000.00 -	-	50,445.55 24,105.81 550.00 298,337.73 27,121.50	1,235,357.85 685,830.78 394,333.56 1,005,719.78 27,121.50	264,642.15 4,514,169.22 1,070.44 122,280.22	82.36% 13.19% 99.73% 89.16%
	CIP Project Repair & Maintenance Targeted Retrofit Projects Flood Risk Reduction Fund Debt Services-96-97 Beltline/M/Battle Creek Stewardship Grant Program Fund Stormwater Impact Fund Double Driveway Water Quality Optimization	518 520 526 529 536 537	1,500,000.00 5,200,000.00 395,404.00 1,128,000.00 - 675,000.00	-	50,445.55 24,105.81 550.00 298,337.73	1,235,357.85 685,830.78 394,333.56 1,005,719.78	264,642.15 4,514,169.22 1,070.44 122,280.22 599,090.05	82.36% 13.19% 99.73% 89.16% 11.25%
	CIP Project Repair & Maintenance Targeted Retrofit Projects Flood Risk Reduction Fund Debt Services-96-97 Beltline/MM/Battle Creek Stewardship Grant Program Fund Stormwater Impact Fund	518 520 526 529 536	1,500,000.00 5,200,000.00 395,404.00 1,128,000.00 -		50,445.55 24,105.81 550.00 298,337.73 27,121.50	1,235,357.85 685,830.78 394,333.56 1,005,719.78 27,121.50	264,642.15 4,514,169.22 1,070.44 122,280.22	82.36% 13.19% 99.73% 89.16%

Current Fund Balances:						
						Unaudited
	Unaudited Beginning Fund	Fund	Year to date	Current Month	Year to Date	Fund Balance
Fund:	Balance @ 12/31/22	Transfers	Revenue	Expenses	Expense	@ 12/31/23
101 - General Fund	\$2,313,604.42	-	4,260,698.23	341,132.59	3,433,991.31	3,140,311.34
516 - CIP Project Repair & Maintenance	1,143,456.57	-	954,806.49	159,019.15	1,226,030.36	872,232.70
518 - Targeted Retrofit Projects	164,101.49	-	1,547,666.67	50,445.55	1,235,357.85	476,410.31
520 - Flood Damage Reduction Fund	5,075,970.05	-	336,157.49	24,105.81	685,830.78	4,726,296.76
526 - Debt Services-96-97 Beltline/MM/Beltline-Battle Creek Tunnel Repair	551,908.60	-	-	550.00	394,333.56	157,575.04
529 - Stewardship Grant Program Fund	428,736.05	-	788,010.22	298,337.73	1,005,719.78	211,026.49
536 - Stormwater Impact Fund	358,950.00	-	1,004,991.00	27,121.50	27,121.50	1,336,819.50
537 - Double Driveway Water Quality Optimization Implementation	-	-	197,002.57	14,434.50	75,909.95	121,092.62
540 - Wetland Restoration Projects	498,036.00	-	-	-	-	498,036.00
580 - Contingency Fund	1,465,487.00	-	-	-	-	1,465,487.00
Total District Fund Balance	\$12,000,250.18	\$0.00	\$ 9,089,332.67	\$ 915,146.83	\$8,084,295.09	\$13,005,287.76

Ramsey Washington Metro Watershed Dist. Check Register For the Period From January 1, 2024 to January 31, 2024

Check #	Date	Payee ID	Invoice #	Payee	Description	Amount
EFT	01/03/24	hea002	Feb-24	HealthPartners	Employee Benefits	\$13,663.54
EFT	01/03/24	met008	Jan-24	MetLife-Group Benefits	Employee Benefits	1,593.21
EFT	01/03/24	nsp001	850289771	Xcel Energy	Bldg./Site Maintenance	1,022.05
EFT	01/28/24	que001	-	Century Link	Project Operations	280.47
70293	01/04/24	erd001	-	Paul Erdmann	Natural Resources Program	136.97
70294	01/19/24	weh001	-	The Wehrman Collaborative, LLC	Communications and Marketing	3,850.00
74370	01/11/24	ada002	375641	Adam's Pest Control, Inc.	Utilities/Building Services Contracts	94.72
74371	01/11/24	aws001	335957-010124	AWS Service Center	Utilities/Building Services Contracts	349.67
74372	01/11/24	inn002	IN4421259	Innovative Office Solutions LLC	Utilities/Building Services Contracts	91.98
74373	01/11/24	jad001	2023 Awards	Anita Jader Photography	Events	200.00
74374	01/11/24	met004	INV2428464	Metro Sales, Inc.	Copier Lease	444.00
74375	01/11/24	mid003	4/28/80	Roseville Midway Ford	Vehicle Maintenance	974.09
74376	01/11/24	pac001	23100438176-707.00	Pace Analytical Services, Inc.	Water Quality Monitoring - Staff	707.00
74377	01/11/24	pre003	319846989	Premium Waters, Inc.	Utilities/Building Services Contracts	34.00
74378	01/11/24	sai001	4376	Saint Paul Media	Communications and Marketing	50.00
74379	01/11/24	str005	1/23/05	Strategic Diversity Initiatives	Training & Education	3,600.00
74380	01/11/24	tes001	5387679-IN	The Tessman Company	Construction Imp./Project Maint & Repair	2,052.00
74381 74382	01/11/24	usb005 wes005	519167332	US Bank Equipment Finance	Copier Lease	264.60
74382	01/11/24	att002	22-09 MTN 287256653401X01252024	Westwood Village III	Stewardship Grant Program	1,500.00
74383	01/31/24 01/31/24	bar001	Dec 23 and Jan 24	AT & T Mobility - ROC Barr Engineering	Project Operations Various	166.34 186,317.35
74385	01/31/24	ben002	119959	Barr Engineering Benefit Extras, Inc.	Employee Benefits	1,043.00
74386	01/31/24	bla001	23-43CS	Laura Blasena	Stewardship Grant Program	10,965.00
74387	01/31/24	blu005	861048	Bluum of Minnesota, LLC	Equipment	675.10
74388	01/31/24	bol003	0300342	Bolton & Menk, Inc.	Education	666.67
74389	01/31/24	cad001	20215895	Zayo Group, LLC	Telecommunications	202.45
74390	01/31/24	car007	RWMWD_1_24_24	Carp Solutions, LLC	Natural Resources Program	9,600.00
74391	01/31/24	cit001	01-19-24	City of Little Canada	Utilities/Building Services Contracts	150.21
74392	01/31/24	cit010	13730	City of White Bear Lake	GIS System Maintenance and Equipment	1,257.25
74393	01/31/24	dav003	9000016293	Davey Resource Group, Inc.	Stewardship Grant Program	7,000.00
74394	01/31/24	del001	10727594978	Dell Marketing, L.P.	Equipment	10,879.92
74395	01/31/24	erd001	Dec-23	Paul Erdmann	Employee Benefits, Expenses	331.97
74396	01/31/24	fit001	Pay App #1 - FINAL	Fitzgerald Excavating & Trucking, Inc.	Construction Imp./Project Maint & Repair	72,068.50
74397	01/31/24	fit002	January '24	Mary Fitzgerald	Employee Benefits, Expenses	540.62
74398	01/31/24	fit003	January 2024	Emily F. Kamin	Employee Benefits, Expenses	481.50
74399	01/31/24	gal001	January 25, 2024	Galowitz Olson, PLLC	Attorney General	3,933.20
74400	01/31/24	ger005	23-39 CS	Noah Gerding	Stewardship Grant Program	9,134.49
74401	01/31/24	gil001	241236	Gilbert Mechanical Contractors, Inc.	Building / Site Maintenance	200.50
74402	01/31/24	gra005	9934394165	Grainger	Water Quality Monitoring - Staff	117.24
74403	01/31/24	gru001	01-32312	Gruber's Power Equipment	Natural Resources Program	73.95
74404	01/31/24	ham002	2024 Membership	Hamline University	Outside Program Support	10,000.00
74405	01/31/24	hol004 hom001	20-19 MTN	Hollow Pond HOA	Outside Program Support	694.08
74406 74407	01/31/24 01/31/24	hun002	various	Home Depot Credit Services	Water Quality Monitoring - Staff	201.47 140.00
74407	01/31/24	int001	24011060 W23120479	Hunt Electric Corporation Office of MN, IT Services	Building / Site Maintenance Telephone	59.38
74408	01/31/24	int001	205513	Intereum, Inc.	Equipment	5,108.66
74410	01/31/24	kub001	January 2024	Kyle W. Kubitza	Employee Benefits, Expenses	132.86
74410	01/31/24	maw002	100	MAWD	Dues/Publications	12,500.00
74412	01/31/24	mel001	Jan-24	Michelle L. Melser	Employee Benefits, Expenses	77.22
74413	01/31/24	met012	1698	Metro-INET	Roseville IT Services/Web Site/Software/Licenses	8,211.00
74414	01/31/24	mid003	614019	Roseville Midway Ford	Vehicle Maintenance	962.09
74415	01/31/24	min008	43032	Minnesota Native Landscapes, Inc.	Construction Imp./Project Maint & Repair	1,184.00
74416	01/31/24	nar001	IV00272727	Nardini Fire Equipment	Utilities/Building Services Contracts	847.00
74417	01/31/24	ncp001	January 1, 2024	NCPERS Group Life Ins.	Employee Benefits	16.00
74418	01/31/24	nor011	7958	Northland Securities, Inc.	Beltline & Battle Creek Tunnel Repair Debt Svc	550.00
74419	01/31/24	nsp001	862800508	Xcel Energy	Water Quality Monitoring - Staff	1,129.74
74420	01/31/24	oak006	23-31 CS	City of Oakdale	Stewardship Grant Program	13,797.68
74421	01/31/24	pac001	24100440402	Pace Analytical Services, Inc.	Water Quality Monitoring - Staff	1,768.00
74422	01/31/24	pas002	Dec 23 and Jan 24	Carol Passi	Employee Benefits, Expenses	111.79
74423	01/31/24	pur001	January 5, 2024	Purchase Power	Postage	17.93
74424	01/31/24	ram002	PRK-002314	Ramsey County	Natural Resources Program	44,072.66
74425	01/31/24	red002	150483691	Redpath & Company, LLC.	Accounting Stewardship Grant Program	2,901.00
74426 74427	01/31/24 01/31/24	rel001 sel001	323940; 323941	Reliakor Services Tim Melser	Stewardship Grant Program Building / Site Maintenance	9,407.25 788.75
74427	01/31/24 01/31/24	sho004	1512 Pay App #6 - FINAL	Tim Melser Shoreline Landscaping	Construction Imp./Project Maint & Repair	788.75 35,172.72
74428	01/31/24	sod001	January 2024	Nicole Maras	Employee Benefits, Expenses	110.80
74429	01/31/24	stp008	22-08 CS	St. Paul Public Schools	Stewardship Grant Program	130,000.00
74431	01/31/24	stu001	2019847	Studio Lola	Communications and Marketing	950.64
74432	01/31/24	usb002	January 2024	U.S. Bank	Dec/Jan Credit Card Expense	3,959.62
74433	01/31/24	van001	91797	Vanguard Cleaning Systems of Minnesota	Utilities/Building Services Contracts	374.56
74434	01/31/24	voy001	8692934232404	US Bank Voyager Fleet Sys.	Vehicle Fuel	162.23
74435	01/31/24	was002	6399	Washington Conservation District	Stewardship Grant Program	4,940.08
74436	01/31/24	wil007	January 2024	Patrick Williamson	Employee Benefits, Expenses	29.63
74437	01/31/24	wis002	21-12 MTN	Wayne Wise	Stewardship Grant Program	800.19
Total						\$637,892.59
EFT	01/05/24	myp001	01/05/24	January 5th Payroll	4110-101-000	78.15
EFT	01/19/24	myp001	01/19/24	January 19th Payroll	4110-101-000	78.15
Dir.Dep.	01/05/24		Payroll Expense-Net	January 5th Payroll	4010-101-000	31,187.10

Ramsey Washington Metro Watershed Dist. Check Register For the Period From January 1, 2024 to January 31, 2024

Check #	Date	Payee ID	Invoice #	Payee	Description	Amount
EFT	01/05/24	int002	Internal Rev.Serv.	January 5th Federal Withholding	2001-101-000	11,216.75
EFT	01/05/24	mnd001	MN Revenue	January 5th State Withholding	2003-101-000	1,861.98
EFT	01/05/24	per001	PERA	January 5th PERA	2011-101-000	6,850.77
EFT	01/05/24	emp002	Empower Retirement	Employee Def. Comp. Contributions	2016-101-000	1,578.00
EFT	01/05/24	emp002	Empower Retirement	Employee IRA Contributions	2018-101-000	1,434.00
Dir.Dep.	01/19/24		Payroll Expense-Net	January 19th Payroll	4010-101-000	31,251.10
EFT	01/19/24	int002	Internal Rev.Serv.	January 19th Federal Withholding	2001-101-000	11,302.62
EFT	01/19/24	mnd001	MN Revenue	January 19th State Withholding	2003-101-000	1,880.09
EFT	01/19/24	per001	PERA	January 19th PERA	2011-101-000	6,819.91
EFT	01/19/24	emp002	Empower Retirement	Employee Def. Comp. Contributions	2016-101-000	1,598.00
EFT	01/19/24	emp002	Empower Retirement	Employee IRA Contributions	2018-101-000	1,554.00
					Payroll/Benefits:	\$108,690.62

Total

Accounts Payable/Payroll/Benefits:

\$746,583.21

Date	Check #	Vendor ID	Name	Account ID	Description	Amount	
01/03/24	EFT	hea002	HealthPartners	4040-101-000	Employee Benefits	\$13,663.54	
)1/03/24	EFT	met008	MetLife-Group Benefits	4040-101-000	Employee Benefits	1,593.21	
)1/16/24	EFT	nsp001	Xcel Energy	1010 101 000	Employee Bellenits	1,022.05	
1,10,21		nspoor	neer Energy	4530-101-000	Water Quality Monitoring	1,022.05	393.98
				4343-101-000	Bldg./Site Maintenance		362.25
				4650-520-000	Porject operations/Flood Damage		265.82
)1/28/24	EFT	que001	Century Link	4650-101-000	Project Operations	280.47	200101
)1/04/24	70293	erd001	Paul Erdmann	4670-101-000	Natural Resource Program	136.97	
)1/19/24	70294	weh001	The Wehrman Collaborative, LLC	4371-101-000	Communications and Marketing	3,850.00	
)1/11/24	74370	ada002	Adam's Pest Control, Inc.	4342-101-000	Utilities/Building Services Contracts	94.72	
)1/11/24	74371	aws001	AWS Service Center	4341-101-000	Janitorial/Trash/Plowing/Sweeping	349.67	
)1/11/24	74372	inn002	Innovative Office Solutions LLC	4342-101-000	Utilities/Building Services Contracts	91.98	
)1/11/24	74373	jad001	Anita Jader Photography	4372-101-000	Events	200.00	
)1/11/24	74374	met004	Metro Sales, Inc.	4335-101-000	Copier Lease	444.00	
)1/11/24	74375	mid003	Roseville Midway Ford	4820-101-000	Vehicle Maintenance	974.09	
)1/11/24	74376	pac001	Pace Analytical Services, Inc.	4530-101-000	Water Quality Monitoring - Staff	707.00	
)1/11/24	74377	pre003	Premium Waters, Inc.	4342-101-000	Utilities/Building Services Contracts	34.00	
)1/11/24	74378	sai001	Saint Paul Media	4371-101-000	Communications and Marketing	50.00	
)1/11/24	74379	str005	Strategic Diversity Initiatives	4350-101-000	Training & Educaiton	3,600.00	
)1/11/24	74380	tes001	The Tessman Company	4630-516-000	Construction Improvements/Project Maint & Rep	2,052.00	
)1/11/24	74381	usb005	US Bank Equipment Finance	4335-101-000	Copier Lease	2,052.00	
)1/11/24	74382	wes005	Westwood Village III	4682-529-000	Stewardship Grant Program	1,500.00	
)1/31/24	74383	att002	AT & T Mobility - ROC	4650-101-000	Project Operations	166.34	
)1/31/24	74384	bar001	Barr Engineering	1020 101 000	roject operations	186,317.35	
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	71501	burbor	Duit Digneering	4121-101-000	Engineering Admin	100,011,000	2,426.00
				4123-101-000	Engineering Review		2,412.50
				4129-101-000	Project Feasability		575.00
				4129-101-000	Project Feasability		2,423.50
				4129-101-000	Project Feasability		38.00
				4129-101-000	Project Feasability		2,844.00
				4128-520-000	Engineering -Flood Damage		14,771.16
				4129-101-000	Project Feasability		657.50
				4129-101-000	Project Feasability		172.00
				4124-101-000	Eng. Permit Review		1,027.50
				4661-101-000	SLMP/TMDL Studies		45.00
				4695-101-000	Research Projects		5,236.00
				4650-101-000	Project Operations		75.00
				4650-101-000	Project Operations		2,758.58
				4128-518-000	Engineering -Targeted Retrofit		5,878.50
				4128-518-000	Engineering - Targeted Retrofit		428.50
				4128-518-000	Engineering - Targeted Retrofit		446.00
				4682-529-000	Stewardship Grant Program		1,553.00
				4128-518-000	Engineering -Targeted Retrofit		386.00
					Engineering - Targeted Retrofit		
				4128-518-000	Engineering Targeted Retrotif		331.50

Date	Check #	Vendor ID	Name	Account ID	Description	Amount	
				4128-518-000	Engineering - Targeted Retrofit		2,248.00
				4128-520-000	Engineering -Flood Damage		10,200.50
				4128-516-000	Eng. Projects-Maint & Repair		4,393.00
				4128-516-000	Eng. Projects-Maint & Repair		7,996.11
				4128-516-000	Eng. Projects-Maint & Repair		4,585.00
				4121-101-000	Engineering Admin		5,185.50
				4129-101-000	Project Feasability		605.00
				4123-101-000	Engineering Review		1,915.50
				4128-520-000	Engineering -Flood Damage		14,377.00
				4128-520-000	Engineering -Flood Damage		406.00
				4128-520-000	Engineering -Flood Damage		6,040.00
				4129-101-000	Project Feasability		2,658.00
				4129-101-000	Project Feasability		2,330.50
				4129-101-000	Project Feasability		0.00
				4129-101-000	Project Feasability		0.00
				4520-101-000	WQM-Engineering		384.00
				4520-101-000	WQM-Engineering		52.00
				4124-101-000	Eng. Permit Review		3,613.00
				4661-101-000	SLMP/TMDL Studies		215.00
				4695-101-000	Research Projects		2,522.00
				4695-101-000	Research Projects		1,337.50
				4695-101-000	Research Projects		1,652.00
				4650-101-000	Project Operations		736.00
				4650-101-000	Project Operations		7,250.50
				4128-518-000	Engineering -Targeted Retrofit		5,042.50
				4128-518-000	Engineering -Targeted Retrofit		3,106.50
				4682-529-000	Stewardship Grant Program		5,343.50
				4128-518-000	Engineering - Targeted Retrofit		516.50
				4129-537-000	Driveway Fish Creek Tributary		737.00
				4128-518-000	Engineering -Targeted Retrofit		6,900.00
				4128-520-000	Engineering -Flood Damage		6,685.00
				4128-518-000	Engineering -Targeted Retrofit		1,965.00
				4128-516-000	Eng. Projects-Maint & Repair		6,520.00
				4128-516-000	Eng. Projects-Maint & Repair		6,504.50
				4128-516-000	Eng. Projects-Maint & Repair		13,108.50
01/31/24	74385	ben002	Benefit Extras, Inc.	4040-101-000	Employee Benefits	1,043.00	
01/31/24	74386	bla001	Laura Blasena	4682-529-000	Stewardship Grant Program	10,965.00	
01/31/24	74387	blu005	Bluum of Minnesota, LLC	4703-101-000	Equipment	675.10	
01/31/24	74388	bol003	Bolton & Menk, Inc.	4370-101-000	Education	666.67	
01/31/24	74389	cad001	Zayo Group, LLC	4530-101-000	Water Quality Monitoring - Staff	202.45	
01/31/24	74390	car007	Carp Solutions, LLC	4670-101-000	Natural Resource Program	9,600.00	
01/31/24	74391	cit001	City of Little Canada	4342-101-000	Utilities/Building Services Contracts	150.21	
01/31/24	74392	cit010	City of White Bear Lake	4170-101-000	GIS System Maintenance and Equipment	1,257.25	
01/31/24	74393	dav003	Davey Resource Group, Inc.	4682-529-000	Stewardship Grant Program	7,000.00	
01/31/24	74394	del001	Dell Marketing, L.P.	4703-101-000	Equipment	10,879.92	

Date	Check #	Vendor ID	Name	Account ID	Description	Amount	
01/31/24	74395	erd001	Paul Erdmann			331.97	
01/31/24	74375	eluool	r auf Efulialin	4040-101-000	Employee Benefits	551.77	280.00
				4350-101-000	Training & Educaiton		51.97
01/31/24	74396	fit001	Fitzgerald Excavating & Trucking, Inc.	4630-516-000	Construction Improvements/Project Maint & Rep	72,068.50	01177
01/31/24	74397	fit002	Mary Fitzgerald			540.62	
				4040-101-000	Employee Benefits		58.25
				4350-101-000	Training & Educaiton		47.37
				4342-101-000	Utilities/Building Services Contracts		435.00
01/31/24	74398	fit003	Emily F. Kamin			481.50	
				4040-101-000	Employee Benefits		40.00
				4020-101-000	Employee Expenses		6.50
				4342-101-000	Utilities/Building Services Contracts		435.00
01/31/24	74399	gal001	Galowitz Olson, PLLC	4131-101-000	Attorney General	3,933.20	
01/31/24	74400	ger005	Noah Gerding	4682-529-000	Stewardship Grant Program	9,134.49	
01/31/24	74401	gi1001	Gilbert Mechanical Contractors, Inc.	4343-101-000	Building/Site Maintenance	200.50	
01/31/24	74402	gra005	Grainger	4530-101-000	Water Quality Monitoring - Staff	117.24	
01/31/24	74403	gru001	Gruber's Power Equipment	4670-101-000	Natural Resource Program	73.95	
01/31/24	74404	ham002	Hamline University	4683-101-000	Outside Program Support	10,000.00	
01/31/24	74405	hol004	Hollow Pond HOA	4682-529-000	Outside Program Support	694.08	
01/31/24	74406	hom001	Home Depot Credit Services			201.47	
				4530-101-000	Water Quality Monitoring - Staff		98.13
				4670-101-000	Natural Resource Program		103.34
01/31/24	74407	hun002	Hunt Electric Corporation	4343-101-000	Building/Site Maintenance	140.00	
01/31/24	74408	int001	Office of MN, IT Services	4310-101-000	Telephone	59.38	
01/31/24	74409	int003	Intereum, Inc.	4703-101-000	Equipment	5,108.66	
01/31/24	74410	kub001	Kyle W. Kubitza	4040-101-000	Employee Benefits	132.86	
01/31/24	74411	maw002	MAWD	4338-101-000	Dues/Publications	12,500.00	
01/31/24	74412	mel001	Michelle L. Melser			77.22	
				4040-101-000	Employee Benefits		40.00
				4020-101-000	Employee Expenses		37.22
01/31/24	74413	met012	Metro-INET			8,211.00	
				4325-101-000	Roseville IT Services/Web Site/Software/Licenses		8,069.00
				4310-101-000	Telephone		142.00
01/31/24	74414	mid003	Roseville Midway Ford	4820-101-000	Vehicle Maintenance	962.09	
01/31/24	74415	min008	Minnesota Native Landscapes, Inc.	4630-516-000	Construction Improvements/Project Maint & Rep	1,184.00	
01/31/24	74416	nar001	Nardini Fire Equipment	4342-101-000	Utilities/Building Services Contracts	847.00	
01/31/24	74417	ncp001	NCPERS Group Life Ins.	4040-101-000	Employee Benefits	16.00	
01/31/24	74418	nor011	Northland Securities, Inc.	4708-526-000	Beltline & Battle Creek Tunnle Repair Debt Service	550.00	
01/31/24	74419	nsp001	Xcel Energy			1,129.74	
				4530-101-000	Water Quality Monitoring - Staff		479.18
				4343-101-000	Building/Site Maintenance		400.76
04/04/07				4650-520-000	Project Operations/Flood Damage Reduction Fund		249.80
01/31/24	74420	oak006	City of Oakdale	4682-529-000	Stewardship Grant Program	13,797.68	
01/31/24	74421	pac001	Pace Analytical Services, Inc.	4530-101-000	Water Quality Monitoring - Staff	1,768.00	
01/31/24	74422	pas002	Carol Passi			111.79	

Date	Check #	Vendor ID	Name	Account ID	Description	Amount	
				4370-101-000	Education		21.66
				4020-101-000	Employee Expenses		50.13
				4040-101-000	Employee Benefits		40.00
01/31/24	74423	pur001	Purchase Power	4330-101-000	Postage	17.93	
01/31/24	74424	ram002	Ramsey County			44,072.66	
			5	4682-529-000	Stewardship Grant Program		5,816.41
				4670-101-000	Natural Resource Program		31,525.00
				4684-101-000	Cooperative Weed Management Program		6,731.25
01/31/24	74425	red002	Redpath & Company, LLC.	4110-101-000	Accounting	2,901.00	
01/31/24	74426	re1001	Reliakor Services	4682-529-000	Stewardship Grant Program	9,407.25	
01/31/24	74427	sel001	Tim Melser	4343-101-000	Building/Site Maintenance	788.75	
01/31/24	74428	sho004	Shoreline Landscaping			35,172.72	
				4630-536-000	Construction Improvements/Project Maint & Rep		27,121.50
				4630-516-000	Construction Improvements/Project Maint & Rep		8,051.22
01/31/24	74429	sod001	Nicole Maras	4040-101-000	Employee Benefits	110.80	
01/31/24	74430	stp008	St. Paul Public Schools	4682-529-000	Stewardship Grant Program	130,000.00	

Date	Check #	Vendor ID	Name	Account ID	Description	Amount	
01/31/24	74431	stu001	Studio Lola			950.64	
01/01/21	71131	500001	Studio Loiu	4040-101-000	Employee Benefits	220.01	393.14
				4371-101-000	Communications and Marketing		557.50
01/31/24	74432	usb002	U.S. Bank			3,959.62	
				4040-101-000	Employee Benefits (2023)	- ,	18.60
				4171-101-000	District Database Project (2023)		97.00
				4320-101-000	Office Supplies (2023)		64.47
				4338-101-000	Dues/Publications (2023)		425.00
				4350-101-000	Training & Educaiton (2023)		666.32
				4371-101-000	Communications and Marketing (2023)		580.90
				4670-101-000	Natural Resource Program (2023)		87.97
				4703-101-000	Equipment (2023)		27.99
				4040-101-000	Employee Benefits (2024)		277.65
				4171-101-000	District Database Project (2024)		1.94
				4320-101-000	Office Supplies (2024)		41.91
				4325-101-000	Roseville IT Services/Web Site/Software/Licenses (2024)		96.36
				4338-101-000	Dues/Publications (2024)		60.00
				4343-101-000	Building/Site Maintenance (2024)		64.83
				4350-101-000	Training & Educaiton (2024)		495.00
				4371-101-000	Communications and Marketing (2024)		206.97
				4365-101-000	Committee/Board Meeting Expenses (2024)		322.46
				4530-101-000	Water Quality Monitoring - Staff (2024)		17.99
				4650-101-000	Project Operations (2024)		166.34
				4670-101-000	Natural Resource Program (2024)		239.92
01/31/24	74433	van001	Vanguard Cleaning Systems of Minnesota	4342-101-000	Utilities/Building Services Contracts	374.56	
01/31/24	74434	voy001	US Bank Voyager Fleet Sys.	4830-101-000	Vehicle Fuel	162.23	
01/31/24	74435	was002	Washington Conservation District			4,940.08	
				4682-529-000	Stewardship Grant Program		1,444.00
				4683-101-000	Outside Program Support		3,369.33
				4530-101-000	Water Quality Monitoring - Staff		126.75
01/31/24	74436	wil007	Patrick Williamson			29.63	
				4040-101-000	Employee Benefits		8.10
				4020-101-000	Employee Expenses		3.35
01/01/01				4670-101-000	Natural Resources Program	000.10	18.18
01/31/24	74437	wis002	Wayne Wise	4682-529-000	Stewardship Grant Program	800.19	
	Total					\$637,892.59	
	Total					<i>\$</i> 051,072.57	
01/05/24	EFT	myp001	January 5th Payroll	4110-101-000	January 5th Payroll	78.15	
01/19/24	EFT	myp001	January 19th Payroll	4110-101-000	January 19th Payroll	78.15	
01/05/24	Dir Don		Japuary 5th Dayroll	4010 101 000	January 5th Davroll	31 187 10	

Date	Check #	Vendor ID	Name	Account ID	Description	Amount
01/05/24	EFT	int002	January 5th Federal Withholding	2001-101-000	January 5th Federal Withholding	11,216.75
01/05/24	EFT	mnd001	January 5th State Withholding	2003-101-000	January 5th State Withholding	1,861.98
01/05/24	EFT	per001	January 5th PERA	2011-101-000	January 5th PERA	6,850.77
01/05/24	EFT	emp002	Employee Def. Comp. Contributions	2016-101-000	Employee Def. Comp. Contributions	1,578.00
01/05/24	EFT	emp002	Employee IRA Contributions	2018-101-000	Employee IRA Contributions	1,434.00
01/19/24	Dir.Dep.		January 19th Payroll	4010-101-000	January 19th Payroll	31,251.10
01/19/24	EFT	int002	January 19th Federal Withholding	2001-101-000	January 19th Federal Withholding	11,302.62
01/19/24	EFT	mnd001	January 19th State Withholding	2003-101-000	January 19th State Withholding	1,880.09
01/19/24	EFT	per001	January 19th PERA	2011-101-000	January 19th PERA	6,819.91
01/19/24	EFT	emp002	Employee Def. Comp. Contributions	2016-101-000	Employee Def. Comp. Contributions	1,598.00
)1/19/24	EFT	emp002	Employee IRA Contributions	2018-101-000	Employee IRA Contributions	1,554.00

Payroll/Benefits:

\$108,690.62

Total

Accounts Payable/Payroll/Benefits: \$746,583.21

Summary of Professional Engineering Services During the Period December 16, 2023 through December 31, 2023

	Total Engineering Budget (2023)	Total Fees to Date (2023)	Budget Balance (2023)	Fees During Period	District Accounting Code	Plan Implementation Task Number
Engineering Administration						
General Engineering Administration RWMWD Health and Safety/ERTK Program	\$87,000.00	\$87,509.24 \$703.00	-\$509.24 \$1,297.00	\$2,426.00 \$0.00	4121-101	DW-13 DW-13
Educational Program/Educational Forum Assistance	\$20,000.00	\$1,842.50	\$1,297.00	\$0.00	4097-101	DW-13
Health and Safety Program Manual Update						DW-11
Topical Workshop, Education, and Planning	\$5,000.00 \$25,000.00	\$55.00 \$3,159.00	\$4,945.00 \$21,841.00	\$0.00	4129-101 4129-101	DW-13 DW-13
Engineering Review						
Engineering Review	\$70,000.00	\$62,533.50	\$7,466.50	\$2,412.50	4123-101	DW-13
Project Feasibility Studies Emergency Response Plans (communication with cities from	\$15,000.00	\$8,455.00	\$6,545.00	\$575.00	4129-101	DW-19
2021 and 2022 efforts)	\$75,000.00	\$87,770.56	-\$12,770.56	\$2,423.50	4129-101	DW-19 DW-9, KC-2, BELT-3
Kohlman Creek flood damage reduction feasibility study Kohlman Creek- Wakefield Lake Diversion Planning and					_	
Design	\$111,600.00	\$10,000.50	\$101,599.50	\$0.00	4129-101	DW-9, KC-2, BELT-3
Improvements to County Ditch 17	\$5,000.00	\$250.00	\$4,750.00	\$0.00	4129-101	DW-9, BELT-3
Improvements to Phalen Village	\$5,000.00	\$965.50	\$4,034.50	\$0.00	4129-101	DW-9, BELT-3
Ames Lake Technical Assistance and Project Planning with St. Paul	\$40,000.00	\$36,931.56	\$3,068.44	\$38.00	4129-101	DW-9, BELT-3
Resiliency Study for non-Beltline tributary areas (pre-planning	\$150,000.00	\$108,327.50	\$41,672.50	\$2,844.00	4128-520	DW-9
study and evaluation of existing data) Evaluate compliance with South Metro Mississippi River TSS	\$2,000.00	\$670.00	\$1,330.00	\$0.00	4129-101	MR-2
TMDL Owasso Basin area/North Star Estates improvements (with	\$2,000.00	\$74,836.58	-\$44,836.58	\$14,771.16	4129-101	GC-3
City of Little Canada) Street Sweeping	\$20,000.00	\$17,564.00	\$2,436.00	\$657.50	4129-101	DW-6, DW-15
Retrofit Inventory	\$20,000.00	\$24,136.50	-\$4,136.50	\$172.00	4129-101	DW-17, DW-20
Wetland Restoration Workshop, Education, and Planning	\$5,000.00	\$4,623.00	\$377.00	\$0.00	4129-101	DW-8, DW-13
Contingency*	\$30,000.00	,			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	\$90.00	\$9,910.00	\$0.00	4520-101	DW-2
Annual WQ Report Assistance Special Project BMP Monitoring	\$12,000.00 \$25,000.00	\$8,960.50 \$10,691.29	\$3,039.50 \$14,308.71	\$0.00 \$0.00	4520-101 4520-101	DW-2 DW-12
Grass Lake Berm Wetland Monitoring	\$12,000.00	\$14,064.69	-\$2,064.69	\$0.00	4520-101	DW-12 DW-5, DW-8
Battle Creek Monitoring to address TMDL	\$15,000.00	\$2,205.00	\$12,795.00	\$0.00	4520-101	DW-1, DW-2
Permit Processing, Inspection and Enforcement Permit Application Inspection and Enforcement	\$10,000.00	\$1,605.13	\$8,394.87	\$0.00	4122-101	DW-7
Permit Application Review	\$59,000.00	\$44,747.50	\$14,252.50	\$1,027.50	4124-101	DW-7
Lake Studies/TMDL Reports	¢15 000 00	¢75.00	\$14.005.00	¢0.00		DW/ 0
West Vadnais Lake Incorporation 2023 Grant Applications	\$15,000.00	\$75.00 \$845.00	\$14,925.00	\$0.00	4661-101 4661-101	DW-2 DW-13
WMP Updates - Including Implementation Plan Updates if needed	\$20,000.00	\$0.00	\$20,000.00	\$0.00	4661-101	DW-13
Prioritization of water quality projects from subwatershed feasibility studies	\$5,000.00	\$39.00	\$4,961.00	\$0.00	4661-101	DW-20
Carver Ponds Internal Load Reduction	\$12,000.00	\$1,206.50	\$10,793.50	\$0.00	4661-101	DW-12
Contingency for Lake Studies	\$22,500.00	\$0.00	\$22,500.00	\$0.00		
Research Projects New Technology Mini Case Studies (average 6 per year)	\$15,000.00	\$17,415.39	-\$2,415.39	\$45.00	4695-101	DW-12
Kohlman Permeable Weir Test System - Implement Monitoring Plan	\$5,000.00	\$150.00	\$4,850.00	\$0.00	4695-101	DW-12
Kohlman Lake Aquatic Plant Management Effects Study	\$85,705.00	\$58,071.23	\$27,633.77	\$0.00	4695-101	DW-12
Shallow Lake Aeration Study	\$40,000.00	\$45,978.75	-\$5,978.75	\$5,236.00	4695-101	DW-12
Project Operations 2023 Tanners Alum Facility Monitoring Phaten/Keiler and Twin Operations Support &	\$17,000.00	\$15,157.04	\$1,842.96	\$75.00	4650-101	TaL-3
Praten/Keiler and Twin Operations Support & Communications Lake Level Station Operation and Maintenance	\$5,000.00 \$50,000.00	\$0.00 \$0.00	\$5,000.00 \$50,000.00	\$0.00 \$0.00	4650-101 4650-101	DW-5, DW-13 DW-5
Lake Level Station Rain Gages	\$35,000.00	\$9,971.68	\$25,028.32	\$2,758.58	4650-101	DW-5
Capital Improvements	\$5,000,00	¢1 977 00	\$3 123 00	\$0.00	4128 520	DW-9
Tanners Outlet Woodbury Target Deservelt Hames	\$5,000.00 \$180,000.00	\$1,877.00 \$134,762.56	\$3,123.00 \$45,237.44	\$5,878.50	4128-520 4128-518	DW-6
Roosevelt Homes Targeted Retrofit Projects 2023	\$77,100.00 \$150,000.00	\$81,787.70 \$52,614.78	-\$4,687.70 \$97,385.22	\$428.50 \$446.00	4128-518 4128-518	DW-6 DW-6
Stewardship Grant Program	\$75,000.00	\$33,953.50	\$41,046.50	\$1,553.00	4682-529	DW-6
West Industrial Park Berm and associated improvements Lake Emily Subwatershed BMP	\$300,000.00 \$175,800.00	\$0.00	\$300,000.00 -\$15,794.55	\$0.00 \$386.00	4128-520 4128-518	GC-3 LE-3
Pioneer Park Stormwater Reuse	\$175,800.00	\$191,594.55 \$113,930.10	-\$15,794.55 \$37,269.90	\$331.50	4128-518	DW-6
Double Driveway and Fish Creek Tributary Improvements Cottage Place Wetland Regeneration (2023 Work)	\$112,200.00 \$20,000.00	\$75,909.95 \$13,938.96	\$36,290.05 \$6,061.04	\$4,701.00 \$2,248.00	4129-537 4128-518	FC-2 LE-3, DW-8, DW-14
Courty Road C Culvert	\$95,000.00	\$13,938.96 \$15,526.00	\$79,474.00	\$2,248.00 \$10,200.50	4128-518 4128-520	LE-0, DVV-0, DVV-14
CIP Project Repair & Maintenance Routine CIP Inspection and Unplanned Maintenance					<u> </u>	
Routine CIP Inspection and Unplanned Maintenance Identification Beltline 5-year Inspection	\$125,000.00	\$158,582.12 \$55,075.77	-\$33,582.12	\$4,393.00 \$0.00	4128-516 4128-516	DW-5 BELT-2
Beltline Mississippi Branch Outfall Replacement Project	\$240,000.00	\$34,321.61	\$205,678.39	\$7,996.11	4128-516	BELT-2
District Inspection Standardization 2023 CIP Maintenance and Repairs	\$0.00 \$165,000.00	\$0.00 \$87,934.08	\$0.00 \$77,065.92	\$0.00 \$0.00	4128-516 4128-516	DW-5 DW-5
2024 CIP Maintenance and Repairs	\$150,000.00	\$34,641.50	\$115,358.50	\$4,585.00	4128-516	DW-5
WMP Updates WMP Gaps Analysis	\$8,000.00	\$5,662.50	\$2,337.50	\$0.00	4661-101	DW-13
total	B	Barr declares under the penaltic	es of Law that this Account,	\$78,608.85		
		Claim, or Demand is just and				
		-				
		-	BIZ	l		



Summary of Professional Engineering Services During the Period January 1 through January 19, 2024

	Total Engineering Budget	Total Fees to Date	Budget Balance			Plan Implementation
	(2024)	(2024)	(2024)	Fees During Period	District Accounting Code	Task Number
Engineering Administration General Engineering Administration	\$92,000.00	\$5,185.50	\$86,814.50	\$5,185.50	4121-101	DW-13
RWMWD Health and Safety/ERTK Program	\$2,000.00	\$0.00	\$2,000.00	\$0.00	4697-101	DW-13
Education Assistance	\$30,000.00	\$605.00	\$29,395.00	\$605.00	4129-101	DW-13
Engineering Review Engineering Review	\$75,000.00	\$1,915.50	\$73,084.50	\$1,915.50	4123-101	DW-13
Project Feasibility Studies Resiliency Study for non-Beltline tributary areas (pre-planning study and	645.000.00	644 077 00	COO COO OO	644 077 00	4400 500	DW-9
evaluation of existing data)	\$45,000.00	\$14,377.00	\$30,623.00	\$14,377.00	4128-520	DW-9
Kohlman Creek Flood Damage Reduction Feasibility Study	\$5,000.00	\$406.00	\$4,594.00	\$406.00	4128-520	DW-9, KC-2
Owasso Basin/North Star Estates Improvements Feasibility Study	\$10,000.00	\$6,040.00	\$3,960.00	\$6,040.00	4128-520	GC-3
Evaluate compliance with South Metro Mississippi River TSS TMDL	\$20,000.00	\$0.00	\$20,000.00	\$0.00	4129-101	MR-2
Street Sweeping	\$20,000.00	\$2,658.00	\$17,342.00	\$2,658.00	4129-101	DW-6, DW-15
Retrofit Inventory	\$60,000.00	\$2,330.50	\$57,669.50	\$2,330.50	4129-101	DW-17, DW-20
Tanners, Battle Creek Lake, McKnight Basin outlet operation plan	\$35,000.00	\$0.00	\$35,000.00	\$0.00	4520-101	DW-9
Resiliency Study for non-Beltline tributary areas - feasibility studies	\$50,000.00	\$0.00	\$50,000.00	\$0.00	4128-520	DW-9
placeholder						
Contingency*	\$30,000.00	\$0.00	\$30,000.00	\$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	\$0,000.00		\$0,000.00	<i>\$3.00</i>		0.7-10
Lake Water Quality Monitoring (Misc QA/QC)	\$10,000.00	\$0.00	\$10,000.00	\$0.00	4520-101	DW-2
Annual WQ Report Assistance	\$20,000.00	\$384.00	\$19,616.00	\$384.00	4520-101	DW-2
Special Project BMP Monitoring	\$30,000.00	\$0.00	\$30,000.00	\$0.00	4520-101	DW-12
Grass Lake Berm Wetland Monitoring Battle Creek Monitoring to address TMDL	\$15,000.00 \$15,000.00	\$52.00	\$14,948.00 \$15,000.00	\$52.00	4520-101 4520-101	DW-5, DW-8 DW-1, DW-2
Battle Creek Monitoring to address TMDL Battle Creek Monitoring to address TMDL (Barr Staff doing the monitoring)	\$15,000.00	\$0.00	\$15,000.00	\$0.00	4320-101	DW-1, DW-2
	\$10,000.00	¢0.00	\$10,000.00	<i>Q</i> 0		5111,5112
Permit Processing, Inspection and Enforcement Permit Application Inspection and Enforcement	\$10,000.00	\$0.00	\$10,000.00	\$0.00	4122-101	DW-7
Permit Application Review	\$65,000.00	\$3,613.00	\$61,387.00	\$3,613.00	4124-101	DW-7
Watershed Management Plan Update				** **		Dillor
Stakeholder Engagement Gaps Analysis/WMP Update Scoping	\$20,000.00 \$10,000.00	\$0.00	\$20,000.00	\$0.00	4661-101	DW-21 DW-13, DW-20
Ecosystem Restoration Plan (or "Ecosystem Health Action Plan")	\$50,000.00	\$0.00	\$50,000.00	\$0.00	4661-101	DW-8, DW-14
	\$30,000.00	\$0.00	\$50,000.00	\$0.00	4001-101	DVV-0, DVV-14
Lake Studies/TMDL Reports						
West Vadnais Lake Incorporation	\$15,000.00	\$0.00	\$15,000.00	\$0.00	4661-101	DW-2
2024 Grant Applications	\$20,000.00	\$215.00	\$19,785.00	\$215.00	4661-101	DW-13
	\$5,000.00	\$0.00	\$5,000.00	\$0.00	4661-101	DW-20
Prioritization of water quality projects from subwatershed feasibility studie Carver Ponds Internal Load Reduction	\$12,000.00	\$0.00	\$12,000.00	\$0.00	4661-101	DW-12
Contingency for Lake Studies	\$22,500.00	\$0.00	\$22,500.00	\$0.00		
Research Projects						
New Technology Mini Case Studies (average 6 per year)	\$15,000.00	\$2,522.00	\$12,478.00	\$2,522.00	4695-101	DW-12
Kohlman Lake Aquatic Plant Management Effects Study	\$20,000.00	\$1,337.50	\$18,662.50	\$1,337.50	4695-101	DW-12
Shallow Lake Aeration Study Finalization	\$5,000.00	\$1,652.00	\$3,348.00	\$1,652.00	4695-101	DW-12
Ferric Chloride Application to Gervais Mill Pond	\$40,000.00	\$0.00	\$40,000.00	\$0.00		DW-12
Project Operations 2024 Tanners Alum Facility Monitoring	\$17,000.00	\$0.00	\$17,000.00	\$0.00	4650-101	TaL-3
Phalen/Keller and Twin Operations Support & Communications	\$5,000.00	\$0.00	\$5,000.00	\$0.00	4650-101	DW-5, DW-13, DW-18
Lake Level Station Operation and Maintenance (add rain gauges?)	\$50,000.00	\$736.00	\$49,264.00	\$736.00	4650-101	DW-5, DW-18
Capital Improvements	\$400.000.00	6140.040.00	\$27.000.01	\$7,250.50	4128-518	DW-6
Woodbury Target Roosevelt Homes	\$180,000.00 \$33,600.00	\$142,013.06 \$5,042.50	\$37,986.94 \$28,557.50	\$7,250.50	4128-518 4128-518	DW-6 DW-6, DW-9
Targeted Retrofit Projects 2024	\$150,000.00	\$3,106.50	\$146,893.50	\$3,106.50	4128-518	DW-6
Stewardship Grant Program	\$75,000.00	\$5,343.50	\$69,656.50	\$5,343.50	4682-529	DW-6
West Industrial Park Berm and associated improvements	\$200,000.00	\$0.00	\$200,000.00	\$0.00	4128-520	GC-3
Pioneer Park Stormwater Reuse	\$50,000.00	\$516.50	\$49,483.50	\$516.50	4128-518	DW-6
Double Driveway and Fish Creek Tributary Improvements Cottage Place Wetland	\$150,000.00	\$76,646.95	\$73,353.05	\$737.00	4129-537 4128-518	FC-2
Cottage Place Wetland Ames Lake improvements	\$113,800.00 \$250,000.00	\$6,900.00 \$0.00	\$106,900.00	\$6,900.00	4128-518	DW-6, DW-8, DW-14, LE-2, LE-3 DW-9, BELT-1
PCU Pond improvements County Road C subject capacity	\$150,000.00	\$0.00	\$150,000.00	\$0.00	4128-520 4128-520	DW-9, KC-2
County Road C culvert capacity	\$50,000.00	\$6,685.00	\$43,315.00	\$6,685.00		DW-9, KC-2
Lake Emily Subwatershed BMP Kohlman Creek Storage and Detention	\$175,800.00 \$150,000.00	\$193,559.55	-\$17,759.55	\$1,965.00	4128-518	LE-3
	00.000.00	\$0.00	\$150,000.00	\$0.00	4128-520	DW-9, KC-2
	,					
CIP Project Repair & Maintenance		00 500 00	¢110.400.00	80 F00 C0	1100 510	DIME
CIP Project Repair & Maintenance Routine CIP Inspection and Unplanned Maintenance Identification	\$125,000.00	\$6,520.00 \$41 146 00	\$118,480.00	\$6,520.00	4128-516	DW-5
CIP Project Repair & Maintenance		\$6,520.00 \$41,146.00 \$13,108.50	\$118,480.00 \$138,854.00 \$236,891.50	\$6,520.00 \$6,504.50 \$13,108.50	4128-516 4128-516 4128-516 4128-516	DW-5 DW-5 BELT-2

Barr declares under the penalties of Law that this Account, \$107,708.50 Claim, or Demand is just and that no part has been paid.

Bradley J. Lindaman, Vice President

Arbogast Underground Stormwater Filter Final Payment #6

1.0	Total Con	pleted Through This Period:		\$773,454.39		
2.0	Total Con	npleted Previously Completed	ł:		\$773,454.39	
3.0	Total Con	pleted This Period:				\$0.00
4.0	Amount F	Previously Retained:			\$38,672.72	
5.0	Amount F	Retained This Period (See Note	e 1):			\$0.00
6.0	Total Amo	ount Retained (See Note 1):			\$38,672.72	
7.0	Retainage	e Released Through This Perio	od:			\$35,172.72
8.0	Total Reta	ainage Remaining:			\$3,500.00	
9.0	Amounts	Previously Paid:		\$734,781.67		
10.0	Amount [Due This Estimate:				\$35,172.72
Note 1: A	t rate of 5%					
SUBMITTE	ED BY:					
Name:		Stephan McLafferty	Date:	1/24/2024		
Title:		President				
Contracto	or:	Shoreline Landscaping & Co	ntracting			
Signature	:	Stephan McL	affe	rty		
RECOMM	ENDED BY:					
Name:		Leslie DellAngelo	Date:	1/24/2024		
Title:		Project Engineer				
Engineer:		Barr Engineering Company			1. 1	
Signature	:			Autilu	langele	
APPROVE	D BY:					
Name:		Val Eisele	Date:			
Title:		President				

Owner:

Signature:

Ramsey-Washington Metro Watershed District

Arbogast Underground Stormwater Filter Ramsey-Washington Metro Watershed District Summary of Work completed through January 23, 2024 for Final Payment #6

								Completed This Period		l Completed ous Period		Completed Period
				Estimated								
Line Item	Item Code	Item Description	Unit	Quantity	Unit Price	Extension	Quantity	Amount	Quantity	Amount	Quantity	Amount
1	А	Mobilization/Demobilization	LS	1	\$43,500.00	\$43,500.00	1	\$43,500.00	1.0	\$43,500.00	0	\$0.0
2	В	Traffic and Pedestrian Safety Control Measures	LS	1	\$8,500.00	\$8,500.00	1	\$8,500.00	1.0	\$8,500.00	0	\$0.0
3	С	Control of Water	LS	1	\$10,000.00	\$10,000.00	1	\$10,000.00	1.0	\$10,000.00	0	\$0.0
4	D	Erosion and Sediment Control	LS	1	\$5,000.00	\$5,000.00	1	\$5,000.00	1.0	\$5,000.00	0	\$0.0
5	E	Salvage and Reinstall Topsoil (P)	CY	100	\$25.00	\$2,500.00	100	\$2,500.00	100.0	\$2,500.00	0	\$0.0
6	F	Salvage and Reinstall Landscape Boulders	LS	1	\$800.00	\$800.00	1	\$800.00	1	\$800.00	0	\$0.0
7	G	Sawcut and Remove Concrete Curb	LF	150	\$3.00	\$450.00	150	\$450.00	150	\$450.00	0	\$0.0
8	Н	Sawcut and Remove Asphalt Road Pavement	SY	125	\$3.00	\$375.00	125	\$375.00	125	\$375.00	0	\$0.0
9	Н	Sawcut and Remove Concrete and Asphalt Walk Pavement	SY	425	\$15.00	\$6,375.00	425	\$6,375.00	425	\$6,375.00	0	\$0.0
10	I	Common Excavation and Off-Site Disposal (P)	CY	800	\$25.00	\$20,000.00	800	\$20,000.00	800	\$20,000.00	0	\$0.0
11	J	Compacted Backfill (P)	CY	300	\$28.00	\$8,400.00	300	\$8,400.00	300	\$8,400.00	0	\$0.0
12	K	Connect Structure to Existing Pipes	EA	2	\$2,500.00	\$5,000.00	2	\$5,000.00	2	\$5,000.00	0	\$0.0
13	L	MH-1 (72" Precast) incl. Stop Gate	EA	1	\$28,560.00	\$28,560.00	1	\$28,560.00	1	\$28,560.00	0	\$0.0
14	-	MH-2 (48" Precast)	EA	1	\$6,350.00	\$6,350.00	1	\$6,350.00	1	\$6,350.00	0	\$0.0
15	L	MH-3 (48" Precast)	EA	1	\$6,350.00	\$6,350.00	1	\$6,350.00	1	\$6,350.00		\$0.0
16	L	MH-4 (48" Precast)	EA	1	\$6,350.00	\$6,350.00	1	\$6,350.00	1	\$6,350.00		\$0.0
10	L	MH-5 (48" Precast)	EA	1	\$6,350.00	\$6,350.00	1	\$6,350.00	1	\$6,350.00		\$0.0
18	L	MH-6 (72" Precast)	EA	1	\$12,630.00	\$0,530.00	1	\$0,330.00	1	\$12,630.00	0	\$0.0
19	M	18" RCP	LF	400	\$12,030.00	\$45,200.00	392	\$44,296.00	392	\$12,030.00	-	\$0.0
20		6" SCH 40 PVC Drain Pipe w/ Fittings (P)	LF	220	\$113.00	\$43,200.00	220	\$8,360.00	220	\$8,360.00	0	\$0.0
	0		EA	220			4	\$6,000.00	220	\$6,000.00	v	\$0.0
21	P	6" PVC Gate Valve		4	\$1,500.00	\$6,000.00	4		4		0	\$0.0
22		Cast-In-Place Vault Structure	LS	1	\$283,000.00	\$283,000.00	1	\$283,000.00	1	\$283,000.00	0	
23	Q	Precast Concrete Plank Lid	EA	10	\$10,860.00	\$108,600.00	10	\$108,600.00	10		0	\$0.0
24	R	Vault Access Manhole	EA	7	\$2,830.00	\$19,810.00	7	\$19,810.00	7	\$19,810.00	0	\$0.0
25	S	Stainless Steel Weir Plate	EA	1	\$8,960.00	\$8,960.00	1	\$8,960.00	1	\$8,960.00	0	\$0.0
26	T	Aeration Splash Block	EA	1	\$3,000.00	\$3,000.00	1	\$3,000.00	1	\$3,000.00	0	\$0.0
27	U	CC17 (Crushed Limestone) Filtration Media (P)	CY	75	\$147.00	\$11,025.00	75	\$11,025.00	75			\$0.0
28	V	Concrete Curb w/Compacted Base	LF	150	\$62.00	\$9,300.00	161	\$9,982.00	161	\$9,982.00	0	\$0.0
29	W	Asphalt Road Pavement w/ Compacted Base	SY	125	\$85.00	\$10,625.00	124	\$10,540.00	124	\$10,540.00	0	\$0.0
30	Х	Pedestrian Ramp w/ Truncated Dome and Compacted Base (MnDOT Std. Plt.)	EA	1	\$4,500.00	\$4,500.00	1	\$4,500.00	1	\$4,500.00	0	\$0.0
31	Y	Heavy Vehicle Asphalt Pavement w/ Compacted Base	SY	100	\$91.00	\$9,100.00	112	\$10,192.00	112	\$10,192.00	0	\$0.0
32	Y	Asphalt Walk Pavement w/ Compacted Base	SY	425	\$41.30	\$17,552.50	298	\$12,307.40	298	\$12,307.40	0	\$0.0
33	Z	Painted Pavement Markings	LS	1	\$2,500.00	\$2,500.00	1	\$2,500.00	1	\$2,500.00	0	\$0.0
34	AA	Common Topsoil Borrow (MnDOT 3877-1A)	CY	50	\$48.00	\$2,400.00	50	\$2,400.00	50	\$2,400.00	0	\$0.0
35	AB	Seeding (MnDOT Low Maint. Turf Mix)	SY	1000	\$1.50	\$1,500.00	1000	\$1,500.00	1000	\$1,500.00	0	\$0.0
36	AC	Erosion Control Blanket	SY	1000	\$4.00	\$4,000.00	1000	\$4,000.00	1000	\$4,000.00	0	\$0.0
37	AD	Landscape Edging	LF	80	\$5.00	\$400.00	80	\$400.00	80	\$400.00	0	\$0.0
38	AE	Double Shredded Hardwood Mulch	CY	3	\$100.00	\$300.00	3	\$300.00	3	\$300.00	0	\$0.0
39	AF	Herbaceous Plant	EA	12	\$25.00	\$300.00	12	\$300.00	12	\$300.00	0	\$0.0
		Co	ntract Bas	e Extensions		\$733,922.50		\$729,462.40		\$729,462.40		\$0.0
C.C.		Additional Steel Reinforcement for Cast-In-Place Vault Structure	LS	1	\$9,632.00	\$9,632.00	1	\$9,632.00	1	\$9,632.00	0	\$0.0
hange Or	der 2						-					
		Additional Costs Related to Project Interruptions Due to Communication Utility										
C.0	D.2.A	Relocation	LS	1	\$16,036.55	\$16,036.55	1	\$16,036.55	1	\$16,036.55	0	\$0.0
C.(D.2.B	Excavation for Communication Conduit Relocation	LS	1	\$9,706.22	\$9,706.22	1	\$9,706.22	1	\$9,706.22	0	\$0.0
hange Or									•	•		
-		F&I 18" PVC (C900) Gravity Storm Pipe Replacement	LS	1	\$8,617.22	\$8,617.22	1	\$8,617.22	1	\$8,617.22	0	\$0.0
hange Or				· · ·	+ + + + + + + + + + + + + + + + + + + +	+ + + + + + + + + + + + + + + + + + +						
	D.4.A	Reduction in Concrete Vault Strength (hold retainage of Change Order amount)	LS	1	(\$3,500.00)	(\$3,500.00)	0	\$0.00	0	\$0.00	0	\$0.0
C (1							1		
C.(2. 1 .A	Ch	ange Orde	r Extensions		\$40,491.99		\$43,991.99		\$43,991.99		\$0.00

ROOSEVELT HOMES PHASE 1 RAMSEY-WASHINGTON METRO WATERSHED DISTRICT Progress Payment Application No. 1

1.	Completed to Date:	\$	72,068.50			
2.	Less Previously Billed:			\$ -		
3.	Amount Completed This Period:				\$	72,068.50
4.	Amount Previously Retained:			\$ -		
5.	Amount Retained This Period (See Note 1):				\$	
6.	Total Amount Retained (See Note 2):			\$ -		
7.	Retainage Released Through This Period:				\$	-
8.	Less Total Retainage Remaining:			\$ -		
9.	Less Amounts Previously Paid	ć				
	(Pay Application Nos. <u>1, 2, 3</u>)	<u> </u>				
10.	Amount Due This Period:				<u></u>	72,068.50

Note 1: At rate of 10% until Completed to Date equals 50% of current Contract Price and a rate of 0% thereafter. For Pay App 1, work is complete, no retainage held.

1/22/2024

1/11/2023

Note 2: Maximum amount is 5% of current Contract Price (Original Contract Price is \$69,626.50)

Date:

SUBMITTED BY:

Name: Jason Fitzgerald Date: Title: President Contractor: Fitzgerald Excavating & Trucking Incorporated

Marcy Bean

Project Manager

Signature:

RECOMMENDED BY:

Name: Title: Engineer:

Signature:

Maray Dean

Barr Engineering Company

APPROVED BY:

Name:	Val Eisele	Date:	
Title:	President		
Owner:	Ramsey-Washington	Metro Wat	ershed District

Signature:

	ROOSEVELT HOMES PHASE 1 CONSTRUCTION CONSTRUCTION CONTRACT AMOUNT FOR PROGRESS PAYMENT			BID T		DTAL	1/2/2024 TOTAL COMPLETED THROUGH THIS PERIOD			
Bid Item	Description	Unit	Estimated Quantity	4	Unit Price	Extended Cost	Unit Price	Actual Quantity*	Extended Cos	
A	Mobilization	LS	1	\$	5,000.00	\$5,000.00	\$ 5,000.00	1	\$5,000.0	
В	Traffic and Pedestrian Safety Control Measures	LS	1	\$	2,000.00	\$2,000.00	\$2,000.0	1	\$2,000.0	
	Construction Layout and Staking	LS	1	\$	3,000.00	\$3,000.00	\$3,000.0	1	\$3,000.0	
	Erosion and Sediment Control	LS	1	\$	2,000.00	\$2,000.00	\$2,000.0	1	\$2,000.0	
E	Tree Protection Fencing (P)	LF	200	\$	2.00	\$400.00	\$2.0	200	\$400.0	
F	Tree Removal	EA	12	\$	400.00	\$4,800.00	\$400.0	12	\$4,800.0	
	Remove, Salvage, and Reinstall Topsoil (P)	BCY	245	\$	12.00	\$2,940.00	\$12.0	245	\$2,940.0	
	Import Grade 2 Compost	ECY	120	\$	35.00	\$4,200.00	\$35.0	100	\$3,500.0	
	Common Excavation, Grading and Off-Site Disposal (P)	BCY	480	\$	38.00	\$18,240.00	\$38.0	480	\$18,240.0	
1	Modify Existing Storm Sewer Structure	EA	2	\$	5,000.00	\$10,000.00	\$5,000.0	2	\$10,000.0	
	Erosion Control Blanket	SY	1,455	\$	2.50	\$3,637.50	\$2.5	1,455	\$3,637.5	
1	Sawcut and Remove Concrete Sidewalk	SY	33	\$	5.00	\$165.00	\$5.0	0 0	\$0.0	
	Concrete Sidewalk	SY	33	\$	68.00	\$2,244.00	\$68.0	0 0	\$0.0	
	Boulder Gravity Wall	LS	1	\$	5,000.00	\$5,000.00	\$5,000.0	0 1	\$5,000.0	
	Storm Sewer Pipe (18", RCP)	LF	20	\$	100.00	\$2,000.00	\$100.0	20	\$2,000.0	
	Storm Sewer End Section (18", RCP) with Energy Dissipation Apron	EA	1	\$	2,500.00	\$2,500.00	\$2,500.0	0 1	\$2,500.0	
	Connect to Existing Storm Sewer (18", RCP)	EA	1	\$	1,500.00	\$1,500.00	\$1,500.0	1	\$1,500.0	
FIELD ORDER	Electrical Repair	LS	1	<u> </u>	- 1		\$3,077.0	1	\$3,077.0	
	Low Profile Casting	EA	1				\$750.0	0 1	\$750.0	
FIELD ORDER		LF					\$25.0	20	\$500.0	
FIELD ORDER	Clay Fill	CY	1 11			1	\$18.0	56	\$1,008.0	
FIELD ORDER		CY	1.1.1.1.1.1				\$18.0	12	\$216.0	
	TOTAL			1	BID TOTAL	\$69,626.50	(PAY APP	TOTAL LICATION #1)	\$72,068,50	

* NOTE: Items noted as BOLD indicate a change from original bid quantities.

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

> Page: 1 January 25, 2024 File No: 9M

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

	Balance
General Account	\$3,403.20
Fish Creek Tributary Project	\$150.00
Pioneer Park Stormwater Reuse Project	\$380.00
	\$3,933.20

Permit Application Coversheet

Date February 07, 2024			
Project Name Target Woodbury Sto	ormwater Retrofit	Project Number	24-08
Applicant Name Paige Ahlborg, RV	VMWD		
Type of Development Parking Lot			
Property Description This RWMWD-led project is located Woodbury's Valley Creek Plaza. The with stormwater best practices to i (Tamarack Nature Preserve, Battle (enhanced filtration basins are proposumps for pretreatment. Filtration i in a reduction of impervious area by	applicant is proposing to re mprove water quality for do Creek Lake). The total site a osed to meet stormwater tr s being proposed due to po	etrofit the existing ownstream water b rea is 1.2 acres. Tw eatment requireme	parking lot oodies vo iron- ents with
Watershed District Policies or Stand	dards Involved:		
□ Wetlands	Erosion and Sediment of	Control	
Stormwater Management	🗆 Floodplain		
Water Quantity Considerations The proposed stormwater managen	nent plan is sufficient to ha	ndle the runoff fro	m the site.
Water Quality Considerations			
Short Term			
The proposed erosion and sediment resources during construction.	control plan is sufficient to) protect downstre	eam water
Long Term			

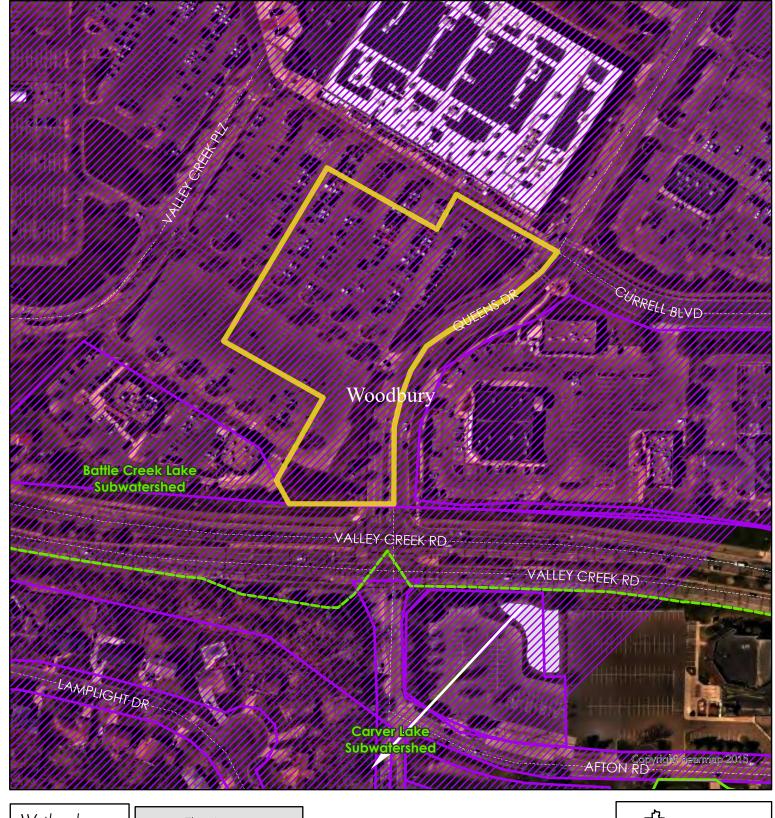
The proposed stormwater management plan is sufficient to protect the long term quality of downstream water bodies.

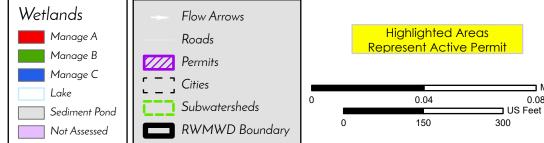
Staff Recommendation Staff recommends approval of this permit with the special provisions.

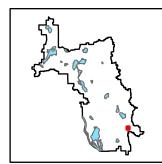
Attachments:

- ✓ Project Location Map
- ✓ Project Grading Plan

#24-08 Target Woodbury Stormwater Retrofit







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☐ Miles

0.08

24-08

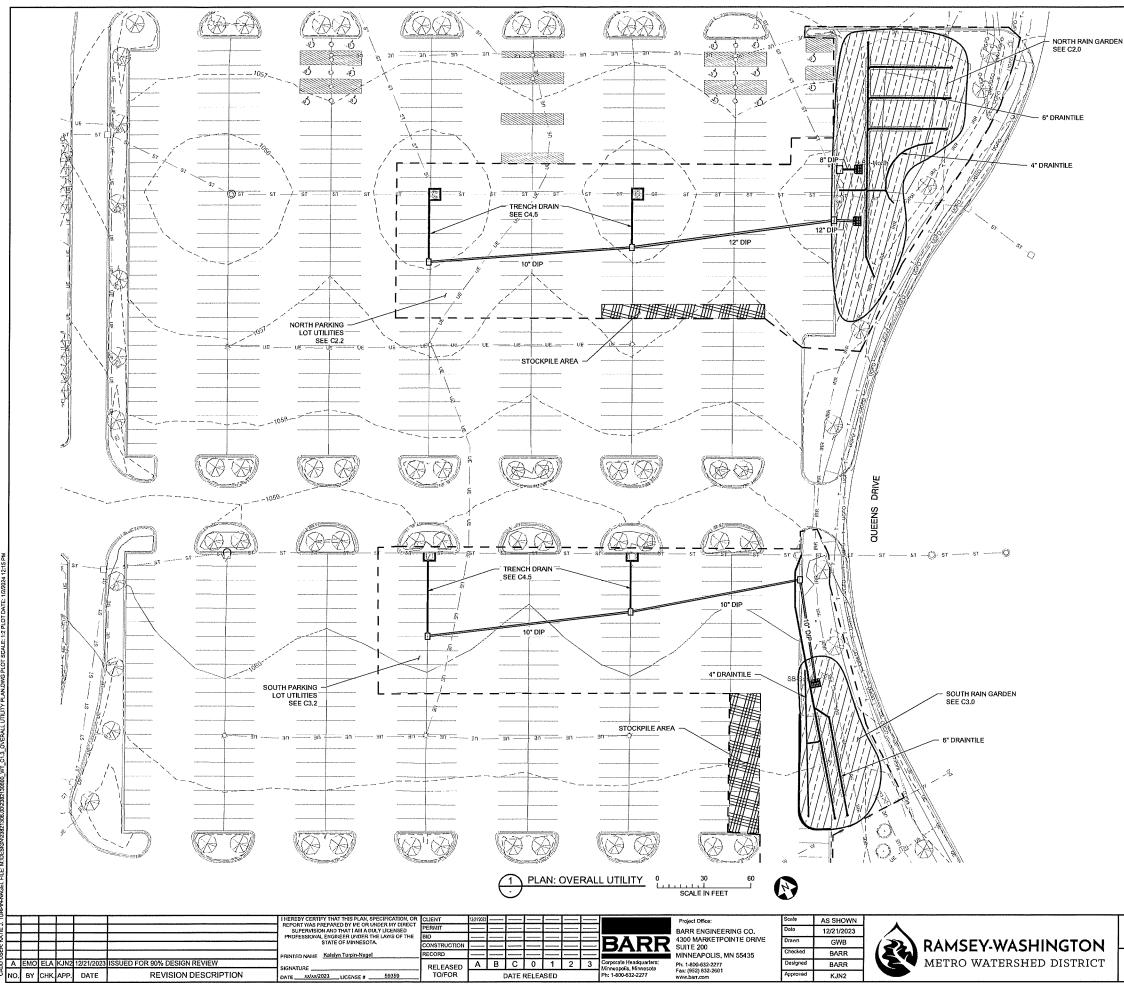
Special Provisions

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

2. The applicant shall incorporate anti-sediment tracking BMPs in the erosion control plan.

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

4. The applicant shall submit the final, signed plans set.



EXISTING CONDITIONS LEGEND

EXISTING C	ONDITIONS LEGEND
890	5 FT CONTOUR
	1 FT CONTOUR
st	STORM SEWER
UE	UNDERGROUND ELECTRIC
— w — w	WATER MAIN
T T	TELEPHONE LINE
E/T	COMMUNICATION LINE
····· IRR ·····	IRRIGATION LINE
<u> </u>	CURB
()	STORM SEWER MANHOLE
	STORM SEWER CATCH BASIN
[>1	POTABLE WATER VALVE
¢	LIGHT POLE
ø	BOLLARDS
B	DECIDUOUS TREE
12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CONIFEROUS TREE
-\$-	HYDRANT
-\$-	SOIL BORING
BMPS LEGEND	
	CONSTRUCTION LIMITS
[]]]]]]]	BMP LOCATION
▦	SPLASH BLOCK ASSEMBLY
•	STORM SEWER CATCH BASIN INSTALLATION
	STORM SEWER INSTALLATION
×	TRENCH DRAIN INSTALLATION
	DRAINTILE INSTALLATION
	SAND TRENCH
	STOCKPILE AREA

NOTES:

- 1) CONTRACTOR TO OBTAIN APPROPRIATE GRADING AND BUILDING PERMITS FROM THE CITY OF WOODBURY.
- CONFIRM LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION, NOTIFY OWNER OF ANY DISCREPANCIES.
- 3) UTILITY RELOCATION TO BE COORDINATED BY CONTRACTOR PRIOR TO CONSTRUCTION.
- 4) PROTECT ALL EXISTING UTILITIES DURING DEMOLITION AND CONSTRUCTION.
- 5) FOR EROSION CONTROL NOTES AND DETAILS, SEE SHEETS SW1.0 1.3.
- 6) FOR PAVING PLAN SEE SHEET C1.2.
- 7) FOR PLANTING PLAN SEE SHEET L1.0., L1.1
- 8) FOR SOIL BORING LOGS SEE SHEET B1.0.
- 9) PROPOSED GRADES ARE SHOWN BASED ON EXISTING SURVEY INFORMATION. ACTUAL ELEVATIONS MAY VARY IN THE FIELD. DO WORK, TO THE EXTENT POSSIBLE, TO MATCH GRADES AND TOLERANCES SHOWN ON THE TYPICAL SECTIONS AND LISTING IN THE TECHNICAL SPECIFICATIONS.
- 10) NOTIFY NICOLE MARAS, RWMWD, AT 651-792-7976 A⊤ LEAST 48 HOUR PRIOR TO THE CONSTRUCTION OF ANY VOLUME REDUCTION BMPS (IE., RAIN GARDENS).

PROJECT COORDINATE SYSTEM:

HORIZONTAL: WASHINGTON COUNTY COORDINATES, NAD83, 2011 ADJUSTMENT VERTICAL: NAVD88

90% DESIGN NOT FOR CONSTRUCTION

STORMWATER IMPROVEMENTS	BARR PROJECT No. 23/82-1306.00	
TARGET - WOODBURY, MN	CLIENT PROJECT No.	
OVERALL UTILITY	BING N	DEV N
	DWG. No.	REV, No,
PLAN	C1.3	A

Permit Application Coversheet

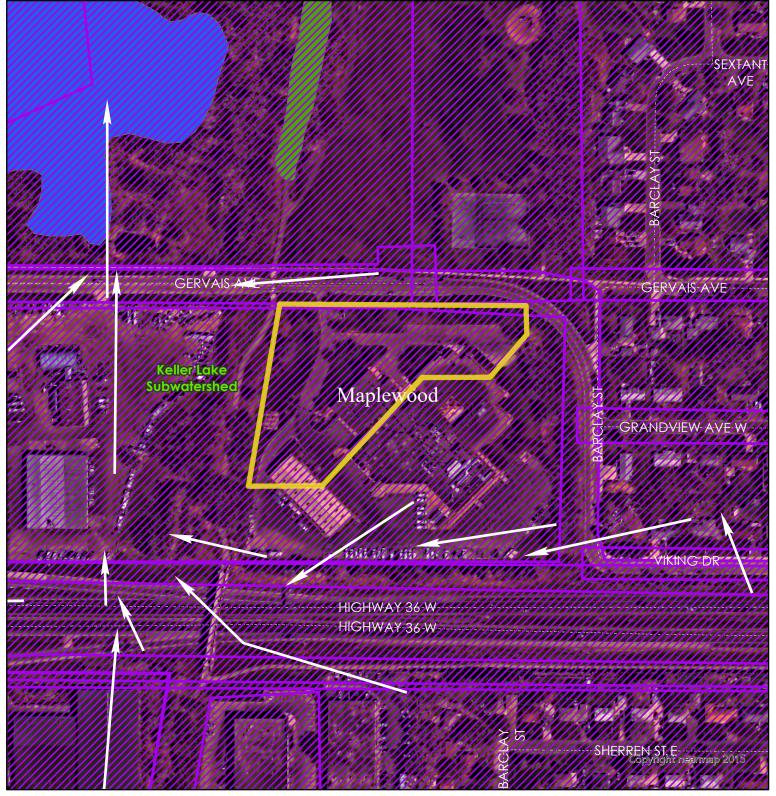
Staff Recommendation

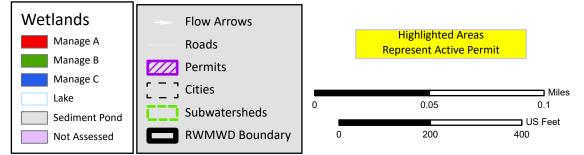
Staff recommends approval of this permit with the special provisions.

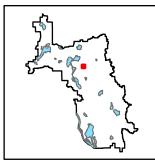
Attachments:

- ✓ Project Location Map
- ✓ Project Grading Plan

#24-09 MnDOT Testing Lab Addition







Ν

24-09

Special Provisions

1. The applicant shall add notes to the plans:

A. Notify Mary Fitzgerald, Ramsey-Washington Metro Watershed District, at 651-792-7956 prior to beginning construction activity in order to schedule an initial erosion control inspection.

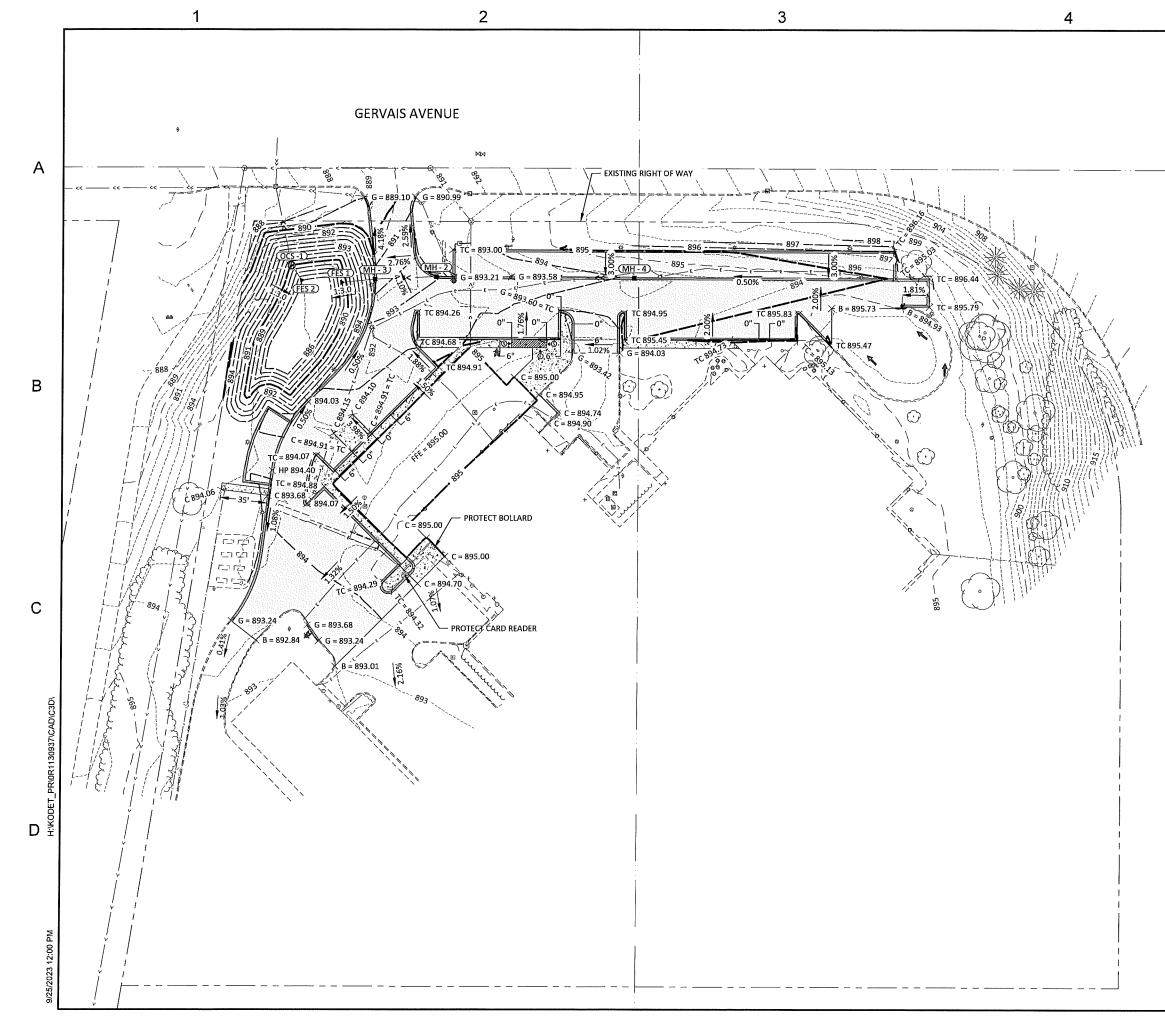
B. Notify Mary Fitzgerald, Ramsey-Washington Metro Watershed District, at 651-792-7956 at least 48 hours prior to construction of the infiltration basin.

2. The applicant shall add perimeter control in all down-gradient disturbed areas on the erosion control plan, including proposed curblines.

3. The applicant shall submit the final, signed plans set.

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

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



	N A V	no beneficial of the second	I hareby carlity but this plan, speatication, or report was prepared by ma at under my direct supervision, and that I am a duly Liconsed Engineer under the laws of the Slate of Minnesons.	DRAFT Daile 12/14/2023	Eggines: Jasen W. Coak P.E. Botan-Neek, Inc.	norman. A series of the data of the series of the
GRADING		Date: 6/15/2023	Project No.: 112723	Drawn By: TJH	Checked By: JWC	and the second distribution because the second
2.0% —X" ⑤	SURFACE FLOW DIRECTION CURB HEIGHT INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0% INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0% LANDING AREA - 4'X4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS PROPOSED TOP OF CURB PROPOSED TOP OF CONCRETE PROPOSED TOP OF BITUMINOUS PROPOSED TOP OF BITUMINOUS PROPOSED MAJOR CONTOUR	Revisions		Groveland 1 errace Minneapolis, MN 55403-1154	612.377.2737) www.kodet.com	print, discidente los optimies est una for contractions with anne offen protect for which there have not here interested and for excitent and a memory and a second of the second and for excitent and a second of the second and for excitent and a second and for excitent and a second of the second and for excitent and a second and a second and for excitent and a second a second and a se
895	PROPOSED MINOR CONTOUR EXISTING MAJOR CONTOUR EXISTING MINOR CONTOUR HIGH WATER LEVEL 2 - YEAR 100 - YEAR 100 - YEAR 889.04 890.19 892.51	() 		15 Groveland		The above drawnys, specifications and ideas, design and arrangements represented are and shall remain the property of the Architect, and no part shall be corried, discreted to a
		Band Annor Maplewood Test Lab	2 C Training Lab Addition	Maplewood, MN)2	The stove drawings, specifications and ideas, design and strange

Permit Application Coversheet

Date	Februa	ry 07, 2	024			
Project	Name	St. Pau	I Samuel H. Morgan Trail Reconstructio	Project Number	24-10	
Applica	nt Nam	e Brya	an Murphy, St. Paul Parks & Recreation			
Type of	Develo	pment	Trail			

Property Description

This project is located on the Samuel H. Morgan Regional Trail that follows Shepard/Warner Road near the Mississippi River in the City of St. Paul. The applicant is proposing to reconstruct designated sections of trail and incorporate additional improvements like utilities, lighting, and ADA updates. A majority of the project is located in Capitol Region Watershed District (CRWD), and those portions will be permitted separately. The disturbed area within RWMWD is 0.8 acre and is considered part of a common plan of development exceeding 1 acre, thus stormwater management is required. Vegetated filter strips will be incorporated to meet rate control requirements onsite, however water quality (volume reduction) treatment is not being provided due to spatial constraints. The applicant is proposing to pay into the Stormwater Impact Fund per RWMWD's Rule C Alternative Compliance Sequencing.

U Wetlands

Stormwater Management

🗆 Floodplain

Erosion and Sediment Control

Water Quantity Considerations

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

Water Quality Considerations

Short Term

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

Long Term

The proposed payment into the Stormwater Impact Fund will be allotted to a future volume reduction project to protect the long term quality of downstream water resources.

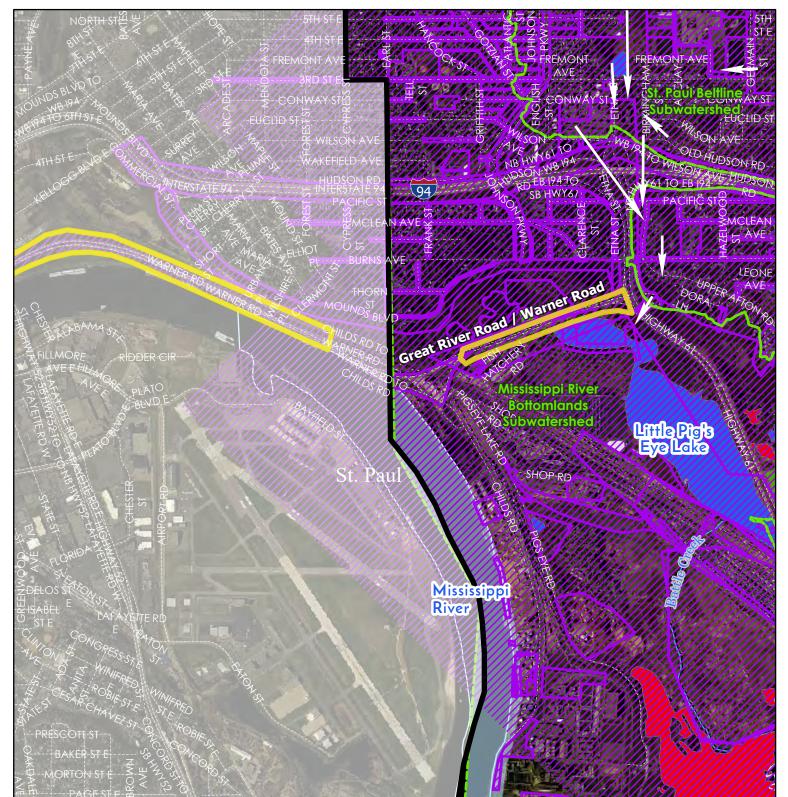
Staff Recommendation

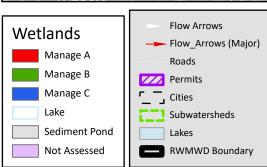
Staff recommends approval of this permit with the special provisions.

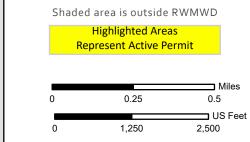
Attachments:

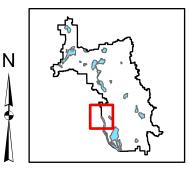
- Project Location Map
- □ Project Grading Plan

#24-10 St. Paul Samuel H. Morgan Trail Reconstruction









24-10

Special Provisions

1. The applicant shall add a note to the plans that the specified erosion and sediment control practices are the minimum. Additional practices may be required during construction.

2. The applicant shall submit the final, signed plans set.

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

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

5. The applicant shall submit a payment into the Stormwater Impact Fund of \$46,250.

Consent Agenda Action Item

Board Meeting Date:	February 7, 2024	Agenda Item No: <u>4D</u>
Preparer:	Tina Carstens, Administrator	
Item Description:	Change Order No. 4 for the Arbogast Underg Filter Project	round Stormwater

Background:

Change order 4 for the Arbogast Underground Stormwater Filter Project is attached. This change order is in relation to the reduction in concrete vault strength and the error in testing. This change order will reduce the project retainage by \$3,500.

Applicable District Goal and Action Item:

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

Action Item: Implement retrofit water quality improvement projects.

Staff Recommendation:

Approve Change Order No. 4.

Financial Implications:

This change order withholds \$3,500 from the project retainage.

Board Action Requested:

Approve Change Order No. 4.

Change Order No. 4 Ramsey-Washington Metro Watershed District Arbogast Underground Stormwater Filter

DATE OF ISSUANCE: January 24, 2024

- Owner: Ramsey-Washington Metro Watershed District 2665 Noel Drive Little Canada, MN 55117 Attn: Val Eisele
- Contractor: Shoreline Landscaping & Contracting 29159 Ivywood Trail Chisago City, MN 55013 Attn: Stephan McLafferty
- Engineer:Barr Engineering Company4300 MarketPointe Drive, Suite 200Minneapolis, MN 55435Attn: Erin Anderson Wenz

C.O.4.A Reduction in Concrete Vault Strength

Description of Change:

The concrete filter vault design required a strength of 4,500 psi to provide the code-required strength and durability of the vault in compliance with the American Concrete Institute (ACI) 318-19. However, the concrete testing submittals reveal that the concrete did not reach the design strength per code. After checking the design calculations, Barr determined that the concrete *strength* achieved is structurally adequate for the forces applied, but the *durability* of the concrete, does not meet specifications (in compliance with ACI 318 19.3.2.1). Barr estimates that the durability of the portion of the structure exposed to freezing and thawing is decreased by approximately 2 percent. This decrease is estimated to reduce the life span of the structure by approximately 0.5 years. To replace the system at the end of its estimated life, RWMWD would need to pay for it approximately 0.5 years earlier than designed. Using engineering economics equations that assume a 30-year average inflation rate of 2.5%, RWMWD would need to account for an addition \$3,500 in present value dollars to replace the system.

Change in Contract Time:

None

Total Impact on Contract Price:

The decreased longevity of the concrete structure results in a revised bid price of the Cast in Place Vault (bid item line 22.P on the bid form) from the original bid price of \$283,000 to \$279,500. Since full

payment for the bid item at the original bid price was issued, a reduction of \$3,500 will be withheld from the project retainage to reflect the revised bid price.

Attachments:

Cast-in-Place Concrete Strength Deficiency Memo (dated 11/27/2023) to RWMWD Board of • Managers

This Change Order No. 4 is:

Huli Willingh

Date: January 24, 2024

Authorized By: (OWNER)

Submitted By:

(ENGINEER)

Val Eisele, President Ramsey-Washington Metro Watershed District

Stephan McLafferty

Approved By: (CONTRACTOR)

Stephan McLafferty, Owner Shoreline Landscaping and Contracting

Date: January 24,2024

Date: _____

Barr Engineering Company

Leslie DellAngelo, Project Engineer





Memorandum

To:	RWMWD Board of Managers
From:	Leslie DellAngelo and BJ Siljenberg, Barr Engineering Co.
Subject:	Cast-in-Place Concrete Strength Deficiency
Date:	November 27, 2023
Project:	Arbogast Underground Stormwater Filter
C:	Tina Carstens, Paige Ahlborg

In this memo, we present a summary of the concrete testing results and the strength deficiencies from the concrete mixes used to construct the Arbogast Underground Stormwater Filter vault. The design required a strength of 4,500 psi to provide the code-required strength and durability of the vault in compliance with the American Concrete Institute (ACI) 318-19. However, the concrete testing submittals reveal that two of the three concrete cylinder batches did not reach the design strength at the 28-day cylinder break. Barr requested the 56-day cylinder break results; however, they are unavailable since the testing lab discarded the samples.

Because additional 56-day concrete strength tests cannot be performed, Barr checked the design calculations using the lowest strength test result. We determined that 4,160 psi concrete strength is structurally adequate for the forces implied; therefore, we do not have structural strength concerns with the concrete as it was placed. However, strength also impacts durability, and the structure's exterior location and exposure to freezing conditions require 4,500 psi concrete (in compliance with the ACI 318 19.3.2.1).

You may consider the following options going forward:

- You may accept the concrete vault as is without additional testing or treatment. The two 28-day
 tests that don't meet the strength requirement in the code are 2–3% less than the specified 4,500
 psi. It is likely that concrete has or will eventually reach the 4,500 psi strength requirement with
 time, as concrete continues to cure for years after placement. However, without the test cylinders,
 we cannot verify that the strength requirement has been met without damaging the concrete
 vault. (See option #2.)
- 2. Strength testing of the in-situ concrete could be performed to test if the minimum strength is met. This involves drilling into the vault walls and foundation slab to remove cores that are then broken in the laboratory. The presence of the core hole repair may negatively impact the tank's ability to seal properly and, therefore, could create new issues.

- 3. To reduce moisture infiltration and freeze-thaw impacts—thus increasing the durability—a coating could be added to the surface of the concrete. This coating would likely not last as long as the concrete and would, therefore, require re-application in several years.
- 4. You may request a reimbursement from the contractor to compensate for potential future repairs related to the reduced durability. If this is selected, we would need to determine a fair reimbursement amount; no standard approach has been developed for this type of concrete structure.

Below is a summary of the concrete test results and requirements as you consider your options.

Test Report No:	CTR:AET- 127856-C1	CTR:AET- 121745-C1	CTR:AET- 128389-C1	CTR:AET- 121514-C1	Notes
Concrete Pour Location	North/South Walls	Foundation Slab—North	Weir Wall	Foundation Slab—South	
Barr-Approved Mix Design (psi)	4,500	4,500	4,500	4,500	ACI 318 Table 19.3.2.1
Test Report Reference Target Strength (psi)	4,000	4,000	4,000	4,500	
7-day (psi)	3,950	3,760	3,200	4,630	
28-day (psi)	4,160	4,350	5,350		
28-day (psi)	4,640	4,350	5,440		
28-day (psi)	4,490	4,390	5,470		
Average 28-day (psi)	4,430	4,363	5,420		
% of specified	<mark>98</mark> %	97 %	120%		
Air-entrainment:	6.6%	7.0%	5.2%	6.8%	6% per ACI 318 Table 19.3.3.1 +/- 1.5% per 03 30 00 2.05 E.1

Table 1 AET Concrete Testing Results

Erin will be available at the December 13 board meeting to answer any questions you may have as you consider your options.

Consent Agenda Item

Board Meeting Date:	February 7, 2024	Agenda Item No: <u>4E</u>
Preparer:	Tina Carstens, Administrator	
Item Description:	District Liability Insurance Coverage Waiver	

Background:

As required by our annual insurance renewal application, we need to stipulate whether the District waives the tort liability limits set by the legislature for government agencies. The District has historically chosen to not waive the liability limits, which limits our exposure to liability claims to the legislative limit of \$500,000 per individual or \$1,500,000 in total. I have completed the form accordingly and attached it to this request for board action.

Applicable District Goal and Action Item:

Goal: Manage effectively: The District will operate in a manner that achieves its mission while adhering to its core principles.

Action Item: Follow all legal requirements applicable to watershed districts.

Staff Recommendation:

Approve the Liability Coverage Waiver Form indicating the District does not waive the monetary limits on municipal tort liability.

Financial Implications:

There are no budget implications for this action at this time.

Board Action Requested:

Approve the Liability Coverage Waiver Form indicating the District does not waive the monetary limits on municipal tort liability.



LIABILITY COVERAGE WAIVER FORM

Members who obtain liability coverage through the League of Minnesota Cities Insurance Trust (LMCIT) must complete and return this form to LMCIT before their effective date of coverage. <u>Email completed form to your city's underwriter</u>, to <u>pstech@lmc.org</u>, or fax to 651.281.1298.

Members who obtain liability coverage from LMCIT must decide whether to waive the statutory tort liability limits to the extent of the coverage purchased. *The decision to waive or not waive the statutory tort limits must be made annually by the member's governing body, in consultation with its attorney if necessary.* The decision has the following effects:

- *If the member does not waive the statutory tort limits*, an individual claimant could recover no more than \$500,000 on any claim to which the statutory tort limits apply. The total all claimants could recover for a single occurrence to which the statutory tort limits apply would be limited to \$1,500,000. These statutory tort limits would apply regardless of whether the member purchases the optional LMCIT excess liability coverage.
- If the member waives the statutory tort limits and does not purchase excess liability coverage, a single claimant could recover up to \$2,000,000 for a single occurrence (under the waive option, the tort cap liability limits are only waived to the extent of the member's liability coverage limits, and the LMCIT per occurrence limit is \$2,000,000). The total all claimants could recover for a single occurrence to which the statutory tort limits apply would also be limited to \$2,000,000, regardless of the number of claimants.
- *If the member waives the statutory tort limits and purchases excess liability coverage*, a single claimant could potentially recover an amount up to the limit of the coverage purchased. The total all claimants could recover for a single occurrence to which the statutory tort limits apply would also be limited to the amount of coverage purchased, regardless of the number of claimants.

Claims to which the statutory municipal tort limits do not apply are not affected by this decision.

LMCIT Member Name: Ramsey-Washington Metro Watershed District

Check one:

The member **DOES NOT WAIVE** the monetary limits on municipal tort liability established by <u>Minn. Stat. §</u> 466.04.

 \Box The member **WAIVES** the monetary limits on municipal tort liability established by <u>Minn. Stat. § 466.04</u>, to the extent of the limits of the liability coverage obtained from LMCIT.

Date of member's governing body meeting: February 7, 2024

Signature:	Tina Carstens
0 -	

Position: Administrator

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Permit Program ********



MEMORANDUM

Date: February 7th, 2024

To: Board of Managers and Staff

- **From:** Nicole Maras, Permit Coordinator Mary Fitzgerald, District Inspector
- **Subject:** January Enforcement Action Report

During January 2024:

Number of Violations:		
Install/Maintain Perimeter Control	2	

Activities, Trainings, and Coordination Meetings:

Active permit site monitoring and inspections, permitting assistance to private developers and public entities, Wetland Conservation Act (WCA) administration & procedures, new permit review with Barr Engineering, initial erosion control walkthroughs, GEOPaths STEM Justice Training through the Kitty Anderson Youth Science Center, CSWEA Drivers for Decision Making: Resiliency, Diversity and Public Outreach for Stormwater Projects webinar, stormwater presentation at DNR LGU Monthly Forum, MPCA Stormwater Seminar: Capturing and Quantifying Coarse Organic Matter in Urban Stormwater, The Heights wetland mitigation check-in meeting, Strategic Diversity Initiatives staff training, CRWD and RWMWD regulatory team check-in, MECA Pre-Conference workshop: Analyzing Soils for Wetlands and Stormwater, MECA Pre-Conference workshop: MS4 Program, GreenCorps Alumni Association kickoff meeting

Single Lot Residential Permits Approved by Staff:

24-07 668 Hwy 96 W (Shoreview)

Permits Closed:

None

Program/Project Updates:

21-32 Rooney 2nd Addition (White Bear Lake)

Staff have been working diligently to resolve ongoing issues with permit ownership and erosion & sediment control non-compliance at the single-family home development located in White Bear Lake. Since the last board meeting, staff and the District's attorney have verified the permit holder of the project still possesses ownership of the project and will be responsible for all permit rules going forward.

After many communications through the month of January, contractors provided erosion and sediment control updates/photos of the site on January 29th. The site has responded to action items pertaining to perimeter control installation and maintenance, construction debris clean-up, and soil stabilization. Additional communication needs to occur between the contractor, the city, and the District regarding who is responsible for maintaining and completing the permanent filtration basin, which will be owned by the city at the end of the project. The site is also working on submitting information for the



certified individual responsible for completing the site's weekly and 0.5"> rain event inspections, which are required by state permitting.

23-11 Reuter Walton Apartments II (Little Canada)

Staff conducted a routine inspection at the future apartment site on January 3rd. During this inspection, staff discovered that perimeter control had not been reinstalled after it was removed for short-term work relating to installation of a privacy fence. Staff communicated to the site that this was considered non-compliant, and that perimeter control must be reinstalled immediately. The site responded promptly and had new biologs installed along the fence by the end of the day.



Staff photo

Contractor photo

Wetland Conservation Act (WCA) Violation Site (Woodbury)

District staff were notified of a possible wetland violation in Woodbury during November 2023. Staff from the watershed district, BWSR, and City of Woodbury completed a joint site visit on 12/5/23 to investigate. It appears that a private residential property owner has been engaging in earth-moving activity and excavation in two wetland areas on adjacent property owned by the city. Due to these findings, the city attorney sent the resident a cease and desist letter on 12/14/23. District staff worked with BWSR and Washington Conservation District to prepare a WCA Technical Evaluation Panel (TEP) Findings form to outline what was observed and what actions will need to be taken to restore the wetland. From here, Washington Conservation District and the DNR are working on preparing and issuing a restoration order to the city (landowner where the impacts occurred). Since the impacts occurred on city property by a private landowner, it's expected that the city will complete the restoration work and seek remediation through legal judgements or settlement with the resident to cover associated costs.



Top: Wetland excavation and fill impacts Bottom: Wetland fill impacts



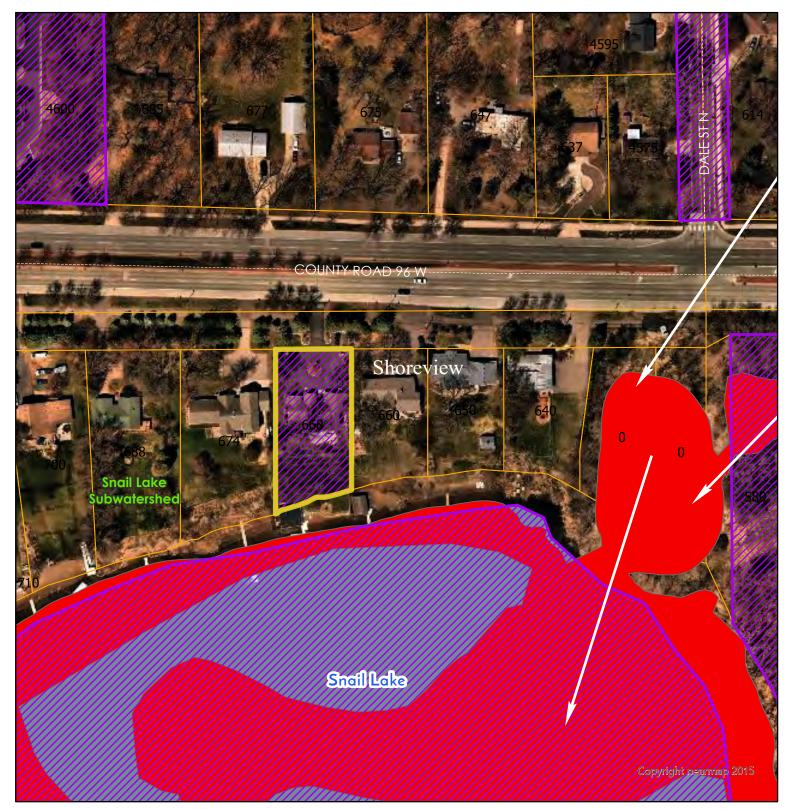
Permit Application Coversheet

Date January 09, 2024	
Project Name 668 Hwy 96 W	Project Number 24-07
Applicant Name Timothy Ley, Homeowner	
Type of Development Residential	
Property Description	
This project is located at 668 Highway 96 West in the proposing to construct a 'non-habitable' boathouse str boathouse constructed in 1968 and currently located a new boathouse of the same footprint will be construct 100-year floodplain elevation of 886.5'. An existing fire removed from the shoreline area. The majority of mate within the floodplain, just moved to a higher elevation. gravel will be imported from offsite for the foundation of material will be removed and deposited above 886.5 floodplain. Erosion control practices in accordance wit requirements will be installed and maintained until per	ructure on the property. An existing at the water's edge will be removed. A ted further upland, although below the pit and landscaping rock will be erials and earthwork remains the same . Approximately 5.8 cubic yards of of the structure, so an equal amount 5' to achieve no net fill in the th the City of Shoreview's permit
Watershed District Policies or Standards Involved:	
□ Wetlands □ Erosion and Se	ediment Control
🗆 Stormwater Management 🛛 🗹 Floodplain	
Water Quantity Considerations The proposed site plan results in no net loss of floodp	lain storage.
Water Quality Considerations <i>Short Term</i> An erosion control plan is being proposed to meet the	City of Shoreview's requirements.
Long Term	
There are no long term water quality considerations.	
Staff Recommendation Staff approves the permit.	
Attachments:	

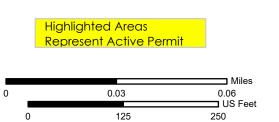
✓ Project Location Map

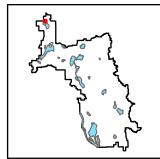
Project Grading Plan

#24-07 668 Hwy 96 W









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Stewardship Grant Program

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Stewardship Grant Program Budget Status Update

February 7, 2024

Homeowner	Coverage	Number of Projects: 4	Funds Allocated
Habitat Restoration and rain garden w/o hard surface drainage	50% Cost Share \$15,000 Max	4	\$10,923
Rain garden w/hard surface drainage, pervious pavement, green roof	75% Cost Share \$15,000 Max	0	\$0
MN Water Steward Project	100% Cost Share \$15,000 Max	0	\$0
Shoreland Restoration 100% Cost Share \$15,000 Max		0	\$0

Commercial, School, Government, Church, Associations, etc.	Coverage	Number of Projects: 1	Funds Allocated
Habitat Restoration	50% Cost Share \$15,000 Max	0	\$0
Shoreland Restoration (below 100-year flood elevation w/actively eroding banks)	100% Cost Share \$100,000 Max	0	\$0
Priority Area Projects	100% Cost Share \$100,000 Max	1	\$100,000
Non-Priority Area Projects	75% Cost Share \$50,000 Max	0	\$0
Public Art (\$50,000 Reserved)	50% Cost Share \$15,000 Max/Project	0	\$0
Aquatic Veg Harvest/LVMP Development	50% Cost Share \$15,000 Max	0	\$0
Enhanced Street Sweeping (\$250,000 Reserved)	Varies	1	\$3,000

Maintenance	50% Cost Share \$7,500 Max for 5 Years	64	\$45,625
Consultant Fees			\$2,660
Total Allocated			\$162,208

2024 Stewardship Grant Program Budget	
Budget	\$1,250,000
Total Funds Allocated	\$162,660
Total Available Funds	\$1,087,340

* * * * * * * * * * * *

Action Items *******

Request for Board Action

Board Meeting Date:	February 7, 2024	Agenda Item No: <u>8A</u>
Preparer:	Tina Carstens, Administrator	
Item Description:	2023 Targeted Retrofit Project Accept Plans & Roosevelt Homes Phase 2	& Solicit Bids –

Background:

See attached memo for more information on the Roosevelt Homes project.

This project was planned through our Targeted Retrofit program and will be funded through this project fund. The engineer's opinion of probably project construction cost is \$93,600. After approval at this meeting, the bidding process will be followed with a selection of contractor coming to the board for approval in March.

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:

Staff recommends approval of the preliminary design, estimated costs, and proposed project schedule, and direct staff to finalize the design and bidding documents and solicit bid proposals.

Financial Implications:

This project will be funded from the district's Targeted Retrofit Fund where there are sufficient funds available.

Board Action Requested:

Approve the preliminary design, estimated costs, and proposed project schedule, and direct staff to finalize the design and bidding documents and solicit bid proposals.





Technical Memorandum

 To: RWMWD Board of Managers
 From: Marcy Bean, Matt Metzger, Andrew Papke-Larson, and Brandon Barnes
 Subject: 100% Design Summary for Roosevelt Homes Stormwater Retrofit – Landscape Improvements (Phase 2)
 Date: January 30, 2024
 Project: 23/62-1477 (Phase 2)
 c: Paige Ahlborg (RWMWD), Tina Carstens (RWMWD), Brent Feller (St. Paul Housing Authority)

1 Introduction

This memorandum summarizes the 100%-level designs of the second phase of improvements to support stormwater management at Roosevelt Homes. The location of the project is shown in Figure 1, showing the phase of work near Ames Avenue in St. Paul. This project is being designed in phases to assist St. Paul Housing Authority (SPHA) in mitigating frequent flooding at parts of the Roosevelt Homes property in St. Paul, similar to the flooding that occurred on the property in the summer of 2022 as shown in Figure 2.



Figure 1 Project Location

To:RWMWD Board of ManagersFrom:Marcy Bean, Matt Metzger, Andrew Papke-Larson, and Brandon BarnesSubject:100% Design Summary for Roosevelt Homes Stormwater Retrofit – Landscape Improvements (Phase 2)Date:January 30, 2024Page:2





Figure 2 August 2022 Flooding on Roosevelt Homes Property

Poor drainage within the property resulted in flood damage to existing buildings and property within the Roosevelt Homes development in August 2022.

2 Stormwater Retrofit Design

In 2022, Barr and RWMWD staff began meeting with SPHA to better understand the extents of flooding at the Roosevelt Community Center and surrounding housing community. Regular flooding of the maintenance facility garage is a primary concern, as well as resident parking lots where flood waters often cause damage, as shown in Figure 2. The site is bisected by Ames Avenue, where some water enters the site from the street and flows into the maintenance facility. In addition, limited capacity within the existing pipe system keeps water from leaving the site efficiently.

With these constraints in mind, Barr reviewed and updated stormwater models for the area. We then evaluated design options for providing additional flood storage on site (Phase 1, constructed in 2023) and making small scale changes to site grades to improve overland conveyance (Phase 3, 2024) to direct water to these storage areas. Phase 2 is focused on vegetative components of the two basins, as well as conversion of over an acre of turf to native vegetation.

3 Implementation

In Winter 2023, the first phase of work was complete. The first phase included construction of inlet structures, pipes, and excavation of two stormwater basins. The second phase of work will complete the two basins by planting native vegetation and stabilizing slopes. In addition, habitat is being improved through removal of over one acre of turf on a steep slope, being replaced with shortgrass prairie. The decision to split these projects into phases allowed for the vegetation work to be completed by a plant specialist and include the 2-year vegetation maintenance period the District provides to property owners.

To:RWMWD Board of ManagersFrom:Marcy Bean, Matt Metzger, Andrew Papke-Larson, and Brandon BarnesSubject:100% Design Summary for Roosevelt Homes Stormwater Retrofit – Landscape Improvements (Phase 2)Date:January 30, 2024Page:3



Figure 3 December 2023 Construction of Phase 1

Two basins (west at left, east at right) were constructed as part of the Phase 1 work in winter 2023. Phase 2 includes planting of both basins.



Figure 4 Roosevelt Homes Property Turf Reduction

Over an acre of turf on this steep slope will be converted into prairie habitat as part of Phase 2. In addition to creating habitat, the prairie plantings will support improved infiltration and slow runoff.

4 Engineer's Opinion of Probable Cost

The 100% Landscape Improvements plan sheets are attached to this memo. A summary of cost, based on construction costs of Phase 1, engineer's opinion of probable cost for Phase 2, are included in Table 1.

Phase of work	Actual Construction Cost	Engineer 's Opinion of Probable Project Construction Cost	Engineer's Opinion of Probable Cost Estimated Accuracy Range (-5% to +10%)	Total Estimated Construction Cost Through Phase 2
Phase 1 (Basin construction)	\$72,068.50			\$72,068.50
Phase 2 (Landscape improvements)		\$93,600	\$88,900 - \$103,000	\$93,600.00
Estimated Total Through Phase 2				\$165,668.50

 Table 1
 Summary of Phases 1 & 2 Costs for Roosevelt Homes Stormwater Retrofit

The Estimated Accuracy Range for the Engineer's Opinion of Probable Cost for the project ranges from -5% to +10%. The opinion of cost is intended to provide assistance in evaluating and comparing the project bids and should not be assumed as an absolute rule. The Association for the Advancement of Cost Engineering (AACE) Class 1 opinion of cost was used to define the estimated accuracy range based on the level of project definition.

5 Recommendations

Barr recommends seeking bids for the project to select a contractor for installation of plantings. SPHA is willing to provide area to implement improvements and provide long-term maintenance.

6 Schedule

Pending Board approval to bid the Roosevelt Homes Stormwater Retrofit Phase 2, Barr will conduct the project bidding process in February 2024, with the intent to bring back to the Board in March to approve award of a bid. After bidding, if a responsible low bidder is identified, the project could begin installation as early as April 1, 2024 if weather conditions allow.

Attachments

- Specifications Outline (Table of Contents)
- 100% Plans for the Roosevelt Homes Landscape Improvements

Attachment: Specifications Outline (Table of Contents)

In addition to the attached plans, bid documents are complete and include the following specifications:

Front End Specifications:

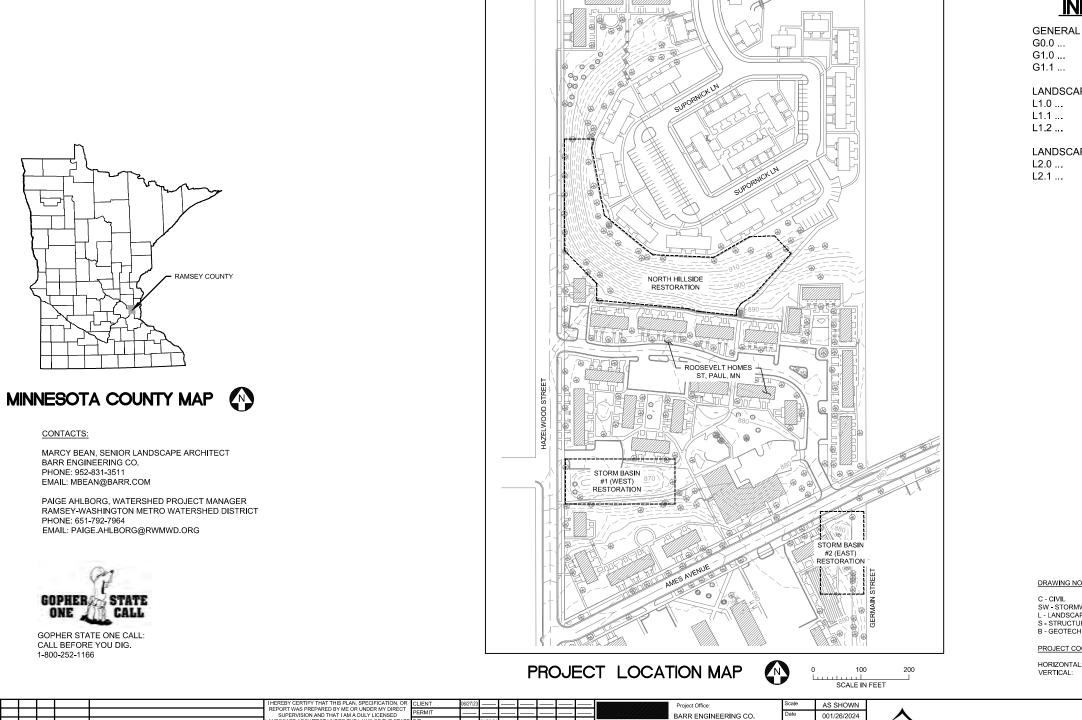
Cover Letter, including Certification Page Instructions to Bidders Bid Form Responsible Bidder Affidavit Form of Agreement General Conditions Supplementary Conditions

Technical Specifications:

- 01 11 00 Summary of Work
- 01 22 00 Unit Price Measurement
- 01 29 00 Payment Procedures
- 01 35 23 Safety
- 01 55 26 Traffic Control
- 01 77 00 Closeout Procedures
- 32 97 00 Vegetation Establishment

Attachment: 100% Plans for the Roosevelt Homes Landscape Improvements

ROOSEVELT HOMES LANDSCAPE IMPROVEMENTS **RAMSEY-WASHINGTON METRO WATERSHED DISTRICT** ST. PAUL, MN



0 1 2

DATE RELEASED

ABC

RELEASED

TO/FOR

		DARK ENGINEERING CO.		001/20/2024		
_	RARR	4300 MARKETPOINTE DRIVE SUITE 200	Drawn	DJS2/AMP3	Í	RAMSEY-WASHINGTON
-		MINNEAPOLIS, MN 55435	Checked	MDB3	123	
	Corporate Headquarters: Minneapolis, Minnesota	Ph: 1-800-632-2277 Fax: (952) 832-2601	Designed	BARR		METRO WATERSHED DISTRICT
	Ph: 1-800-632-2277	rax: (952) 632-2601	Approved	MDB3		

MARCY BEAN, SENIOR LANDSCAPE ARCHITECT BARR ENGINEERING CO. PHONE: 952-831-3511 EMAIL: MBEAN@BARR.COM

RELIMINARY DESIGN

REVISION DESCRIPTION

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT PHONE: 651-792-7964 EMAIL: PAIGE.AHLBORG@RWMWD.ORG

OF MINNESOTA

ATE 01/26/2024 LICENSE # 48430

TED NAME MARCY BEAN



CONTACTS:

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

DATE

INDEX OF SHEETS

PROJECT LOCATION AND SHEET INDEX GENERAL NOTES TECHNICAL SPECIFICATIONS

LANDSCAPE PLANS L1.0 ... NORTH HILLSIDE LANDSCAPE PLAN STORM BASIN #1 (WEST) LANDSCAPE PLAN L1.2 ... STORM BASIN #2 (EAST) LANDSCAPE PLAN

LANDSCAPE DETAILS L2.0 ... LANDSCAPE DETAILS LANDSCAPE DETAILS

DRAWING NO. PREFIX KEY:

L - LANDSCAPE

VERTICAL:

C - CIVIL SW - STORMWATER EROSION/SEDIMENT CONTROL

S - STRUCTURAL B - GEOTECHNICAL (BORING LOGS)

PROJECT COORDINATE SYSTEM:

HORIZONTAL: RAMSEY COUNTY COORDINATES, NAD83, 2011 ADJUSTMENT NAVD8

ISSUED FOR BID & CONSTRUCTION

	ROOSEVELT HOMES SAINT PAUL, MINNESOTA	BARR PROJECT No. 23621477 (CLIENT PROJECT No.	01
∎ T	LANDSCAPE IMPROVEMENTS COVER SHEET AND SHEET INDEX		REV. No.

GENERAL NOTES:

GENERAL NOTES

- 1 CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY AND ALL DAMAGE RESULTING FROM CONTRACTOR'S WORK CONTRACTOR SHALL REPAIR OR REMOVE, AND/OR REPLACE ITEMS THAT ARE DAMAGED DUE TO CONTRACTOR'S ACTIVITIES. REPAIR OR REPLACEMENT WILL BE AT THE EXPENSE OF CONTRACTOR AND MUST BE PERFORMED TO THE CONDITION, AT MINIMUM, EQUAL TO THE CONDITION PRIOR TO START OF THE WORK.
- 2. ANY PUBLIC INFRASTRUCTURE DAMAGE RESULTING FROM THE CONTRACTORS ACTIVITIES, INCIDENTAL OR OTHERWISE, SHALL BE REPAIRED/REPLACED TO THE SATISFACTION OF THE CITY AT NO COST TO THE CITY.
- 3. SITE SHALL BE KEPT REASONABLY FREE FROM DEBRIS, TRASH AND CONSTRUCTION WASTES RESULTING FROM THE PERFORMANCE OF THE WORK, ALL TRASH, DEBRIS, AND WASTE MATERIALS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR AT A LICENSED WASTE DISPOSAL OR RECYCLING FACILITY, ON A REGULAR BASIS.
- 4. OBSTRUCTION PERMITS: THE CONTRACTOR MUST OBTAIN AN OBSTRUCTION PERMIT IF CONSTRUCTION (INCLUDING SILT FENCES) WILL BLOCK CITY STREETS, SIDEWALKS OR ALLEYS, OR IF DRIVING OVER CURBS.
- 5. A TEMPORARY PEDESTRIAN ACCESS ROUTE (TPAR) AND/OR A TEMPORARY TRAFFIC CONTROL (TTC) PLAN MAY BE REQUIRED AS PART OF THE RIGHT-OF-WAY (ROW) PERMITTING PROCESS. SAID TTC OR TPAR PLANS MUST BE APPROVED BY THE CITY PRIOR TO THE ROW PERMITTING OFFICE ISSUING A PERMIT(S).

EXISTING CONDITIONS

- 1 PRIOR TO COMMENCING WORK AT THE SITE. CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AND HAVE ALL EXISTING UTILITIES, PUBLIC AND PRIVATE, FIELD LOCATED AND MARKED. EXISTING UTILITIES SHALL BE PROTECTED UNLESS OTHERWISE INDICATED. ANY UTILITIES DAMAGED BY CONTRACTOR SHALL BE REPAIRED OR REPLACED AT EXPENSE OF CONTRACTOR.
- 2 IF SITE CONDITIONS OR UTILITIES DIFFER SIGNIFICANTLY FROM SHOWN, CONTRACTOR SHALL NOTIFY ENGINEER/LANDSCAPE
- 3. ALL EXISTING UTILITY SERVICES MUST REMAIN OPERATIONAL FOR THE DURATION OF CONSTRUCTION, UNLESS OTHERWISE NOTED.
- 4. DO NOT DISTURB EXISTING VEGETATION AREAS OUTSIDE OF GRADING EXTENTS, IN ANY CASE, OUTSIDE OF CONSTRUCTION LIMITS.

SAFETY

- 1. IN ACCORDANCE WITH ACCEPTED CONSTRUCTION PRACTICES THE CONTRACTOR IS RESPONSIBLE FOR JOB-SITE CONDITIONS AND SAFETY PROCEDURES AND PROGRAMS, INCLUDING SAFETY AND HEALTH OF ALL PERSONS AND PROPERTY, ON THOSE PORTIONS OF THE PROJECT AREA AFFECTED BY OR USED BY THE CONTRACTOR, EMPLOYEES, SUBCONTRACTORS, AGENTS, AND OTHERS DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF PROPERTY AND THE SAFETY AND HEALTH OF ITS EMPLOYEES, SUBCONTRACTORS, SUPPLIERS, AGENTS AND OTHERS WITHIN THE PROJECT AREA.
- 2. CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE SITE PERIMETER SAFE FOR PUBLIC ON OR ADJACENT TO SITE FOR THE URATION OF THE WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SITE SAFETY PRECAUT
- 3. INSPECTION CONTACT: THE CONTRACTOR SHALL CONTACT THE RIGHT OF WAY INSPECTOR TESHOME HAILEMARIAM, 651-238-0681 (TWO WEEKS PRIOR TO BEGINNING WORK) TO DISCUSS TRAFFIC CONTROL, PEDESTRIAN SAFETY AND COORDINATION OF ALL WORK IN THE PUBLIC RIGHT OF WAY. NOTE: IF A TWO WEEK NOTICE IS NOT PROVIDED TO THE CITY, ANY RESULTING DELAYS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

DEMOLITION

- CONTRACTOR SHALL COORDINATE ALL REMOVALS WITH ENGINEER. CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES AND UTILITIES NOT DESIGNATED FOR REMOVAL. EXISTING UTILITIES AND FACILITIES NOT DESIGNATED FOR REMOVAL SHALL REMAIN OPERATIONAL FOR THE DURATION OF THE WORK, DEMOLISHED DEBRIS, UNLESS OTHERWISE NOTED, SHALL BECOME THI ROPERTY OF CONTRACTOR AND TRANSPORTED OFF SITE FOR RECYCLING OR DISPOSAL IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.
- 2. DEMOLISHED DEBRIS SHALL BE RECYCLED PER THE SPECIFICATIONS OR DISPOSED OF AT AN OFFSITE LOCATION WITHIN ALL LOCAL, STATE AND FEDERAL GUIDELINES, LAWS AND REGULATIONS.
- 3 EXISTING STREET TREES ARE TO BE PROTECTED AT ALL TIMES TREES DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE THE CONTRACTOR IS ADVISED TO THE SATISFACTION OF, AND AT NO COST TO, THE CITY AS DETERMINED BY THE FORESTRY MANAGER. THE CONTRACTOR IS ADVISED TO DOCUMENT PRE-EXISTING CONDITIONS OF THE RIGHT OF WAY PRIOR TO BEGINNING CONSTRUCTION.

WORK HOURS

THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL STRICTLY ADHERE TO THE CITY OF SAINT PAUL RULES FOR WORK 1. HOURS. NO EQUIPMENT SHALL BE STARTED OUTSIDE OF THE STATED WORK HOURS.

PHASING

- 1. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION PHASING WITH ENGINEER. CONSTRUCTION LIMITS FOR ALL PHASES OF WORK SHALL BE COORDINATED WITH ENGINEER.
- 2. CONTRACTOR SHALL PHASE WORK TO MINIMIZE EXPOSED SOIL AND EROSION POTENTIAL.

TRAFFIC MANAGEMENT

- 1. ALL PUBLIC ROADWAYS AND PRIVATE DRIVEWAYS NOT SHOWN AS CLOSED SHALL REMAIN IN SERVICE DURING CONSTRUCTION, UNLESS NOTED OTHERWISE.
- 2. CONTRACTOR IS RESPONSIBLE FOR ADJUSTING WORK TO ALL CURRENT AND FUTURE ROAD CLOSURES AND DETOURS AROUND THE

ENVIRONMENTAL

- 1. CONTRACTOR SHALL INSPECT AND SWEEP PAVED SURFACES TO PREVENT DIRT AND MUD FROM BEING TRACKED OFF SITE. HAUL ROADS SHALL BE MAINTAINED.
- 2. PRIOR TO COMMENCING SITE WORK AND DISTURBING EXISTING VEGETATION, CONTRACTOR MUST ESTABLISH TEMPORARY EROSION CONTROL MEASURES.
- 3. ALL STOCKPILES SHALL BE WITHIN CONSTRUCTION LIMITS. STOCKPILES SHALL BE PROTECTED FROM EROSION IN ACCORDANCE WITH ALL APPLICABLE PERMITS FOR THE WORK
- 4. ALL CONTROL OF WATER AND EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE SEQUENCED, INSTALLED, MAINTAINED AND MONITORED BY CONTRACTOR.
- THE REMOVAL, PRUNING, AND/OR PLANTING OF TREES ON THE PUBLIC BOULEVARD REQUIRES AN APPROVED PERMIT FROM THE CITY FORESTER (651-632-2436). ANY WORK MUST BE COMPLETED BY A LICENSED TREE CONTRACTOR.
- 6 CONSTRUCTION SUPPLIES MATERIALS SPOILS FOURMENT AND VEHICLES SHALL NOT RESTORED OR OPERATED WITHIN THE DRIP LINE OF ANY PUBLIC STREET TREE OR ON TURE BOULEVARDS WITHOUT PRIOR WRITTEN APPROVAL FROM THE CITY FORESTER. IF THE BOULEVARD MUST BE USED FOR CONSTRUCTION ACTIVITIES, SITE ACCESS ROUTES, MATERIAL STORAGE OR OTHER RELATED ACTIVITIES, PROTECTIVE MEASURES APPROVED BY THE CITY FORESTER SHALL BE TAKEN TO REDUCE SOIL COMPACTION AND PROTECT TREE(S) FROM DAMAGE.

SITE

CONTRACTOR IS RESPONSIBLE FOR DAMAGE TO THE MAINLINE SIDEWALK, CURB, DRIVE ACCESS AND BOULEVARD LANDSCAPING CAUSE DURING THE CONSTRUCTION. CONTRACTOR ADVISED TO DOCUMENT PRE-EXISTING CONDITION OF THE RIGHT OF WAY PRIOR TO COMMENCEMENT OF THE CONSTRUCTION.

EARTHWORK NOTES:

GENERAL EXECUTION NOTES:

- 1. IN ORDER TO MAXIMIZE THE INFILTRATION RATE OF THE SOILS. THE CONTRACTOR SHALL MAKE EVERY EFFORT POSSIBLE TO AVOID COMPACTION OF SUBSOILS IN THE BASINS
- 2. EXCESS EXCAVATED MATERIAL AND UNSUITABLE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF
- 3. REMOVE ALL SPECIFIED TREES, SHRUBS AND PLANTS PRIOR TO EXCAVATION AND DISPOSE OF OFFSITE AT A COMPOST FACILITY.

SEQUENCE NOTES:

NOTE: THIS WORK SEQUENCE IS FOR KEY SEQUENCING FLEMENTS AND SHOULD NOT BE CONSIDERED A COMPLETE LIST OF WORK CONTRACTOR SHALL SUPPLEMENT THIS SEQUENCE AS IS NECESSARY FOR PROPER PERFORMANCE OF THE WORK. CONTRACTOR SHALL SUPPLEMENT THIS SEQUENCE FOR ALL WORK SHALL BE COORDINATED WITH ENGINEER.

- 1. CONTRACTOR SHALL FURNISH REQUESTED SUBMITTALS PRIOR TO PROCEEDING WITH WORK FOR WHICH SUBMITTALS ARE REQUESTED, IN ACCORDANCE WITH CONTRACT DOCUMENTS
- 2. INSTALL AND MAINTAIN TRAFFIC MANAGEMENT AND SAFETY MEASURES FOR THE DURATION OF THE WORK
- 3. FIELD LOCATE EXISTING UTILITIES WITHIN CONSTRUCTION LIMITS
- 4. INSTALL EROSION CONTROL MEASURES
- 5. REMOVE EXISTING VEGETATION
- 6. INSTALL TEMPORARY PLUG AT STORM SEWER DIVERSIONS AT EACH STORMWATER FEATURE
- 7 RESTORE AND VEGETATE ALL DISTURBED AREA
- 8. AS DIRECTED BY ENGINEER AFTER VEGETATION IS ESTABLISHED, REMOVE FLOW BYPASS
- 9. MAINTAIN VEGETATION
- 10. REMOVE EROSION CONTROL MEASURES WHEN DIRECTED BY ENGINEER, FOLLOWING VEGETATION ESTABLISHMENT & STABILIZATION

EROSION PREVENTION AND SEDIMENTATION CONTROL NOTES:

CONTRACTOR IS RESPONSIBLE FOR: 1. MPCA CONSTRUCTION GENERAL PERMIT, IF REQUIRED SWPPP, IF REQUIRED

ALL REQUIREMENTS OF PERMITS, IF REQUIRED

EROSION PREVENTION PRACTICES

- CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING EROSION PREVENTION PRACTICES:
- MPCA CONSTRUCTION GENERAL PERMIT. IF REQUIRED
- SWPPP, IF REQUIRED
- ALL REQUIREMENTS OF PERMITS ARE RESPONSIBILITY OF CONTRACTOR
- THE CONTRACTOR SHALL ATTEMPT TO PHASE ALL WORK TO MINIMIZE EROSION AND MAINTAIN VEGETATIVE COVER TO THE EXTENT POSSIBLE. THE LOCATION OF AREAS NOT TO BE DISTURBED MUST BE DELINEATED ON THE SITE BEFORE CONSTRUCTION BEGINS. ALL EXPOSED SOILS MUST BE STABILIZED NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT 5.
- PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED, INCLUDING STOCKPILES WITH SIGNIFICANT SILT, CLAY OR ORGANIC COMPONENTS.

SEDIMENT CONTROL PRACTICES

CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING SEDIMENT CONTROL PRACTICES:

- CONTRACTOR MUST INSTALL ALL DOWN-GRADIENT PERIMETER CONTROLS BEFORE ANY UP-GRADIENT DISTURBANCE
- BEGINS, CONTRACTOR SHALL MAINTAIN PERIMETER CONTROLS UNTIL FILME STABILIZATION. TIMING AND INSTALLATION OF SEDIMENT CONTROL DEVICES CAN BE ADJUSTED BY CONTRACTOR TO ACCOMMODATE SHORT-TERM ACTIVITIES SUCH AS CLEARING AND GRUBBING OR VEHICLE PASSAGE. ANY SHORT-TERM ACTIVITY MUST BE COMPLETED AS QUICKLY AS POSSIBLE AND THE SEDIMENT CONTROL PRACTICES MUST BE INSTALLED IMMEDIATELY AFTER THE ACTIVITY IS COMPLETED AND IN ALL CASES PRIOR TO THE NEXT PRECIPITATION EVENT. IF PRESENT, ALL STORM SEWER INLETS AND OUTLETS SHALL BE PROTECTED BY CONTRACTOR WITH APPROPRIATE
- 3. BMP'S DURING THE WORK. THESE PRACTICES SHALL REMAIN IN PLACE UNTIL THE POTENTIAL SOURCES FOR
- DISCHARGING SEDIMENT OINLETS HAVE BEEN STABILIZED BY CONTRACTOR. TEMPORARY SOIL STOCKPILES MUST HAVE SILT FENCE OR OTHER EFFECTIVE SEDIMENT CONTROLS. SOIL STOCKPILES SHALL NOT BE PLACED WITHIN SURFACE WATERS OR STORMWATER CONVEYANCES. CONTRACTOR SHALL INSTALL SILT FENCE PROTECTION AROUND THE LIMITS OF ALL TEMPORARY SOL STOCKFLIE AREAS. ALL SOL STOCKFLEAT REMAIN UNDISTURBED FOR A PERIOD GREATER THAN ONE MONTH SHALL BE PROTECTED BY CONTRACTOR WITH COVER OF MULCH, EROSION CONTROL MATS, OR PLASTIC SHEETING.
- 5. CONTRACTOR SHALL IMPLEMENT MEASURES TO CONTROL VEHICLE TRACKING OFF SITE

INSPECTIONS AND MAINTENANCE

- CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING THE FOLLOWING INSPECTIONS AND MAINTENANCE: 1. WHEN INSPECTIONS FIND EROSION PREVENTION AND SEDIMENT CONTROL BMP'S THAT ARE NONFUNCTIONAL, ALL NONFUNCTIONAL BMP'S MUST BE REPAIRED, REPLACED OR SUPPLEMENTED WITH FUNCTIONAL BMP'S WITHIN 24 HOURS AFTER DISCOVERY
- THE CONTRACTOR MUST ROUTINELY INSPECT THE SITE ONCE EVERY 7 DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS.
- 3. ALL EROSION CONTROL MEASURES MUST BE INSTALLED AND MAINTAINED BY CONTRACTOR ACCORDING TO THE DETAILS INCLUDED IN THE CONSTRUCTION DOCUMENTS AND IN ACCORDANCE WITH THE PRODUCT MANUFACTURER: RECOMMENDATIONS.
- ALL SEDIMENT DEPOSITS WITHIN SURFACE WATERS OR STORMWATER CONVEYANCES MUST BE REMOVED AND RESTABILIZED BY CONTRACTOR WITHIN 7 DAYS OF DISCOVERY, INCLUDING DELTAS AND STORM SEWER SEDIMENT DEPOSITS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED, IF NECESSARY, FOR SUCH SEDIMENT REMOVAL.
- CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING EXISTING PAVED SURFACES CLEAN OF SEDIMENT. CONSTRUCTION ENTRANCES SHALL BE CHECKED DAILY BY CONTRACTOR. IF THE ENTRANCE BECOMES INUNDATED WITH SEDIMENT, THE ENTRANCE WILL BE CLEANED OR REPLACED AS APPROPRIATE BY CONTRACTOR. STREETS LEADING TO AND FROM THE 5. CONSTRUCTION ENTRANCE SHALL BE CHECKED DAILY BY CONTRACTOR FOR EVIDENCE OF OFE-SITE SEDIMENT TRACKING ONTO PAVED SURFACES. THESE AREAS WILL BE SWEPT CLEAN OF ANY TRACKED MATERIALS BY CONTRACTOR AS SOON AS POSSIBLE AND WITHIN 24 HOURS OF DISCOVERY. CONTRACTOR SHALL EXTEND SWEEPING TO THE EXTREMITY OF ANY SEDIMENT TRACKING THAT OCCURS OFF SITE.
- ALL INFLITRATION/FILTRATION AREAS MUST BE INSPECTED BY CONTRACTOR TO ENSURE THAT NO SEDIMENT FROM ONGOING CONSTRUCTION IS ACCUMULATING OVER THE INFILTRATION/FILTRATION AREA. SEDIMENT ACCUMULATED OVER INFILTRATION/FILTRATION MUST BE REMOVED BY CONTRACTOR.
- CONTRACTOR SHALL PROTECT INFILTRATION/FILTRATION AREAS FROM SEDIMENTATION AND OVER-COMPACTION. DURING EXCAVATION, SEDIMENT AND EROSION CONTROL DEVICES MUST BE UTILIZED BY CONTRACTOR TO PREVENT SEDIMENTATION AND THE AREA MUST BE STAKED OFF AND MARKED SO THAT HEAVY CONSTRUCTION EQUIPMENT WILL NOT COMPACT THE SOIL
- INSPECTIONS CAN BE SUSPENDED DUE TO FROZEN GROUND CONDITIONS UNTIL FIRST RUNOFF OCCURS OR CONSTRUCTION ACTIVITIES RESUME.

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REK						REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED	PERMIT	_							BARR ENGINEERING CO.	Date	01/26/2024		
Ľ,						LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE	BID		01/26/24			_		DADD	4300 MARKETPOINTE DRIVE				
à						OF MINNESOTA.	CONSTRUCTION		01/26/24						SUITE 200	Drawn	DJS2/AMP3		RAMSEY-WASHINGTON
ISEI						PRINTED NAME MARCY BEAN	RECORD					_1			MINNEAPOLIS, MN 55435	Checked	MDB3	122	
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CAL		снк.		DATE	REVISION DESCRIPTION	SIGNATURE	TO/FOR				ELEASE			Minneapolis, Minnesota Ph: 1-800-632-2277	Fax: (952) 832-2601	Approved	MDDO		•
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SUMMARY OF WORK:

REFER TO THE BID FORM, TECHNICAL SPECIFICATIONS, MEASURMENT AND PAYMENT SPECIFICATION FOR ADDITIONAL DESCRIPTION OF THE WORK ITEMS.

ISSUED FOR **BID & CONSTRUCTION**

	ROOSEVELT HOMES	BARR PROJECT No.			
		23621477.01			
INGTON	SAINT PAUL, MINNESOTA	CLIENT PROJECT No.			
	LANDSCAPE IMPROVEMENTS				
) DISTRICT		DWG. No.	REV. No.		
	GENERAL NOTES	G-1.0	В		

TECHNICAL SPECIFICATIONS AND SPECIAL PROVISIONS

GENERAL DESCRIPTION

- 1. ALL WORK INCLUDED IN THIS SECTION SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING PARAGRAPHS AND THE PROVISIONS OF THE OTHER CONTRACT DOCUMENTS.
- 2. WORK COVERED UNDER THIS SECTION INCLUDES PROVIDING ALL MATERIALS, EQUIPMENT, AND LABOR TO FURNISH AND INSTALL LANDSCAPE IMPROVEMENTS PRESENTED ON THE DRAWINGS.
- 3. THIS SPECIAL PROVISION AMENDS THE MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2020 EDITION AS DESCRIBED IN THE SECTIONS BELOW.

REFERENCES:

- 1. MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD PLATES MANUAL, CURRENT VERSIONS, HEREAFTER REFERRED TO AS MN/DOT STANDARD PLATES.
- 2. MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2020 EDITION, HEREAFTER REFERRED TO AS MN/DOT STANDARD SPECIFICATIONS.
- 3. AMERICAN SOCIETY FOR TESTING AND MATERIALS, CURRENT EDITION, HEREAFTER REFERRED TO AS ASTM

SUBMITTALS:

CONTRACTOR SHALL SUBMIT THE FOLLOWING TO THE OWNER'S REPRESENTATIVE FOR REVIEW AND DOCUMENTATION; MATERIAL CERTIFICATION PRODUCT INFORMATION FOR

INVASIVE SPECIES REMOVAL SCHEDULE

- 1. SUBMIT WITHIN 30 DAYS OF NOTICE TO PROCEED FOR THE WORK
- 2. DATES OF MOBILIZATION TO SITE, INITIAL CREW SIZE & EQUIPMENT TO BE USED.
- 3. HERBICIDE(S) PRODUCT NAME AND RATE OF APPLICATION.

SEEDING AND PLANTING SUPPLIES AND PLAN

- 1. SUBMIT AT LEAST THREE (3) WEEKS PRIOR TO BEGINNING PLANTING WORK FOR EACH AREA
- 2. NAMES AND ADDRESSES OF ALL SEED AND LIVE PLANT SUPPLIERS, QUANTITIES FROM EACH SUPPLIER.
- 3. PLANT SPECIES, INCLUDING SCIENTIFIC NAMES, SEED BLENDS, PERCENTAGES, WEIGHTS, AND RATIOS
- 4. SEED TESTING RESULTS WHICH INDICATE 80% OR HIGHER VIABILITY. LESSER VIABILITY WILL NOT BE ACCEPTED.
- 5. SEEDING AND PLANTING PLAN, INCLUDING PROPOSED METHODS OF SITE PREPARATION, SEEDING, SPECIES, TYPES OF PROPAGULES, PROPOSED SURFACE PREPARATION, STABILIZATION METHODS, AND EQUIPMENT.
- 6. SEED LABEL FOR EACH SEED CONTAINER OR BULK MIX.
- 7. SEED AFFIDAVIT: WRITTEN AFFIDAVIT CERTIFYING COMPOSITION OF SEED MIXTURES AND INTEGRITY OF PLANT MATERIALS WITH RESPECT TO SPECIES, VARIETY AND SOURCE
- 8. MCIA NOXIOUS WEED SEED-FREE CERTIFICATION LABEL FOR EACH REPRESENTATIVE PRODUCT.
- AT LEAST 14 DAYS PRIOR TO PLANTING, SUBMIT TO LANDSCAPE ARCHITECT FOR APPROVAL:
- 1. PLANT SUBSTITUTIONS LIST (IF NECESSARY)
- 2. PLANT INSTALLATION SCHEDULE

PRODUCT DATA:

- 1. SOIL AMENDMENTS
- 2. FERTILIZERS
- HERBICIDES
- 4. EROSION CONTROL BLANKET
- 5. MULCH MATERIAL 6. TREE PROTECTION FENCING
- IMPORTED TOPSOIL SOURCE & CERTIFICATION W/ GRADATION, SOIL TESTING, PERCENT ORGANICS PER MNDOT.
- VEGETATION ESTABLISHMENT PLAN
- 1. PRIOR TO SUBSTANTIAL COMPLETION, SUBMIT A WRITTEN VEGETATION ESTABLISHMENT PLAN FOR APPROVAL.
- 2. VEGETATION ESTABLISHMENT PLAN SHALL INCLUDE, AT MINIMUM
- 2.a. TARGETED WEEDS TO BE CONTROLLED, INCLUDING METHODS OF CONTROL AND SEASON TARGETING TREATMENT.
- ANTICIPATED HERBICIDE TREATMENTS: PLAN FOR NEIGHBOR NOTIFICATION AND ON-SITE POSTINGS METHOD: AND 2.b. ANTICIPATED LIST OF HERBICIDES.
- 2.c. LANDSCAPE NURTURING REQUIREMENTS
- 2.d. PROPOSED PLANTING AND SEEDING REQUIRED TO MEET THE VEGETATIVE GOALS.
- IF APPLICABLE, A PROCEDURES PLAN FOR PRESCRIBED BURNING, INCLUDING A LIST OF CONTINGENCIES AND PLANNED RESPONSES TO CONTINGENCIES; NOTIFICATION OF NEIGHBORS AND EMERGENCY AGENCIES, FIRE DEPARTMENTS AND 2.e. POLICE DEPARTMENTS: AND A LIST OF REQUIRED PERMITS AND APPROVALS AND ME
- 2.f. HODS FOR COMPLYING WITH THEM.
- 2.g. SUPERVISOR AND CREW LEADER EMAIL ADDRESSES AND CELL PHONE NUMBERS.

ANNUAL VEGETATION REVIEW

1. EACH CALENDAR YEAR, PRIOR TO MAY 15TH AND PRIOR TO SEASONAL WORK COMMENCEMENT, CONTRACTOR SHALL CONDUCT VEGETATION REVIEW WITH THE ENGINEER OR LANDSCAPE ARCHITECT TO DISCUSS EXISTING CONDITIONS, VEGETATIVE GOALS, AND MAINTENANCE NEEDS FOR THE UPCOMING YEAR.

BASIS FOR COMPENSATION:

COMPENSATION FOR ALL WORK COVERED UNDER THIS SECTION OF THESE SPECIFICATIONS SHALL BE AS SET FORTH IN THE CONTRACT DOCUMENTS

LOCATION OF WORK:

THE WORK SHALL BE LOCATED AS SHOWN ON THE DRAWINGS. IT MAY BE NECESSARY FOR LANDSCAPE ARCHITECT TO SHIFT THE VOING HEAD DE CONTROL BLANKET LIMITS, OR SEEDING AREA EXTENS A REASONABLE AMOUNT TO AVOID AN OBSTRUCTION TO THE CONSTRUCTION WORK OR TO REDUCE UTILITY/RIGHT-OF-WAY DIFFICULTIES. NO ADDITIONAL COMPENSATION DUE TO MINOR SHIFT OF LINES. ADDITIONAL COMPENSATION ALLOWED ONLY FOR SHIFTS RESULTING IN ADDITIONAL PLAN QUANTITY OF MATERIAL.

SECTION: MATERIALS & EXECUTION

LIVE PLANTS

DATE

 CONDUCT PLANTING OPERATIONS UNDER FAVORABLE WEATHER CONDITIONS DURING THE FOLLOWING PLANTING SEASONS: SPRING: APRIL 1 TO JUNE 30

BY CERTIFY THAT THIS PLAN. SPECIFICATI

PORT WAS PREPARED BY ME OR UNDER MY DIREC SUPERVISION AND THAT I AM A DULY LICENSED ROFESSIONAL ENGINEER UNDER THE LAWS OF TH

STATE OF MINNESOTA.

ATE 01/26/2024 LICENSE # 48430

NTED NAME MARCY BEAN

FALL: SEPTEMBER 1 TO NOVEMBER 15

ELIMINARY DESIGN

REVISION DESCRIPTION

- 2. NOTIFY ENGINEER/LANDSCAPE ARCHITECT FOUR (4) DAYS IN ADVANCE OF PLANT LAYOUT.
- 3. STAKE LOCATIONS FOR TREES CONFORMING TO THE DRAWINGS AND LAYOUT REMARKS IN THE PLANT SCHEDULE ENGINEER/LANDSCAPE ARCHITECT WILL ADJUST AS NECESSARY AND VERBALLY APPROVE LOCATIONS PRIOR TO INSTALLATION.
- 4. DELIVER PLANTS AFTER PREPARATIONS FOR PLANTING HAVE BEEN COMPLETED AND PLANT IMMEDIATELY. IF PLANTING IS DELAYED MORE THAN 6 HOURS AFTER DELIVERY, SET PLANTS IN SHADE, PROTECT FROM WEATHER AND MECHANICAL DAMAGE. AND KEEP MOIST AND COOL.
- 5. CONTRACTOR SHALL NOT REMOVE CONTAINER GROWN STOCK FROM CONTAINERS UNTIL PLANTING TIME
- 6. CONTRACTOR SHALL LABEL AT LEAST ONE PLANT OF EACH VARIETY IN EACH PLANTING AREA WITH A SECURELY ATTACHED WATERPROOF TAG BEARING LEGIBLE DESIGNATION OF BOTANICAL AND COMMON NAME.
- 7. ALL PLANTS SHALL BE TRUE TO TYPE AND HAVE A VIGOROUS ROOT SYSTEM
- 8. ALL PLANTS SHALL HAVE BEEN IN CURRENT POT A MINIMUM OF SIX (6) WEEKS.
- 9. PLANTS SHALL BE FREE FROM INSECTS AND DISEASES, INCLUDING JUMPING WORMS AND JUMPING WORM LARVAE, AND MUST SHOW APPEARANCE OF NORMAL HEALTH AND VIGOR.
- 10. PLANTS SHALL BE TRUE TO THEIR NAME AS SPECIFIED. THE GENETIC ORIGIN OF ALL PLANTS SHALL BE FROM AS CLOSE TO THE PROJECT LC DE INDE TO SIBLE BUT NO FARTHER THAN A 150 MILE RADUS. NO RELABELED OR RE-BAGGED PLANTS FROM BEYOND THIS MILEAGE LIMIT WILL BE ACCEPTED WITHOUT PRIOR WRITTEN APPROVAL BY THE ENGINEER OR LANDSCAPE ARCHITECT.
- 11. ALL PLANTS SHALL COMPLY WITH THE STATE AND FEDERAL LAWS WITH RESPECT TO INSPECTION FOR PLANT DISEASES AND INSECT INFESTATIONS.

SEEDING REQUIREMENTS

- 1. ALL SEED MIXTURES ARE SHOWN ON THE CONSTRUCTION DRAWINGS.
- 2. SEEDS SHALL BE BLENDED BY THE VENDOR AND THE MIXTURE AND RATION SHALL BE GUARANTEED IN WRITING TO BE SPECIFIED BY PERCENTAGE OR WEIGHT IN THE SEED AND PLANT LISTS. SEED TESTING INDICATING AN 80% OR HIGHER VIABILITY MUST BE SUPPLIED TO THE ENGINEER OR LANDSCAPE ARCHITECT. THIS IS A SUBMITTAL REQUIRED OF THE CONTRACTOR PRIOR TO PAYOUT
- 3. ALL LEGUMES SHALL BE INOCULATED WITH THE PROPER RHIZOBIA AND AT THE APPROPRIATE TIME PRIOR TO PLANTING.
- 4. ALL SEED SHALL BE PACKED AND COVERED IN SUCH A MANNER AS TO INSURE ADEQUATE PROTECTION AGAINST DAMAGE AND MAINTAIN DORMANCY WHILE IN TRANSIT, STORAGE OR DURING PLANTING OPERATIONS.
- 5. ALL SEED SHALL BE TRUE TO THEIR NAME AS SPECIFIED. THEIR ORIGIN SHALL BE KNOWN TO BE LOCAL WITHIN A 150-MILE RADIUS OF THE PROJECT LOCATION. PLANT ORIGINS BEYOND A 150-MILE RADIUS SHALL BE APPROVED IN WRITING BY THE OWNER' REPRESENTATIVE.
- 6. SPECIES AND QUANTITIES TO BE PLANTED SHALL BE THOSE SPECIFIED. SEED MIXTURES AND ANY SUBSTITUTIONS OR CHANGES SHALL BE SUBMITTED IN WRITING TO THE OWNER'S REPRESENTATIVE (LANDSCAPE ARCHITECT) FOR APPROVAL
- 7. SEEDS SHALL BE FREE OF THE PROJECT LOCATION'S STATE IDENTIFIED NOXIOUS WEED SEEDS.
- 8. ALL SEED SHALL BE INSTALLED VIA SEED DRILL, UNLESS CONTRACTOR PROPOSES AN ALTERNATIVE METHOD AND RECEIVES LANDSCAPE ARCHITECT APPROVAL.

9. UPON INSTALLATION, ALL SEEDED AREAS SHALL RECEIVE STABILIZATION.

- EROSION CONTROL BLANKET
- 1. EROSION CONTROL BLANKET SHALL BE EITHER
- 1.a. MN/DOT CATEGORY TYPE 45 NATURAL WOOD FIBER BLANKET
- 1.b. MN/DOT CATEGORY TYPE 20 2S STRAW NATURAL FIBER BLANKET
- 1 c REFER TO PLANS FOR LOCATIONS
- 2. ALL EROSION CONTROL BLANKET SHALL USE ALL NATURAL NETTING AND STITCHING AND SHALL BE IN ACCORDANCE WITH MN/DOT STANDARD SPECIFICATION 3885.
- 3. INSTALL EROSION CONTROL BLANKET IN ACCORDANCE WITH MN/DOT STANDARD SPECIFICATION 2575. INSTALL EROSION CONTROL FABRIC TO THE LINES AND GRADES SHOWN ON THE DRAWINGS AND AS DIRECTED BY THE OWNER'S REPRESENTATIVE. NATURAL WOOD MULCH

1. MULCH IN PLUG AND SHRUB PLANTING AREAS, IN THE AREAS AS SPECIFIED ON THE PLANS, SHALL BE DOUBLE-SHREDDED

- HARDWOOD MULCH, NO COLORIZATION.
- 2. INSTALL MULCH AS SHOWN ON THE DRAWINGS

TREE GUYING AND STAKING

- PROVIDE AS SPECIFIED ON THE DRAWINGS 1. ALL TREES TO BE STAKED TO MAINTAIN PLUMB POSITION AS SHOWN ON THE DRAWINGS & DETAILS.
- CONTRACTOR RESPONSIBLE FOR MAINTAINING TREES IN PLUMB POSITION THROUGHOUT WARRANTY PERIOD.
- 3. REMOVE ALL TREE GUYING AND STAKES AFTER ESTABLISHMENT AND MAINTENANCE PERIOD.
- 4. TREE GUYING AND STAKES ARE INCIDENTAL TO TEE INSTALLATION COST

FOLLOWING REVIEW AND APPROVAL BY LANDSCAPE ARCHITECT.

BARR

PROVIDED ADEQUATE RECORDS AND METER READINGS TO VERIFY QUANTITIES

TREE PROTECTION FENCE

READINGS

OF STRESS

A B C 0 1 2

DATE RELEASED

RELEASED

TO/FOR

- 1. INSTALL TREE PROTECTION FENCING IN LOCATIONS AS INDICATED ON THE DRAWINGS. ORANGE FENCE, OR SNOW FENCE, OR OTHER APPROVED EQUAL, IS ACCEPTABLE UPON APPROVAL OF SUBMITTAL BY THE LANDSCAPE ARCHITECT.
- 2. INSTALL FENCING AS SHOWN ON THE DRAWINGS FOR PROTECTION OF TREES DURING CONSTRUCTION.
- 3. TREE PROTECTION REMOVAL AND DISPOSAL ARE INCIDENTAL TO INSTALLATION AND NO ADDITIONAL COMPENSATION MUST BE MADE, ALL FENCING TO BE REMOVED AND DISPOSED OF AT END OF ESTABLISHMENT PERIOD OR AS DIRECTED BY ENGINEER OR LANDSCAPE ARCHITECT.

WATER

VERIFY WATER SOURCE AND AVAILABILITY PRIOR TO CONSTRUCTION. IF PERMITS OR WATER METERS ARE REQUIRED, THE COST SHALL BE BORN BY THE CONTRACTOR, SUPPLY ALL HOSES AND APPROPRIATE CONNECTORS FROM BUILDING OUTLETS AND/OR HYDRANTS

- 1. WATERING IS REQUIRED FOR ALL SEEDING AND PLANTING AREAS, INCLUDING AREAS RESTORED DUE TO CONSTRUCTION ACTIVITIES. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ADEQUATE, BUT NOT EXCESSIVE, SOIL MOISTURE FOR PLANTS. WATERING MUST RESPOND TO VARYING SEASONAL CONDITIONS, SOIL TYPES, AND DRAINAGE.
- 2. WATERING IS REQUIRED OF NATIVE PLANTS THROUGH THE END OF THE FIRST GROWING SEASON, OR AS REQUESTED BY THE OWNER OR LANDSCAPE ARCHITECT

VEGETATION. ACTUAL QUANTITIES WILL BE DETERMINED BASED ON WEATHER AND THROUGH COORDINATION WITH THE OWNER AND LANDSCAPE ARCHITECT, WATERING SHALL BE MEASURED PER MGAL (THOUSAND GALLONS) BASED ON ACTUAL METER

3. WATERING IS REQUIRED OF ALL TREES AND SHRUBS THROUGH THE END OF THE TWO-YEAR VEGETATION ESTABLISHMENT PERIOD. 4. IF 1" OF RAIN DOES NOT FALL DURING THE PREVIOUS TWO WEEKS, CONTRACTOR IS RESPONSIBLE FOR WATERING ALL

5. IF CONTRACTOR DOES NOT PROVIDE RECORDS OF WATERING, LANDSCAPE ARCHITECT WILL REVIEW PLANT HEALTH AND DETERMINE IF PLANT DEATH WAS DUE TO FAILURE TO WATER. ANY REPLACEMENTS MADE AS PART OF CONTRACTOR'S

7. THE CONTRACTOR MAY BE ELIGIBLE FOR PAYMENT, FOR WATERING DURING THE VEGETATION ESTABLISHMENT PERIOD

Project Office

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BARR ENGINEERING CO.

MINNEAPOLIS, MN 55435

4300 MARKETPOINTE DRIVE

NEGLIGENCE TO WATER WILL BE INSTALLED AT NO ADDITIONAL COST AND WARRANTY OF REPLACED PLANTS WILL RESTART

6. OVER TIME, WATERING MAY BE LIMITED OR REDUCED TO ONLY THOSE PLANTS SUSCEPTIBLE TO DROUGHT OR SHOWING SIGNS

AS SHOWN

01/26/2024

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24

EXCESS EXCAVATED MATERIAL AND UNSUITABLE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED

2. REMOVE ALL SPECIFIED TREES, SHRUBS, PLANTS, AND SOD PRIOR TO EXCAVATION AND DISPOSE OF OFFSITE AT A COMPOST

FIELD QUALITY CONTROL

REMOVALS NOTES

OF OFFSITE.

EACILITY

GRADING STANDARDS

CODES

INSPECTION

5

WARRANTY

REPLACEMENTS

SEASON

PERIOD.

REPLACEMENT

DELAYS

EXCEPTIONS

RAMSEY-WASHINGTO

METRO WATERSHED DISTRIC

UNSATISFACTORY PLANTS

ORIGINAL PLANTING.

INSPECTION

ROOTS FROM DRYING OUT.

QUALITY AND CONDITION.

ESTABLISH AND MAINTAIN QUALITY CONTROL FOR WORK UNDER THIS SECTION TO ASSURE COMPLIANCE WITH CONTRACT REQUIREMENTS AND MAINTAIN RECORDS OF HIS QUALITY CONTROL FOR ALL CONSTRUCTION OPERATIONS.

ALL PLANTS TO COMPLY WITH LOCAL STATE AND FEDERAL LAWS RELATING TO INSPECTION FOR DISEASES AND INSECT INFESTATION.

PLANTS TO MEET REQUIREMENTS SET FORTH IN THESE CONTRACT DOCUMENTS. ADDITIONALLY, PLANTS TO MEET REQUIREMENTS RECOMMENDED BY ANSI Z60.1.

THE ENGINEER OR LANDSCAPE ARCHITECT RESERVES THE RIGHT TO INSPECT ALL PLANTS AT THEIR PLACE OF GROWTH AND LIPON DELIVERY FOR CONFORMITY TO SPECIFICATION REQUIREMENTS, APPROVAL OF MATERIAL AT THOSE TIMES DOES NOT PRECLUDE THE RIGHT OF INSPECTION AND REJECTION DURING PROGRESS OF THE PLANTING WORK.

DELIVERY, STORAGE, HANDLING OF PLANTS

1. SHIP AND STORE PLANTS AND MULCH WITH PROTECTION FROM WEATHER OR OTHER CONDITIONS THAT WOULD DAMAGE THE PRODUCT OR IMPAIR ITS EFFECTIVENESS.

2. ALL PLANTS TO BE SUBJECT TO INSPECTION BY THE LANDSCAPE ARCHITECT AND ITEMS THAT HAVE BECOME WET, MOLDY, OR OTHERWISE DAMAGED IN TRANSIT OR IN STORAGE WILL BE REJECTED.

3. COORDINATE DELIVERY TIME AND INSTALL LIVE PLANTS WITHIN 24 HOURS OF DELIVERY. PROTECT PLANTS AGAINST DRYING AND DAMAGE PRIOR TO PLANTING.

EACH SPECIES SHALL BE HANDLED AND PACKED IN THE MANNER APPROVED FOR THAT PLANT, HAVING REGARD FOR THE SOIL AND CLIMATIC CONDITIONS AT THE TIME AND PLACE OF DIGGING AND DELIVERY, AND TO THE TIME THAT WILL BE CONSUMED WHILE IN TRANSIT OR DELIVERY. ALL PRECAUTIONS THAT ARE CUSTOMARY IN GOOD TRADE PRACTICE SHALL BE TAKEN TO INSURE THE ARRIVAL OF PLANTS IN GOOD CONDITION.

PROTECT PLANTS FROM HEAT AND DRYING OUT IF NOT PLANTED IMMEDIATELY UPON DELIVERY. SET PLANTS ON THE GROUND AND KEEP CONTINUALLY MOIST AND/OR PROTECT WITH A COVERING OF SOIL, MULCH, OR OTHER ACCEPTABLE MATERIAL. PLANTS THAT ARE NOT PROTECTED IN THIS MANNER ARE SUBJECT TO REJECTION BY THE ENGINEER OR LANDSCAPE ARCHITECT. PROTECT PLANTS FROM WIND AND SUN AT ALL TIMES BY USING TARPAULINS OR COVERS TO PREVENT FOLIAGE, BRANCHES, AND

WARRANTY ALL PLANTS UNDER THIS CONTRACT FOR ONE (1) YEAR FROM THE TIME OF INSTALLATION ACCEPTANCE.

1. DURING WARRANTY PERIOD ALL PLANTS SHALL FULFILL THE REQUIREMENTS OF THESE SPECIFICATIONS WITH REGARD TO

2 PLANTS SHALL BE FREE OF DEAD BRANCHES AND TWIGS AND BEAR A MINIMUM OF 80% OF THE FOLLAGE PRESENT WHEN PLANTED HAVING NORMAL DENSITY, SIZE, SHAPE AND COLOR AS DETERMINED BY THE OWNER, ANY PLANTS FAILING TO SATISFY ALL THESE CONDITIONS SHALL BE REPLACED WITHIN TWO WEEKS OF NOTIFICATION.

3. REMOVE DEAD PLANTS IMMEDIATELY. REPLACE IMMEDIATELY UNLESS REQUIRED TO PLANT IN THE SUCCEEDING PLANTING

1. LANDSCAPE ARCHITECT MAY INSPECT AND REQUEST REPLACEMENT OF ANY DEAD PLANT AT ANY TIME DURING THE WARRANTY

2. AT END OF WARRANTY PERIOD, INSPECTION WILL BE MADE BY LANDSCAPE ARCHITECT / ENGINEER. UPON WRITTEN NOTICE BY CONTRACTOR, AT LEAST 5 DAYS BEFORE THE ANTICIPATED DATE. PLANTINGS PROVIDED UNDER THIS CONTRACT THAT ARE DEAD OR IN UNSATISFACTORY CONDITION, AS DETERMINED BY LANDSCAPE ARCHITECT / ENGINEER, SHALL BE REMOVED FROM SITE AND REPLACED AS SOON AS CONDITIONS PERMIT DURING NORMAL PLANTING SEASON.

1. REPLACEMENT STOCK SHALL BE SUBJECT TO ALL REQUIREMENTS AS TO SELECTION, INSPECTIONS, PREPARATION, PLANTING AND MAINTENANCE OPERATIONS. REPLACEMENTS SHALL MATCH CALIPER AND/OR HEIGHT ATTAINED BY OTHER STOCK OF THE

2. REPLACEMENT WARRANTY: REPLACEMENT STOCK SHALL BE WARRANTED FOR 60-DAYS POST PLANTING. 3. FINAL ACCEPTANCE AND PAYMENT: A FINAL INSPECTION WILL BE HELD AFTER THE END OF THE WARRANTY PERIOD AND AFTER ALL REPLACEMENTS ARE COMPLETE. FINAL ACCEPTANCE WILL BE HELD AFTER THE END OF THE WARRANTY PERIOD AND A ALL REPLACEMENTS ARE COMPLETE. FINAL ACCEPTANCE WILL BE SUBMITTED IN WRITING BY THE ENGINEER/LANDSCAPE ARCHITECT.

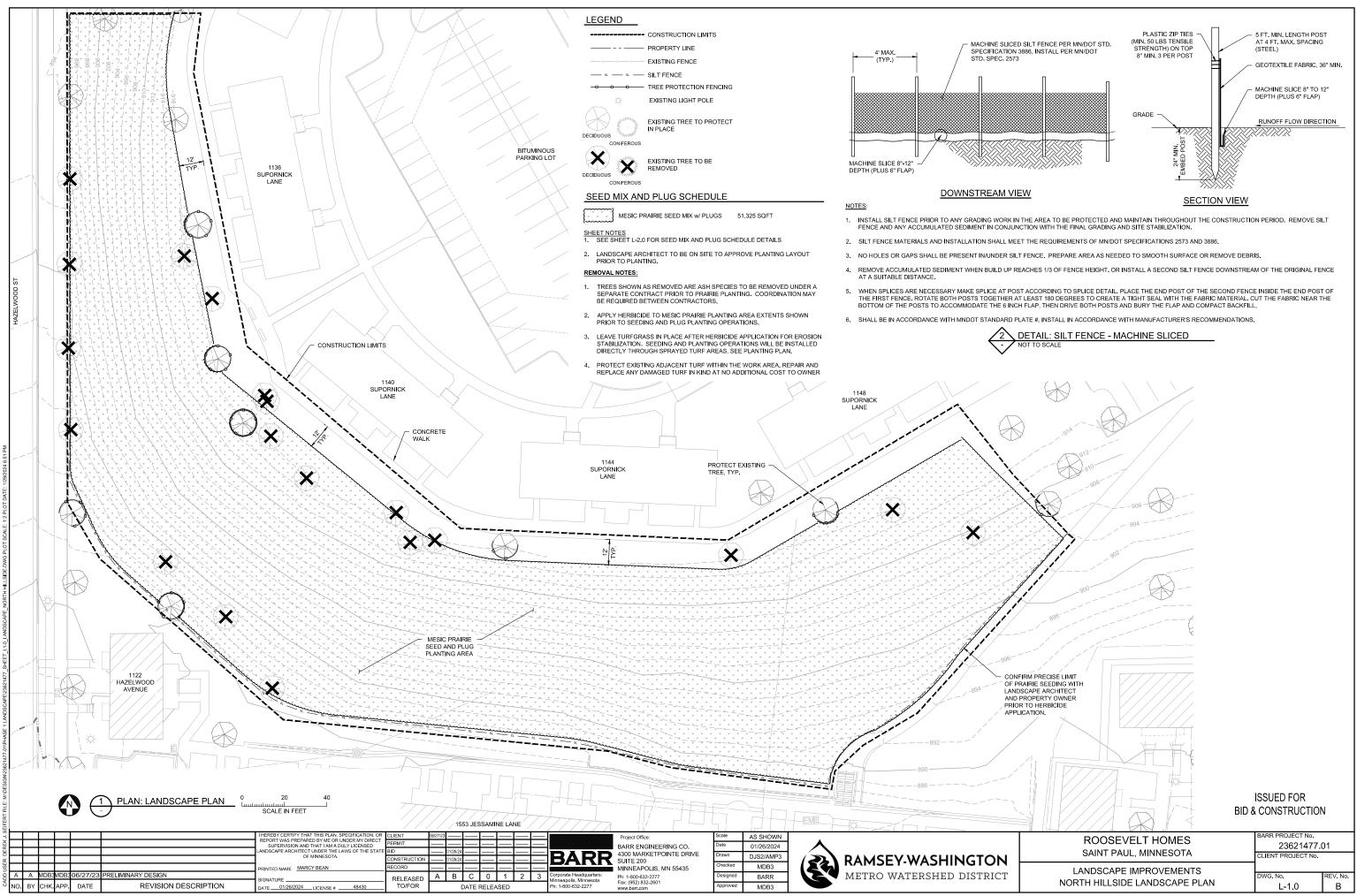
1. DELAYS IN COMPLETION OF PLANTING OPERATIONS, WHICH EXTEND THE PLANTING INTO MORE THAN ONE PLANTING SEASON, SHALL EXTEND THE WARRANTY PERIOD CORRESPONDINGLY.

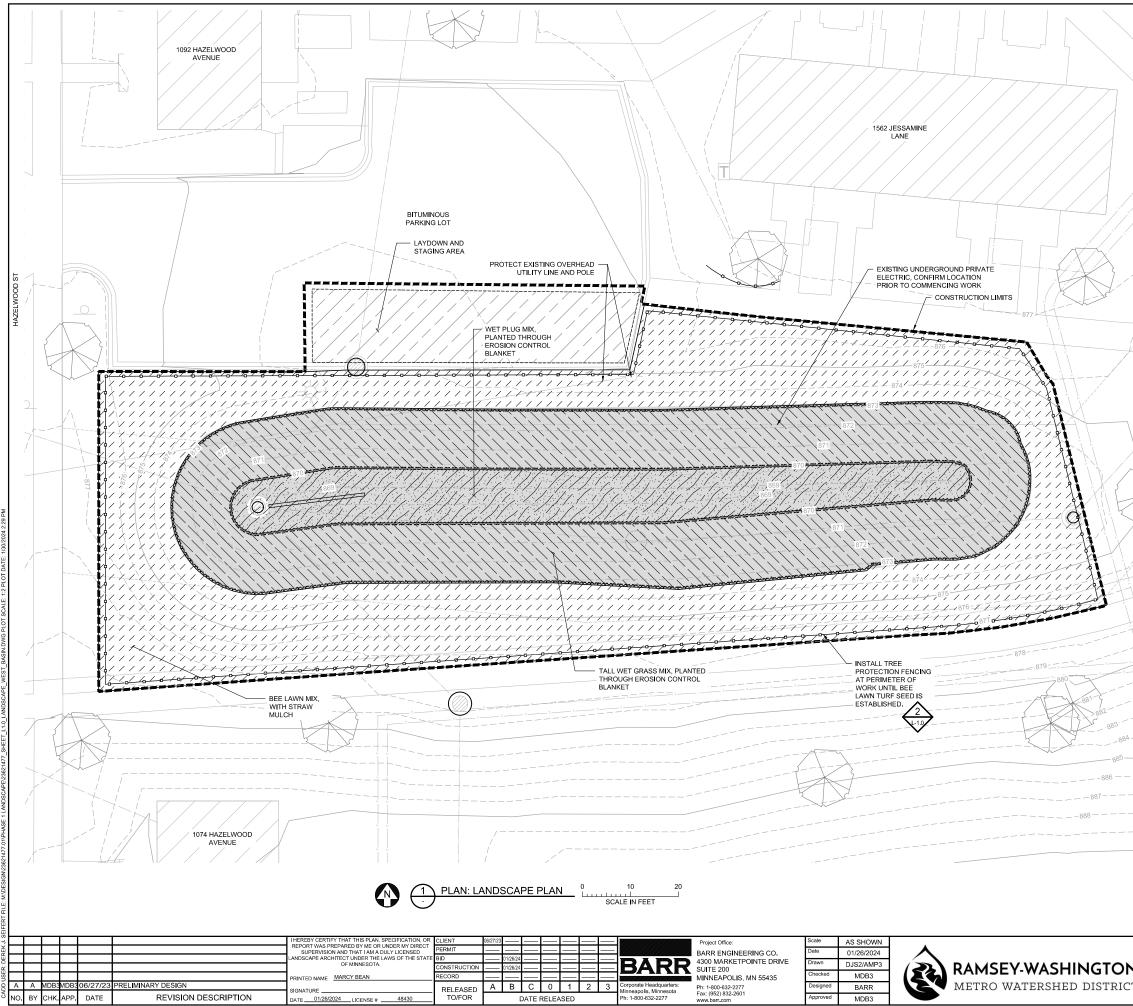
1. CONTRACTOR SHALL NOT BE HELD RESPONSIBLE FOR FAILURES DUE TO VANDALISM, OR SEDIMENT ACCUMULATION, UNLESS SEDIMENT ACCUMULATION OCCURRED DUE TO IMPROPERLY INSTALLED EROSION PROTECTION. CONTRACTOR SHALL NOT BE HELD RESPONSIBLE FOR LOSS OF PLANTS DUE TO SALT APPLICATION. THE DETERMINATION OF PLANT FAILURE DUE TO SALT APPLICATIONS WILL BE JUDGED BY A BOTANIST APPOINTED BY THE OWNER

1. REMOVE AND IMMEDIATELY REPLACE ALL PLANTS, AS DETERMINED BY OWNER'S REPRESENTATIVE, WHICH ARE UNSATISFACTORILY INSTALLED/PLANTED.

END OF SECTION

Z	ROOSEVELT HOMES	BARR PROJECT №. 23621477.(CLIENT PROJECT №.	01
CT	LANDSCAPE IMPROVEMENTS	DWG. No.	REV. No.
	TECHNICAL SPECIFICATIONS	G-1.1	B





LEGEND

 CONSTRUCTION LIMITS
 CONSTRUCTION LIMITS

---- PROPERTY LINE EXISTING FENCE

- TREE PROTECTION FENCING EXISTING LIGHT POLE

EXISTING TREE TO PROTECT IN PLACE DECIDUOUS CONIFEROUS

EROSION CONTROL BLANKET MN/DOT CATEGORY TYPE 45

SEED MIX SCHEDULE

SYMBOL CODE BOTANICAL NAME COMMON NAME QTY GRASS AREA SP1 BEE LAWN TURF MIX SEE SEEDING SCHEDULE 6,669 SF

SEE SHEET L-2.0 FOR SEED MIX DESIGN

SEED MIX SCHEDULE

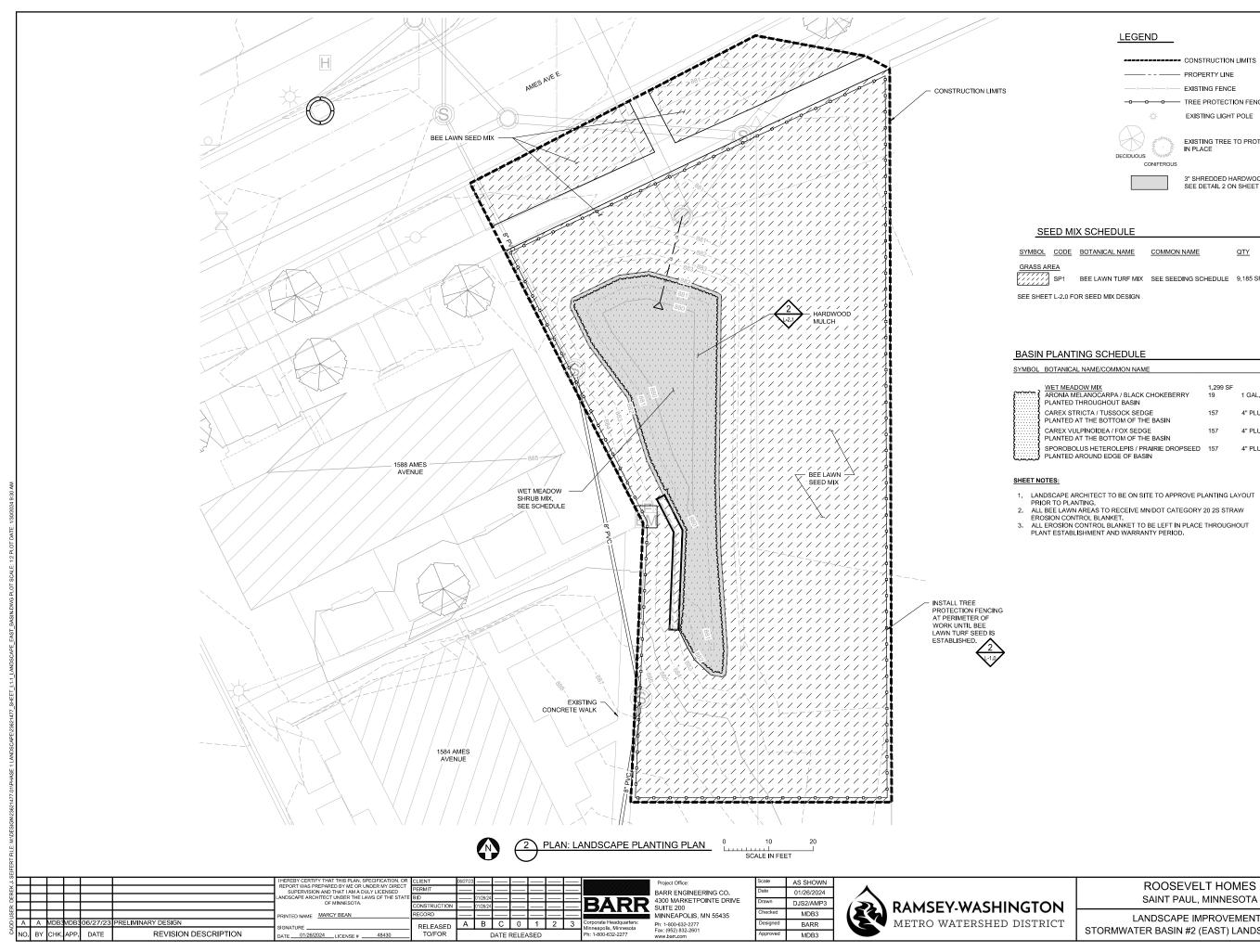


	WET PLUG MIX CAREX STRICTA / TUSSOCK SEDGE SPARTINA PECTINATA / PRAIRIE CORDGRASS	1,531 SF 354 354	4" PLUG 4" PLUG	50% @ 18" oc 50% @ 18" oc
2 million	TALL WET GRASS MIX BROMUS CILIATUS / FRINGED BROME ELYMUS CANADENSIS / CANADA WILD RYE PANICUM VIRGATUM / SWITCH GRASS SCHIZACHYRIUM SCOPARIUM / LITTLE BLUESTEM	4,281 SF 791 395 395 395	4" PLUG 4" PLUG 4" PLUG 4" PLUG	40% @ 18" oc 20% @ 18" oc 20% @ 18" oc 20% @ 18" oc

SHEET NOTES:

- LANDSCAPE ARCHITECT TO BE ON SITE TO APPROVE PLANTING LAYOUT PRIOR TO PLANTING.
 ALL BEE LAWN AREAS TO RECEIVE MN/DOT CATEGORY 20 2S STRAW EROSION CONTROL BLANKET.
 ALL EROSION CONTROL BLANKET TO BE LEFT IN PLACE THROUGHOUT PLANT ESTABLISHMENT AND WARRANTY PERIOD.

		BARR PROJECT No. 23621477.(01
1	SAINT PAUL, MINNESOTA	CLIENT PROJECT No.	
Т	STORMWATER BASIN #1 (WEST) LANDSCAPE PLAN	DWG. No. L-1.1	REV. No. B



LEGEND

	CONSTRUCTION LIMITS
	PROPERTY LINE
xx	EXISTING FENCE
-00	TREE PROTECTION FENCING
÷¢-	EXISTING LIGHT POLE
DECIDUOUS	EXISTING TREE TO PROTECT IN PLACE
	3" SHREDDED HARDWOOD MULCH, SEE DETAIL 2 ON SHEET L-2.1

SEED MIX SCHEDULE

CODE	BOTANICAL NAME	COMMON NAME	<u>QTY</u>
REA SP1	BEE LAWN TURF MIX	SEE SEEDING SCHEDULE	9,185 SF

BASIN PLANTING SCHEDULE

OTANICAL NAME/COMMON NAME			QTY	SIZE	SPACING
/ET MEADOW MIX	1,299 SF				
RONIA MELANOCARPA / BLACK CHOKEBERRY LANTED THROUGHOUT BASIN	19	1 GAL.	22% @ 48" oc		
AREX STRICTA / TUSSOCK SEDGE	157	4" PLUG	26% @ 18" oc		
LANTED AT THE BOTTOM OF THE BASIN					
AREX VULPINOIDEA / FOX SEDGE LANTED AT THE BOTTOM OF THE BASIN	157	4" PLUG	26% @ 18" oc		
POROBOLUS HETEROLEPIS / PRAIRIE DROPSEED LANTED AROUND EDGE OF BASIN	157	4" PLUG	26% @ 18" oc		

	ROOSEVELTHOMES	BARR PROJECT №. 23621477.(01
Z	SAINT PAUL, MINNESOTA	CLIENT PROJECT No.	
Т	STORMWATER BASIN #2 (EAST) LANDSCAPE PLAN	DWG. No. L-1.2	REV. No. B

- GENERAL LANDSCAPE NOTES: 1. PLANTING SHALL CONFORM TO MNDOT SPEC 2571, PLANT INSTALLATION AND ESTABLISHMENT, EXCEPT AS INDICATED OTHERWISE IN THE PLANTING SHEETS. 2. CONTRACTOR SHALL COORDINATE LAYOUT OF ALL PLANTS WITH DIRECTION OF LANDSCAPE ARCHITECT IN THE FIELD. 2. CONTRACTOR SHALL CONFIDENCE AND LOCATIONS OF ALL PERFUNCAND 3. CONFIRM ALL QUANTITIES, SHAPES AND LOCATIONS OF ALL SEEDING AND
- PLANTING AREAS; ADJUST QUANTITIES AS REQUIRED TO CONFORM TO THE SITE CONDITIONS. CONFIRM ANY ADJUSTMENTS WITH THE LANDSCAPE ARCHITECT.
 LOCATE ALL UTILITIES. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS
- WITH PLANT INSTALLATION.
- WITH PEARM STORAGE OF MATERIALS OR SUPPLIES ON-SITE WILL NOT BE
 LONG-TERM STORAGE OF MATERIALS OR SUPPLIES ON SITE WILL NOT BE
 ALLOWED, ANY PLANT STOCK NOT PLANTED ON DAY OF DELIVERY SHALL BE
 HEELED IN AND WATERED UNTIL INSTALLATION. PLANTS NOT MAINTAINED IN THIS MANNER WILL BE REJECTED
- 6. THE PLAN TAKES PRECEDENCE OVER THE PLANT SCHEDULE IF DISCREPANCIES EXIST. ADVISE LANDSCAPE ARCHITECT OF <u>ANY</u> DISCREPANCIES.

- EXISTING CONDITIONS PROTECTIONS: 1. THE CONTRACTOR SHALL AVOID DAMAGING EXISTING TREES. DO NOT STORE OR DRIVE HEAVY MATERIALS OVER TREE ROOTS. DO NOT DAMAGE TREE BARK OR
- BRANCHES.
 THE CONTRACTOR SHALL KEEP PAVEMENTS, FIXTURES AND BUILDINGS CLEAN AND UNSTAINED. ANY DAMAGE TO EXISTING FACILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. THE PROJECT SITE SHALL BE KEPT CLEAR OF CONSTRUCTION WASTES AND DEBRIS.

SEEDING:

T DATE: 1:2 PLUI

- 1 ANY EXOTIC INVASIVE PLANTS AND WEEDS WITHIN THE SEEDING AREAS SHALL BE SPRAYED WITH HERBICIDE 14 DAYS PRIOR TO SEEDING AN A SPRAYED WITH HERBICIDE 14 DAYS PRIOR TO SEEDING OR AS PER MANUFACTURE'S RECOMMENDATION, SIGNAGE INDICATING THE USE OF HERBICIDES MUST BE POSTED ON SITE
- 2. ALL HERBICIDE APPLICATION SHALL BE APPLIED BY A LICENSED APPLICATOR WITHIN
- ALL INFORMATION TO AN ALL DE AFFILID DE A LICENSED AFFLICATOR WITHIN THE STATE OF MINNESOTA. SEED IN ACCORDANCE WITH THE SPECIFICATIONS. SEEDING IS TO TAKE PLACE IMMEDIATELY FOLLOWING FINAL GRADING AND SOIL PLACEMENT TO PREVENT EROSION AND COMPACTION.
- COVER CROP IS TO BE SEEDED WITHIN ALL AREAS. 5. AFTER SEEDING, TYPE 8 MULCH MATERIAL SHALL BE DISC-ANCHORED OVER ENTIRE
- SEEDING AREA IN ACCORDANCE WITH MN/DOT STANDARD SPECIFICATION 3882 EXCEPT SEEDING REAL IN ACCOUNTING WITH MINDOT STANDARD SPECIFICATION 3662 EA WHERE EROSION CONTROL BLANKET IS SHOWN ON PLANS.
 REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. IN THE CASE OF ANY DISCREPANCIES BETWEEN THIS DETAIL, PLANS, OR SPECIFICATIONS, THE
- SPECIFICATIONS SHALL GOVERN.

MAINTENANCE AND CARE:

- 1. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER EACH PORTION OF THE WORK IS IN PLACE. PLANT MATERIAL SHALL BE PROTECTED AND MAINTAINED UNTIL THE INSTALLATION OF PLANTINGS IS COMPLETE, INSPECTION HAS BEEN MADE AND PLANTING IS ACCEPTED EXCLUSIVE OF THE GUARANTEE.
- MAINTENANCE SHALL INCLUDE WATERING, WEEDING, MULCHING, REMOVAL OF DEAD MATERIAL PRIOR TO GROWING SEASON, RE-SETTING PLANTS AND PROPER GRADE, AND KEEPING PLANTS IN A PLUMB POSITION.
- 3. WATERING: MAINTAIN A WATERING SCHEDULE WHICH WILL THOROUGHLY WATER ALL PLANTS ONCE A WEEK. IN EXTREMELY HOT, DRY WEATHER, WATER MORE OFTEN AS REQUIRED BY INDICATIONS OF HEAT STRESS SUCH AS WILTING LEAVES. CHECK MOISTURE UNDER MULCH PRIOR TO WATERING TO DETERMINE NEED. CONTRACTOR SHALL MAKE THE NECESSARY ARRANGEMENTS FOR WATER.
- 4. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. IN THE CASE OF ANY DISCREPANCIES BETWEEN THIS DETAIL, PLANS, OR SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN

SITE RESTORATION NOTES

- 1. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND FIELD-VERIFYING ALL EXISTING UTILITIES PRIOR TO INITIATING WORK ON THE SITE AND THROUGHOUT THE TERM OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING UTILITIES FROM DAMAGE DURING ALL
- RESPONSIBLE FOR PROTECTING OTLITIES FROM DAMAGE DURING AL SITE RESTORATION AND PLANTING OPERATIONS. CONSTRUCTION LIMITS AS SHOWN ARE APPROXIMATE. FINAL CONSTRUCTION LIMITS TO BE COORDINATED WITH THE OWNER AND
- STAKED IN THE FIELD. CONTRACTOR SHALL TAKE PRECAUTIONS TO MINIMIZE THE TRANSFER OF AQUATIC AND TERRESTRIAL INVASIVE SPECIES TO THE MAXIMUM 3. EXTENT POSSIBLE.
- ALL EXISTING TREES SHALL BE PROTECTED DURING CONSTRUCTION, UNLESS IDENTIFIED FOR REMOVAL PER PLAN OR AS DIRECTED IN THE FIELD BY THE LANDSCAPE ARCHITECT
- ALL EXISTING TREES TO REMAIN, TREE ROOTS, PLANTING BEDS, CONCRETE, ASPHALT, EXISTING CURBS, PAVEMENT, SIDEWALKS, AND OTHER SITE ELEMENTS SHALL BE PROTECTED FROM IMPACTS FROM ALL SOIL PREPARATION AND LANDSCAPING OPERATIONS AVOID COMPACTING SOLEWITH HEAVY EQUIPMENT, ANY DAMAGE TO EXISTING SITE FEATURES, STRUCTURES, OR NEWLY CONSTRUCTED ITEMS SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE AND TO THE OWNER'S
- SATISFACTION. PROTECT PLANTS ON THE SITE FROM STRESS PRIOR TO INSTALLATION 6. BY PLACING IN SHADE, HEELING INTO MULCH, WATERING, AND USE OF
- T PLACING IN STRADE, HEELING INTO MILLEN, WATERING, AND USE OF OTHER APPROPRIATE MEASURES.
 ANY COMPACTION OF PREVIOUSLY LOOSENED SOIL MUST BE RELOOSENED PRIOR TO TOPSOILING OR PLANT INSTALLATION.
 STAKE OR OTHERWISE LAYOUT ALL INDIVIDUAL/SPECIMEN TREES AND
- SHRUBS AS SHOWN ON PLAN, DETAILS, AND PLANT SCHEDULE. SOME FIELD ADJUSTMENT MAY BE NECESSARY, LANDSCAPE ARCHITECT TO REVIEW PLANT LAYOUT PRIOR TO PLANTING. INFORM THE LANDSCAPE ARCHITECT OF PLANTING A MINIMUM OF TWO (2) DAYS PRIOR TO PLANT DELIVERY
- PLACE MULCH AS SPECIFIED TO DEPTH WITHIN ALL PLANTING AREAS.
- OF NOTIFICATION) THROUGHOUT THE ENTIRE WARRANTY PERIOD. WATERING WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT. 12. NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES
- BETWEEN PLANS, SPECIFICATIONS, AND/OR FIELD CONDITIONS ENCOUNTERED.
- 13. REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION. IN THE CASE OF ANY DISCREPANCIES BETWEEN DETAILS, PLANS, AND/OR SPECIFICATIONS, THE SPECIFICATIONS SHALL GOVERN.

MESIC PRAIRIE SEED (SHORTGRASS):

Common Name	Scientific Name	Rate (Ib/ac)	% of Mix (by weight)
Sideoats Grama	Bouteloua curtipendula	3.75	9.6%
Blue Grama	Bouteloua gracilis	1.50	3.9%
Purple Love Grass	Eragrostis spectabilis	0.07	0.2%
Little Bluestem	Schizachyrium scoparium	3.10	8.0%
Prairie Dropseed	Sporobolus heterolepis	0.75	1.9%
Gras	9.17	24%	
Plains Oval Sedge	Carex brevior	0.06	0.2%
Sedges &	Rushes Subtotal	0.06	0%
Prairie Onion	Allium stellatum	0.20	0.5%
Lead Plant	Amorpha canescens	0.15	0.4%
Pearly Everlasting	Anaphalis margaritacea	0.02	0.0%
Columbine	Aquilegia canadensis	0.07	0.2%
Butterfly weed	Asclepias tuberosa	0.55	1.4%
Whorled Milkweed	Asclepias verticillata	0.20	0.5%
Prairie Coreopsis	Coreopsis palmata	0.25	0.6%
White Prairie Clover	Dalea candida	0.25	0.6%
Purple prairie clover	Dalea purpureum	0.25	0.6%
Narrow-Leaved Coneflower	Echinacea angustifolia	0.30	0.8%
Common Oxeye	Heliopsis helianthoides	0.20	0.5%
Rough blazingstar	Liatris aspera	0.12	0.3%
Prairie Blazing Star	Liatris pycnostachya	0.30	0.8%
Wild Lupine	Lupinus perennis	1.45	3.7%
Spotted Bee Balm	Monarda punctata	0.10	0.3%
Large-flowered Beardtongue	Penstemon grandiflorus	0.20	0.5%
Black-eyed Susan	Rudbeckia hirta	0.04	0.1%
Old Field Goldenrod	Solidago nemoralis	0.02	0.1%
Aromatic aster	Symphyotrichum oblongifolium	0.04	0.1%
For	bs Subtotal	4.71	12%
Oats	Avena sativa	25	64.2%
Tota	Cover Crop	25.00	64%
	Total	38.94	100%

MESIC PRAIRIE PLUGS:

Common Name	Scientific Name	Size	Quantity
Fox Sedge	Carex vulpinoidea	4" PLUG	100
Button Blazing Star	Liatris aspera	4" PLUG	100
Dotted Blazing Star	Liatris punctata	4" PLUG	100
Foxglove Beardtongue	Penstemon digitalis	4" PLUG	100
Great Blue Lobelia	Lobelia siphilitica	4" PLUG	100
Large-Flowered Beardtongue	Penstemon grandiflorus	4" PLUG	100
Nodding Onion	Allium cernuum	4" PLUG	100
Pale Purple Coneflower	Echinacea pallida	4" PLUG	100
Prairie Coreopsis	Coreopsis palmata	4" PLUG	100
Prairie Alumroot	Heuchera richardsonii	4" PLUG	100
Smooth Aster	Symphyotrichum laeve	4" PLUG	100
	•	Total Plugs	1100

NOTES:

1. PLUGS SHALL BE PLANTED IN CLUSTERS OF 3-5 PLANTS PER SPECIES AND STAGGERED THROUGHOUT THE NORTH HILLSIDE RESTORATION AREA.

2. THOROUGHLY WATER ALL PLANTINGS AFTER INSTALLATION.

3. LANDSCAPE ARCHITECT TO BE ON SITE TO APPROVE PLANTING LAYOUT PRIOR TO PLANTING

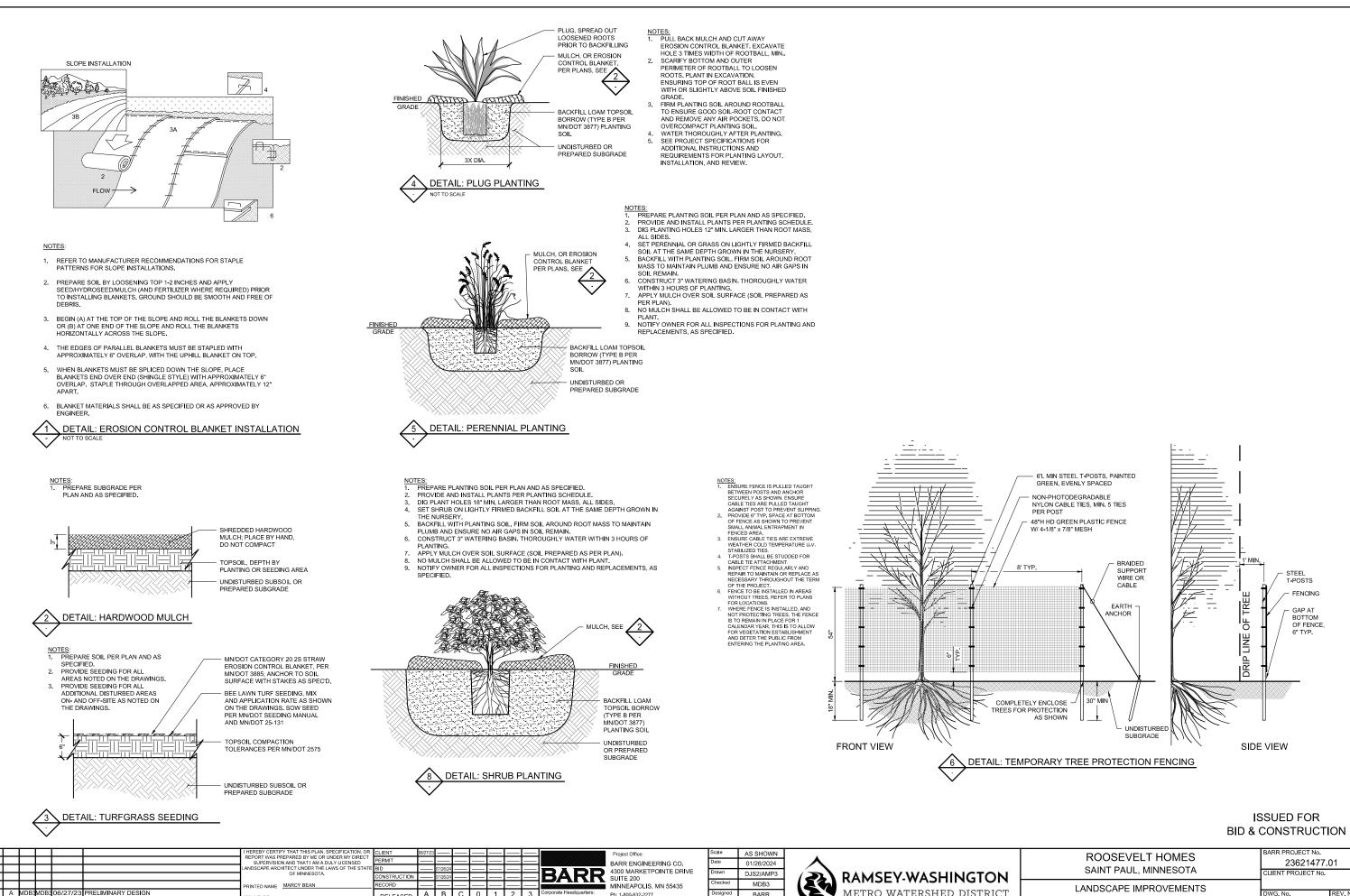
t: Derek J. Seife ving - M:/Desigr awing - M:/Des sign/23621172						I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINESOTA.	CLIENT PERMIT BID CONSTRUCTION	06/27/23	BARR	Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE	Scale Date Drawn	AS SHOWN 01/26/2024 DJS2/AMP3	RAMSEY-WASHINGTON	ROOSEVELT HOMES SAINT PAUL, MINNESOTA	BARR PROJECT No. 23621477.01 CLIENT PROJECT No.
CADD USEF Xrefs in Drav Images in Dr mek2 M:\De	а А О. В	N ME)B3MDE HK. APF	06/27/23 DATE	3 PRELIMINARY DESIGN REVISION DESCRIPTION	PRINTED NAME MARCY BEAN SIGNATURE DATE	RELEASED TO/FOR	A B C 0 1 2 3 DATE RELEASED	Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277	MINNEAPOLIS, MN 55435 Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com	Checked Designed Approved	MDB3 BARR MDB3	METRO WATERSHED DISTRICT	LANDSCAPE IMPROVEMENTS LANDSCAPE DETAILS	DWG. No. REV. No. L-2.0 B

Commo
Dutch wh
Creeping
Self-heal
Red fescu
Chewing

Hard fescu Sheep Fes

BEE LAWN SEED MIX

n Name	Scientific Name	Rate (lb/ac)	Rate (kg/ha)	% of Mix (by weight)	Seeds/ sq ft
nite clover	Trifolium repens	8.70	0.00320	4.46%	154.99
I thyme	Thymus serpyllum	2.70	0.00099	1.38%	167.36
	Prunella vulgaris	9.40	0.00345	4.82%	163.14
	Forbs subtotal	20.80	0.01	10.66%	485.49
Je	Festuca rubra	68.41	0.02513	35.07%	712.97
s Fescue	Festuca rubra ssp. commutata	47.04	0.01728	24.16%	337.08
cue	Festuca trachyphylla	32.06	0.01178	16.44%	194.92
scue	Festuca ovina	26.73	0.00982	13.70%	127.06
	Grasses Subtotal	174.24	0.06	89.37%	1,372.03
	Total	195.04	0.07	100%	1,857.52



BARR

MDB3

Ph: 1-800-632-2277 Fax: (952) 832-260

neapolis, Minne 1-800-632-2277

A B C 0 1 2 3

DATE RELEASED

RELEASED

TO/FOR

ELIMINARY DESIGN

REVISION DESCRIPTION

DATE

D. BY CHK APP.

NATURE .

DATE 01/26/2024 LICENSE # 48430

RAMSEY-WASHINGTON	ROOSEVELT HOMES	BARR PROJECT No. 23621477.01 CLIENT PROJECT No.		
METRO WATERSHED DISTRICT	LANDSCAPE IMPROVEMENTS LANDSCAPE DETAILS	DWG. No. L-2.1	REV. No. B	

Request for Board Action

Board Meeting Date:	February 7, 2024	Agenda Item No: <u>8B</u>
Preparer:	Tina Carstens, Administrator	
Item Description:	2024 Targeted Retrofit Project Accept Plans & Woodbury Target	& Solicit Bids –

Background:

See attached memo for more information on the Woodbury Target project.

The engineer's opinion of probably project construction cost is between \$776,000 and \$898,000. This project was planned through our Targeted Retrofit program and will be funded through our Stormwater Impact Fund.

After approval at this meeting, the bidding process will be followed with a selection of contractor coming to the board for approval in March.

Applicable District Goal and Action Item:

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

Action Item: Implement retrofit water quality improvement projects.

Staff Recommendation:

Staff recommends approval of the preliminary design, estimated costs, and proposed project schedule, and direct staff to finalize the design and bidding documents and solicit bid proposals.

Financial Implications:

This project will be funded through our Stormwater Impact Fund.

Board Action Requested:

Approve the preliminary design, estimated costs, and proposed project schedule, and direct staff to finalize the design and bidding documents and solicit bid proposals.



Technical Memorandum

To:RWMWD Board of ManagersFrom:Katie Turpin-Nagel & Erin Anderson Wenz – Barr Engineering Co. (Barr)Subject:100% Design Summary for Woodbury Target Stormwater Retrofit ProjectDate:January 29, 2024Project:23/82-1306c.Paige Ahlborg (RWMWD), Tina Carstens (RWMWD)

1 Introduction

This memorandum summarizes the stormwater retrofit 100%-level design for the Target store located in Woodbury, MN at Valley Creek Plaza. Stormwater retrofit concept designs were presented to the RWMWD Board of Managers in March 2023 and the selected concept (Concept #1) was moved forward to final design. The goal of this stormwater retrofit project is to treat runoff from highly impervious tributary areas to improve water quality for downstream waterbodies (e.g., Tamarack Nature Preserve, Battle Creek Lake). As a reminder, Target Corporation (Target) owns approximately 12.4 acres of the Valley Creek Plaza Complex as shown by the red outline in Figure 1. The parcel consists of approximately 3.4 acres of impervious roof and 7.3 acres of impervious pavement.



Figure 1 Target store at the Valley Creek Plaza in Woodbury, MN

To: RWMWD Board of Managers
From: Katie Turpin-Nagel & Erin Anderson Wenz – Barr Engineering Co. (Barr)
Subject: 100% Design Summary for Woodbury Target Stormwater Retrofit Project
Date: January 29, 2024
Page: 2

The installation of stormwater retrofits at the Target store in Woodbury would be the third partnership between RWMWD and Target. Rain garden and tree trench retrofits were installed at the Target stores located in East Saint Paul and North Saint Paul in 2020 and 2021, respectively, resulting in over 7 acres of impervious surfaces treated between the two stores. Target is eager to partner with RWMWD again to treat additional impervious pavement at another store location and continue to learn more about which stormwater retrofits could be installed at other stores, not only in the Twin Cities, but throughout the nation.

The final stormwater retrofit design, technical specifications, water quality modeling results, and cost estimate are discussed in the following sections. The 100% design plan sheets are attached to this memo. RWMWD staff, City of Woodbury staff, and Target staff have been involved with the design progression from concept design through 90% design, providing feedback and comments to reach 100% design.

2 Stormwater Retrofit Design

The 100% Design plan sheets for Woodbury Target closely match the layout presented during Concept Design and 50% design, which includes the installation of two rain gardens with iron-enhanced sand trenches (see attached drawings). The north rain garden will be constructed entirely within open green space. The south rain garden will be constructed mostly within existing green space, but will also require the removal of 8 parking spaces. Both basins are sized to store as much stormwater volume as feasible, within the available space, while also limiting the removal of existing, mature trees and maintaining a minimum of 5' offset from existing City sidewalks. Details on each rain garden are presented in Table 1.

Parameter	North Rain Garden	South Rain Garden
Total Rain Garden Area (Square Feet)	14,270	6,370
Area restored with perennials, shrubs, trees, and mulch (Square Feet)	12,560	4,630
Area restored with low maintenance turf seed (Square Feet)	1,710	1,740
Number of Trees Removed	4 trees (6"-9" diameter)	4 trees (8" – 15" diameter)
Trees Planted (Quaking Aspen, Northern Pin Oak, American Elm)	4 trees	4 trees
Water Quality Storage Volume (Cubic Yards)	370	132
Inches of Runoff Treated from Impervious Surfaces (inches)	0.99	0.64
Tributary Impervious Area (acres)	2.8	1.5
Parking Spaces Removed	0	8

Table 1 Woodbury Target Rain Garden Details

Stormwater will be diverted into the rain gardens via trench drains (polydrain PDX) that will be retrofit around existing storm structures to collect runoff before it enters the existing grates. Runoff captured by the trench drains will discharge into retrofit storm structures and storm sewer, which will drain to the rain gardens for treatment. As runoff filters through the rain gardens, total suspended solids (TSS), particulate nutrients, and dissolved nutrients will be captured by the treatment media or utilized by plants. Filtered runoff will then discharge to underlying draintile in the rain gardens connected to the existing storm infrastructure. Draintile is included in the design because it is unlikely that the rain gardens can infiltrate a substantial volume of runoff based on the results of soil borings collected within each proposed garden location in 2023. The soil borings indicate that the proposed bottoms of the sand trenches will likely be located in lean clay soils. During construction the subsurface conditions will be assessed to see if soil conditions differing from what was observed in the soil borings is present.

The two proposed rain gardens will treat approximately 4.3 acres of onsite impervious pavement (i.e., treating ~59% of the total impervious pavement of the Target storage parcel) and convert 8 existing parking spaces to part of the south rain garden, thereby reducing impervious area.

3 Cost-Benefit

Barr modeled the proposed rain gardens using the Minnesota Pollution Control Agency (MPCA) Minimal Impact Design Standards (MIDs) Calculator and estimates that approximately 1,290 pounds of TSS and 6.43 pounds of total phosphorus (TP) will be removed annually.

A 100% design-level engineer's opinion of probable cost was developed for the recommended concept. It's anticipated that construction cost of the stormwater retrofits will range between \$776,000 - \$898,000 (estimated accuracy range of -5% to +10%). The opinion of cost is intended to provide assistance in evaluating and comparing the project and should not be assumed as an absolute value. The Association for the Advancement of Cost Engineering (AACE) Class 1 opinion of cost was used based on the level of project definition.

Assuming a construction cost estimate between \$776,000 - \$898,000, a 20-year lifespan, estimated annual maintenance expenses of \$8,000, and an annual TP removal of 6.43 pounds, the annualized cost-benefit for the project is \$10,100 - \$11,500 per pound of TP.

4 RWMWD Prioritization Tool

This project is ranked fourth in RWMWD's water quality project prioritization list of viable projects (i.e. not on-hold or under current study/design) where the primary project benefit is "Inform and Empower Communities". The viable projects ahead of the Woodbury Target Stormwater Retrofit include large-scale reuse projects in other areas of the watershed which still require feasibility studies and further communications with property owners. Table 2 summarizes the project's scores per each goal in RWMWD's Watershed Management Plan.

Table 2 Summary of RWMWD Prioritization Tool Scores

	Plan Goal Category	Scores per Plan Goal Category	Tool Scoring Credits Descriptions
1.	Achieve quality surface water	1.0	Reduction in impervious area
2.	Achieve health ecosystems	1.0	Addition of native plantings
3.	Manage risk of flooding	0.0	• N/A
4.	Support sustainable groundwater	2.0	Promotes infiltration
5.	Inform and empower communities	5.0	 Planned educational component (signage) Improve community attractiveness Improve businesses Foster collaboration with stakeholders
6.	Manage organization effectively	0.5	Willing project partner

5 Recommendations

Barr recommends bidding the project to select a contractor for construction. The annualized cost-benefit estimate of \$10,100 - \$11,500 /lb TP is within the typical range (\$400 to \$14,000 per pound of TP) of cost per pound of TP removal for regional RWMWD water quality projects. Furthermore, the location of the proposed stormwater retrofits is desirable because the project reduces existing impervious area and treats stormwater runoff is tributary to Tamarack Nature Preserve and Battle Creek Lake. The project also can provide educational opportunities for a high volume of shoppers visiting Target and Valley Creek Plaza and fosters collaboration between the District and Target Corporation.

6 Schedule

Pending Board approval, the project documents (e.g., plan set, specifications) will be posted for bid on February 9th. Bid opening is scheduled for February 29th. After bidding, if a responsible low bidder is identified, construction can start as early as April/May 2024 or as late as July/August 2024 depending on contractor availability. Substantial completion shall be no later than September 13, 2024.

Attachments

- Specification Outline (Table of Contents)
- 100% Design Plan Sheets for the Woodbury Target Stormwater Retrofits For Review/Comment

Attachment: Specifications Outline (Table of Contents)

In addition to the attached plans, bid documents are complete and include the following specifications:

Front-End Specifications

Certification Page Advertisement for Bids Instructions to Bidders Bid Form Responsible Bidder Affidavit/Oath Successful Bidder Subcontractor Verification Notice of Award Form of Agreement Notice to Proceed General Conditions Supplementary Conditions

Technical Specifications

Division 1 - General Requirements

- 01 11 00 Summary of Work
- 01 22 00 Unit Price Measurement and Payment
- 01 29 00 Payment Procedures
- 01 31 13 Project Coordination
- 01 33 00 Submittal Procedures
- 01 35 23 Safety
- 01 52 00 Construction Facilities and Temporary Controls
- 01 55 26 Traffic Control
- 01 77 00 Closeout Procedures

Division 3 - Concrete

- 03 10 00 Concrete Forms and Accessories
- 03 20 00 Concrete Reinforcement
- 03 30 00 Cast-In-Place Concrete
- 03 34 10 Controlled Low-Strength Material (CLSM)
- 03 41 00 Precast Concrete

Division 31 - Earthwork

- 31 00 00 Earthwork
- 31 10 00 Site Clearing, Preparation, and Demolition
- 31 25 00 Erosion and Sedimentation Control

Division 32 – Exterior Improvements

32 16 00 Curbs, Gutters, and Bituminous

To:RWMWD Board of ManagersFrom:Katie Turpin-Nagel & Erin Anderson Wenz – Barr Engineering Co. (Barr)Subject:100% Design Summary for Woodbury Target Stormwater Retrofit ProjectDate:January 29, 2024Page:6

- 32 17 23 Painted Pavement Markings
- 32 32 53 Stone Retaining Wall
- 32 93 00 Herbaceous Plant Installation
- 32 93 43 Tree and Shrub Installation

Division 33 – Utilities

- 33 40 00 Storm Utility Drainage Piping
- 33 49 00 Storm Drainage Structures

To:RWMWD Board of ManagersFrom:Katie Turpin-Nagel & Erin Anderson Wenz – Barr Engineering Co. (Barr)Subject:100% Design Summary for Woodbury Target Stormwater Retrofit ProjectDate:January 29, 2024Page:7

Attachment: 100% Design Plans

TARGET - WOODBURY STORMWATER IMPROVEMENTS **RAMSEY-WASHINGTON METRO WATERSHED DISTRICT** WOODBURY, MN



MINNESOTA COUNTY MAP

CONTACTS

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MARCY BEAN, LANDSCAPE ARCHITECT BARR ENGINEERING CO. PHONE: 952 842 3511 EMAIL: MBEAN@BARR.COM

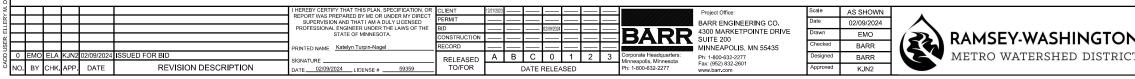
PAIGE AHLBORG, WATERSHED PROJECT MANAGER RAMSEY-WASHINGTON METRO WATERSHED DISTRICT PHONE: 651-792-7964 EMAIL: PAIGE.AHLBORG@RWMWD.ORG



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







INDEX OF SHEETS

G1.0 ... PROJECT LOCATION AND SHEET INDEX G1.1 ... EXISTING CONDITIONS

- SW1.0 ... STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
- SW1.1 ... STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
- SW1.2 ... EROSION AND SEDIMENT CONTROL PLAN
- SW1.3 ... EROSION AND SEDIMENT CONTROL DETAILS
- C1.1 ... REMOVALS
- C1.2 ... PAVING AND STRIPING PLAN
- C1.3 ... OVERALL UTILITY PLAN
- C2.0 ... NORTH RAIN GARDEN GRADING PLAN
- C2.1 ... NORTH RAIN GARDEN GRADING PROFILES AND SECTIONS
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- C3.0 ... SOUTH RAIN GARDEN GRADING PLAN
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- C3.2 ... SOUTH RAIN GARDEN STORM SEWER PLAN AND PROFILES C3.3 ... SOUTH RAIN GARDEN - STORM SEWER PLAN AND PROFILES
- C4.0 ... DETAILS RAIN GARDEN, DRAINTILE, & RETAINING WALL
- C4.1 ... DETAILS PIPED INLET SPLASH BLOCK ASSEMBLY
- C4.2 ... DETAILS PRECAST CURB OPENING CATCH BASIN
- C4.3 ... DETAILS TYP. CATCH BASIN, PIPE BEDDING, & PAVING
- C4.4 ... DETAILS WOODBURY STANDARD PLATES
- C4.5 ... DETAILS TRENCH DRAINS
- S1.0 ... SECTIONS & DETAILS TRENCH DRAIN CONCRETE REINFORCEMENT S1.1... SECTIONS & DETAILS - TRENCH DRAINS
- L1.0 ... NORTH RAIN GARDEN LANDSCAPE & RESTORATION PLAN
- L1.1 ... SOUTH RAIN GARDEN LANDSCAPE & RESTORATION PLAN
- L2.0 ... RESTORATION AND PLANTING DETAILS
- B1.0 ... SOIL BORING LOGS

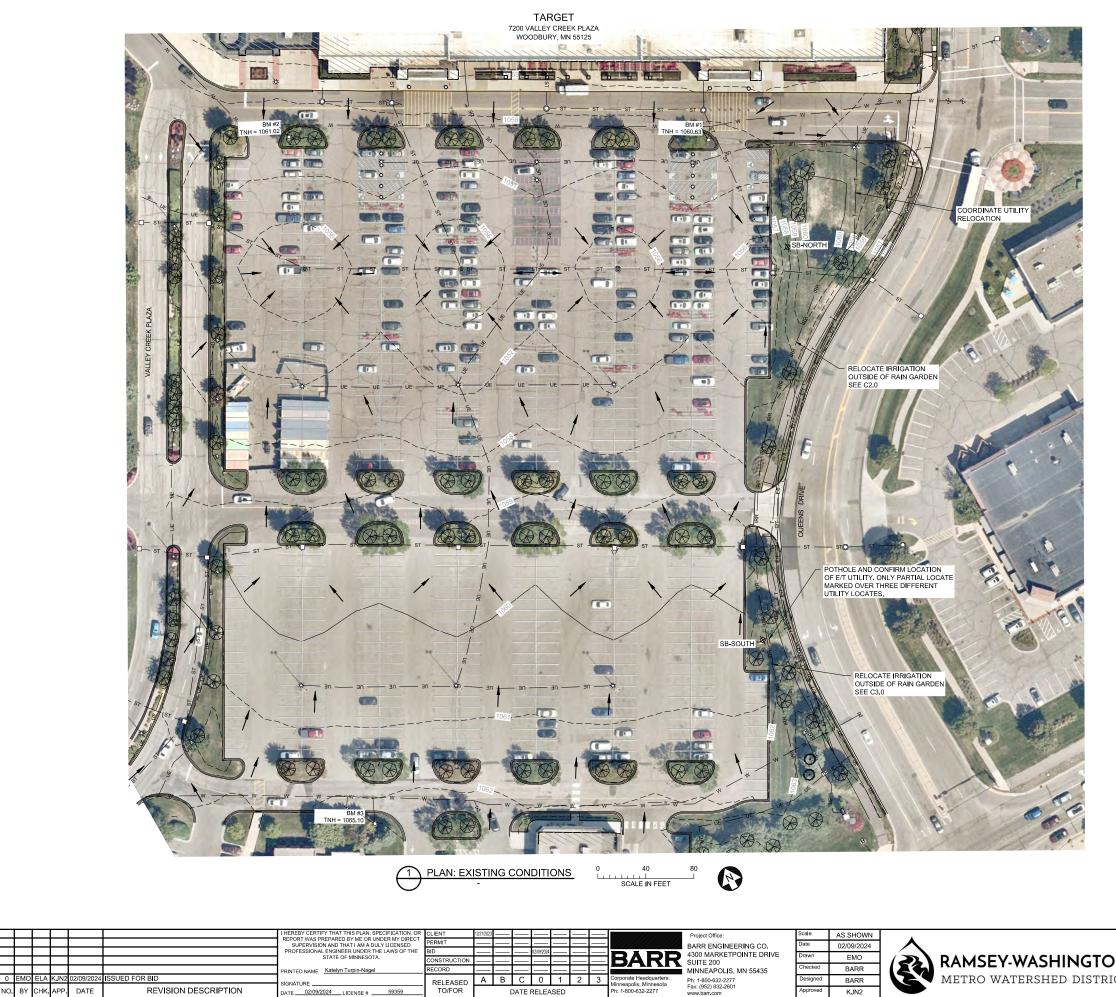
DRAWING NO. PREFIX KEY:

- SW STORMWATER EROSION/SEDIMENT CONTROL C - CIVIL
- S STRUCTURAL
- L LANDSCAPE B GEOTECHNICAL (BORING LOGS)

PROJECT COORDINATE SYSTEM:

HORIZONTAL: WASHINGTON COUNTY COORDINATES, NAD83, 2011 ADJUSTMENT VERTICAL NAVD88

J	STORMWATER IMPROVEMENTS TARGET - WOODBURY, MN	BARR PROJECT №. 23/82-1306.00 CLIENT PROJECT №.			
Г	PROJECT LOCATION AND SHEET INDEX	DWG. No.	REV. No.		
		G1.0	0		



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EXISTING CONDITIONS LEGEND

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	5 FT CONTOUR					
 889 	1 FT CONTOUR					
ST	STORM SEWER					
UE	UNDERGROUND ELECTRIC					
— w — _ w —	WATER MAIN					
TT	TELEPHONE LINE					
——— E/T ———	COMMUNICATION LINE					
——— IRR ———	IRRIGATION LINE					
	CURB					
۲	STORM SEWER MANHOLE					
	STORM SEWER CATCH BASIN					
\bowtie	POTABLE WATER VALVE					
¢	LIGHT POLE					
٥	BOLLARDS					
\bigotimes	DECIDUOUS TREE - DIAMETER					
17 10 10 10 10 10 10 10 10 10 10 10 10 10	CONIFEROUS TREE - DIAMETER					
+	SOIL BORING					
_►	WATER FLOW DIRECTION					
-0-	HYDRANT					

NOTES:

- CONFIRM LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. NOTIFY OWNER OF ANY DISCREPANCIES.
 UTILITY LOCATIONS ARE APPROXIMATE. ALL UTILITIES IN THE PROJECT AREA SHOULD BE MARKED AND POTHOLED PRIOR TO EXCAVATION.
 UTILITY RELOCATION TO BE COORDINATED BY CONTRACTOR PRIOR TO CONSTRUCTION
 PROTECT ALL EXISTING UTILITIES DURING DEMOLITION AND CONSTRUCTION.
 FOR SOIL BORING LOGS, SEE B1.0.

PROJECT COORDINATE SYSTEM:

HORIZONTAL: WASHINGTON COUNTY COORDINATES, NAD83, 2011 ADJUSTMENT VERTICAL: NAVD88

NC	STORMWATER IMPROVEMENTS TARGET - WOODBURY, MN	BARR PROJECT No. 23/82-1306.00 CLIENT PROJECT No.			
ICT	EXISTING CONDITIONS	DWG. No. G1.1	REV. No. 0		

	1.0 GENERAL CONSTRUCTION ACTIVITY INFORMATION:	3.0 PROJECT PLANS AND SPECIFICATIONS:
	THIS STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN PREPARED IN COMPLIANCE WITH THE MINNESOTA GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY NO. MNR100001 (GENERAL PERMIT), AS REQUIRED BY THE MINNESOTA POLLUTION CONTROL AGENCY (MPCA) UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM/STATE DISPOSAL SYSTEM (NPDES/SDS) PROGRAM.	REQUIRED FEATURE SHEET NUMBER • PROJECT LOCATION AND CONSTRUCTION LIMITS C1.0, C1.1, C1.2 • EXISTING AND FINAL GRADES, INCLUDING DRAINAGE AREA BOUNDARIES, DIRECTIONS OF FLOW AND ALL DISCHARGE POINTS WHERE STORMWATER IS LEAVING THE SITE OR ENTERING
	THE PROJECT IS LOCATED IN THE CITY OF WOODBURY, WASHINGTON COUNTY, MINNESOTA. PROPOSED CONSTRUCTION ACTIVITIES WILL TAKE PLACE WITHIN TARGET WOODBURY PROPERTY. THE APPROXIMATE CENTROID OF THE PROJECT HAS A LATITUDE OF 44.9258019 AND A LONGITUDE OF -92.9601112.	A SURFACE WATER C1.1, C2.0, C3.0 SOIL TYPES AT THE SITE SW1.1 LOCATIONS OF IMPERVIOUS SURFACES C1.0, C1.2
	THIS PROJECT INVOLVES EROSION CONTROL, REMOVAL AND REPLACEMENT OF CURB AND GUTTER, BITUMINOUS PAVEMENT REMOVALS AND INSTALLATION, EXCAVATION AND GRADING, CONSTRUCTION OF FILTRATION RAIN GARDENS, AND LANDSCAPING INCLUDING TREE REMOVAL AND REPLACEMENT. THE PROJECT, AS PROPOSED, HAS A TOTAL DISTURBANCE AREA OF 1.2 ACRES. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES ARE REQUIRED TO MINIMIZE SEDIMENT FROM BEING TRANSPORTED INTO TAMARACK NATURE PRESERVE. REFER TO PROJECT DRAWINGS FOR FURTHER DETAILS. (CSW PERMIT PART III.A.1) <u>1.1 PROJECT SIZE AND CUMULATIVE IMPERVIOUS SURFACE:</u> • THE ANTICIPATED AREA OF DISTURBANCE IS APPROXIMATELY 1.2 ACRES. • THE TOTAL AREA OF DRE-CONSTRUCTION IMPERVIOUS AREA IS APPROXIMATELY 10.70 ACRES. • THE TOTAL AREA OF PRE-CONSTRUCTION IMPERVIOUS AREA IS APPROXIMATELY 10.67 ACRES.	LOCATIONS OF AREAS NOT BE BE DISTURBED (E.G., BUFFER ZONES, WETLANDS, ETC.) LOCATIONS OF AREAS OF STEEP SLOPES C2.0, C3.0 LOCATIONS OF AREAS WHERE CONSTRUCTION WILL BE PHASED TO MINIMIZE DURATION OF EXPOSED SOILS C1.1 LOCATIONS OF ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMPS AS REQUIRED IN PERMIT SECTIONS 8 THROUGH 10 AND 14 THROUGH 19 BUFFER ZONES AS REQUIRED IN PERMIT ITEMS 9.17 AND 23.11 LOCATIONS OF POTENTIAL POLLUTION-GENERATING ACTIVITIES IDENTIFIED IN PERMIT SECTION 12 N/A STANDARD DETAILS FOR EROSION AND SEDIMENT CONTROL BMPS TO BE INSTALLED AT THE SITE SW1.1
	THE TOTAL NEW IMPERVIOUS AREA IS APPROXIMATELY 0 ACRES.	4.0 BEST MANAGEMENT PRACTICES (BMPS):
	1.2 DATES OF CONSTRUCTION: ANTICIPATED START DATE: SPRING 2024 ANTICIPATED END DATE: FALL 2024	 <u>4.1 EROSION PREVENTION PRACTICES:</u> 1. METHODS OF TEMPORARILY STABILIZING SOILS AND SOIL STOCKPILES (E.G., MULCHES, HYDRAULIC TACKIFIERS, EROSION BLANKETS, ETC.): (CSW PERMIT ITEMS 8.4, 8.5, AND 23.9)
	1.3 CONTACT INFORMATION: OWNER: RAMSEY-WASHINGTON METRO WATERSHED DISTRICT (RWMWD) MAILING ADDRESS: 2665 NOEL DRIVE, LITTLE CANADA MN 55117 CONTACT PERSON: PAIGE AHLBORG TITLE: PROJECT MANAGER PHONE NUMBER: 651-792-7964 EMAIL ADDRESS: PAIGE.AHLBORG@RWMWD.ORD ALTERNATE CONTACT PERSON: DAVID VLASIN TITLE: WATERSHED PROJECT COORDINATOR PHONE NUMBER: 651-792792 EMAIL ADDRESS: DAVID.VVLASIN@RWWD.ORG	 a. AREAS OF EXPOSED SOIL WILL BE STABILIZED WITH ONE OF THE FOLLOWING: EROSION CONTROL BLANKET, PRESERVATION OF MATURE VEGETATION, MULCH, VEGETATIVE SLASH, ETC. b. IF PRESENT, SOIL STOCKPILES WILL BE STABILIZED WITH ONE OF THE FOLLOWING MATERIALS: MULCH (SUCH AS STRAW MULCH, SLASH MULCH, WOOD CHIP, OR OTHER APPROPRIATE MULCH) (IF SLOPES ≤3H:1V), COVER MATERIAL SUCH AS TARPS OR PLASTIC SHEETING, ETC. c. 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 THESE STABILIZED WORK STABILIZED WITH.
	OPERATOR / GENERAL CONTRACTOR (WHO WILL OVERSEE IMPLEMENTATION OF THE SWPPP): TBD MAILING ADDRESS: TBD CONTACT PERSON: TBD TITLE: TBD	 TIMELINE FOR STABILIZATION OF EXPOSED SOILS: WHERE REQUIRED, STABILIZATION OF EXPOSED SOIL AREAS (INCLUDING STOCKPILES) MUST BE INITIATED IMMEDIATELY TO LIMIT SOIL EROSION WHENEVER ANY CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 7 CALENDAR DAYS, THE FOLLOWING ACTIVITIES CAN BE TAKEN TO INITIATE STABILIZATION:
	PHONE NUMBER: TBD EMAIL ADDRESS: TBD PARTY RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PERMANENT STORMWATER MANAGEMENT SYSTEM: TARGET COORPORATION THE PERMANENT STORMWATER MANAGEMENT SYSTEM: MAILING ADDRESS: 1000 NICOLLET MALL STE 3110, MINNEAPOLIS, MN 55403 CONTACT PERSON: DANIEL LATHAM TITLE: SENIOR PROGRAM OWNER PHONE NUMBER: 612-761-9206 EMAIL ADDRESS: DANIEL.LATHAM@TARGET.COM	 a. PREPPING THE SOIL FOR VEGETATIVE OR NON-VEGETATIVE STABILIZATION b. APPLYING MULCH OR OTHER NON-VEGETATIVE PRODUCT TO THE EXPOSED SOIL AREA c. SEEDING OR PLANTING THE EXPOSED AREA d. FINALIZING ARRANGEMENTS TO HAVE STABILIZATION PRODUCT FULLY INSTALLED 3. METHODS TO BE USED FOR STABILIZATION OF DITCH AND SWALE WETTED PERIMETERS (NOTE THAT MULCH, HYDRAULIC SOIL TACKIFIERS, HYDROMULCHES, ETC. ARE NOT ACCEPTABLE SOIL STABILIZATION METHODS FOR ANY PART OF A DRAINAGE DITCH OR SWALE WITH A CONTINUOUS SLOPE OF GREATER THAN 2 PERCENT). (CSW PERMIT
	2.0 RECEIVING WATERS: LIST ALL WATERS WITHIN ONE MILE (NEAREST STRAIGHT LINE DISTANCE) THAT ARE LIKELY TO RECEIVE STORMWATER RUNOFF FROM THE PROJECT SITE. (CSW PERMIT ITEM 5.10)	 ITEMS 8.6 THROUGH 8.8) a. IN THE EVENT SOILS WITHIN EXISTING STORMWATER DITCHES OR SWALES ARE DISTURBED, THEY WILL BE STABILIZED USING ONE OR MORE OF THE FOLLOWING METHODS: CHANNEL EROSION CONTROL BLANKET, RIPRAP, TURF REINFORCEMENT MAT, ETC. b. MULCH, HYDROMULCH, TACKIFIER, POLYACRYLAMIDE, OR SIMILAR EROSION PREVENTION PRACTICES WILL NOT BE USED TO STABILIZE ANY PART OF AN EXISTING STORMWATER DITCH OR SWALE.
	NAME OF WATER BODY TYPE ⁽¹⁾ WATER BODY ID SPECIAL IMPAIRED DNR PUBLIC WATER WITH WORK VALLEY CREEK POND - NO NO NO	c. TIMELINE FOR STABILIZATION OF STORMWATER DITCHES AND SWALES: THE LAST 200 LINEAL FEET OF LENGTH OF THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DITCH OR SWALE THAT DRAINS WATER FROM ANY PORTION OF THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE SITE, WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE, OR FROM THE POINT OF DISCHARGE INTO ANY SURFACE WATER WILL BE STABILIZED WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER OR PROPERTY EDGE. STABILIZATION
	PLAZA POND 3 TAMARACK NATURE WETLAND - NO NO NO PRESERVE	OF THE REMAINING PORTIONS OF ANY TEMPORARY OR PERMANENT DITCHES OR SWALES WILL BE COMPLETED WITHIN 14 CALENDAR DAYS AFTER CONNECTING TO A SURFACE WATER OR PROPERTY EDGE AND CONSTRUCTION IN THAT PORTION OF THE DITCH HAS TEMPORARILY OR PERMANENTLY CEASED. 4. METHODS TO BE USED FOR ENERGY DISSIPATION AT PIPE OUTLETS INCLUDE SPLASH PADS. (CSW PERMIT ITEM 8.9)
5849 PLOT DATE: 1/25/2024 9:24 AM	 (1) TYPE EXAMPLES: DITCH, POND, WETLAND, CALCAREOUS FEN, LAKE, STREAM, RIVER (2) WATER BODY IDENTIFICATION (ID) MIGHT NOT BE AVAILABLE FOR ALL WATER BODIES. USE THE SPECIAL AND IMPAIRED WATERS SEARCH TOOL AT: HTTPS://WWW.PCA.STATE.MN.US/WATER/STORMWATER-SPECIAL_AND-IMPAIRED-WATERS-SEARCH (3) REFER TO CSW PERMIT SECTION 23 IMPAIRED WATER FOR THE FOLLOWING POLLUTANT(S) OR STRESSOR(S): PHOSPHORUS (NUTRIENT EUTROPHICATION BIOLOGICAL INDICATORS), TURBIDITY, TOTAL SUSPENDED SOLIDS (TSS), DISSOLVED OXYGEN, OR AQUATIC BIOTA (FISH BIOASSESSMENT, AQUATIC PLANT BIOASSESSMENT, AND AQUATIC MACROINVERTEBRATE BIOASSESSMENT) 2.1 SPECIAL AND IMPAIRED WATERS: THE MPCA'S SPECIAL AND IMPAIRED WATERS SEARCH TOOL WAS USED TO LOCATE SPECIAL AND IMPAIRED WATERS WITHIN ONE MILE (ACRIAL RADIUS MEASUREMENT) OF THE PROJECT SITE. NO WATERBODIES WITHIN ONE MILE HAVE AN EPA-APPROVED IMPAIRMENTS FOR CHLORIDES AND MERCURY IN FISH TISSUE. THESE IMPAIRMENTS ARE CONSIDERED NON-CONSTRUCTION RELATED AND DO NOT REQUIRE ADDITIONAL BEST MANAGEMENT PRACTICES (BMPS) OR PLAN REVIEW FOR COMPLIANCE WITH THE GENERAL PRACTICES (BMPS) OR PLAN REVIEW FOR COMPLIANCE WITH THE GENERAL PRACTICES (BMPS) OR PLAN REVIEW FOR COMPLIANCE WITH THE GENERAL PRACTICES (BMPS) OR PLAN REVIEW FOR COMPLIANCE WITH THE GENERAL PRACTICES (BMPS) OR PLAN REVIEW FOR COMPLIANCE WITH THE GENERAL PRACTICES (BMPS) OR PLAN REVIEW FOR COMPLIANCE WITH THE GENERAL PRACTICES (BMPS) OR PLAN REVIEW FOR COMPLIANCE WITH THE GENERAL PRACTICES (BMPS) OR PLAN REVIEW FOR COMPLIANCE WITH THE GENERAL PRACTICES (BMPS) OR PLAN REVIEW FOR COMPLIANCE WITH THE GENERAL PRACTICES (BMPS) OR PLAN REVIEW FOR COMPLIANCE WITH THE GENERAL PRACTICES (BMPS) OR PLAN REVIEW FOR COMPLIANCE WITH THE GENERAL PRACTICES (BMPS) OR PLAN REVIEW FOR COMPLIANCE WITH THE GENERAL PRACTICES (BMPS) OR PLAN REVIEW FOR COMPLIANCE WITH THE GENERAL PRACTICES (BMPS) OR PLAN REVIEW FOR COMPLIANCE WITH THE GENERAL PRACTICES (BMPS) OR PLAN REVIEW FOR COMPLIANCE WITH THE GENERAL PRACTICES (BEFORE LAND DISTURBING ACTIVITIES BEGIN. THE LIMITS OF THE AREAS TO BE DISTURBED DURING CONSTRUCTION WILL BE DELINEATED (E.G., WITH FLAGS, STAKES, SIGNS, SILT FENCE, ETC.). ADDITIONAL EROSION PREVENTION MEASURES: THE FOLLOWING ADDITIONAL EROSION PREVENTION METHODS WILL BE IMPLEMENTED AT THE SITE DURING CONSTRUCTION: (CSW PERMIT ITEMS 8.2, 8.3, AND 8.10) CONSTRUCTION PHASING WILL BE UTILIZED TO MINIMIZE THE AREA OF SOIL EXPOSED AT ANY ONE TIME. SOIL DISTURBANCE WILL BE WINIMIZED WHEREVER POSSIBLE TO AD IN EROSION PREVENTION. EXISTING VEGETATION WILL BE PRESERVED WHERE POSSIBLE TO LIMIT EXPOSED SOIL AND THUS WILL SERVE AS NATURAL VEGETATIVE BUFFERS. EXPOSED SOIL ON STEEP SLOPES (s3H:1V) WILL BE STABILIZED USING EROSION CONTROL BLANKETS AND SEEDING. HORIZONTAL SLOPE GRADING WILL BE UTILIZED TO MINIMIZE EROSION POTENTIAL. TERRACING WILL BE USED TO MINIMIZE THE ARGINO POTENTIAL.
SCALE: 1:2.	ADDITIONAL BMPS OR OTHER SPECIFIC CONSTRUCTION RELATED IMPLEMENTATION ACTIVITIES IDENTIFIED IN AN APPROVED TOTAL MAXIMUM DAILY LOAD (TMDL) ARE NOT APPLICABLE TO THIS PROJECT. (CSW PERMIT ITEM 5.19)	
WG PLOT	2.2 PUBLIC WATERS WITH WORK IN WATER RESTRICTIONS: THIS PROJECT DOES NOT INCLUDE WORK IN PUBLIC WATERS. (CSW PERMIT ITEM 5.11)	
SWPPP 1.D/	2.3 WETLAND IMPACTS: PROSPOSED CONSTRUCTION ACTIVITIES ARE NOT LOCATED WITHIN WETLANDS. (CSW PERMIT ITEMS 2.4 AND 2.10, AND SECTION 22).	
0 WT SW1.0	2.4 ENVIRONMENTAL REVIEW AND OTHER REQUIRED REVIEWS: STORMWATER MITIGATION MEASURES ARE NOT REQUIRED AS A RESULT OF AN ENVIRONMENTAL REVIEW (E.G., EAW OR EIS), ENDANGERED OR THREATENED SPECIES REVIEW, ARCHEOLOGICAL SITE REVIEW, OR OTHER LOCAL, STATE, OR FEDERAL REVIEW CONDUCTED FOR THE PROJECT. (CSW PERMIT ITEMS 2.8, 2.9, AND 5.16)	
0\238213060(2.5 KARST AREAS OR DRINKING WATER SUPPLY MANAGEMENT AREAS: PROPOSED CONSTRUCTION ACTIVITIES DO NOT FALL WITHIN KARST AREAS OR DRINKING WATER SUPPLY MANAGEMENT AREAS. (CSW PERMIT ITEMS 16.19, 16.20, AND 18.10)	
'ER FILE: M:/DESIGN/23821306.1		

3.0 PROJECT PLANS AND SPECIFICATIONS:

1.0 GENERAL CONSTRUCTION ACTIVITY INFORMATION:

0								_											
Ň						I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT	CLIENT	12/21/2023			<u> </u>				Project Office:	Scale	AS SHOWN		
Ŕ						SUPERVISION AND THAT I AM A DULY LICENSED	AGENCY						_		BARR ENGINEERING CO.	Date	02/09/2024		
E						PROFESSIONAL ENGINEER UNDER THE LAWS OF THE	BID	_		(12/0	9/2024	-				Drawn			
Ŕ						STATE OF MINNESOTA.	CONSTRUCTION							BARR	Suite 200		EMO	(2)	RAMSEY-WASHINGTON
USE						PRINTED NAME Katelyn Turpin-Nagel	RECORD								MINNEAPOLIS, MN 55435	Checked	BARR		
8	0 EN	/IO EL	A KJN2	2 02/09/2024	4 ISSUED FOR BID	SIGNATURE	RELEASED	Α	В	С	0 1	2	3	Corporate Headquarters:	Ph: 1-800-632-2277	Designed	BARR		METRO WATERSHED DISTRICT
Š	NO. B	у сн	K. APP	DATE	REVISION DESCRIPTION	DATE 02/09/2024 LICENSE # 59359	TO/FOR		<u>с</u>	DATE RE	LEASED			Minneapolis, Minnesota Ph: 1-800-632-2277	Fax: (952) 832-2601 www.barr.com	Approved	KJN2		
		_													www.ban.com		HOHE	_	

4.2 SEDIMENT CONTROL PRACTICES: 1. METHODS TO BE USED FOR DOWNGRADIENT PERIMETER CONTROL. (CSW PERMIT ITEMS 9.2 THROUGH 9.6) a. SEDIMENT CONTROL PRACTICES SHALL BE ESTABLISHED ON ALL DOWNGRADIENT PERIMETERS AND LOCATED UPGRADIENT OF ANY BUFFER ZONES. PERIMETER SEDIMENT CONTROLS THAT MAY BE USED IN AREAS OF SHEET FLOW INCLUDE: SILT FENCING, SEDIMENT CONTROL LOGS / BIOROLLS (FILLED WITH COMPOST, WOOD CHIPS, ROCK, ETC.), VEGETATIVE SLASH BARRIERS, OTHER NATIVE MATERIAL BARRIERS, VEGETATIVE BUFFERS (RETAIN EXISTING VEGETATION WHERE POSSIBLE), EARTHEN BERMS, ROCK CHECKS, ETC.

b. PERIMETER SEDIMENT CONTROL PRACTICES MUST BE INSTALLED BEFORE ANY UPGRADIENT LAND-DISTURBING ACTIVITIES BEGIN AND REMAIN IN PLACE UNTIL PERMANENT COVER HAS BEEN ESTABLISHED.

c. IF SEDIMENT CONTROL PRACTICES HAVE BEEN ADJUSTED OR REMOVED TO ACCOMMODATE SHORT-TERM ACTIVITIES (SUCH AS CLEARING, GRUBBING, OR PASSAGE OF VEHICLES), THE CONTROLS MUST BE RE-INSTALLED IMMEDIATELY AFTER THE SHORT-TERM ACTIVITY HAS BEEN COMPLETED. SEDIMENT CONTROL PRACTICES MUST BE RE-INSTALLED BEFORE THE NEXT PRECIPITATION EVENT, EVEN IF THE SHORT-TERM ACTIVITY IS NOT COMPLETE

d. IF THE DOWNGRADIENT SEDIMENT CONTROLS ARE OVERLOADED (BASED ON FREQUENT FAILURE OR EXCESSIVE MAINTENANCE REQUIREMENT), INSTALL ADDITIONAL UPGRADIENT SEDIMENT CONTROL PRACTICES OR REDUNDANT BMPS TO ELIMINATE THE OVERLOADING AND AMEND THE SWPPP TO IDENTIFY THESE ADDITIONAL PRACTICES

2. METHODS TO BE USED TO CONTAIN SOIL STOCKPILES. (CSW PERMIT ITEMS 9.9 AND 9.10)

a. ANY TEMPORARY SOIL STOCKPILES SHALL BE SURROUNDED BY SILT FENCING OR BIOROLLS (OR OTHER EFFECTIVE SEDIMENT CONTROLS) AND SHALL NOT BE PLACED IN ANY NATURAL BUFFERS OR SURFACE WATERS. METHODS TO BE USED FOR STORM DRAIN INLET PROTECTION. (CSW PERMIT ITEMS 9.7 AND 9.8)
 INLET PROTECTION BMPS WILL BE INSTALLED AROUND ALL STORM DRAIN INLETS DOWNGRADIENT OF

CONSTRUCTION ACTIVITIES. STORM DRAIN INLETS WILL BE PROTECTED UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STABILIZED, INLET PROTECTION BMPS THAT MAY BE USED INCLUDE: SEDIMENT CONTROL LOG, FILTER SACK, ROCK WITH FILTER FABRIC, FILTER FENCE BOX, OR EQUIVALENT MEASURES. SILT FENCE OR FABRIC PLACED UNDER THE GRATE WILL NOT BE CONSIDERED AS AN APPROVED FORM OF INLET PROTECTION.

4. METHODS TO MINIMIZE VEHICLE TRACKING AT CONSTRUCTION EXITS AND STREET SWEEPING ACTIVITIES. (CSW PERMIT ITEMS 9.11 AND 9.12)

a. A VEHICLE TRACKING BMP (SUCH AS A ROCK PADS, MUD MATS, SLASH MULCH, CONCRETE OR STEEL WASH RACKS, OR AN EQUIVALENT SYSTEM) SHALL BE INSTALLED TO MINIMIZE THE TRACKING OUT OF SEDIMENT FROM THE CONSTRUCTION AREA

IF SUCH VEHICLE TRACKING BMPS ARE NOT ADEQUATE TO PREVENT SEDIMENT FROM BEING TRACKED ONTO THE PAVED ROAD, STREET SWEEPING WILL ALSO BE EMPLOYED. SEDIMENT WILL BE REMOVED BY SWEEPING WITHIN 24 HOURS.

5. PROTECTION OF INFILTRATION AREAS: ADDITIONAL SEDIMENT CONTROLS (E.G., DIVERSION BERMS, PIPE PLUGS) WILL BE INSTALLED TO KEEP RUNOFF AWAY FROM PLANNED INFILTRATION AREAS WHEN EXCAVATED PRIOR TO ESTABLISHING PERMANENT COVER WITHIN THE CONTRIBUTING DRAINAGE AREA. (CSW PERMIT ITEMS 16.4 AND 16.5) 6. MINIMIZATION OF SOIL COMPACTION AND PRESERVATION OF TOPSOIL: SOIL COMPACTION WILL BE MINIMIZED AND TOPSOIL WILL BE PERSERVED WHERE POSSIBLE (CSW PERMIT ITEMS 5.24, 9.14, AND 9.15) 7. METHODS TO BE USED TO PROMOTE INFILTRATION AND SEDIMENT REMOVAL ON THE SITE PRIOR TO OFFSITE

DISCHARGE, UNLESS INFEASIBLE. (CSW PERMIT ITEM 9.16) a. DISCHARGES FROM BMPS WILL BE DIRECTED TO VEGETATED AREAS OF THE SITE (INCLUDING ANY NATURAL BUFFERS) IN ORDER TO INCREASE SEDIMENT REMOVAL AND MAXIMIZE STORMWATER INFILTRATION. IF EROSION IS NOTED TO OCCUR AS THE RESULT OF SUCH A DISCHARGE, VELOCITY DISSIPATION BMPS WILL BE CONSIDERED AND INSTALLED AS NECESSARY TO PREVENT EROSION.

8. BUFFER ZONE OR REDUNDANT SEDIMENT CONTROLS TO PROTECT SURFACE WATERS: (CSW PERMIT ITEM 9.17). a. IN WETLANDS AND NON-SPECIAL WATERS, A 50-FOOT NATURAL BUFFER SHALL BE PRESERVED. WHEN A SURFACE WATER IS LOCATED WITHIN 50 FEET OF THE PROJECT'S EARTH DISTURBANCES AND STORMWATER FLOWS TO THE SURFACE WATER, OR WHEN A BUFFER IS INFEASIBLE, REDUNDANT SEDIMENT CONTROLS SHALL BE PROVIDED. REDUNDANT PERIMETER CONTROLS WILL BE INSTALLED AT LEAST 5 FEET APART UNLESS LIMITED BY LACK OF AVAILABLE SPACE.

 A 100-FOCT NATURAL BUFFER SHALL BE PRESERVED IN CONSTRUCTION AREAS DISCHARGING TO SPECIAL WATERS OR, IF A BUFFER IS INFEASIBLE, REDUNDANT SEDIMENT CONTROLS SHALL BE PROVIDED, WHEN A SPECIAL WATER IS LOCATED WITHIN 100 FEET OF THE PROJECT'S EARTH DISTURBANCES AND STORMWATER FLOWS TO THE SURFACE WATER.

 SEDIMENT TREATMENT CHEMICALS: NOT APPLICABLE; USE OF SEDIMENTATION TREATMENT CHEMICALS (E.G., POLYMERS, FLOCCULANTS, ETC.) IS NOT ANTICIPATED AS PART OF THE PROJECT. (CSW PERMIT ITEMS 5.222 AND 9.18) 10. TEMPORARY SEDIMENT BASIN(S): THE PROJECT WILL NOT INCLUDE 10 OR MORE ACRES OF DISTURBED SOIL DRAINING TO A COMMON LOCATION OF 5 OR MORE ACRES DRAINING TO A COMMON LOCATION WITHIN 1 MILE OF A SPECIAL OF IMPAIRED WATER. THEREFORE, TEMPORARY SEDIMENT BASINS ARE NOT REQUIRED. (CSW PERMIT ITEMS 5.6, 9.13, AND 23.10 AND SECTION 14)

4.3 DEWATERING AND BASIN DRAINING: (CSW PERMIT SECTION 10 AND ITEM 10.5) a. THE FOLLOWING WILL BE USED TO TREAT/DISPOSE OF TURBID OR SEDIMENT-LADEN WATER DURING DEWATERING OR BASIN DRAINING: DEWATERING FILTER BAGS OR EQUIVALENT MEASURES b. THE FOLLOWING WILL BE USED TO PREVENT EROSION OR SCOUR OF DISCHARGE POINTS DURING DEWATERING OR BASIN DRAINING: TEMPORARY DRAINAGE CHANNELS AND SEDIMENT BASINS OR FOUTVALENT MEASURES c. FILTERS FOR BACKWASH WATER WILL BE MANAGED ON THE SITE AND CONSISTENTLY INSPECTED FOR DAMAGE AND PROPERLY DISPOSED OF OFFSITE WHEN PUMPING IS COMPLETED OR IF SIGNS OF DAMAGE ARE FOUND.

4.4 BMP DESIGN FACTORS: THE FOLLOWING BMP DESIGN FACTORS HAVE BEEN CONSIDERED IN DESIGNING THE TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL BMPS:

EXPECTED AMOUNT, FREQUENCY, INTENSITY, AND DURATION OF PRECIPITATION.
 NATURE OF STORMWATER RUNOFF AND RUN-ON AT THE SITE, INCLUDING FACTORS SUCH AS EXPECTED FLOW FROM

IMPERVIOUS SURFACES, SLOPES, AND SITE DRAINAGE FEATURES. 3. STORMWATER VOLUME, VELOCITY, AND PEAK FLOW RATES TO MINIMIZE DISCHARGE OF POLLUTANTS IN STORMWATER AND TO MINIMIZE CHANNEL AND STREAMBANK EROSION AND SCOUR IN THE IMMEDIATE VICINITY OF DISCHARGE

4. RANGE OF SOIL PARTICLE SIZES EXPECTED TO BE PRESENT.

POINTS.

(SEE PAGE 2 OF 2)

4.5 BMP QUANTITIES: ANTICIPATED EROSION PREVENTION AND SEDIMENT CONTROL BMP QUANTITIES NEEDED FOR THE LIFE OF THE PROJECT: SEE DRAWINGS AND BID FORM.

2	STORMWATER IMPROVEMENTS TARGET - WOODBURY, MN	BARR PROJECT №. 23/82-1306.00 CLIENT PROJECT №.		
Т	STORMWATER POLLUTION PREVENTION PLAN	DWG. No.	REV. No.	
	(SWPPP)	SW1.0	0	

5.0 PERMANENT STORMWATER MANAGEMENT SYSTEM

A PERMANENT STORMWATER MANAGEMENT SYSTEM IS REQUIRED IF THE PROJECT RESULTS IN ONE ACRE OR MORE OF NEW IMPERVIOUS SURFACES OR RESULTS IN A NET INCREASE OF ONE OR MORE ACRES OF CUMULATIVE NEW IMPERVIOUS SURFACES IN TOTAL OR IF THE PROJECT IS PART OF A LARGER PLAN OF DEVELOPMENT. (CSW PERMIT ITEM 15.3)

5.1 A PERMANENT STORMWATER TREATMENT SYSTEM IS NOT REQUIRED. (CSW PERMIT ITEMS 5.15, 15.4-15.9, AND 23.14)

5.2 THIS IS NOT A LINEAR PROJECT WITH LACK OF RIGHT OR WAY. (CSW PERMIT ITEM 15.9)

5.3 THIS PROJECT DOES NOT DISCHARGE TO A TROUT STREAM (OR A TRIBUTARY TO A TROUT STREAM). (CSW PERMIT ITEM 23.12)

6.0 INSPECTION AND MAINTENANCE ACTIVITIES:

1 PERSONS WITH REQUIRED TRAINING: TRAINED INDIVIDUALS INCLUDE THOSE PARTIES RESPONSIBLE FOR INSTALLING SUPERVISING, REPAIRING, INSPECTING, AND MAINTAINING EROSION PREVENTION AND SEDIMENT CONTROL BMPS AT THE SITE. TRAINED INDIVIDUALS ARE ALSO RESPONSIBLE FOR IMPLEMENTATION OF THE SWPPP AND COMPLIANCE WITH THE GENERAL PERMIT UNTIL THE CONSTRUCTION ACTIVITIES ARE COMPLETE, PERMANENT COVER HAS BEEN ESTABLISHED, AND A NOTICE OF TERMINATION (NOT) HAS BEEN SUBMITTED. (CSW PERMIT ITEMS 5.20, 5.21, AND 11.9 AND SECTION 21)

THESE INDIVIDUALS WILL BE TRAINED IN ACCORDANCE WITH THE REQUIREMENTS OF THE GENERAL PERMIT. INCLUDING THE REQUIREMENT THAT THE CONTENT AND EXTENT OF TRAINING WILL BE COMMENSURATE WITH THE INDIVIDUAL'S JOB DUTIES AND RESPONSIBILITIES.

TRAINING ENTITY*

TRAINING DATE

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

4300 MARKETPOINTE DR. BLOOMINGTON, MN 55435 OFFICE: 952-832-2770 CELL: 612-599-8889			
TBD BARR ENGINEERING CO. 4300 MARKETPOINTE DR. BLOOMINGTON, MN 55435 EMAIL TBD	CONSTRUCTION SITE MANAGEMENT	TBD	TBD
TBD	PERFORMANCE OF SWPPP INSPECTIONS	TBD	TBD
TBD	PERFORMANCE OR SUPERVISION OF INSTALLATION, MAINTENANCE, AND REPAIR OF BMPS	TBD	TBD

*TRAINING DOCUMENTATION AVAILABLE UPON REQUEST.

6.2 FREQUENCY OF INSPECTIONS: A TRAINED PERSON WILL ROUTINELY INSPECT THE ENTIRE CONSTRUCTION SITE. (CSW PERMIT ITEMS 11.2, 11,10, AND 23,13)

AT LEAST ONCE EVERY 7 DAYS DURING ACTIVE CONSTRUCTION WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS

- INSPECTION FREQUENCY MAY BE ADJUSTED UNDER THE FOLLOWING CIRCUMSTANCES: WHERE PARTS OF THE CONSTRUCTION AREAS HAVE PERMANENT COVER, BUT WORK REMAINS ON OTHER PARTS OF THE SITE, INSPECTIONS OF THE AREAS WITH PERMANENT COVER MAY BE REDUCED TO ONCE PER MONTH.
- WHERE CONSTRUCTION AREAS HAVE PERMANENT COVER AND NO CONSTRUCTION ACTIVITY IS OCCURRING ON THE SITE, INSPECTIONS CAN BE REDUCED TO ONCE PER MONTH AND, AFTER 12 MONTHS, MAY BE SUSPENDED COMPLETELY UNTIL CONSTRUCTION ACTIVITY RESUMES.
- WHERE CONSTRUCTION ACTIVITY HAS BEEN SUSPENDED DUE TO FROZEN GROUND CONDITIONS. THE INSPECTIONS MAY BE SUSPENDED. THE REQUIRED INSPECTIONS AND MAINTENANCE SCHEDULE MUST BEGIN WITHIN 24 HOURS AFTER RUNOFF OCCURS AT THE SITE OR UPON RESUMING CONSTRUCTION, WHICHEVER COMES FIRST.
- 6.3 INSPECTION REQUIREMENTS: EACH CONSTRUCTION STORMWATER SITE INSPECTION SHALL INCLUDE INSPECTION OF THE FOLLOWING AREAS. (CSW PERMIT ITEMS 11.3 THROUGH 11.8)
- ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS AND POLLUTION PREVENTION MANAGEMENT MEASURES
- SURFACE WATERS FOR EVIDENCE OF EROSION AND SEDIMENT DEPOSITION
- CONSTRUCTION SITE VEHICLE EXIT LOCATIONS FOR EVIDENCE OF OFF SITE SEDIMENT TRACKING

STREETS AND OTHER AREAS ADJACENT TO THE PROJECT FOR EVIDENCE OF OFF SITE ACCUMULATIONS OF SEDIMENT

6.4 MAINTENANCE REQUIREMENTS: MAINTENANCE OF THE FOLLOWING AREAS AND BMPS SHALL BE PERFORMED AS FOLLOWS: (CSW PERMIT ITEMS 11.3 THROUGH 11.8)

- NONFUNCTIONAL BMPS WILL BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMPS BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS. PERIMETER CONTROL DEVICES WILL BE REPAIRED, REPLACED, OR SUPPLEMENTED WHEN THEY BECOME NONFUNCTIONAL
- OR THE SEDIMENT REACHES 1/2 OF THE HEIGHT OF THE DEVICE. TEMPORARY AND PERMANENT SEDIMENTATION BASINS WILL BE DRAINED AND THE SEDIMENT REMOVED WHEN THE DEPTH
- OF SEDIMENT COLLECTED IN THE BASIN REACHES 1/2 THE STORAGE VOLUME. DELTAS AND SEDIMENT DEPOSITED IN SURFACE WATERS WILL BE REMOVED, AND THE AREAS WHERE SEDIMENT REMOVAL
- RESULTS IN EXPOSED SOIL WILL BE RE-STABILIZED. THE REMOVAL AND STABILIZATION WILL BE COMPLETED WITHIN 7 CALENDAR DAYS OF DISCOVERY UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS. IF PRECLUDED DUE TO ACCESS CONSTRAINTS, REASONABLE EFFORTS TO OBTAIN ACCESS WILL BE USED. REMOVAL AND STABILIZATION WILL TAKE PLACE WITHIN 7 CALENDAR DAYS OF OBTAINING ACCESS TRACKED SEDIMENT ON PAVED SURFACES WILL BE REMOVED WITHIN 1 CALENDAR DAY OF DISCOVERY
- AREAS UNDERGOING STABILIZATION WILL BE RESTABILIZED AS NECESSARY TO ACHIEVE REQUIRED COVER

6.5. RECORDKEEPING REQUIREMENTS: (CSW PERMIT ITEMS 11.11 AND 24.5 AND SECTIONS 6 AND 20) 1. ALL INSPECTIONS AND MAINTENANCE ACTIVITIES MUST BE RECORDED IN WRITING WITHIN 24 HOURS OF BEING CONDUCTED

- AND THESE RECORDS MUST BE RETAINED WITH THE SWPPP. RECORDS OF EACH INSPECTION AND MAINTENANCE ACTIVITY SHALL INCLUDE THE DATE AND TIME; NAME OF INSPECTOR(S); FINDINGS OF INSPECTIONS; CORRECTIVE ACTIONS (INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES); AND DATE OF ALL RAINFALL EVENTS GREATER THAN 0.5 INCHES IN 24 HOURS AND THE AMOUNT OF RAINFALL FOR FACH EVENT.
- a. IF ANY DISCHARGE IS OBSERVED DURING THE INSPECTION, DOCUMENT THE LOCATION AND APPEARANCE OF THE DISCHARGE (I.E., COLOR, ODOR, SETTLED OR SUSPENDED SOLIDS, OIL SHEEN, AND OTHER OBVIOUS INDICATORS OF POLLUTANTS), AND A PHOTOGRAPH OF THE DISCHARGE.
- 2. THE SWPPP WILL BE AMENDED TO INCLUDE ADDITIONAL OR MODIFIED BMPS TO CORRECT PROBLEMS OR ADDRESS SITUATIONS WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER, OF SEASONAL CONDITIONS THAT HAS A SIGNIFICANT EFFECT ON THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER
 - a. THE SWPPP WILL BE AMENDED WHEN INSPECTIONS OR INVESTIGATIONS BY THE SITE OWNER. OPERATOR. OR CONTRACTORS OR BY USEPA/MPCA OFFICIALS INDICATE THAT THE SWPPP IS NOT EFFECTIVE IN ELIMINATING OR MINIMIZING THE DISCHARGE OF POLLUTANTS TO SURFACE WATERS OR GROUNDWATER; THE DISCHARGES ARE CAUSING WATER QUALITY STANDARD EXCEEDANCES; OR THE SWPPP IS NOT CONSISTENT WITH A USEPA APPROVED TMDL
 - b. ANY AMENDMENTS TO THE SWPPP PROPOSED AS A RESULT OF THE INSPECTION WILL BE DOCUMENTED AS REQUIRED WITHIN 7 CALENDAR DAYS.
- AMENDMENTS WILL BE COMPLETED BY AN APPROPRIATELY TRAINED INDIVIDUAL. CHANGES INVOLVING THE USE OF A LESS STRINGENT BMP WILL INCLUDE A JUSTIFICATION DESCRIBING HOW THE REPLACEMENT BMP IS EFFECTIVE FOR THE SITE CHARACTERISTICS.
- RECORDS RETENTION: THE SWPPP, INCLUDING ALL CHANGES TO IT, AND INSPECTION AND MAINTENANCE RECORDS MUST BE KEPT AT THE SITE DURING CONSTRUCTION BY THE PERMITTEE WHO HAS OPERATIONAL CONTROL OF THE SITE. THE SWPPP CAN BE KEPT IN EITHER A FIELD OFFICE OR IN AN ON SITE VEHICLE DURING NORMAL WORKING HOURS
- RECORD AVAILABILITY: THE PERMITTEES MUST MAKE THE SWPPP. INCLUDING INSPECTION REPORTS. MAINTENANCE RECORDS, AND TRAINING RECORDS, AVAILABLE TO FEDERAL, STATE, AND LOCAL OFFICIALS WITHIN THREE DAYS UPON REQUEST FOR THE DURATION OF THE PERMIT COVERAGE AND FOR THREE YEARS FOLLOWING THE NOT.

7.0 POLLUTION PREVENTION MEASURES:

- 1. ANY CONSTRUCTION PRODUCTS AND LANDSCAPE MATERIALS THAT HAVE THE POTENTIAL TO LEACH POLLUTANTS SHALL BE STORED UNDER COVER (E.G., PLASTIC SHEETING OR TEMPORARY ROOFS) TO PREVENT DISCHARGE OF POLLUTANTS THROUGH MINIMIZATION OF CONTACT WITH STORMWATER. STORAGE OF SUCH MATERIALS WITHIN THE PROJECT AREA WILL BE MINIMIZED TO THE EXTENT POSSIBLE. (CSW PERMIT ITEM 12.2)
- 2. PESTICIDES, FERTILIZERS, AND TREATMENT CHEMICALS WILL BE STORED UNDER COVER (E.G., PLASTIC SHEFTING TEMPORARY ROOFS, WITHIN A BUILDING, OR IN WEATHER-PROOF CONTAINERS) TO PREVENT DISCHARGE OF POLLUTANTS THROUGH MINIMIZATION OF CONTACT WITH STORMWATER. STORAGE OF SUCH MATERIALS WITHIN THE PROJECT AREA WILL BE MINIMIZED TO THE EXTENT POSSIBLE. (CSW PERMIT ITEM 12.3)
- HAZARDOUS MATERIALS AND TOXIC WASTE (E.G., OIL, DIESEL FUEL, GASOLINE, HYDRAULIC FLUIDS, PAINT SOLVENTS, PETROLEUM-BASED PRODUCTS, WOOD PRESERVATIVES, ADDITIVES, CURING COMPOUNDS, AND ACIDS) SHALL BE STORED AND DISPOSED OF IN COMPLIANCE WITH MINNESOTA RULES CHAPTER 7045, INCLUDING SECONDARY CONTAINMENT (AS APPLICABLE), HAZARDOUS MATERIALS SHALL BE PROPERLY STORED IN SEALED CONTAINERS TO PREVENT SPILLS, LEAKS, OR OTHER DISCHARGES AND PREVENT PRECIPITATION FROM FALLING ONTO THE CONTAINERS OR STORED HAZARDOUS MATERIALS. (CSW PERMIT ITEMS 2.3 AND 12.4)
- SOLID WASTE SHALL BE COLLECTED, STORED, AND DISPOSED OF PROPERLY IN COMPLIANCE WITH MINNESOTA RULES CHAPTER 7035, THIS INCLUDES STORAGE WITHIN COVERED TRASH CONTAINERS AND DAILY REMOVAL OF LITTER AND DEBRIS. STORAGE OF SOLID WASTE WITHIN THE PROJECT AREA WILL BE MINIMIZED TO THE EXTENT POSSIBLE. (CSW PERMIT ITEM 12.5)
- 5. PORTABLE TOILETS WILL BE LOCATED AWAY FROM SURFACE WATERS AND POSITIONED AND SECURED TO THE GROUND SO THEY WILL NOT BE TIPPED OR KNOCKED OVER. SANITARY WASTE WILL BE DISPOSED OF IN ACCORDANCE WITH MINNESOTA RULES, CHAPTER 7041. PORTABLE TOILETS WILL BE PERIODICALLY EMPTIED AND THE WASTE HAULED OFF-SITE BY A LICENSED HAULER (CSW PERMIT ITEM 12.6)
- 6. VEHICLE FUELING WILL ONLY OCCUR IN DESIGNATED AREAS. SPILL KITS SIZED APPROPRIATELY FOR THE AMOUNT OF REFUELING TAKING PLACE WILL BE LOCATED. SPILL KITS WILL BE CLEARLY LABELED AND CONTAIN MATERIALS TO ASSIST IN SPILL CLEANUP INCLUDING ABSORBENT PADS, BOOMS FOR CONTAINING SPILLS, AND HEAVY-DUTY PROTECTIVE GLOVES. SPILLS WILL BE REPORTED TO THE MINNESOTA DUTY OFFICER AS REQUIRED BY MINNESOTA STATUTES, SECTION 115.061. (CSW PERMIT ITEMS 2.3 AND 12.7)
- a. ANY FUEL TANKS BROUGHT ON-SITE WILL HAVE PROPERLY SIZED CONTAINMENT AND WILL NOT BE TOPPED OFF TO AVOID SPILLS FROM OVERFILLING. FUEL TANKS WILL MEET INDUSTRY STANDARDS (DESIGNED TO HOLD FUEL TYPE, PROPERLY MAINTAINED, NOT ILLEGALLY MODIFIED, NOT MISSING LEAK INDICATOR FLOATS FOR DOUBLE WALLED TANKS, SIGHT GAUGES NOT USED, ETC.) OR BE REMOVED FROM THE WORK AREA.
- GUIDELINES FOR SPILL PREVENTION AND RESPONSE INCLUDE: TAKE REASONABLE STEPS TO PREVENT THE DISCHARGE OF SPILLED OR LEAKED CHEMICALS, INCLUDING FUEL, FROM ANY AREA WHERE CHEMICALS OR FUEL WILL BE LOADED OR UNLOADED, INCLUDING THE USE OF DRIP PANS OR ABSORBENTS UNLESS INFEASIBLE:
- PERFORM REGULAR PREVENTATIVE MAINTENANCE ON TANKS AND FUEL LINES INSPECT PUMPS, CYLINDERS, HOSES, VALVES, AND OTHER MECHANICAL EQUIPMENT ON-SITE FOR DAMAGE OR DETERIORATION
- DO NOT WASH OR RINSE FUELING AREAS WITH WATER:
- MAINTAIN ADEQUATE SUPPLIES TO CLEAN UP DISCHARGED MATERIALS AND PROVIDE AN APPROPRIATE
- DISPOSAL METHOD FOR RECOVERED SPILLED MATERIALS REPORT AND CLEAN UP SPILLS IMMEDIATELY AS REQUIRED BY MINNESOTA STATUTES, SECTION 115.061, USING
- DRY CLEAN UP MEASURES WHERE POSSIBLE: AND MAINTAIN COPIES OF SAFETY DATA SHEETS (SDSS) FOR HAZARDOUS MATERIALS ON-SITE IN LOCATIONS READILY AVAILABLE TO EMERGENCY RESPONDERS
- 7. IF VEHICLE AND EQUIPMENT WASHING IS NECESSARY, A VEHICLE WASH STATION WILL BE LOCATED IN A DESIGNATED AREA. RUNOFF FROM THE WASHING AREA WILL BE CONTAINED IN A SEDIMENT BASIN AND WASTE FROM THE WASHING ACTIVITY WILL BE PROPERLY DISPOSED OF. ANY SOAPS, DETERGENTS, OR SOLVENTS WILL BE PROPERLY USED AND STORED. ANY DETERGENTS AND OTHER CLEANERS NOT PERMITTED FOR DISCHARGE WILL NOT BE USED. (CSW PERMIT ITEMS 2.3 AND
- 12.8) THE PROJECT WILL RESULT IN CONCRETE OR OTHER WASHOUT ACTIVITIES. BELOW IS A DESCRIPTION OF THE STORAGE AND DISPOSAL OF CONCRETE AND OTHER WASHOUT WASTES SO THAT WASTES DO NOT CONTACT THE GROUND. (CSW PERMIT ITEMS 2.3 AND 12.9)
- a CONTRACTOR SHALL NOT BE ALLOWED TO SET UP A CONCRETE WASHOUT STATION ONSITE EXAMPLES OF APPROPRIATE CONCRETE WASHOUT PRACTICES INCLUDE - PUTTING ALL WASHOUT WATER BACK INTO CONCRETE TRUCKS FOR CONCRETE VENDOR TO MANAGE AT THEIR
- b. THE CONCRETE WASHOUT WATER FOR CONCRETE TRUCK CHUTE AND TOOLS WILL ALSO NOT TOUCH THE GROUND. THIS PAIL OF WASH WATER CAN BE PUT BACK INTO THE CONCRETE TRUCK

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ž						I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR	CLIENT	12/21/2023	-						Project Office:	Scale	AS SHOWN		
ŝ						REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED	AGENCY					·			BARR ENGINEERING CO.	Date	02/09/2024		
3						PROFESSIONAL ENGINEER UNDER THE LAWS OF THE	BID	_			2024		·	DIDD	4300 MARKETPOINTE DRIVE	Denver			
~						STATE OF MINNESOTA.	CONSTRUCTION							BARR	Suite 200	Drawn	EMO		RAMSEY-WASHINGTON
IS I						PRINTED NAME Katelyn Turpin-Nagel	RECORD								MINNEAPOLIS, MN 55435	Checked	BARR	123	
6	0 EN	10 EL	A KJN2	02/09/2024	ISSUED FOR BID			Δ	в	BC		2	3	Corporate Headquarters:	Ph: 1-800-632-2277	Designed	BARR		METRO WATERSHED DISTRICT
8						SIGNATURE	RELEASED	Α			<u> </u>	2	<u> </u>	Minneapolis, Minnesota	Fax: (952) 832-2601				WEIKO WAIEKSIIED DISTRIC.
Ľ	ю. в	ICH	IK. APP.	DATE	REVISION DESCRIPTION	DATE 02/09/2024 LICENSE # 59359	TO/FOR		D	ATE REL	EASED			Ph: 1-800-632-2277	www.barr.com	Approved	KJN2		-

- SURFACES. (CSW PERMIT ITEM 5.17)
- COMPLETE.

8.0 PERMANENT COVER AND PERMIT TERMINATION CONDITIONS:

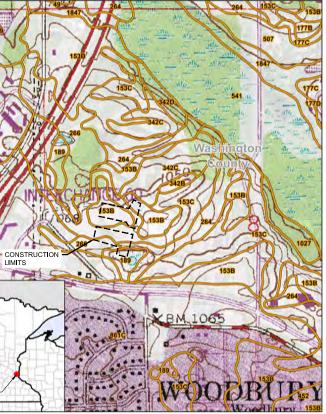
THE AREAS DISTURBED DURING CONSTRUCTION WILL BE STABILIZED WITH PERMANENT COVER UPON COMPLETION OF WORK. PERMANENT COVER MAY BE VEGETATIVE OR NON-VEGETATIVE, AS APPROPRIATE. ESTABLISHMENT OF PERMANENT COVER MAY INCLUDE THE FOLLOWING ACTIVITIES: PLACEMENT OF EROSION CONTROL BLANKET, PLACEMENT OF TURF REINFORCING MAT, UPLAND ZONE SEED MIXES AND PLUGS, WETLAND MEADOW SEED MIXES AND PLUGS, AND BITUMINOUS

FOR A CONSTRUCTION-SITE TO ACHIEVE "PERMANENT COVER", THE FOLLOWING REQUIREMENTS MUST BE COMPLETED PRIOR TO TERMINATION OF PERMIT COVERAGE (CSW PERMIT SECTIONS 4 AND 13)

a. ALL SOIL DISTURBING CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED AND PERMANENT COVER HAS BEEN INSTALLED OVER ALL AREAS. VEGETATIVE COVER CONSISTS OF A UNIFORM PERENNIAL VEGETATION WITH A DENSITY OF 70% OF ITS EXPECTED FINAL GROWTH. VEGETATION IS NOT REQUIRED WHERE THE FUNCTION OF A SPECIFIC AREA DICTATES NO VEGETATION (SUCH AS IMPERVIOUS SURFACES OR THE BASE OF A SAND FILTER). ALL SEDIMENT HAS BEEN REMOVED FROM CONVEYANCE SYSTEMS, INCLUDING CULVERTS

ALL TEMPORARY SYNTHETIC EROSION PREVENTION AND SEDIMENT CONTROL BMPS HAVE BEEN REMOVED. BMPS DESIGNED TO DECOMPOSE ON-SITE MAY BE LEFT IN PLACE.

3. SUBMIT A NOTICE OF TERMINATION (NOT) FORM TO THE MPCA WITHIN 30 DAYS AFTER THE TERMINATION CONDITIONS ARE



Statewide SSURGO Data County Boundary

IECT

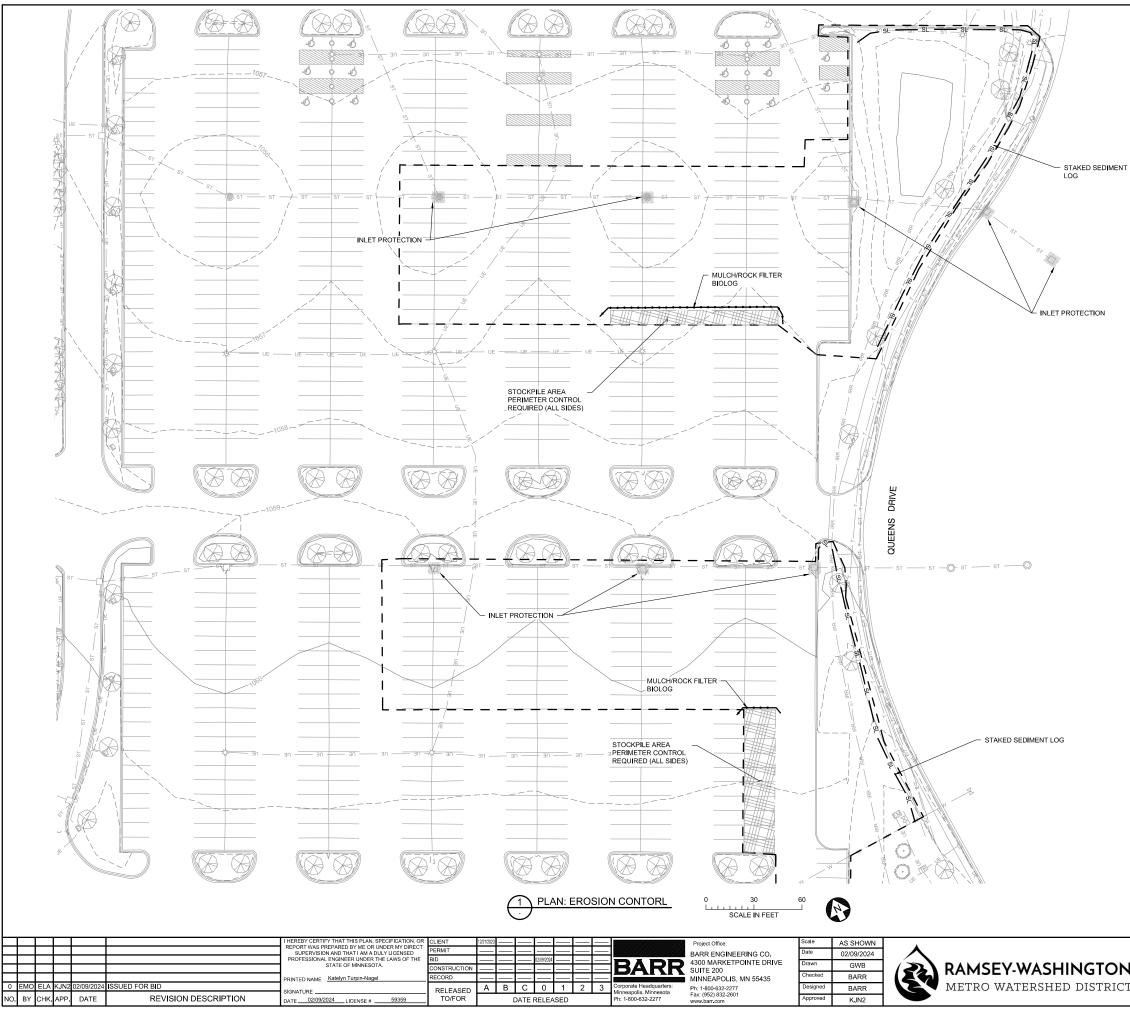
LOCATION



Figure 1

TOPOGRAPHIC MAP WITH SURFACE WATERS AND SOIL TYPES Stormwater Pollution Prevention Plan Washington County, Minnesota

NGTON		BARR PROJECT No. 23/82-1306. CLIENT PROJECT No.	.00
DISTRICT	STORMWATER POLLUTION PREVENTION PLAN	DWG. No.	REV. No.
	(SWPPP)	SW1.1	0



EXISTING CONDITIONS LEGEND

EXISTING CONDI	TIONS LEGEND
890	5 FT CONTOUR
	1 FT CONTOUR
ST	STORM SEWER
UE	UNDERGROUND ELECTRIC
W W	WATER MAIN
T T	TELEPHONE LINE
——— E/T ———	COMMUNICATION LINE
IRR	IRRIGATION LINE
	CURB
۲	STORM SEWER MANHOLE
	STORM SEWER CATCH BASIN
\bowtie	POTABLE WATER VALVE
¢	LIGHT POLE
٥	BOLLARDS
\otimes	DECIDUOUS TREE
With a start	CONIFEROUS TREE

EROSION CONTROL LEGEND

	CONSTRUCTION LIMITS
— SL — SL —	STAKED SEDIMENT LOG
·····	MULCH/ROCK FILTER BIOLOG
	INLET PROTECTION
	STOCKPILE AREA

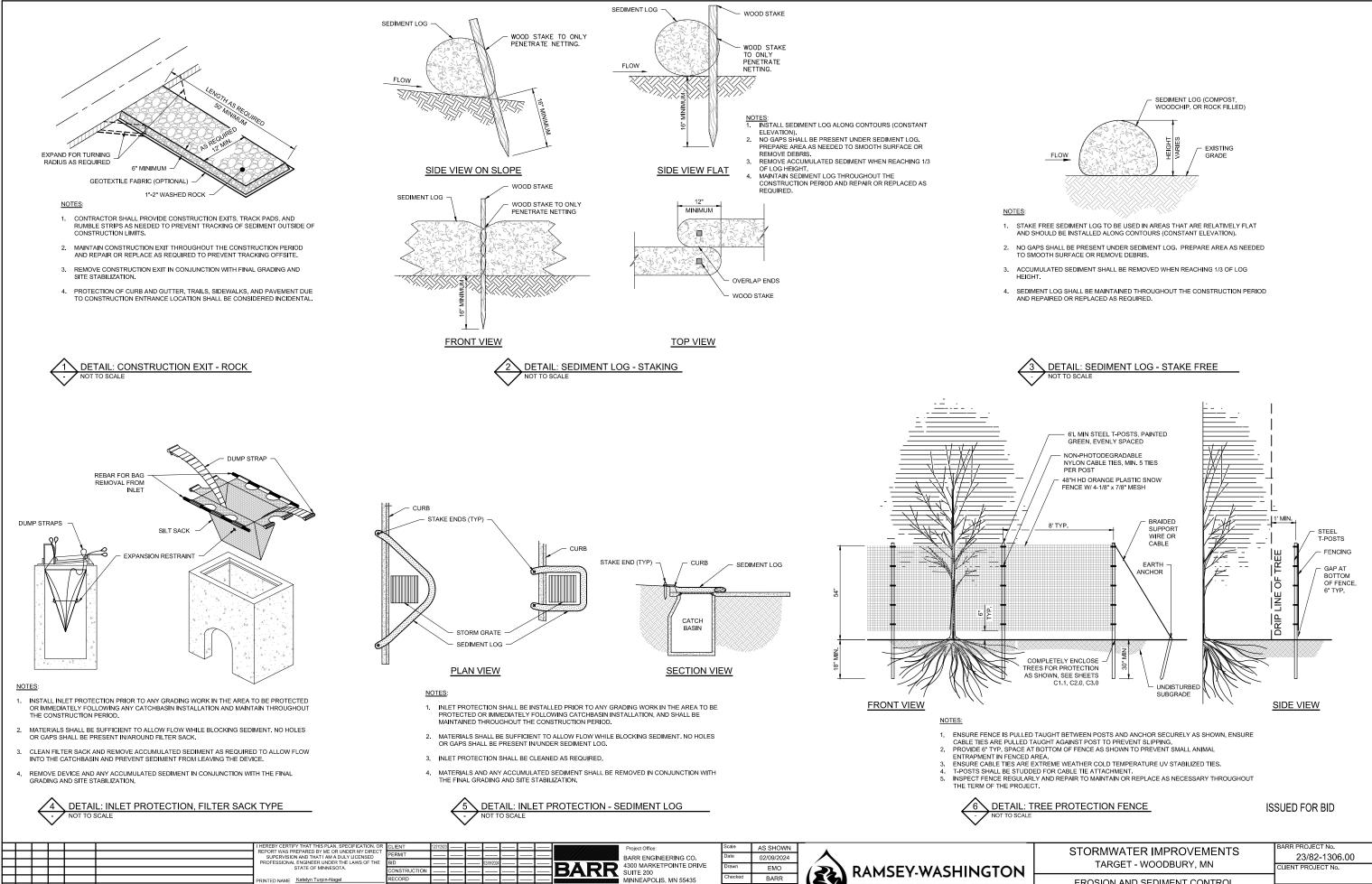
NOTES:

- 1. NOTIFY NICOLE MARAS, RWMWD, AT 651-792-7976 PRIOR TO BEGINNING ANY AND ALL CONSTRUCTION ACTIVITY FOR AN INITIAL SWPPP INSPECTION.
- 2. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED BEFORE COMMENCING LAND DISTURBING ACTIVITIES AND SHALL NOT BE REMOVED UNTIL PERMANENT COVER HAS BEEN ESTABLISHED. SEE DRAWINGS SW1.0 AND SW1.1 FOR SWPPP.
 CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER OPERATION, MAINTENANCE, AND REGULAR INSPECTION OF ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL THE SITE IS FULLY RESTORED.
 SOIL STOCKPILES SHALL BE STABLIZED WITH MULCH (SUCH AS STRAW MULCH, SLASH MULCH, WOOD CHIP, OR OTHER APPROPRIATE MULCH). IF SLOPES GREATER THAN 3H:1V, COVER MATERIAL WITH TARPS, PLASTIC SHEETING, OR EQUIVALENT MEASURES.
 CONTRACTOR SHALL PROVIDE CONSTRUCTION EXITS AND TRACK PADS AS NEEDED TO PREVENT TRACKING OF SEDIMENT OUTSIDE OF CONSTRUCTION LIMITS.
- LIMITS.
- 6. IF SEDIMENT IS TRACKED ONTO PARKING LOT, PRIVATE STREETS, OR CITY
- IF SEDIMENT IS TRACKED ONTO PARKING LOT, PRIVATE STREETS, OR CITY STREETS, STREET SWEEPING SHALL BE DEPLOYED.
 THE SPECIFIED EROSION AND SEDIMENT CONTROL PRACTICES ARE THE MINIMUM. ADDITIONAL PRACTICES MAY BE REQUIRED DURING THE COURSE OF CONSTRUCTION.
 FOR EROSION CONTROL DETAILS SEE SW1.3.

PROJECT COORDINATE SYSTEM:

HORIZONTAL: WASHINGTON COUNTY COORDINATES, NAD83, 2011 ADJUSTMENT VERTICAL: NAVD88

		BARR PROJECT №. 23/82-1306.	.00
Ν	TARGET - WOODBURY, MN EROSION AND SEDIMENT CONTROL	CLIENT PROJECT No.	
CT	PLAN	DWG. No. SW1.2	REV. No. 0



MINNEAPOLIS, MN 55435

Ph: 1-800-632-2277 Fax: (952) 832-260

neapolis, Minne 1-800-632-2277

BARR

KJN2

A B C 0 1 2 3

DATE RELEASED

RELEASED

TO/FOR

INTED NAME Katelyn Turpin-Nagel

DATE 02/09/2024 LICENSE # 59359

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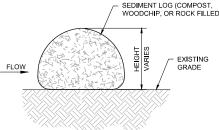
FOR BID

REVISION DESCRIPTION

DATE

FMC

METRO WATERSHED DISTRICT



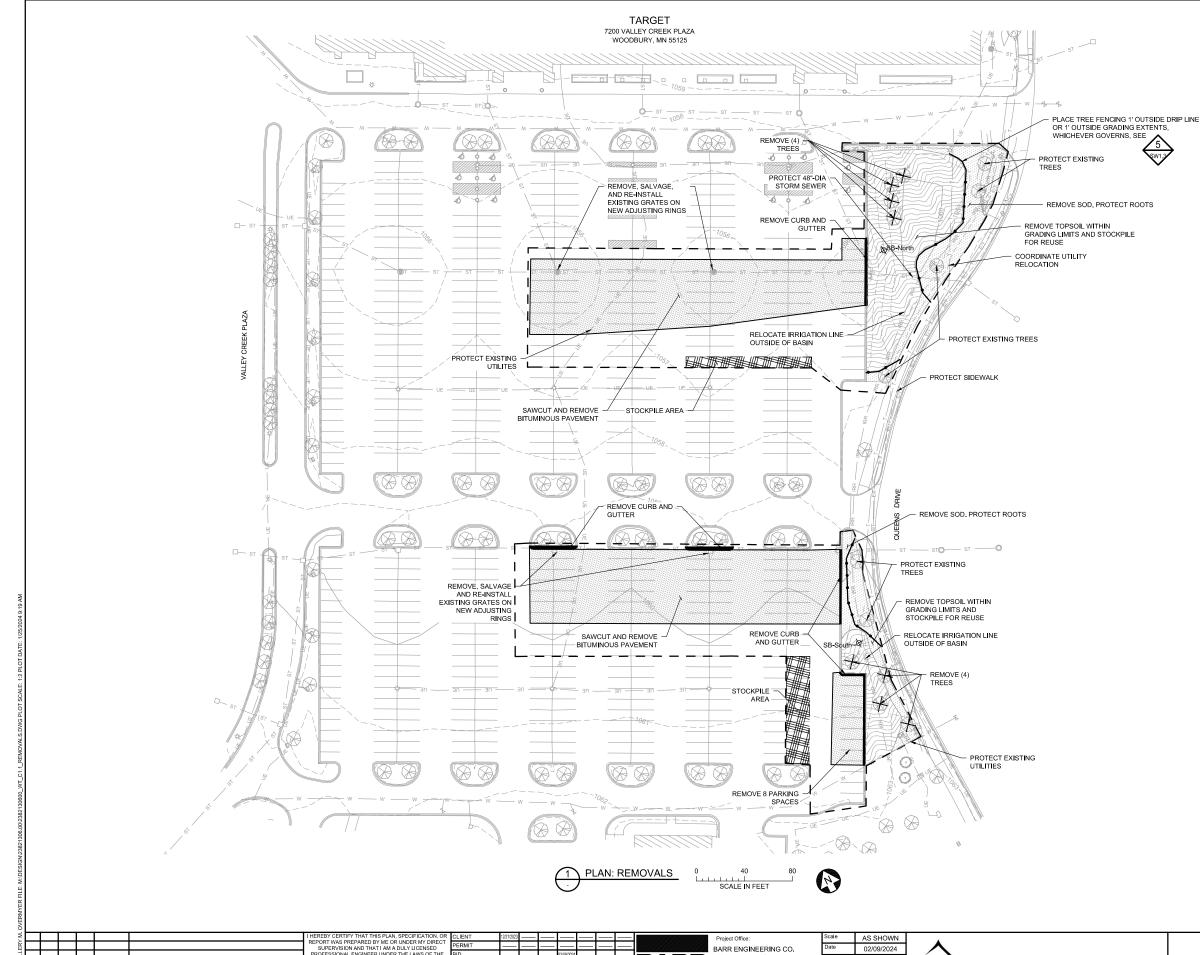
EROSION AND SEDIMENT CONTROL

DETAILS

WG N

SW1.3

0



						REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED	PERMIT							BARR ENGINEERING CO.	Date	02/09/2024	
						PROFESSIONAL ENGINEER UNDER THE LAWS OF THE	BID			02/09/2024 -			DADD	4300 MARKETPOINTE DRIVE	Drawn		
;						-	CONSTRUCTION						BARR	SUITE 200	Observation	EMO	RAMSEY-WASHINGTON
š 🔔						PRINTED NAME Katelyn Turpin-Nagel	RECORD							MINNEAPOLIS, MN 55435	Checked	BARR	
0	EMO	ELA	KJN2	02/09/2024	ISSUED FOR BID	SIGNATURE	RELEASED	A B	С	0	1 2	2 3	Corporate Headquarters: Minneapolis, Minnesota	Ph: 1-800-632-2277	Designed	BARR	METRO WATERSHED DISTRICT
5 NC	BY	снк.	APP.	DATE	REVISION DESCRIPTION	DATE 02/09/2024 LICENSE # 59359	TO/FOR		DATE F	RELEAS	SED		Ph: 1-800-632-2277	Fax: (952) 832-2601 www.barr.com	Approved	KJN2	

EXISTING CONDITIONS LEGEND 5 FT CONTOUR 1 FT CONTOUR 889 STORM SEWER UNDERGROUND ELECTRIC WATER MAIN TELEPHONE LINE COMMUNICATION LINE - E/T ------IRRIGATION LINE IRR CURB STORM SEWER MANHOLE ۲ STORM SEWER CATCH BASIN \bowtie POTABLE WATER VALVE LIGHT POLE Ø BOLLARDS 0 R DECIDUOUS TREE ANNAL ANALAS CONIFEROUS TREE HYDRANT -SOIL BORING REMOVALS LEGEND STOCKPILE AREA BITUMINOUS REMOVAL TOPSOIL REMOVAL

SOD REMOVAL

CURB AND GUTTER REMOVAL

TREE REMOVAL - DIAMETER TREE PROTECTION FENCING

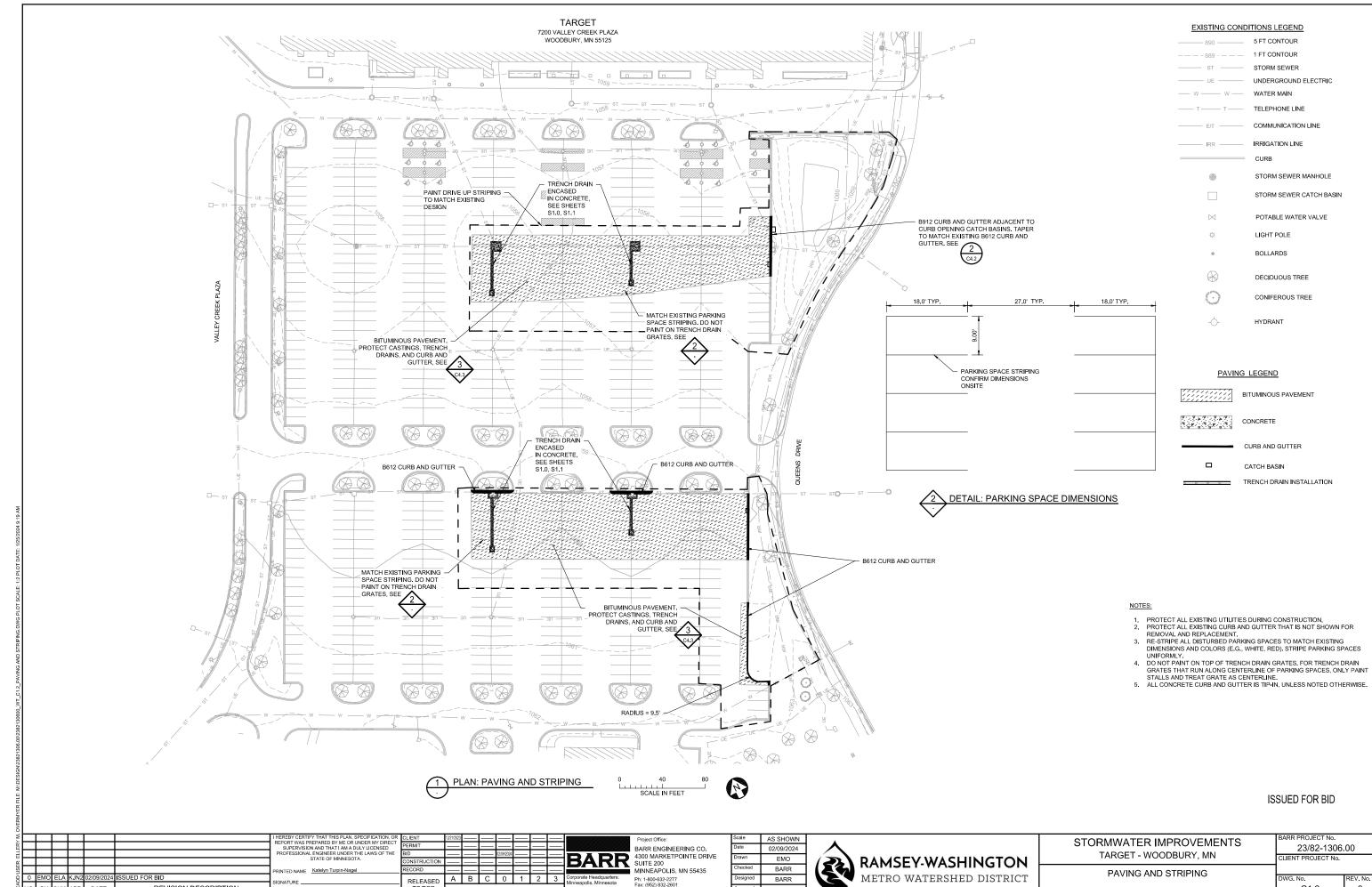
NOTES:

CONFIRM LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. NOTIFY OWNER OF ANY DISCREPANCIES.

X

- 2) UTILITY LOCATIONS ARE APPROXIMATE. ALL UTILITIES IN THE PROJECT AREA SHOULD BE
- O TILLT LOCATIONS ARE APPROXIMATE. ALL OTTINES IN THE PROJECT AREA SHOULD BE MARKED AND POTHOLED PRIOR TO EXCAVATION.
 UTILITY RELOCATION TO BE COORDINATED BY CONTRACTOR PRIOR TO CONSTRUCTION.
 PROTECT ALL EXISTING UTILITIES DURING DEMOLITION AND CONSTRUCTION.
- DO NOT REMOVE BITUMINOUS PAVEMENT UNTIL IMMEDIATELY PRIOR TO EXCAVATION FOR STORM INFRASTRUCTURE INSTALLATION.
 ALL CONSTRUCTION ACCESS, PHASING, AND STAGING TO BE COORDINATED WITH
- OWNER AND TARGET.
- 7) A TRAFFIC CONTROL PLAN SHOULD BE SUBMITTED BY THE CONTRACTOR. ALL TRAFFIC CONTROL DEVICES AND SIGNAGE SHALL CONFORM TO THE MN MUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL LAYOUTS. ALL TRAFFIC CONTROL SIGNS AND BARRICADES SHALL BE PLACED BY CONTRACTOR AND APPROVED BY THE OWNER AND TARGET.
- 8) CONTRACTOR SHALL PROVIDE A CONTINUOUS, ACCESSIBLE, AND SAFE PEDESTRIAN WALKWAY THAT MEETS ADA AND MN MUTCD STANDARDS IF WORKING IN A SIDEWALK AREA, AND TRAFFIC CONTROL PER MN MUTCD REQUIREMENTS FOR WORK IN THE PUBLIC RIGHT OF WAY. 9) SEQUENCING:
- 0 NORTH LOT: WORK SHALL BE SEQUENCED SUCH THAT THE NORTH PARKING LOT REMAINS OPEN TO VEHICULAR AND PEDESTRIAN TRAFFIC FOR AS LONG AS FEASIBLE. THAT IS, INITIALLY, SIGNAGE, FENCING, BARRIERS, AND DETOURS SHALL BE PLACED TO BLOCK OFF NO MORE THAN ONE ROW OF PARKING SPACES AND DONE DRIVE ASILE TO COMPLETE TASKS WITHIN THE NORTH OPEN GREEN SPACE (I.E., VEGETATIVE REMOVALS, UTILITY RELOCATIONS, EXCAVATION, SOIL LOOSENING, INSTALLATION OF SAND TRENCHES, DRAINTILE, RETAINING WALL, SPLASH BLOCK ASSEMBLIES, AND SOLIS), NOT UNTIL TASKS WITHIN THE NORTH OPEN GREEN SPACE ARE READY FOR STORM INFRASTRUCTURE INSTALLATION (I.E., STRUCTURES, PIPES, TRENCH DRAINS) CAN THE SIGNAGE, FENCING, BARRIERS, AND DETOURS BE EXTENDED TO COVER AREAS OF THE NORTHERN PARKING
- DARNERS, AND DETOURS DE EXTENDED TO COVER AREAS OF THE NORTHEIN FAMILIE LOT WITHIN THE CONSTRUCTION LIMITS. <u>SOUTH LOT:</u> SIGNAGE, FENCING, BARRIERS, AND DETOURS CAN BE PLACED TO COVER THE ENTIRETY OF THE CONSTRUCTION LIMITS WITHIN THE SOUTH PARKING LOT FOR THE DURATION OF THE WORK. HOWEVER BITUMINOUS SHALL NOT BE REMOVED UNTIL IMMEDIATELY PRIOR TO EXCAVATION FOR STORM INFRASTRUCTURE INSTALLATION. 10) ALL BITUMINOUS SAWCUTS MUST BE SAWCUT FULL DEPTH. 11) REMOVE CURB AND GUTTER TO NEAREST JOINT.

J		BARR PROJECT No. 23/82-1306. CLIENT PROJECT No.	.00
Г	REMOVALS	DWG. No. C1.1	REV. No. 0



KJN2

nneapolis, Minnesota : 1-800-632-2277

TO/FOR

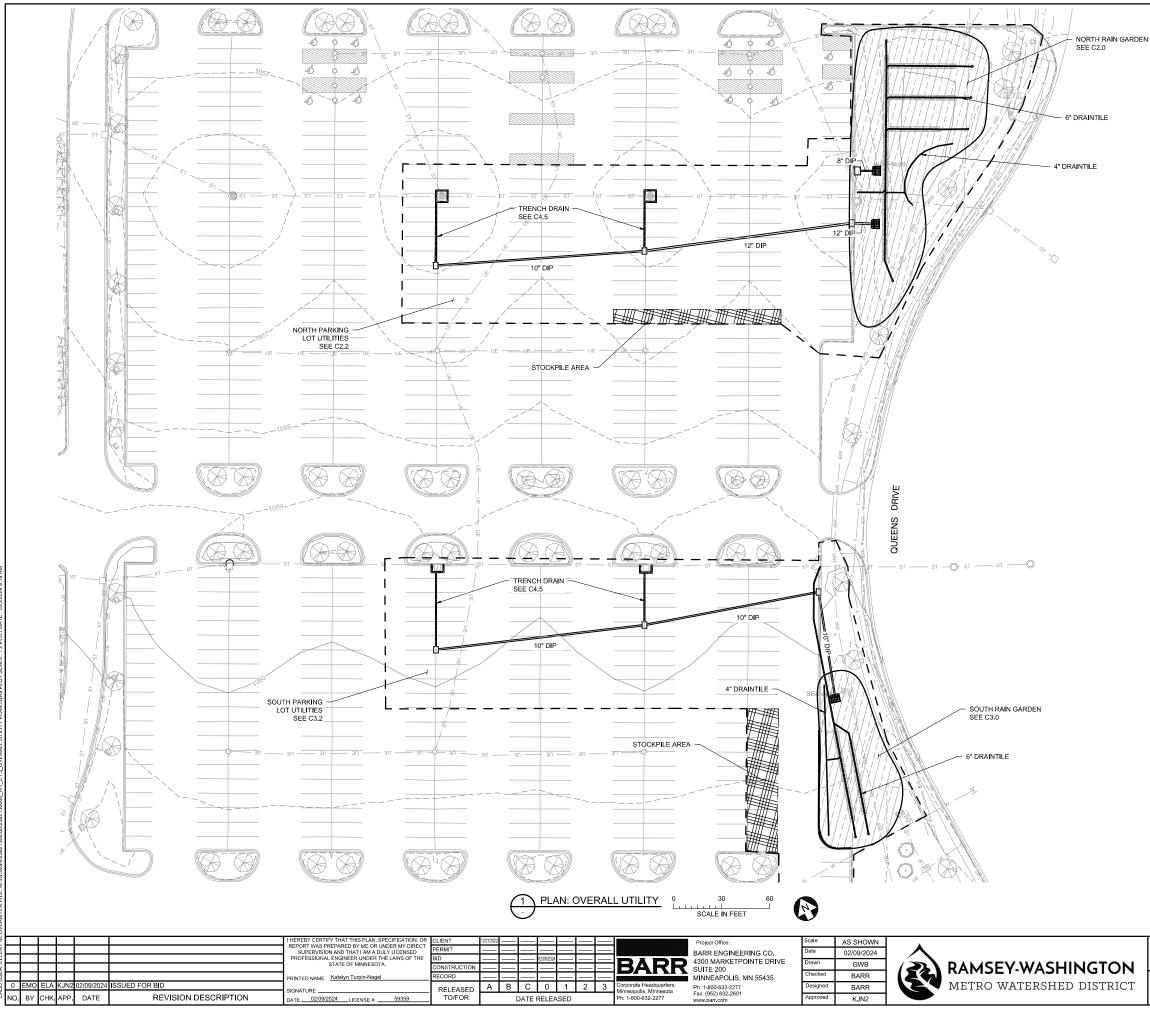
DATE 02/09/2024 LICENSE # 59359

DATE RELEASED

D. BY CHK. APP. DATE

REVISION DESCRIPTION

И	STORMWATER IMPROVEMENTS TARGET - WOODBURY, MN	BARR PROJECT No. 23/82-1306.00 CLIENT PROJECT No.			
CT	PAVING AND STRIPING	DWG. No. C1.2	REV. No. 0		



EXISTING CONDITIONS LEGEND

EXISTING C	ONDITIONS LEGEND
890	5 FT CONTOUR
	1 FT CONTOUR
ST	STORM SEWER
UE	UNDERGROUND ELECTRIC
w w -	WATER MAIN
T T	TELEPHONE LINE
E/T	COMMUNICATION LINE
IRR	IRRIGATION LINE
	CURB
۲	STORM SEWER MANHOLE
	STORM SEWER CATCH BASIN
\bowtie	POTABLE WATER VALVE
¢	LIGHT POLE
٥	BOLLARDS
\otimes	DECIDUOUS TREE
NOT NAME AND NOT NOT NOT NAME AND NOT NAME AND N	CONIFEROUS TREE
	HYDRANT
.	SOIL BORING
BMPS LEGEND	
	CONSTRUCTION LIMITS
	BMP LOCATION
	SPLASH BLOCK ASSEMBLY
	STORM SEWER CATCH BASIN INSTALLATION
	STORM SEWER INSTALLATION
	TRENCH DRAIN INSTALLATION
	DRAINTILE INSTALLATION
	SAND TRENCH
	STOCKPILE AREA

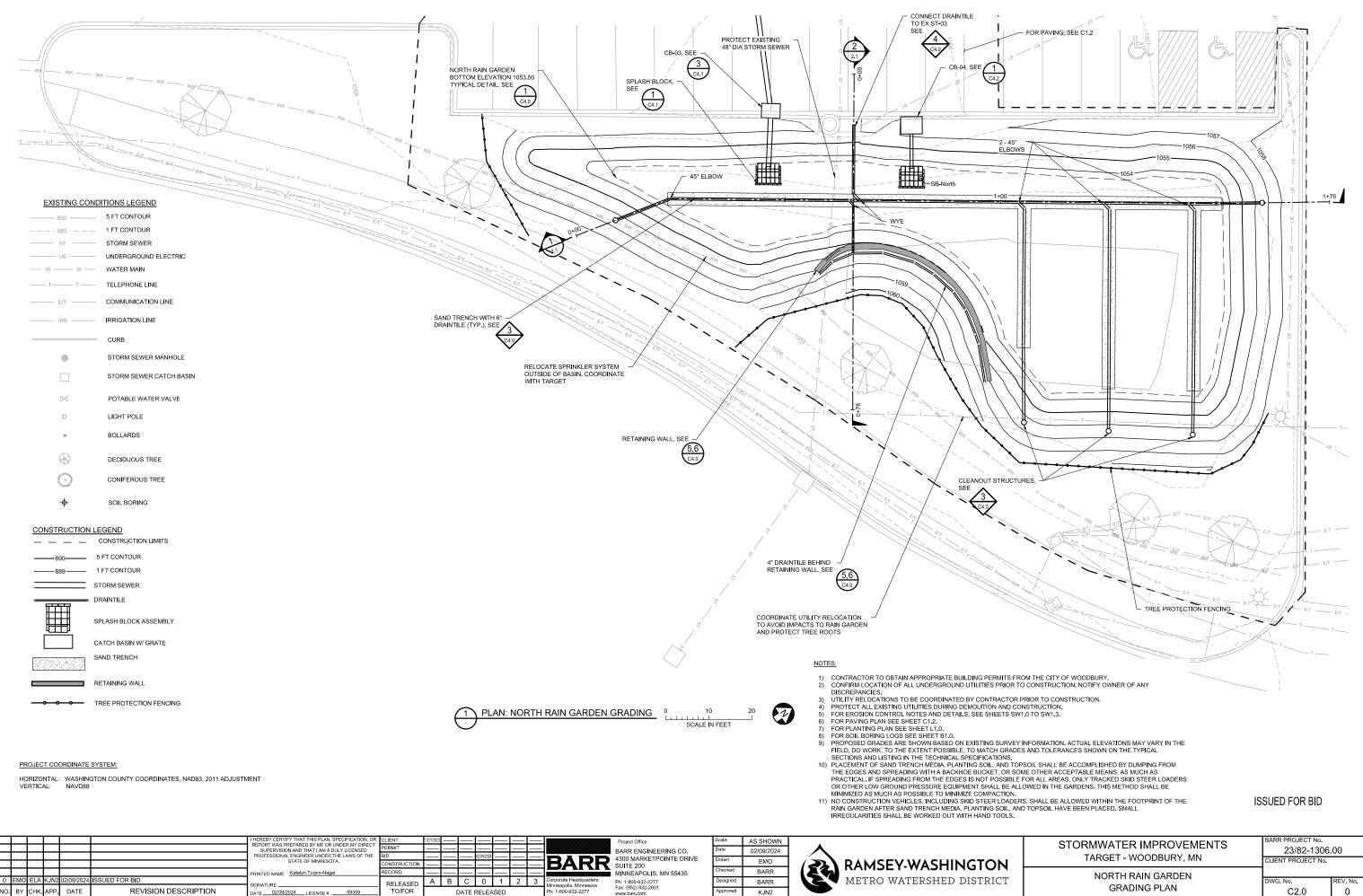
NOTES:

- 1) CONTRACTOR TO OBTAIN APPROPRIATE BUILDING PERMITS FROM THE CITY OF WOODBURY.
- 2) CONFIRM LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. NOTIFY OWNER OF ANY DISCREPANCIES.
- 3) UTILITY RELOCATION TO BE COORDINATED BY CONTRACTOR PRIOR TO CONSTRUCTION.
- 4) PROTECT ALL EXISTING UTILITIES DURING DEMOLITION AND CONSTRUCTION.
- 5) FOR EROSION CONTROL NOTES AND DETAILS, SEE SHEETS SW1.0 1.3.
- 6) FOR PAVING PLAN SEE SHEET C1.2.
- 7) FOR PLANTING PLAN SEE SHEET L1.0., L1.1
- 8) FOR SOIL BORING LOGS SEE SHEET B1.0.
- 9) PROPOSED GRADES ARE SHOWN BASED ON EXISTING SURVEY INFORMATION, ACTUAL ELEVATIONS MAY VARY IN THE FIELD, DO WORK, TO THE EXTENT POSSIBLE, TO MATCH GRADES AND TOLERANCES SHOWN ON THE TYPICAL SECTIONS AND LISTING IN THE TECHNICAL SPECIFICATIONS.
- NOTIFY NICOLE MARAS, RWMWD, AT 651-792-7976 AT LEAST 48 HOUR PRIOR TO THE CONSTRUCTION OF ANY VOLUME REDUCTION BMPS (IE., RAIN GARDENS).

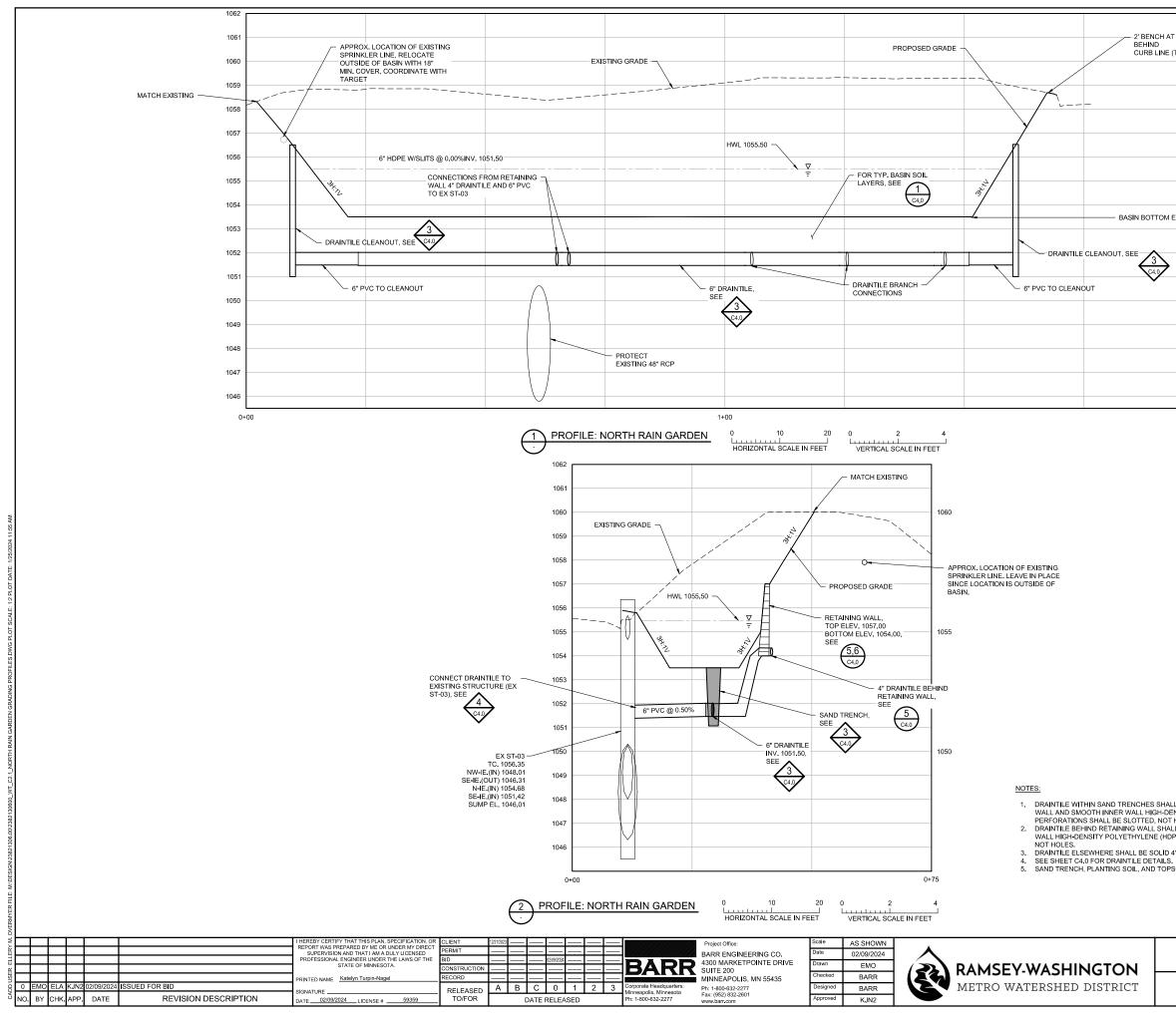
PROJECT COORDINATE SYSTEM:

HORIZONTAL: WASHINGTON COUNTY COORDINATES, NAD83, 2011 ADJUSTMENT VERTICAL: NAVD88

L		BARR PROJECT No. 23/82-1306.00 CLIENT PROJECT No.			
Т	OVERALL UTILITY	DWG. No.	REV. No.		
	PLAN	C1.3	0		



NORTH RAIN GARDEN	
GRADING PLAN	



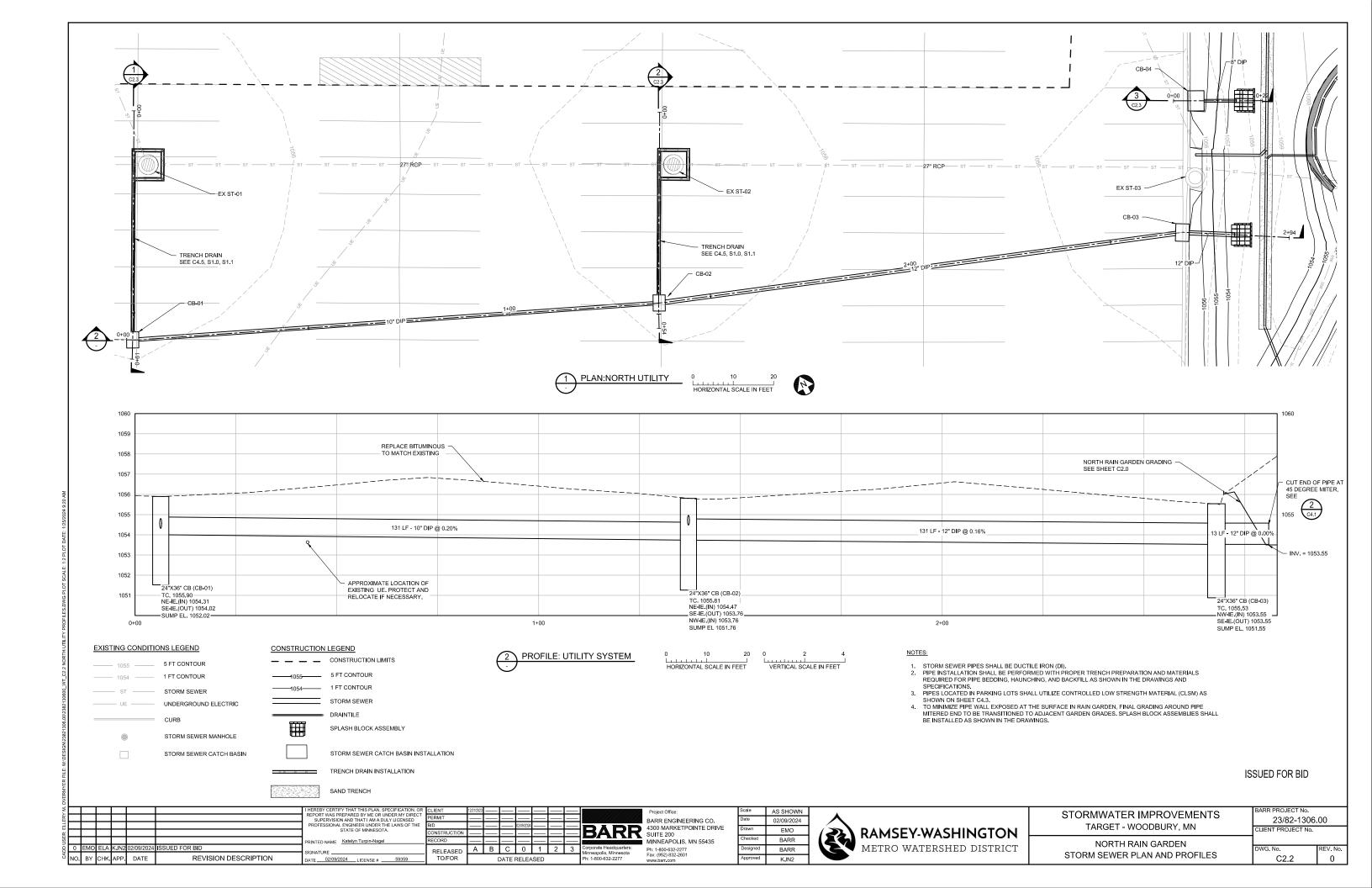
R WALL HIC SLOTTED IING WALL ETHYLEN HALL BE SI NTILE DET	SHALL BE PERFORATED 6" DUAL WALL WITH CORRUGATED OUTER SH-DENSITY POLYETHYLENE PIPE (HDPE) AND NO FILTER SOCK. NOT HOLES. SHALL BE PERFORATED 4" SINGLE WALL WITH CORRUGATED OUTER E (HDPE) AND NO FILTER SOCK. PERFORATIONS SHALL BE SLOTTED, OLD 4" AND 6" POLYVINYL CHLORIDE (PVC). TAILS. TOPSOIL SHALL BE INSTALLED AS SHOWN ON SHEET C4.0.	
		ISSUED FOR BID
N	STORMWATER IMPROVEMENTS TARGET - WOODBURY, MN	BARR PROJECT No. 23/82-1306.00 CLIENT PROJECT No.
CT	NORTH RAIN GARDEN GRADING PROFILES AND SECTIONS	DWG No. REV. C2.1

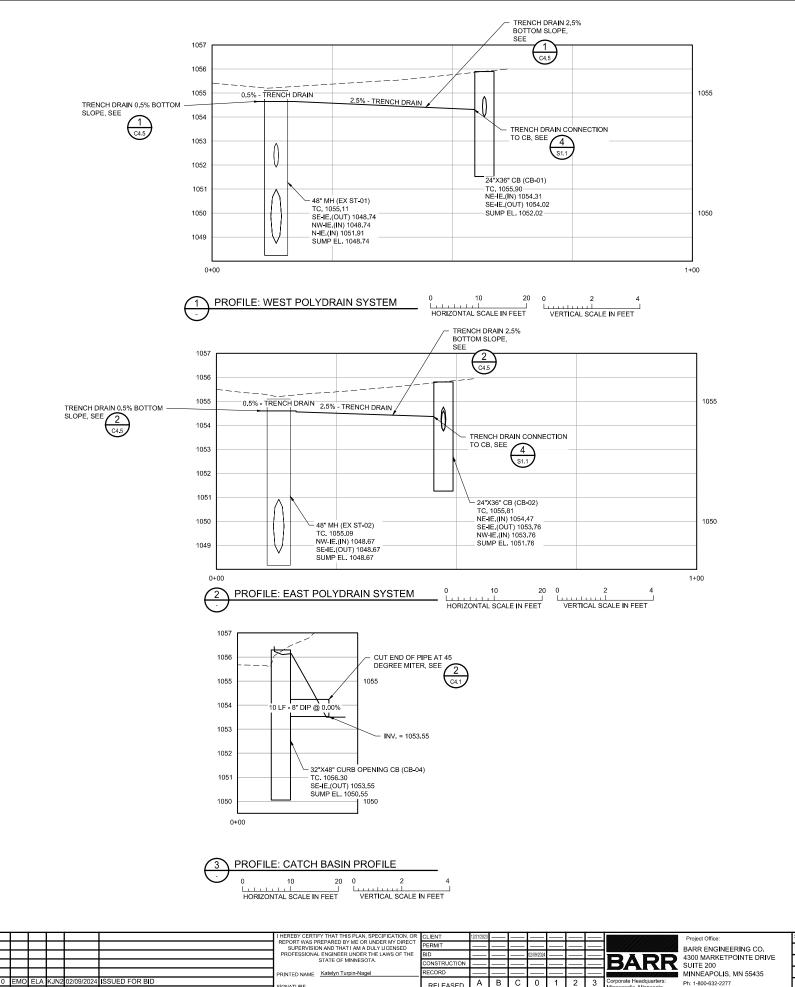
REV. No.

0

– 2' BENCH AT 2% BEHIND CURB LINE (TYP.) 1060 1055 BASIN BOTTOM EL. 1053.5 1050

2+00





NOTES:

- SPECIFICATIONS.

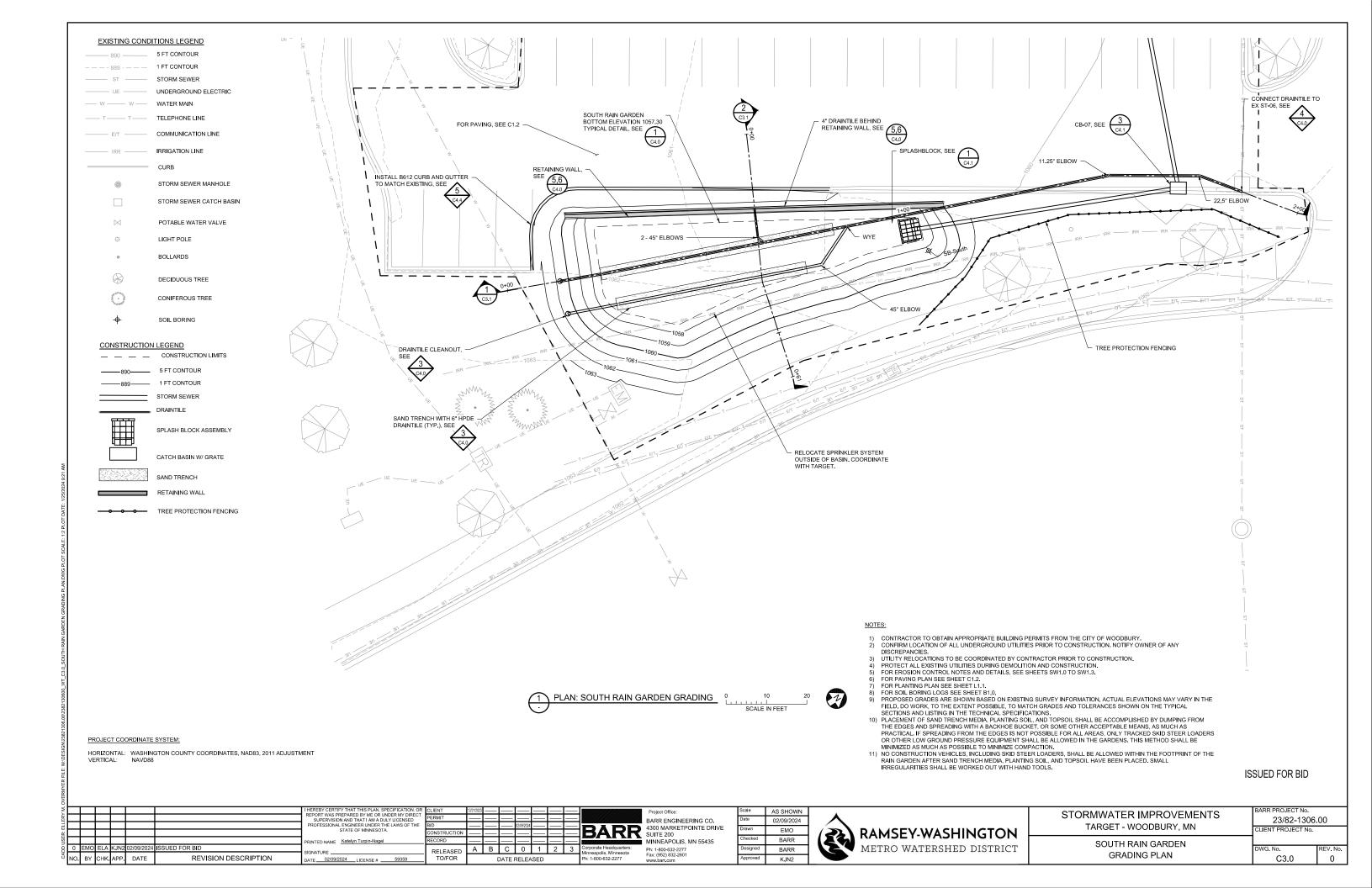
-																		
Ξ							CLIENT	12/21/2023			_		· [Project Office:	Scale	AS SHOWN	
4						REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED	PERMIT				-				BARR ENGINEERING CO.	Date	02/09/2024	
						PROFESSIONAL ENGINEER UNDER THE LAWS OF THE	BID			02/09/2	024		·	DADD	4300 MARKETPOINTE DRIVE	Drawn	02/03/2024	
2						STATE OF MINNESOTA.	CONSTRUCTION					·	· ·	BAKK	SUITE 200		EMO	RAMSEY-WASHINGTON
						PRINTED NAME Katelyn Turpin-Nagel	RECORD								MINNEAPOLIS, MN 55435	Checked	BARR	
0	EMC	ELA	KJN2	02/09/2024	ISSUED FOR BID		RELEASED	Α	в	C 0	1	2	3	Corporate Headquarters:		Designed	BARR	METRO WATERSHED DISTRICT
						SIGNATURE		<u> </u>	_					Minneapolis, Minnesota	Fax: (952) 832-2601		5, 444	
, NO	BY	CHK.	APP.	DATE	REVISION DESCRIPTION	DATE 02/09/2024 LICENSE # 59359	TO/FOR		DA	TE REL	EASED			Ph: 1-800-632-2277	www.barr.com	Approved	KJN2	

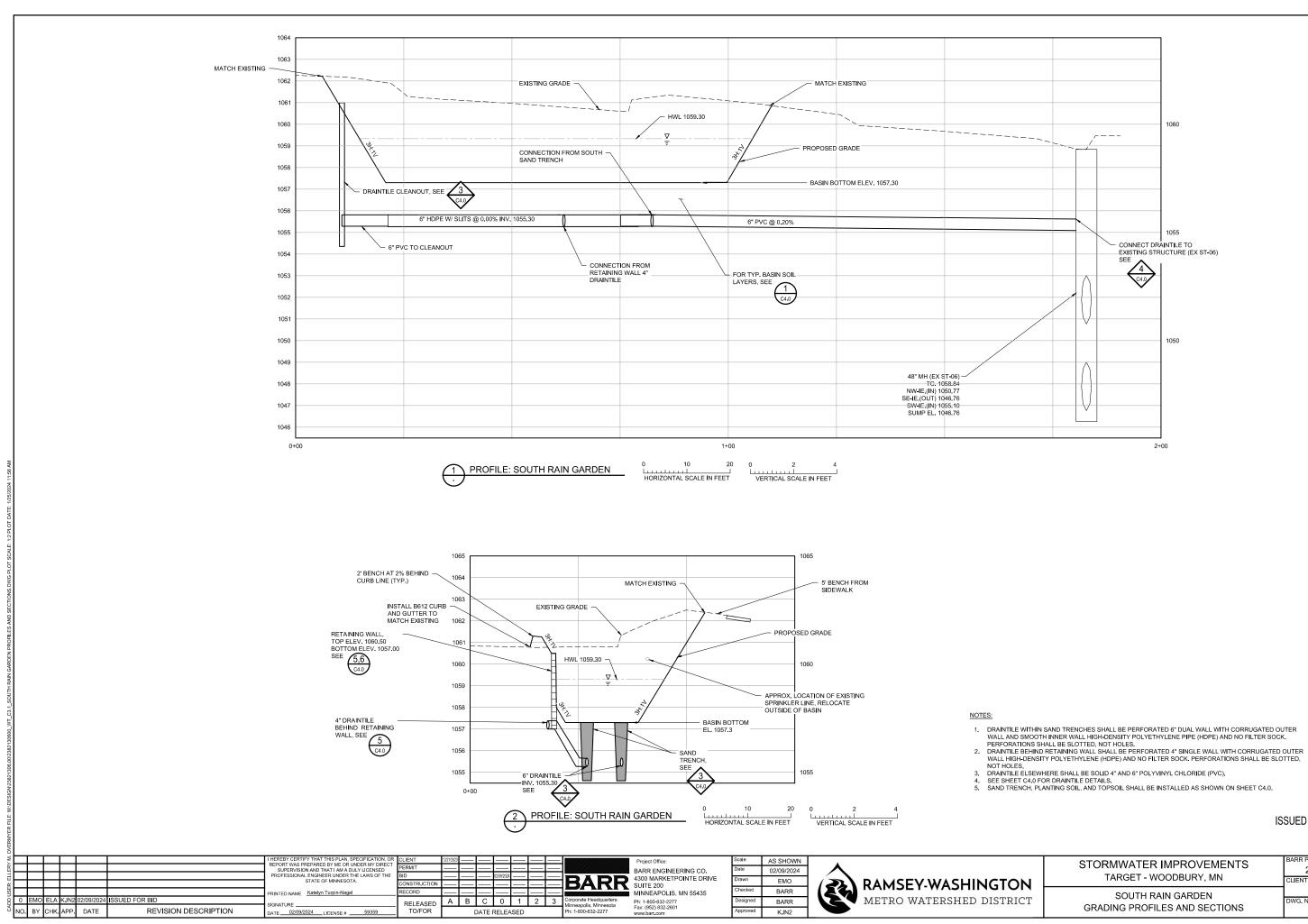
J		BARR PROJECT №. 23/82-1306.00 CLIENT PROJECT №.			
Т	NORTH RAIN GARDEN	DWG. No.	REV. No.		
	STORM SEWER PLAN AND PROFILES	C2.3	0		

ISSUED FOR BID

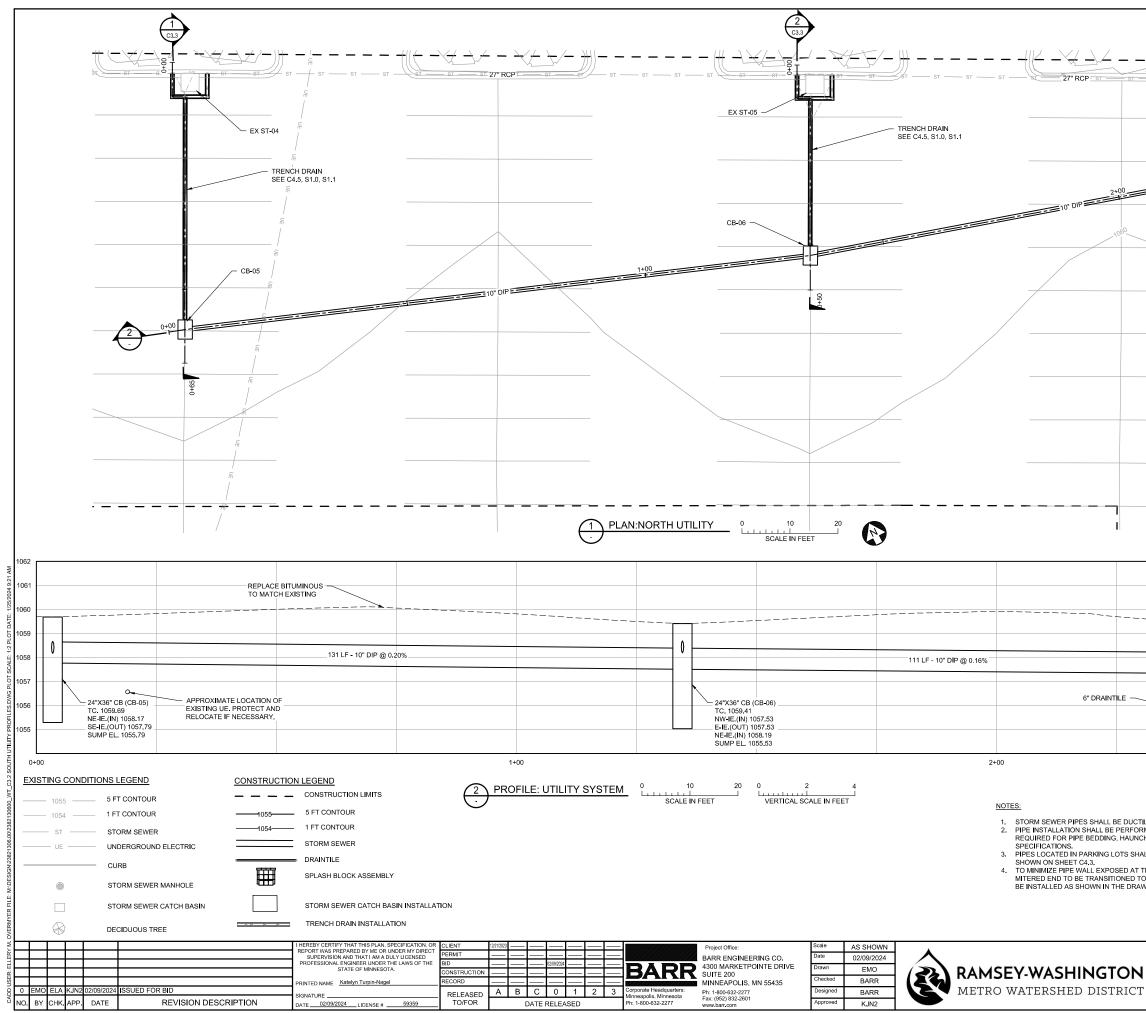
STORM SEWER PIPES SHALL BE DUCTILE IRON (DI).
 PIPE INSTALLATION SHALL BE PERFORMED WITH PROPER TRENCH PREPARATION AND MATERIALS REQUIRED FOR PIPE BEDDING, HAUNCHING, AND BACKFILL AS SHOWING IN THE DRAWINGS AND

SPECIFICATIONS.
SPIES LOCATED IN PARKING LOTS SHALL UTILIZE CONTROLLED LOW STRENGTH MATERIAL (CLSM) AS SHOWN ON SHEET C4.3.
TO MINIMIZE PIPE WALL EXPOSED AT THE SURFACE IN RAIN GARDEN, FINAL GRADING AROUND PIPE MITERED END TO BE TRANSITIONED TO ADJACENT GARDEN GRADES. SPLASH BLOCK ASSEMBLIES SHALL BE INSTALLED AS SHOWN IN THE DRAWINGS.
FOR TRENCH DRAIN DETAILS, SEE C4.5, S1.0, AND S1.1.





J	STORMWATER IMPROVEMENTS TARGET - WOODBURY, MN	BARR PROJECT No. 23/82-1306.00 CLIENT PROJECT No.			
T	SOUTH RAIN GARDEN	DWG. No.	REV. No.		
	GRADING PROFILES AND SECTIONS	C3.1	0		

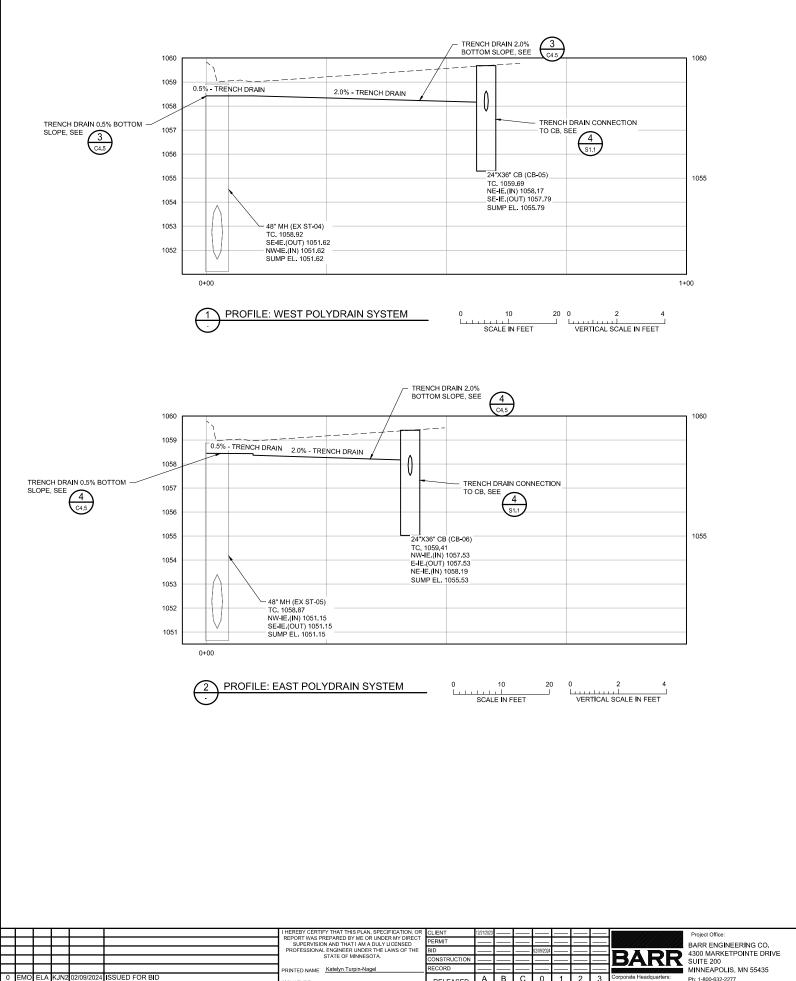


	PROPOSED GRADE CUT END OF PIPE A 45 DEGREE MITER, SEE 24.1 65 LF - 10° DP @ 0.00%	
	24"X36" CB (CB-07) TC. 1059.35 W-IE.(IN) 1057.35 S-IE.(OUT) 1057.35 SUMP EL. 1055.35	NV. = 1057.35
FORMED JNCHING SHALL U AT THE S	RON (DI). WITH PROPER TRENCH PREPARATION AND MATERIALS G, AND BACKFILL AS SHOWN IN THE DRAWINGS AND UTILIZE CONTROLLED LOW STRENGTH MATERIAL (CLSM) AS SURFACE IN RAIN GARDEN, FINAL GRADING AROUND PIPE JACENT GARDEN GRADES. SPLASH BLOCK ASSEMBLIES SHALL SS.	3+00 SUED FOR BID
N CT	STORMWATER IMPROVEMENTS TARGET - WOODBURY, MN SOUTH RAIN GARDEN	BARR PROJECT No. 23/82-1306.00 CLIENT PROJECT No. DWG. No. REV. No.

STORM SEWER PLAN AND PROFILES

0

C3.2



BY CH

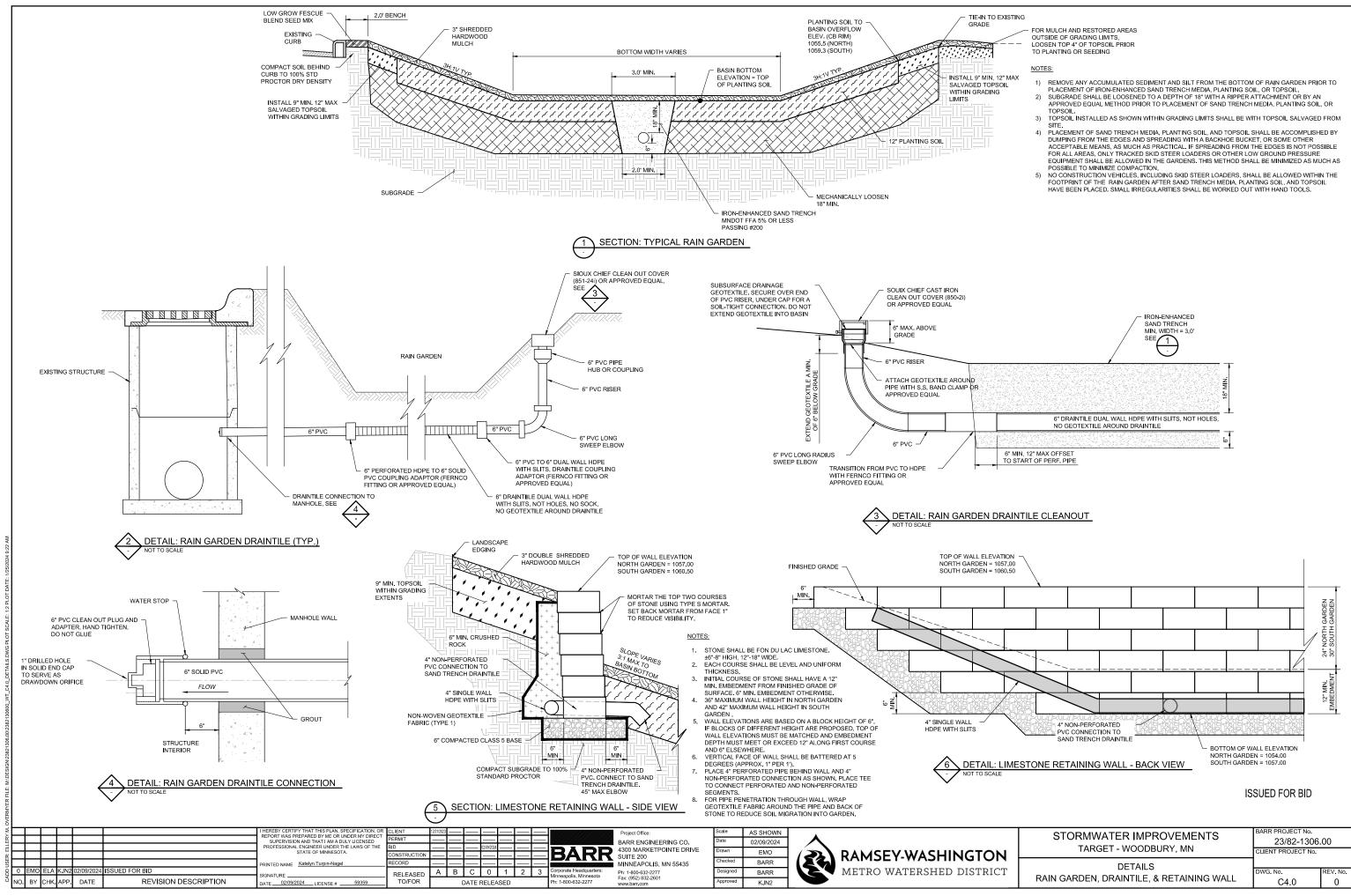
NOTES:

+				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	CLIENT PERMIT	12/21/2023					Project Office: BARR ENGINEER	Scale Date		AS SHOWN	•	
				PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	BID			02/09/2024	—			NG CO.		02/09/2024 EMO		
-					CONSTRUCTION RECORD						DARK SUITE 200 MINNEAPOLIS, MIN	N 55435	cked	BARR		RAMSEY-WASHINGTON
AI	(JN2 0)2/09/2024	ISSUED FOR BID		RELEASED	А	B C	0	1	2 3	Corporate Headquarters: Ph: 1-800-632-2277		signed	BARR		METRO WATERSHED DISTRICT
к.	APP.	DATE	REVISION DESCRIPTION	DATE 02/09/2024 LICENSE # 59359	TO/FOR		DATE	RELE/	ASED		Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com	App	proved	KJN2		

J		BARR PROJECT №. 23/82-1306.00 CLIENT PROJECT №.			
Т	SOUTH RAIN GARDEN	DWG. No.	REV. No.		
	STORM SEWER PLAN AND PROFILES	C3.3	0		

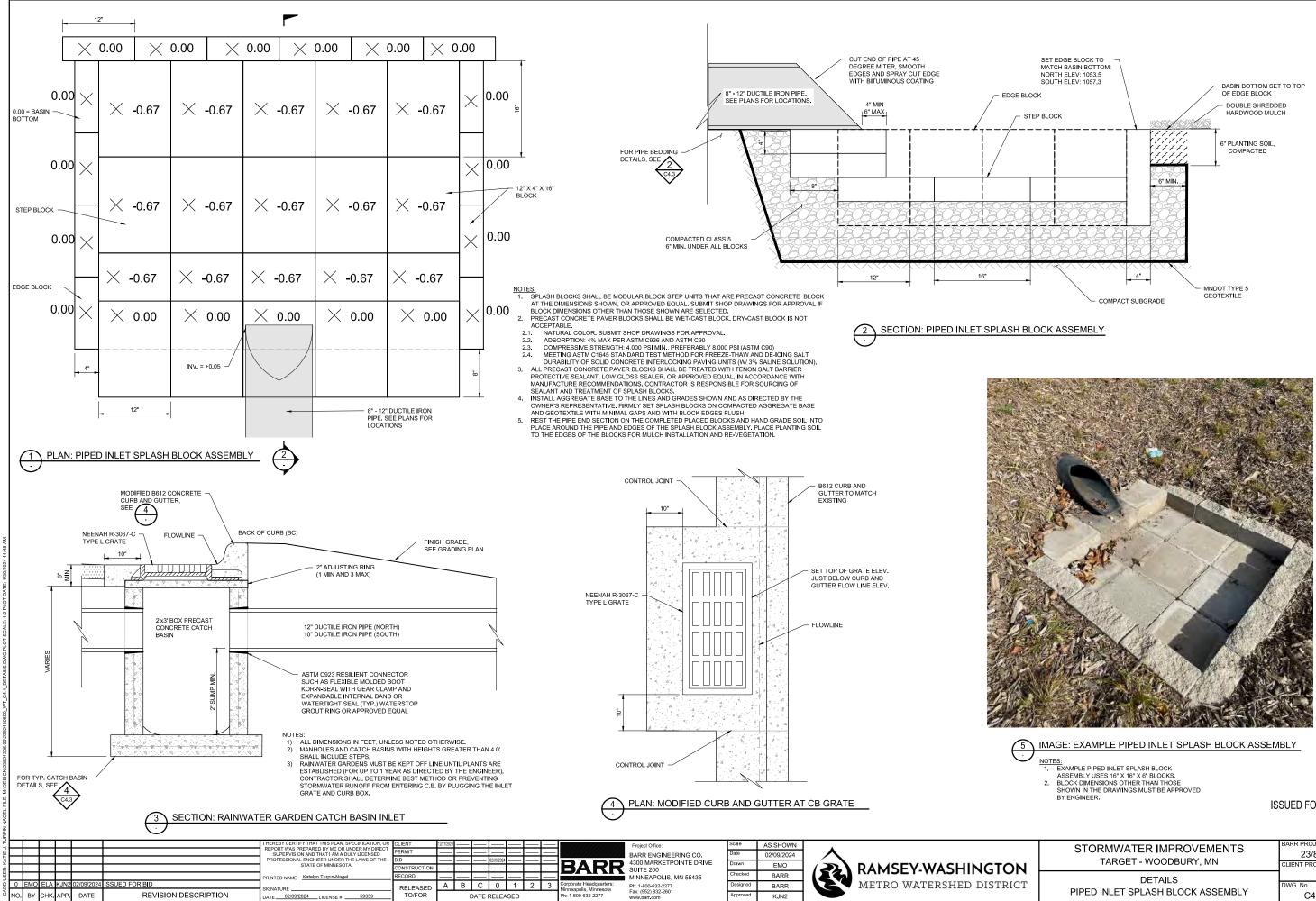
ISSUED FOR BID

STORM SEWER PIPES SHALL BE DUCTILE IRON (DI).
 PIPE INSTALLATION SHALL BE PERFORMED WITH PROPER TRENCH PREPARATION AND MATERIALS REQUIRED FOR PIPE BEDDING, HAUNCHING, AND BACKFILL AS SHOWING IN THE DRAWINGS AND SPECIFICATIONS.
 PIPES LOCATED IN PARKING LOTS SHALL UTILIZE CONTROLLED LOW STRENGTH MATERIAL (CLSM) AS SHOWN ON SHEET CA.3.
 TO MINIMIZE PIPE WALL EXPOSED AT THE SURFACE IN RAIN GARDEN, FINAL GRADING AROUND PIPE MITERED END TO BE TRANSITIONED TO ADJACENT GARDEN GRADES. SPLASH BLOCK ASSEMBLIES SHALL BE INSTALLED AS SHOWN IN THE DRAWINGS.
 FOR TRENCH DRAIN DETAILS, SEE C4.5, S1.0, AND S1.1.

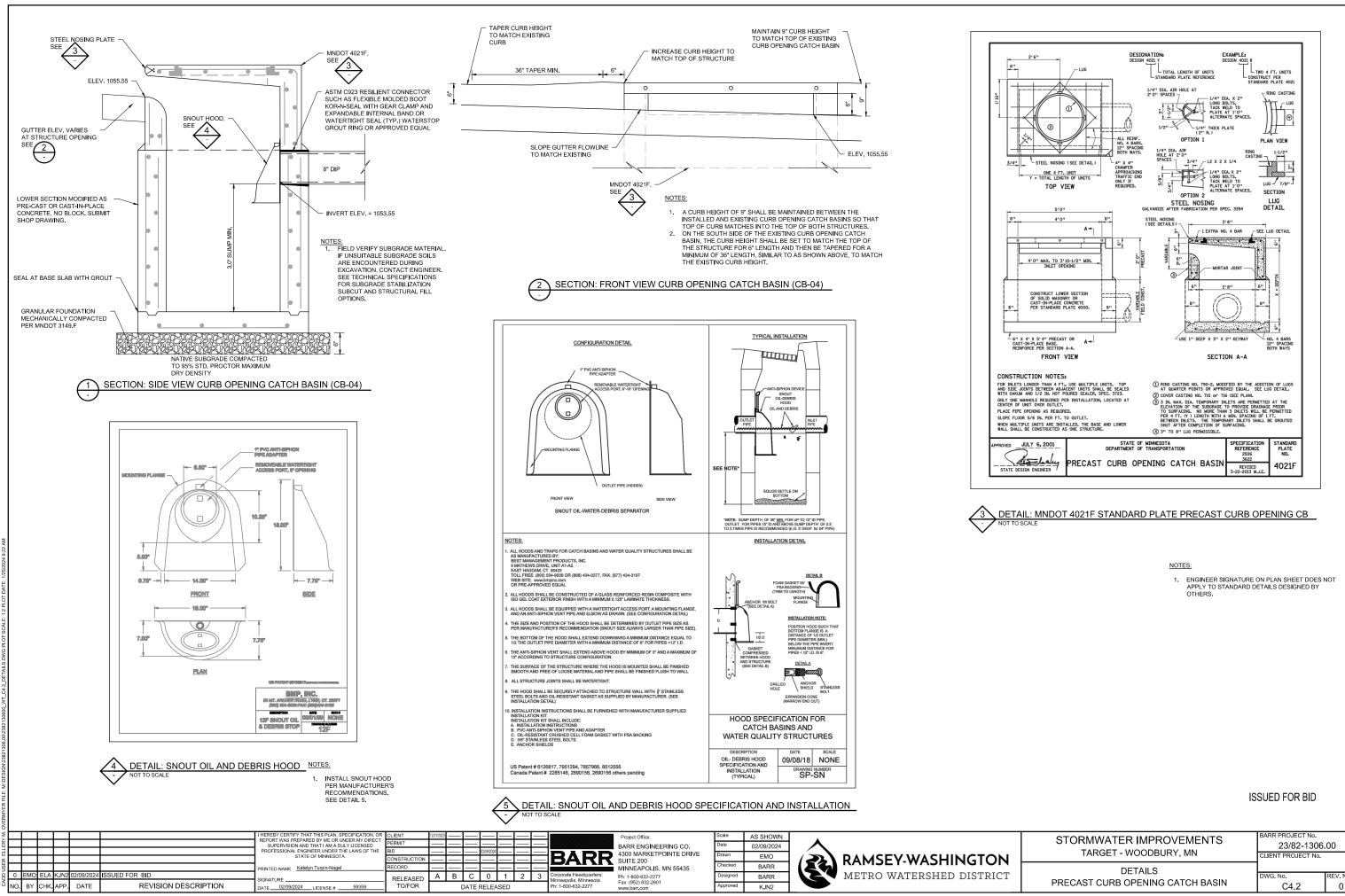


FOR MULCH AND RESTORED AREAS OUTSIDE OF GRADING LIMITS, LOOSEN TOP 4" OF TOPSOIL PRIOR
 TO PLANTING OR SEEDING <u>NOTES:</u> REMOVE ANY ACCUMULATED SEDIMENT AND SILT FROM THE BOTTOM OF RAIN GARDEN PRIOR PLACEMENT OF IRON-ENHANCED SAND TRENCH MEDIA, PLANTING SOIL, OR TOPSOIL. SUBGRADE SHALL BE LOOSENED TO A DEPTH OF 18" WITH A RIPPER ATTACHMENT OR BY AN APPROVED EQUAL METHOD PRIOR TO PLACEMENT OF SAND TRENCH MEDIA, PLANTING SOIL, OI TOPSOIL. TOPSOIL INSTALLED AS SHOWN WITHIN GRADING LIMITS SHALL BE WITH TOPSOIL SALVAGED FF SITE. PLACEMENT OF SAND TRENCH MEDIA, PLANTING SOIL, AND TOPSOIL SHALL BE ACCOMPLISHED DUMPING FROM THE EDGES AND SPREADING WITH A BACKHOE BUCKET, OR SOME OTHER ACCEPTABLE MEANS. AS MUCH AS PRACTICAL, IF SPREADING FROM THE EDGES IN OT POSSIE
 FOR ALL AREAS, ONLY TRACKED SKID STEER LOADERS OR OTHER LOW GROUND PRESSURE EQUIPMENT SHALL BE ALLOWED IN THE GARDENS. THIS METHOD SHALL BE MINIMIZED AS MUCH POSSIBLE TO MINIMIZE COMPACTION. NO CONSTRUCTION VEHICLES, INCLUDING SKID STEER LOADERS, SHALL BE ALLOWED WITHIN T FOOTPRINT OF THE RAIN GARDEN AFTER SAND TRENCH MEDIA, PLANTING SOIL, AND TOPSOIL HAVE BEEN PLACED. SMALL IRREGULARITIES SHALL BE WORKED OUT WITH HAND TOOLS.
- IRON-ENHANCED SAND TRENCH

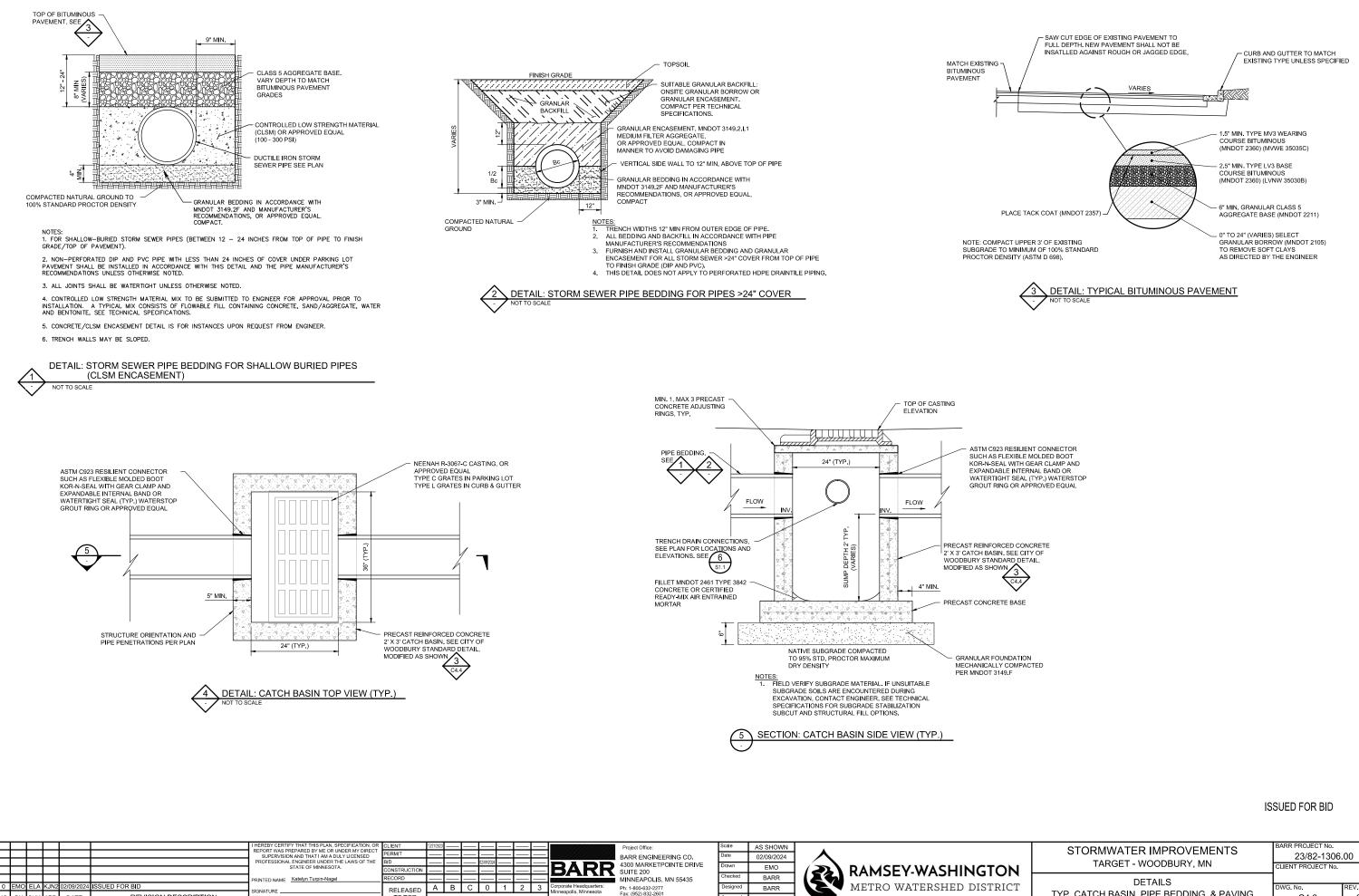
N	STORMWATER IMPROVEMENTS TARGET - WOODBURY, MN	23/82-1306.00 CLIENT PROJECT No.		
СТ	DETAILS	DWG. No.	REV. No.	
	RAIN GARDEN, DRAINTILE, & RETAINING WALL	C4.0	0	



J	STORMWATER IMPROVEMENTS TARGET - WOODBURY, MN	BARR PROJECT No. 23/82-1306.00 CLIENT PROJECT No.			
T	DETAILS	DWG. No.	REV. No.		
	PIPED INLET SPLASH BLOCK ASSEMBLY	C4.1	0		



J	STORMWATER IMPROVEMENTS TARGET - WOODBURY, MN	BARR PROJECT №. 23/82-1306.00 CLIENT PROJECT №.			
T	DETAILS	DWG. No.	REV. No.		
	PRECAST CURB OPENING CATCH BASIN	C4.2	0		



KJN2

neapolis, Minne 1-800-632-2277

TO/FOR

DATE 02/09/2024 LICENSE # 59359

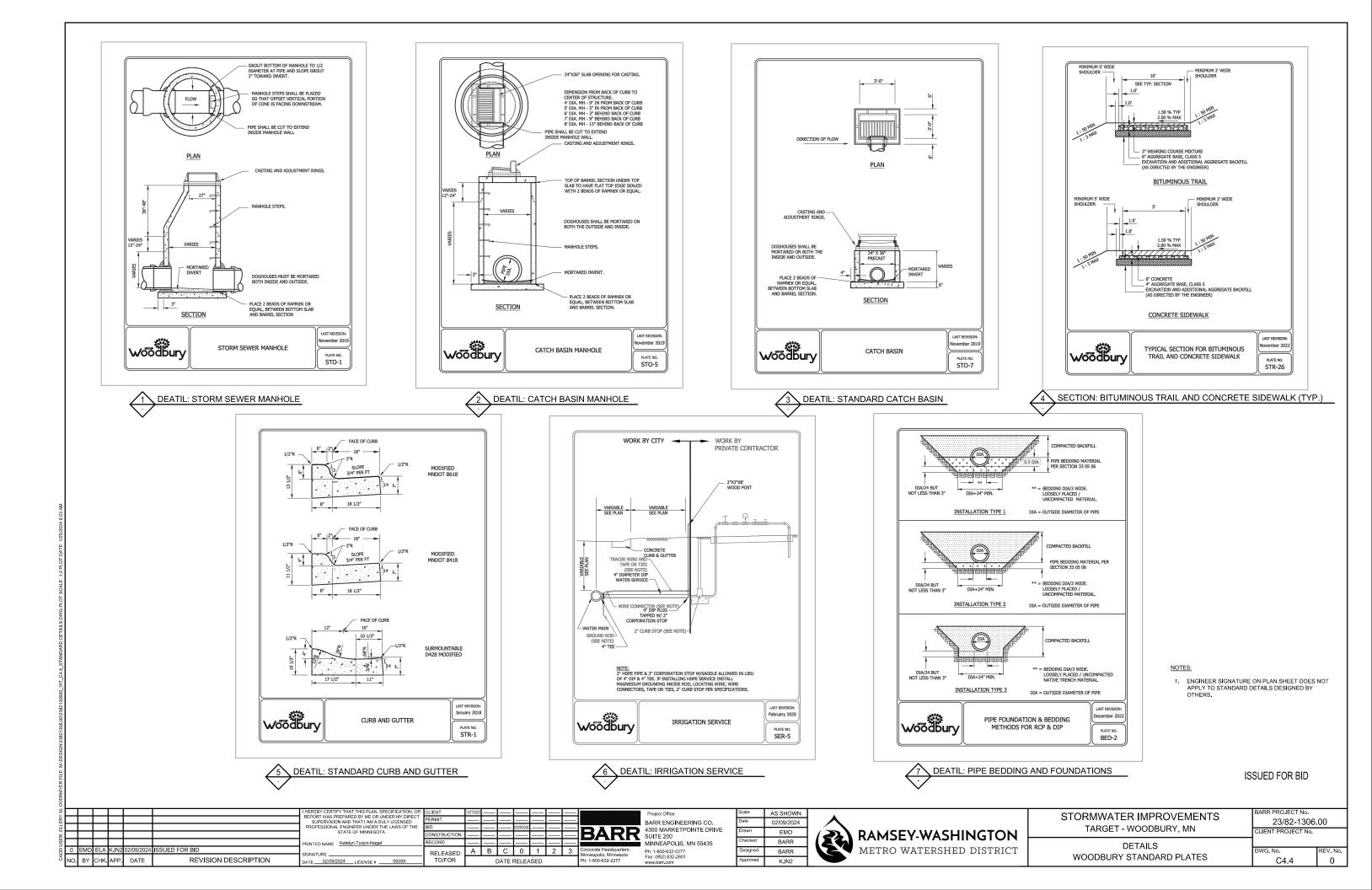
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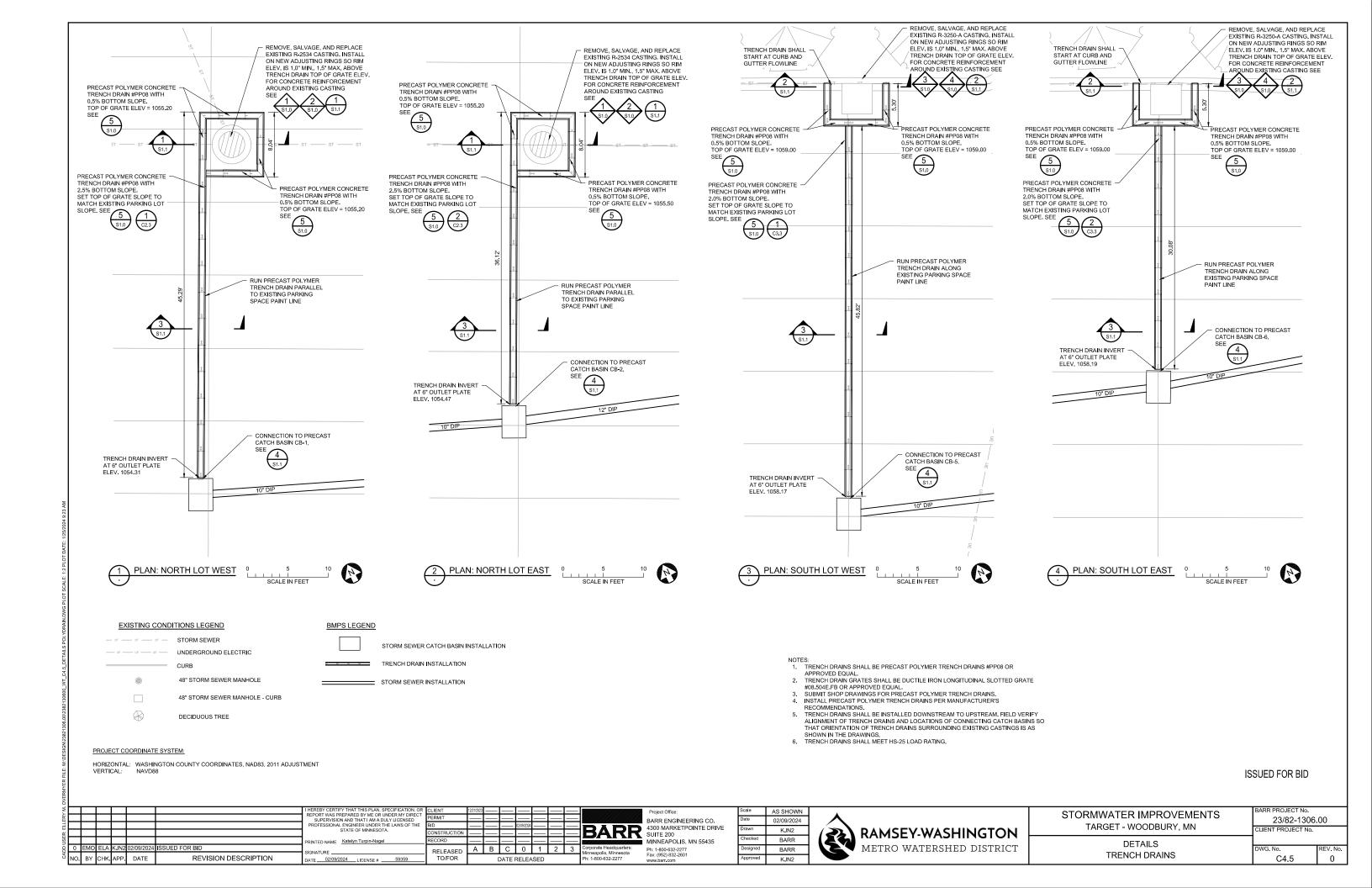
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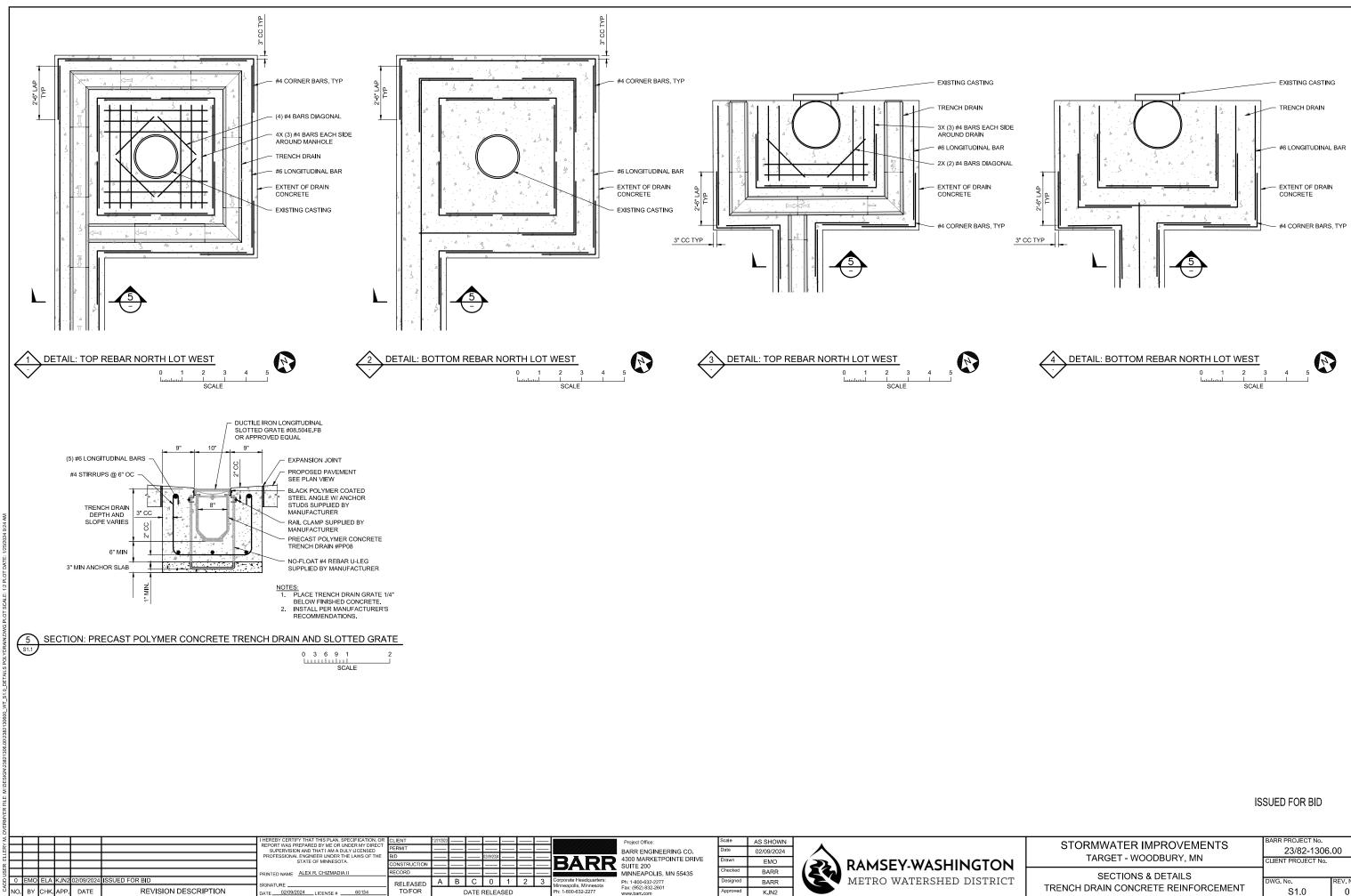
BY CHK APP.

REVISION DESCRIPTION

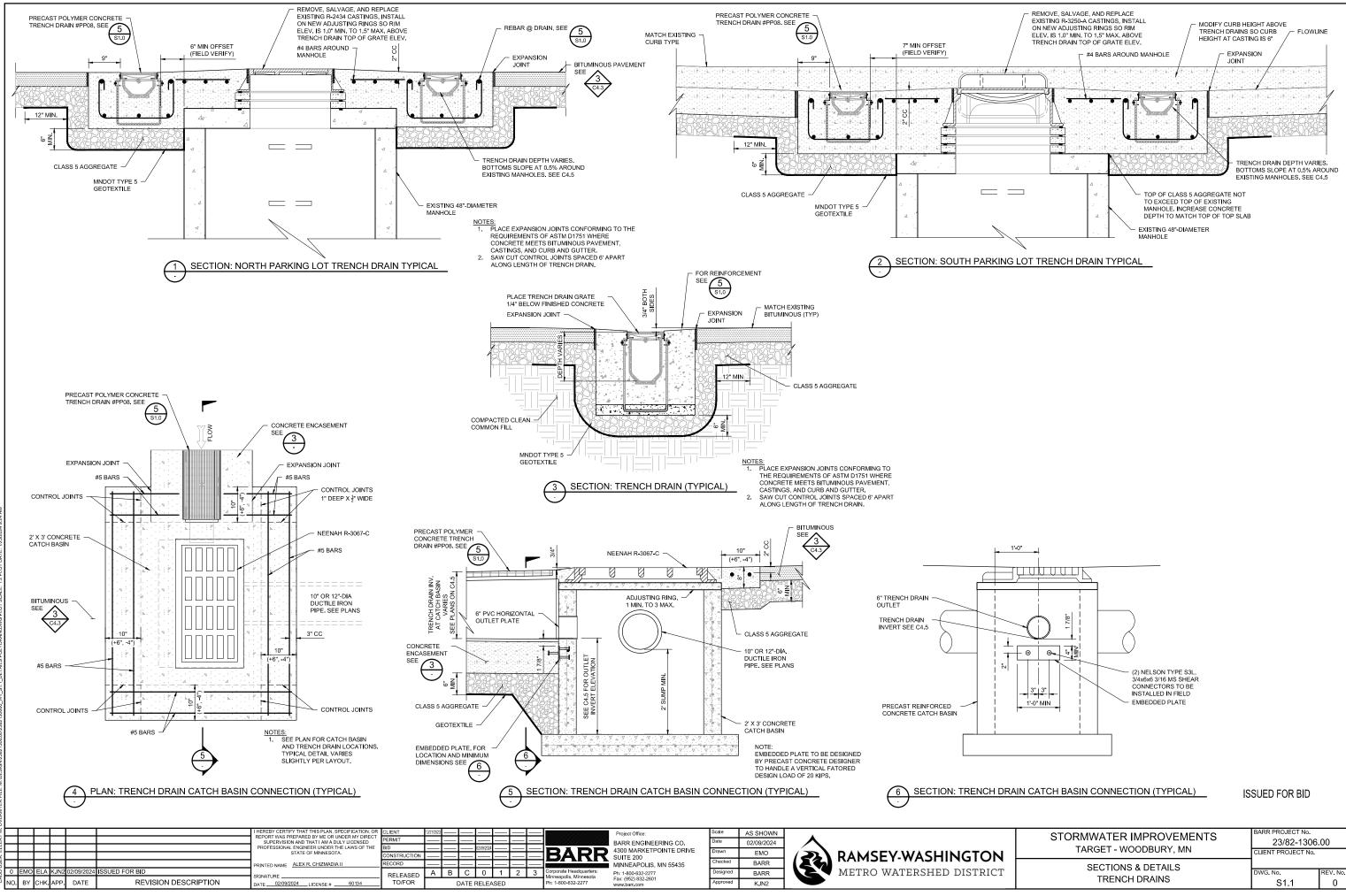
		BARR PROJECT №. 23/82-1306.	.00
N CT	DETAILS	CLIENT PROJECT No. DWG. No. C4,3	REV. No. 0



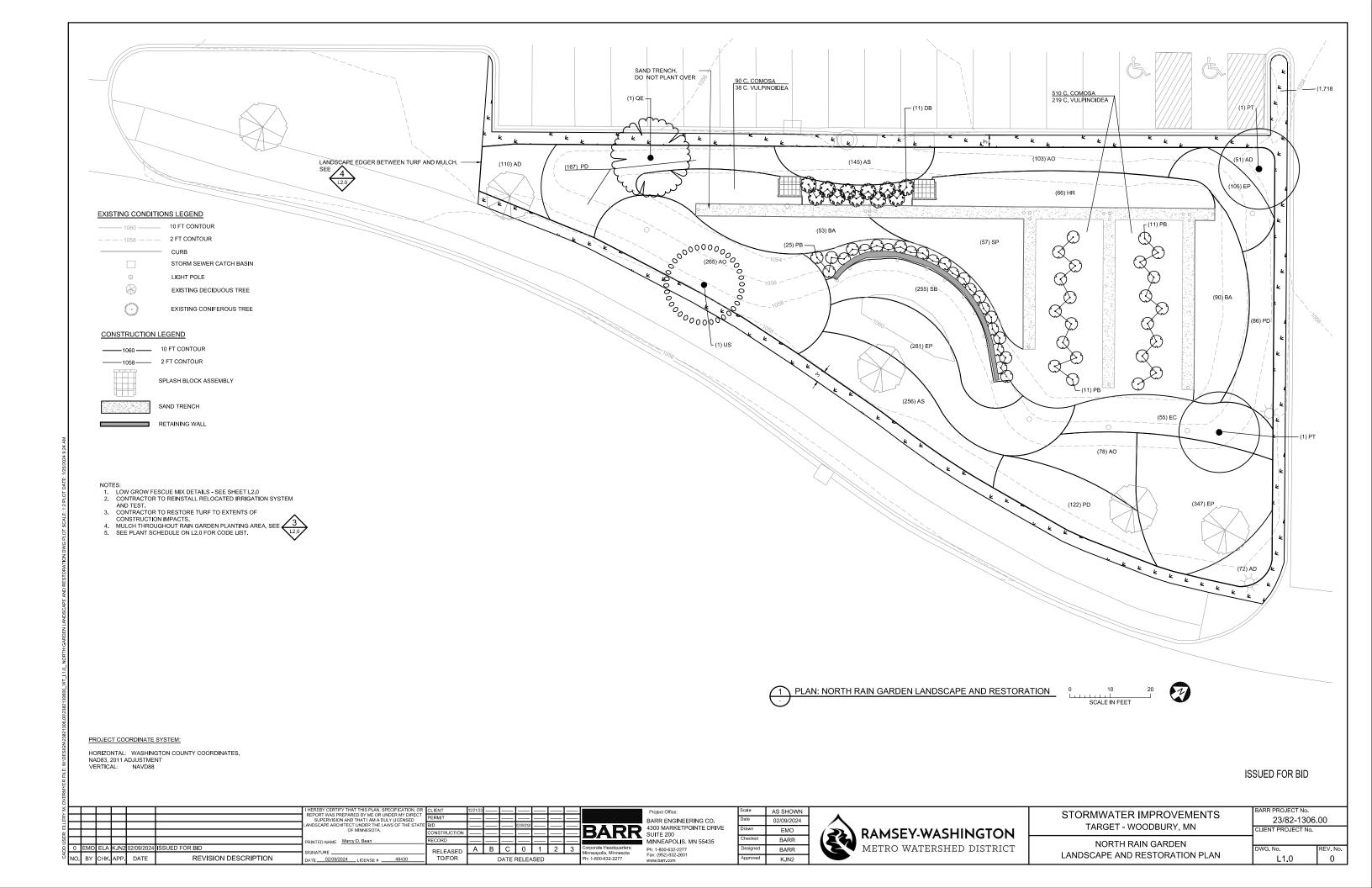


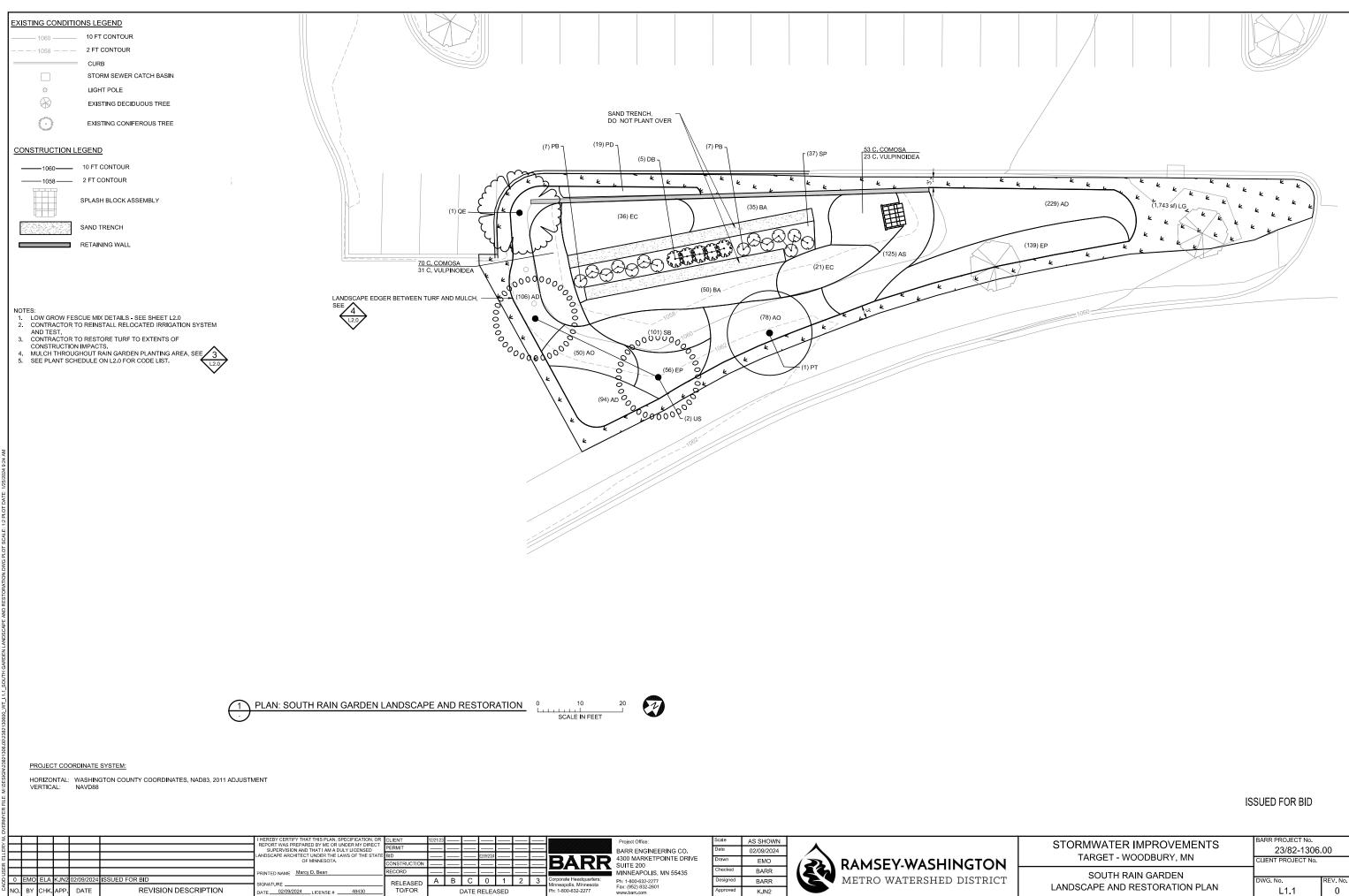


N		BARR PROJECT №. 23/82-1306.00 CLIENT PROJECT №.		
СТ	SECTIONS & DETAILS	DWG. No.	REV. No.	
	TRENCH DRAIN CONCRETE REINFORCEMENT	S1.0	0	



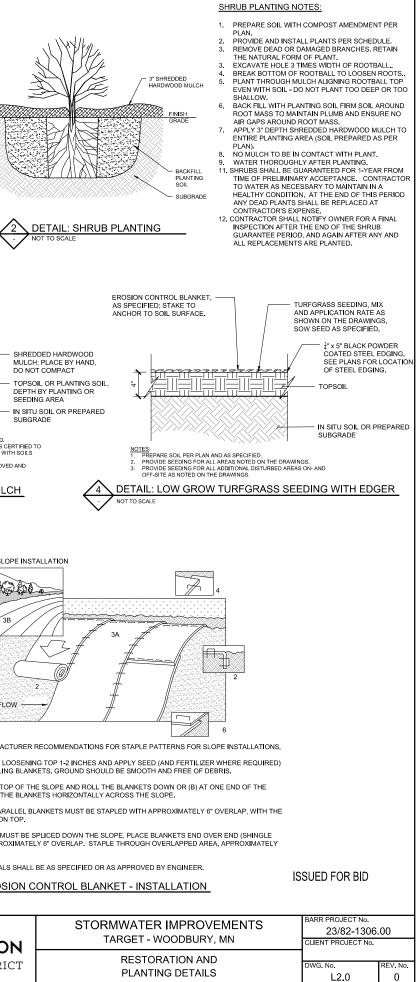
Ž	STORMWATER IMPROVEMENTS TARGET - WOODBURY, MN	BARR PROJECT No. 23/82-1306. CLIENT PROJECT No.	.00
СТ	SECTIONS & DETAILS	DWG. No.	REV. No.
	TRENCH DRAINS	S1.1	0

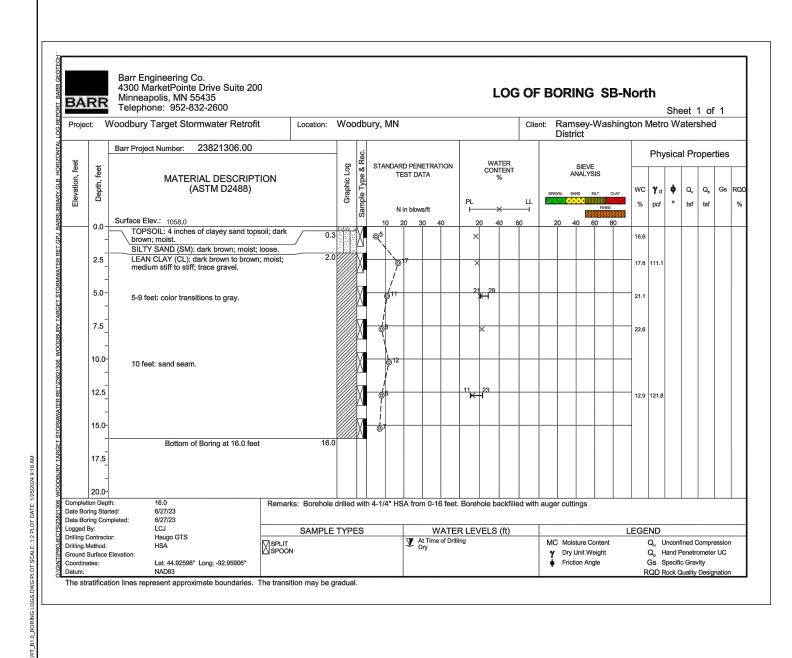


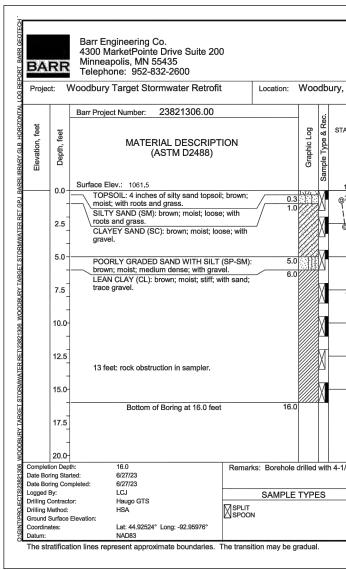


N		BARR PROJECT No. 23/82-1306. CLIENT PROJECT No.	.00
СТ	SOUTH RAIN GARDEN	DWG. No.	REV. No.
	LANDSCAPE AND RESTORATION PLAN	L1.1	0

		ULE - NORTH AND SOUTH R	AIN GARDENS COMBINED					۱				PLANTING NOTES:	
<u>)L</u>	<u>CODE</u>	BOTANICAL NAME	COMMON NAME	<u>SIZE</u>	CONTAINER		QTY						
	PT	POPULUS TREMULOIDES	QUAKING ASPEN	20 GAL.	CONT.		3			– 3" SHREDDED HARDWOOD MULCH, NO MULCH SHALL BE	SOIL - DO NOT PLANT ENSURE GOOD CONTA 5. BACK FILL WITH PLAN	TOO DEEP OR TOO SHALLOW. FIRM	SOIL TO F MASS TO
5	QE	QUERCUS ELLIPSOIDALIS	NORTHERN PIN OAK	20 GAL.	CONT.		2			IN CONTACT WITH BASE	 APPLY 3" DEPTH SHRE PLANTING AREA (SOIL NO MULCH TO BE IN C 	EDDED HARDWOOD MULCH TO ENTI . PREPARED AS PER SPECIFICATION	RE IS).
										BACKFILL	HOURS OF INSTALLAT 9. WATER THOROUGHLY 10. ALL PERENNIAL PLANT	'ION. / AFTER PLANTING. TS PROVIDED BY THE CONTRACTOF	SHALL
000	US	ULMUS AMERICANA 'ST. CROIX'	FIRST EDITIONS® ST CROIX™ AMERICAN ELM	20 GAL.	CONT.		3	FINISH GRADE		PLANTING SOIL	ACCEPTANCE. AT THE ALL PERENNIALS SHAI	RONE YEAR FROM THE DATE OF PRE E END OF THE ONE-YEAR GUARANTE LL BE IN SATISFACTORY CONDITION ES OF VANDALISM, AS DETERMINED	EE PERIOD
	DB	DIERVILLA LONICERA	LOW BUSH HONEYSUCKLE	5 GAL.	CONT.		16		SUBGR	ADE	OWNER. 10.1. REPLACEMENTS: A ⁻ ALL PLANTS SHALL	T THE END OF THE ONE YEAR WARRAN FULFILL ALL THE REQUIREMENTS OF T	ITY PERIOD
	РВ	PHYSOCARPUS OPULIFOLIUS 'MONLO'	DIABOLO® NINEBARK	5 GAL.	CONT.		61				CONDITION; FURTH	ND REFERENCES WITH REGARD TO QU IER, THEY SHALL BE FREE OF DEAD BR	ANCHES
	CODE	BOTANICAL NAME	COMMON NAME	<u>SIZE</u>		SPACING	QTY				PRESENT WHEN PL	HALL BEAR A MINIMUM OF 50% OF THE I ANTED HAVING NORMAL DENSITY, SIZE TERMINED BY THE ENGINEER, ANY PLA	E, SHAPE
COVE				4.041	CONT	40"	500	1 DETAIL: F	ERENNIAL PLAN	<u>NTING</u>	FAILING TO SATISFY AS PER THE PRELIN	Y ALL THESE CONDITIONS SHALL BE RE MINARY AND FINAL ACCEPTANCE PROC	EPLACED
	AS AD	ALLIUM X 'SUMMER BEAUTY' ASTER DIVARICATUS	SUMMER BEAUTY ORNAMENTAL ONION	1 GAL. 1 GAL.	CONT.	18" o.c. 18" o.c.	526 662	\mathbf{v}			WARRANTY PERIOD	EPLACED PRIOR TO THE END OF THEIR D IF SUCH AN AGREEMENT EXISTS BET	
	AO	ASTER OBLONGIFOLIUS "OCTOBER SKIES"	OCTOBER SKIES FALL ASTER	1 GAL.	CONT.	24" o.c.	574				SUBJECT TO ALL RE	THE OWNER. REPLACEMENT STOCK S EQUIREMENTS AS TO SELECTION, INSP NATING AND MAINTENANCE OPERATION	ECTIONS,
	ва	BAPTISIA X 'BLUE TOWERS'	BLUE TOWERS WILD INDIGO	1 GAL	CONT.	30" o.c.	228				REPLACEMENTS SH	HALL MATCH CALIPER AND/OR HEIGHT	
	CC	CAREX COMOSA	BOTTLEBRUSH SEDGE	4"	CONT.	18" o.c.	723				11. CONTRACTOR SHALL I	NOTIFY OWNER FOR A FINAL INSPE HE GUARANTEE PERIOD, AND AGAIN	
	EP	CAREX VULPINOIDEA ECHINACEA PURPUREA 'ELTON KNIGHT'	FOX SEDGE ELTON KNIGHT CONEFLOWER	4 1 GAL.	CONT.	20" o.c.	311 928					EMENTS ARE PLANTED.	
	EC	EUPATORIUM RUGOSUM 'CHOCOLATE'	CHOCOLATE JOE PYE WEED	1 GAL.	CONT.	36" o.c.	112						
	HR	HELENIUM X 'RUBINZWERG'	RUBINZWERG SNEEZEWEED	1 GAL.	CONT.	36 o.c.	124					<u> </u>	/-
_	LG	LOW GROW FESCUE BLEND SEED MIX			00111	00 0.0.	3,461 SF						
Ľ	SB	SCHIZACHYRIUM SCOPARIUM 'BLUE HEAVEN'	BLUE HEAVEN LITTLE BLUESTEM	1 GAL.	CONT.	18" o.c.	356						
	SP	SPARTINA PECTINATA	PRAIRIE CORDGRASS	4"	CONT.	36" o.c.	94						
	PD	SPOROBOLUS HETEROLEPIS	PRAIRIE DROPSEED	4"	CONT.	24" o.c.	394						
ENCH BIG H BLUE RATE:	IANTMENT ORN GT H/ MESA SHE 6 - 9# PER POLYPF	COHEWINGS FESCUE IARD FESCUE EEP FESCUE RTHOUSAND SQUARE FEET	NOTES:		TO MAINITAINI				— Def — 2. SG 7	RE TO BOTTOM OF ROO RRIFY BOTTOM AND SIDE XNTING. EPARPE PLANTING SOIL A E-MIXED OR MIXED TO A OR TO PLACEMENT. MOVE AND DISPOSE OF ' TERIAL AS NOTED AND P TERIAL AS NOTED AND P UNING OF TOP AND ROO E TREE FOR PLANTING. NOT CUT OR DAMAGE IT TREE ON IN SITU SOIL XKFILL AND PLUMB. XKFILL AROUND PREPAR XKFIL AROUND PREPAR	ED MEASUREMENT FROM ROOT T PACKAGE. SS OF HOLE PRIOR TO S SPECIFIED. SOLI. MUST BE UNIFORM TEXTURE ON SITE THE ROOT PACKAGING THE ROOT PACKAGING T AS SPECIFIED TO PREPARE HE CENTRAL LEADER. OR THOROUGHLY-COMPACTED RED ROOT PACKAGE WITH K. UFTS, GENTLY FRM SOLI.	2. PROVIDE MULCHAS SPECIFI Be WEED SEED FREE AND IS OR PESTS. 3. MULCH CONTAMINATED WITI REPLACED. 3. DETAIL: HAR NOT TO SCALE	NOT CONTAMINATEI
6 ENCH 6 BIG H 6 BLUE 1 RATE:	IANTMENT ORN GT H/ MESA SHE 6 - 9# PER POLYPF	CHEWINGS FESCUE IARD FESCUE EEP FESCUE R THOUSAND SQUARE FEET	NOTES: 1. ALL TREES SHALL BE STAKED VERTICALITY FOLLOWING PIAL SHALL BE CONSIDED INCID 2. INSTALL TWO (2) 8' STEEL T-PU THE GROUND ON EITHER SIDE 3. INSTALL 16" LONG 40 MIL POL POLYETHYLENE STRAPS A0 MIL POL TO HOLES IN T-POSTS WITH 1 4. REMOVE THE TREE STAKING /	NTING. TRE ENTAL TO 1 OSTS, ANCH OF THE TF YPROPYLEN UND TRUNH 0 GAUGE W	EE STAKING IREE PLANTING. HORED 2' INTO RUNK. NE OR (AND AFFIX TO IRE.				- HOI - DEF	TH SHOULD NOT EXCEE REE TO BOTTOM OF ROO ARRIFY BOTTOM AND SIDE SPARE PLANTING SOLA EPARE PLANTING SOLA CONTROLLAD EPARE PLANTING SOLA MOVE AND DISKOPSE OF T TERIAL AS NOTEO AND P TERIAL AS NOTEO AND P TREE FOR PLANTING NOT CUT OR DANAGE T TREE OR NI SITU SOLAMAGE XERIL AND PLUMB XERIL AROUND PREPAR XERIL AROUND PREPAR UNITING SOLU WITH 6 ⁺ MAD UNITING SOLU WITH 6 ⁺ MAD NOTE THOROUGHLY WITH FILL VOIDS, BACKFILL AN ELIMEDIATELY AFTER N CONTACT WITH THE BA ADE.	ED MEASUREMENT FROM ROOT T PACKAGE. S3 OF HOLE PRIOR TO S SPECIFIED. SOLI MUST BE UNIFORM TEXTURE ON SITE THE ROOT PACKAGING EMPORY MAY CORRECTIVE TS AS SPECIFIED TO PREPARE HE CENTRAL LEADER. DR THOROUGHLY-COMPACTED DED ROOT PACKAGE WITH K. LIFTS, GENTLY FIRM SOLI WITH EACH LIFT TO MAINTAIN INIP 24 HOURS AFTER PLANTING INIV 2010S CREATED DURING WURFACE. AT THE BASE OF THE PLANTING. ENSURE NO MULCH ASE OF THE AST FINISHED POSITION THROUGHOUT THE	BE WEED SEED FREE AND IS OR PESTS. 3. MULCH CONTAMINATED WITI REPLACED. 3 DETAIL: HAR	NOT CONTAMINATED
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TARGET - WOODBURY, MN	CLIENT PROJECT No.	
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New Reports/ Presentations



RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

Kohlman Creek Flood-Risk-Reduction Feasibility Study

February 7, 2024

Outline

- Project Background
- Flood Risk Reduction/ Design Goals

Shoreview

Maplewood

Oakdal

Woodbury

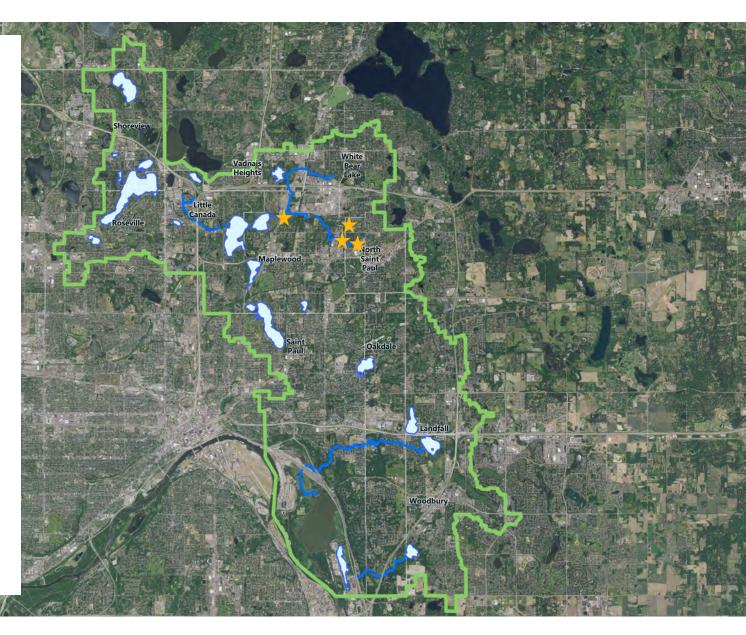
- Project Alternatives
- Summary and Recommendations

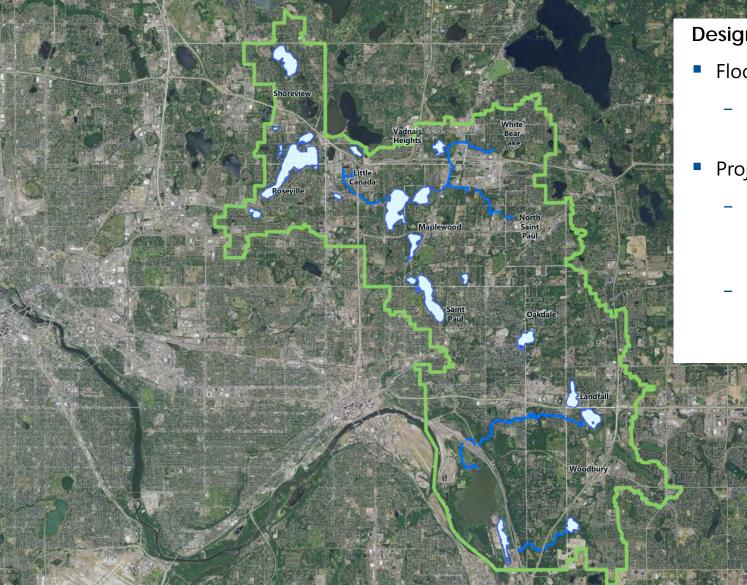
Past Projects 🛧

- Casey Lake outlet (1991)
- Target Pond/PCU Pond improvements (1994)
- White Bear Avenue control (1994)
- Kohlman Basin pipeline (1996)

Beltline Resiliency Study (2020)

- Identified existing extents of flooding
 - North Saint Paul Urban Ecology Center, PCU Pond, White Bear Ave, Markham Pond, and Kohlman Basin
- Potential conceptual projects





Design Goals

- Flood-risk-reduction goals:
 - Remove structures from 100-year floodplain
- Project criteria:
 - Reduce freeboard for existing structures during 100-year event
 - Limit 100-year peak discharge rate to existing conditions rate or lower

Data Gathering

 As-builts and other information from Maplewood and North Saint Paul

Shoreview

Oakda

Woodbury

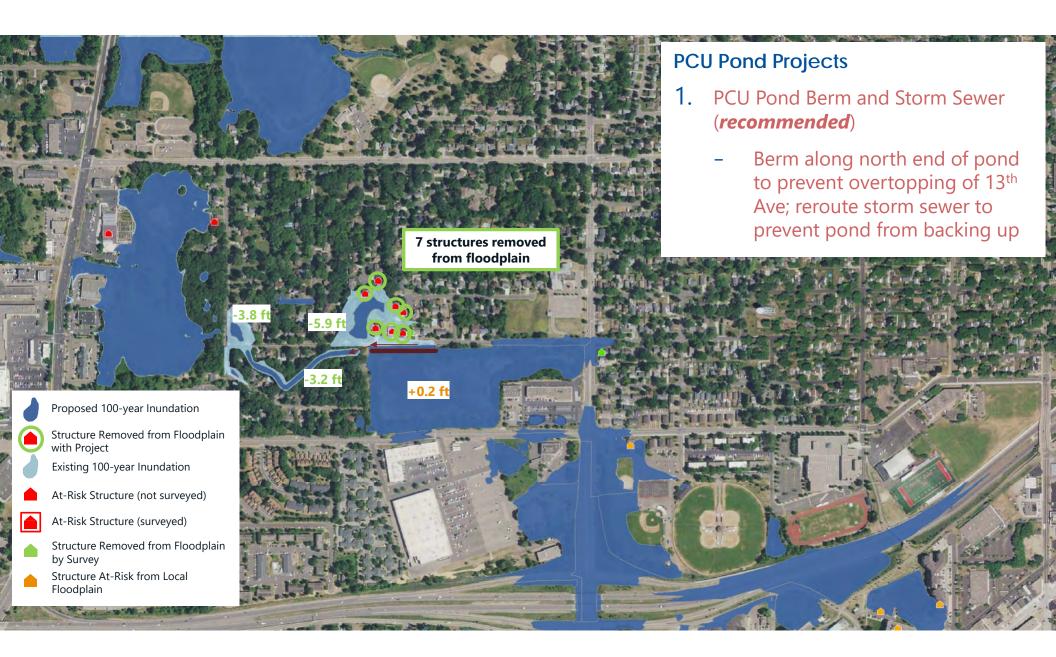
- Survey topographic and utility data
- Review of City and County CIPs





PCU Pond Projects

- 1. PCU Pond Berm and Storm Sewer (*recommended*)
 - Berm along north end of pond to prevent overtopping of 13th Ave; reroute storm sewer to prevent pond from backing up
- 2. PCU Pond Excavation (*not recommended*)
 - Excavate additional storage in pond
- 3. PCU Pond Diversion (*not recommended*)
 - Twin 60-inch pipes to divert high flows



Wetland East of White Bear Ave

- Evaluated alternatives to remove two properties from floodplain
- Low entry elevations much lower than 100-year flood elevation
- Significant improvements required
 - Increase wetland storage (permitting complications)
 - Increase discharge under White Bear Ave
- Downstream impacts may be greater



West of White Bear Ave

- 1. Backyard Berm and Outlet (recommend)
 - Add berm and outlet to low area behind homes
- 2. County Road C Culvert Replacement (recommend)
 - Upsize culvert to box under County Road C
- Protect apartment complex with berm and add weir upstream of County Road C Culvert**

Existing 100-year Inundation

At-Risk Structure (surveyed)

Structure At-Risk from Local

by Survey

Floodplain

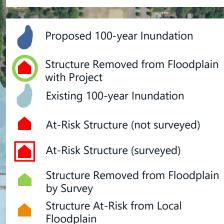
At-Risk Structure (not surveyed)

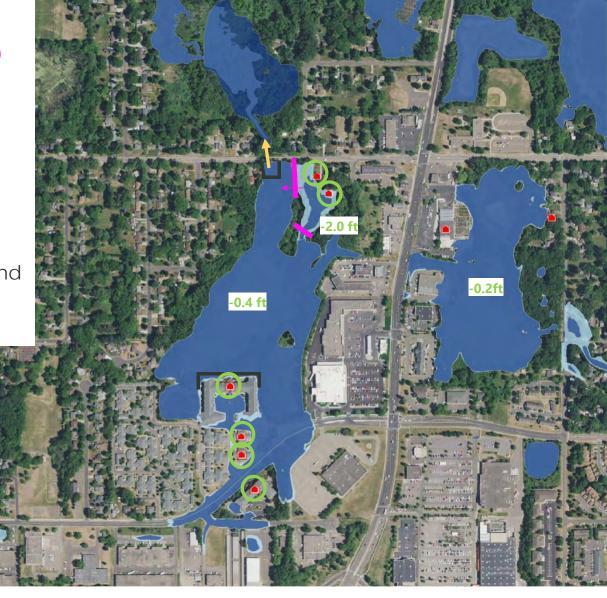
Structure Removed from Floodplain

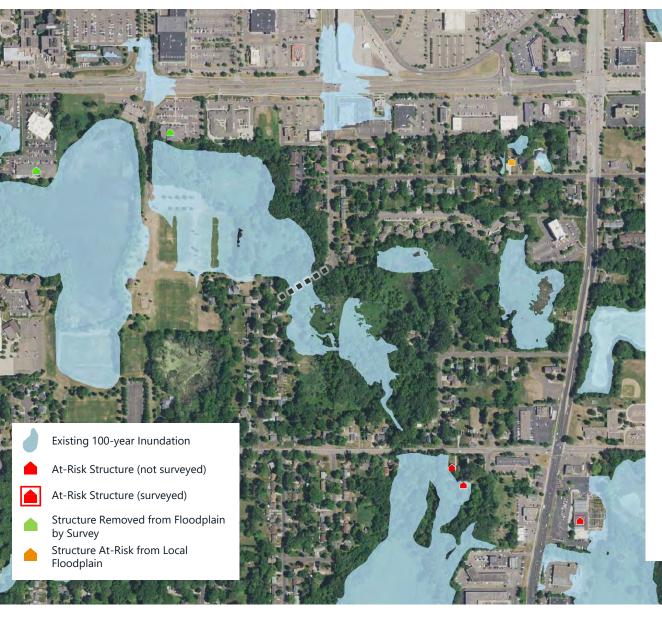


West of White Bear Ave

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 - Add berm and outlet to low area behind homes
- 2. County Road C Culvert Replacement (recommend)
 - Upsize culvert to box under County Road C
- Protect apartment complex with berm and add weir upstream of County Road C Culvert**



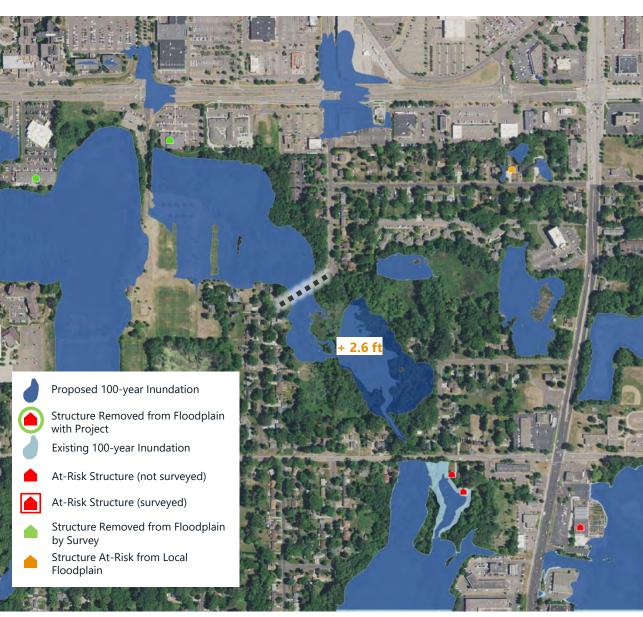




North of County Road C

- 1. Berm across Ramsey County Parks wetland
 - Reduces flow rate through Kohlman Creek for smaller/more frequent events to meet rate control

**Without berm, weir upstream of County Road C and berm around apartment complex not needed



North of County Road C

- 1. Berm across Ramsey County Parks wetland
 - Reduces flow rate through Kohlman Creek for smaller/more frequent events to meet rate control

**Without berm, weir upstream of County Road C and berm around apartment complex not needed

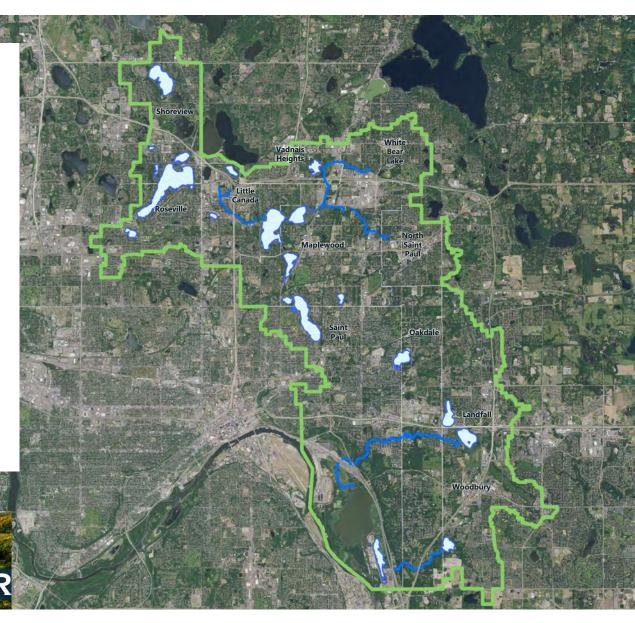
	U STRED				Project / Sequence of Implementation	Cost Range (-20% to +50%)
	N DOT 16				1. County Road C Culvert	\$295,000 - \$554,000
					2. Rate Control Projects	\$170,000 - \$320,000
			THE REAL PROPERTY.		3. Backyard Berm + Outlet	\$69,000 - \$129,000
		0000			4. PCU Pond Storm Sewer Improvements and Berm	\$926,000 - \$1,736,000
			A LAND		Total = \$1,460,00	00 - \$2,739,000
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	Proposed 100-year Inundation		A B C		and the second second	der an transfer and the
	Structure Removed from Floodplain with Project			S-De		
21 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Existing 100-year Inundation					
	At-Risk Structure (not surveyed)					Charlistic States
	At-Risk Structure (surveyed)					
	Structure Removed from Floodplain by Survey					
	Structure At-Risk from Local Floodplain	a marine	Dar g			
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Next Steps

- Topic for future discussion: consider impacts of protecting for 100-year, but increasing rates for lower frequency events (10-year and 2year)
- Barr developing a scope summary for final design of recommended improvements
- Finalize project report

Questions / Open Discussion









Project Work Plan

Updated: January 30, 2024

Project: RWMWD Watershed Approach to Retrofit Projects (WARP)

Project Team

District Staff:Paige Ahlborg (Project Manager), Tina CarstensBarr Staff:Marcy Bean (Project Manager), Erin Anderson Wenz, Tyler Olsen, Maureen McFarlane

Background

In 2022-23, Barr reviewed the history of the Retrofit Program to help inform considerations for future projects. This work was considered the 2022 Retrofit Inventory, which resulted in an updated database of over 17,000 properties and GIS maps of built and considered projects.

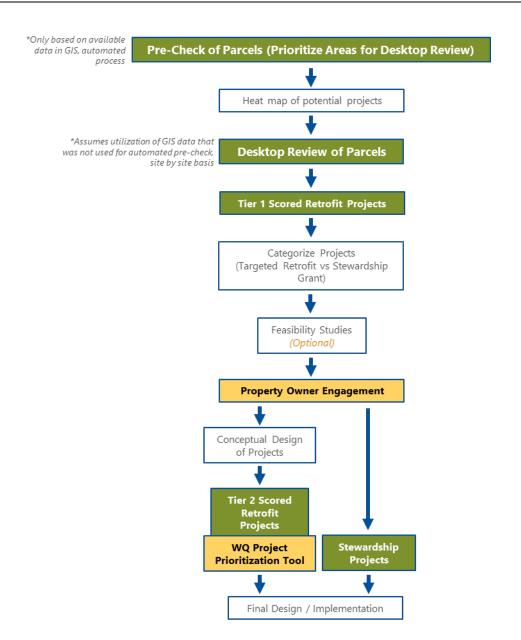
In addition to the Retrofit inventory, Barr staff cross-referenced a variety of tools that have been developed for the District over the last several years. These tools include:

- Cost-benefit database spreadsheet
- Project prioritization tool (2020)
- Center for Disease Control's Social Vulnerability Index (Updated 10/2022)

Scope of Work

In 2024, Barr would like to work with District staff to consider the intersections between these databases alongside other district-wide initiatives and base data, such as flood mapping, ecological corridors, impaired and at-risk subwatersheds (Priority Subwatersheds), etc., to more systematically inform retrofit project selection. A conceptual process for screening projects has been developed and is represented in the attached graphic below Ultimately, the process that is defined in this effort may be a combination of the two processes offered in the flow chart graphics at the end of this scope summary memo. This work is timely given the District's upcoming Watershed Management Plan update.

Mapping work is underway through the previous Retrofit Inventory scope, so is not included in this summary.



To complete this scope, Barr will provide the following services:

Task 001: Retrofit project screening workshop (Barr and District staff that encompass all program areas.)

- A. Review GIS maps developed during the 2023 Retrofit Inventory project
- B. Identify critical data layers to add to the analysis (e.g. equity areas, flooded areas, etc.) to compare against parcels.
- C. Identify metrics to be used in Tier 1 and Tier 2 scoring for priority parcels review metrics used in the 2014 Commercial and School Retrofit Site Assessment for BMP Retrofits scope as well as the WQ Project Prioritization Tool and determine if additional metrics are needed, and which define Tier 1 vs Tier 2.

D. Select the number of properties that will be considered for tiers of evaluation.

Task 002: Draft scoring methodology (Barr)

- A. Develop a draft scoring methodology to apply to Tier 1 and Tier 2 projects.
- B. Create a composite score/heat map of potential project sites from available data.

Task 003: Heat map review workshop (Barr and District staff that encompass all program areas.)

- A. Review the composite score/heat map of potential project sites
- B. Revisit previous high priority sites (2014) that were not implemented
- C. Test Tier 1 scoring methodology and look for considerations for prioritization (willing landowner, as an example, may receive higher priority)
- D. Identify gaps in the watershed for other potential areas to study/implement projects
- E. Test Tier 2 scoring methodology as a way to define heat map results to prioritize feasibility studies
- F. Select the number of properties to consider for near term retrofit projects

Task 004: WARP Pilot

- A. Based on the properties evaluated in Task 001 and scored in Tasks 002 and 003, Barr and District staff will initiate the pilot season of site visits and property owner communications to support project consideration for 2025.
- B. Consider frequency of data updates alongside other processes the District already undertakes
- C. Develop process for updates, documented for future application
- D. Write a technical memorandum summarizing the process and data used to develop the WARP framework.

Budget

Barr's anticipated fees are \$60,000. Actual costs will depend on magnitude of the new tiered scoring system within Task 001.

Schedule

The goal is to complete this scope by July 2024 to inform budgeting for 2025 projects, as well as to inform pre-work for the District's Watershed Management Plan update. Actual schedule is dependent on the evolution of Tasks 001 and 002.

Task 001: Retrofit project screening workshop

• February 2024

Task 002: Draft scoring methodology

• February-March 2024

Task 003: Heat map review workshop

• March 2024

Task 004: WARP Pilot

• April - July 2024

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Administrator's Report

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MEMO

TO:	Board of Managers and Staff
FROM:	Tina Carstens, Administrator
SUBJECT:	January Administrator's Report
DATE:	January 31, 2024

A. Meetings Attended

Tuesday, January 2	3:00 PM	Kohlman/Gervais Lake Meeting
Wednesday, January 3	6:30 PM	Board Meeting
Monday, January 8	8:30 AM	MAWA Executive Committee
Tuesday, January 9	1:00 PM	Lakes Research Project Meeting
Thursday, January 11	10:00 AM	Public Works Forum Planning
Friday, January 12	1:00 PM	MW Events and Education Committee
Monday, January 15	ALL DAY	HOLIDAY
Tuesday, January 16	7:00 PM	Metro Watersheds Meeting
Wednesday, January 17	9:30 AM	DNR LGU Monthly Forum
Thursday, January 18	10:00 AM	Kohlman Creek Meeting
Tuesday, January 23	11:00 AM	Project Prioritization Strategy Meeting
	2:00 PM	Metro-INET Quarterly Board Meeting
Wednesday, January 24	1:00 PM	Lower Phalen Creek Meeting
Thursday, January 25	10:30 AM	Public Works Forum Meeting
Friday, January 26	9:00 AM	Minnesota Watersheds Board Meeting
Monday, January 29	2:00 PM	Fish Creek Tributary Meeting
Tuesday, January 30	11:30 AM	MW Summer Tour Planning
	1:00 PM	Audit Planning
Thursday, February 1	9:00 AM	FY24-25 WBIF Discussion

B. Upcoming Meetings and Dates

CAC Meeting	February 13, 2024
March Board Meeting	March 6, 2024
Minnesota Watershed Legislative Event	March 6-7, 2024
April Board Meeting	April 3, 2024
CAC Meeting	April 23, 2024
May Board Meeting	May 1, 2024
WaterFest	June 1, 2024
June Board Meeting	June 5, 2024
Minnesota Watersheds Summer Tour	June 25-26, 2024

January 2024 Administrator's Report Page 2

C. Board Action Log and Updates

The board action log is attached. I review this list each month and add anything suggested in the previous meeting. Two items were added after last month's meeting and I did some clean-up of the list for items that have been completed.

D. Minnesota Watersheds Updates

For the monthly newsletters go here: https://www.mnwatersheds.com/news-letters

The 2024 legislative event will be held March 6 and 7th at the Capitol Ridge Radisson Hotel in St. Paul. This main part of this event will be held on March 6th which is the same night at our regular board meeting. The following is the schedule for the Minnesota Watersheds Legislative Event:

12:00 P.M. – 1:00 P.M.	Minnesota Watersheds Board of Directors Meeting
1:00 P.M. – 3:00 P.M.	Agency Updates to the Membership
3:00 P.M. – 5:00 P.M.	Legislative Briefing from Minnesota Watersheds Consultants
5:00 P.M. – 7:00 P.M.	Legislative Reception with Regional Caucus Meetings

While Minnesota Watersheds will extend an invitation to all legislators, a personal invitation from is encouraged from each watersheds to their representatives. The board should discuss if they would like to adjust their regular meeting in March to accommodate this Minnesota Watersheds event.

On Thursday, March 7, there is a breakfast at the hotel from 7-8:30 am and then individuals could meet with their legislative representatives if meetings are scheduled. Nothing formal is planned for this day.

E. Staffing Update

As you know, as of last fall, we have had an open staff position in our projects teams that was titled BMP Maintenance Specialist. As we have been evaluating the needs of that position along with some of the other staffing and work load needs, we have recently posted that position to be a Grant Program Specialist. This staff person will be responsible for the administration of the Stewardship Grant Program as well as our BMP inspection and maintenance needs. The job is posted now and is open until Thursday, February 15th.

F. Annual Meeting Reminder

The board's annual meeting is planned for the March 6, 2024 regular meeting. This is the first meeting for the newly appointed board member, Stephanie Wang.

At the annual meeting, the board will declare their official designations of engineer, attorney, accountant, bank, and newspapers. The board will also elect their officers for the next 12 months. The following is the list of officers and their designated responsibilities.

January 2024 Administrator's Report Page 3

- The President will serve as the chairperson for all meetings, be a signatory to the District's account and sign any contracts or correspondence.
- The Vice President will perform the President duties in the event of an absence. The Vice President is also responsible for being the personnel representative from the Board. This means that the Vice President would coordinate the Administrator's review as well as consult with the Administrator on personnel issues that may arise.
- The Treasurer will be a signatory on District accounts and sign the monthly checks.
- The Secretary will ensure meeting minutes are prepared and approved by the board as well as sign documents that require multiple signatures.

At this meeting, the board should consider designating board representatives to the Citizens Advisory Committee (CAC). A memo from staff will also direct the board to review the CAC priorities for the next year.



Board of Managers 2024 Action Log

Wednesday, February 7, 2024

Item	Anticipated Action Date	Means of Action	Completed
Land Acquisition and Use Policy	February 2024	Board discussion	
Governance Manual	February 2024	Board discussion	
West Vadnais Lake Boundary Change	March 2024	Board discussion	
Shoreline Condition Assessment and Planning	March 2024	Presentation and Discussion.	
Alum Use Policy	Spring 2024	Proposed policy discussion.	
Impervious Surface Reduction Planning	Summer/Fall 2024	Presentation and Discussion.	

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Project and Program Status Reports

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Memorandum

То:	Board of Managers and Staff
From:	Tina Carstens, Brad Lindaman, and Erin Anderson Wenz
Subject:	Project and Program Status Report – February 2024
Date:	January 31, 2024

Note: The location, brief description, and current status of each project described below can be found on the <u>2024 RWMWD engineering services story map</u>.

Project feasibility studies

A. Kohlman Creek flood risk reduction feasibility study (Barr project manager: Tyler Olsen; RWMWD project manager: Tina Carstens)

The purpose of this study is to complete a feasibility evaluation of modifications to reduce flood risk along Kohlman Creek and remove structures from the 100-year floodplain. Work includes coordinating with the cities of Maplewood and North Saint Paul, evaluating alternatives to reduce flood risk, preparing cost estimates for each alternative, and identifying permitting requirements. This project focused primarily on areas surrounding the Postal Credit Union (PCU) Pond and the wetland complex west of White Bear Avenue. This is a follow-up feasibility study of flood-prone areas identified in the Beltline resiliency study.

In December, Barr finalized the project report and delivered it to RWMWD staff for review. In January, Barr staff met with RWMWD staff to review the report, determine next steps, and prepare for a presentation to the Board of Managers at the February 7 meeting. The presentation will be informational and no actions are being requested of the board.

B. Improvements to Phalen Village (Barr project manager, Brandon Barnes; RWMWD project manager, Paige Ahlborg)

The purpose of this study is to complete an evaluation of modifications to reduce flood risk near Phalen Village north of Lake Phalen by lowering flood levels to remove structures from the 100-year floodplain. The feasibility study was completed in 2022. In 2023, RWMWD is working with the City of Maplewood to incorporate modifications to the storm sewer system into the City's 2024 street improvement project. This is a follow-up planning study identified in the Beltline resiliency study.

No activity this month. When available, Barr and RWMWD staff will review the City of Maplewood design to verify that the information provided by the district is included in the City's plans. In the spring, staff will coordinate property access for wetland delineations needed to construct storm sewer

modifications. Barr and RWMWD staff will be working closely with the city of Maplewood staff to confirm the recommended flood risk reduction design elements are implemented as intended.

C. Ames Lake area flood-risk-reduction planning study (Barr project manager, Matt Metzger; RWMWD project manager, Tina Carstens)

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

This month, Barr addressed questions from the city of Saint Paul regarding proposed flood risk reduction modifications to the Ames Lake area. The Housing and Redevelopment Authority (HRA) Board is meeting in early February and will review proposed system modifications and provide direction regarding whether the vacant HRA-owned parcels can be used for constructing permanent flood-risk-reduction features. Following receipt of feedback from the City and HRA, a feasibility report will be prepared, documenting concepts considered, stakeholder feedback, cost estimates, permitting requirements, and recommendations for future system modifications. The draft report is anticipated to be available for RWMWD staff and Barr staff review in March. Once designed, the district will likely seek grant funding for this project, resulting in a construction timeframe of at least 2025 or later.

D. Resiliency study for non-Beltline tributary areas (pre-planning study and evaluation of existing data) (Barr project managers: Jay Hawley, Lulu Fang; RWMWD project manager: Tina Carstens)

The purpose of this project is to evaluate potential system-scale modifications to reduce flood risk within the portion of the RWMWD that was not evaluated as part of the Beltline resiliency study. This portion of the watershed includes the Tanners Lake, Battle Creek Lake, Battle Creek, Carver Lake, Fish Creek, and Snake Creek subwatersheds. The evaluation will identify modifications to the drainage system that could reduce flood risk to habitable structures within the 100-year floodplain of district-managed water bodies—including actively managing outlet control structures on Tanners Lake, Battle Creek Lake, and Carver Lake. This evaluation will allow RWMWD to identify potential flood-risk-mitigation strategies that address the portion of the district not tributary to the Beltline.

This month, Barr staff completed the existing-conditions hydrologic model updates in all the modeled watersheds (Tanners Lake, Battle Creek Lake, Battle Creek/Suburban Pond, Carver Lake, Fish Creek, and Snake Creek), and staff have remapped inundated areas and evaluated impacted structures in these watersheds.

The team continues to evaluate system modifications needed to remove habitable structures and critical infrastructure from the floodplain in the Carver Lake, Fish Creek, Snake Creek, Tanners Lake, Battle Creek Lake, and Suburban Pond watersheds. Several modifications are being assessed in the model: adjustable outlet control structures, new regional stormwater basins, and modifications to culverts, storm sewers, and overland flow paths. The modeling effort includes evaluating ways to mitigate the downstream impacts of these proposed modifications along Fish Creek and Battle Creek and considering

whether these actions to mitigate flood risk may have a positive effect on water quality in these creeks. Barr staff have also begun drafting the project report and organizing information to update the district's web map. The draft report is anticipated to be available for RMWMD staff review later this spring.

E. Owasso Basin area/North Star Estates improvements (Barr project manager, Brandon Barnes; RWMWD project manager, Tina Carstens)

The purpose of this study is to evaluate the benefit-cost of flood-risk-reduction strategies in the Owasso Basin/North Star Estates area by removing habitable structures from the floodplain. Stakeholder outreach with the City of Little Canada is important to this effort. This study is a continuation of the Owasso Basin bypass study, which laid out several phases of implementation and areas of further study.

As you recall, in 2023 Barr and RWMWD staff discussed modifications to the area stormwater system to reduce flood risk for approximately 39 homes and five businesses near Owasso Basin with the City of Little Canada, North Star Estates, and Saint Paul Regional Water. The feasibility study completed in January 2023 identified potential modifications to the drainage system located on property owned by these entities that would significantly reduce flooding impacts to those homes and businesses. System modifications proposed included modifying the direction of surface overflow within the Saint Paul Regional Water property, increasing the conveyance capacity of the culvert at South Owasso Boulevard (which is a City of Little Canada roadway), raising the private roadway within North Star Estates, and regrading/expanding Owasso Basin to provide more flood storage volume. (Four parcels cover Owasso Basin: two parcels are owned by the City of Little Canada, North Star Estates owns one parcel, and Diggers LLC owns one parcel.) During the feasibility study, Barr and RWMWD staff discussed system modifications with the City of Little Canada staff and City Council. In 2023, discussions continued with these and other property owners affected by the suggested modifications.

In the summer of 2023, Saint Paul Regional Water informed Barr and RWMWD that they would not approve the proposed modifications to surface overflows through their property. As part of discussions with Saint Paul Regional Water, Barr and RWMWD staff offered alternative designs that would mitigate potential impacts to regional water distribution pipes. None were found to be acceptable to Saint Paul Regional Water. Those discussions have currently stalled.

Following discussions with Saint Paul Regional Water, the proposed modifications to roadways in North Star Estates to allow emergency vehicles to access all homes during a 100-year flood event. Barr and RWMWD staff discussed system modifications with the North Star Estates property management company, which was initially supportive of the proposed modifications. Based on the support provided, Barr staff scheduled geotechnical borings that would ultimately guide the design of system modifications in and near North Star Estates and Owasso Basin.

Geotechnical borings were scheduled for the end of November 2023. However, the week prior to completing the geotechnical work, Barr was notified by North Star Estates that the property management company was reconsidering allowing the modifications and hadn't come to a final decision. Therefore, the geotechnical investigations were postponed. In December, Barr was informed that prior to authorizing any work within North Star Estates, the proposed design must be evaluated by

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an engineer selected by the North Star Estates property management company. The property management company selected Atwell, LLC (Atwell) to review the design.

In January 2024, Barr and RWMWD staff met with Atwell and North Star Estates Management to review drainage improvements and modifications to roadways within North Star Estates to reduce flood risk. Following the meeting, North Star Estates Management informed RWMWD that they were not interested in the district completing a project to reduce flood risk on their property.

Given the direction from Saint Paul Regional Water and North Star Estates property management, Barr staff are reviewing the benefits of increasing the South Owasso Boulevard culvert capacity alone. We will meet with the City of Little Canada in February to discuss the benefits of the culvert replacement and the existing risk that emergency responders would need to navigate to respond to an emergency during a flood event. The City of Little Canada remains supportive of all of the proposed modifications; however, we anticipate that replacing just the culvert only provides only an incremental reduction in flood risk. We will update the board in March with additional information and potential alternative approaches to consider.

Currently, there is no Emergency Response Plan for North Star Estates. However, Barr and RWMWD staff have informed City staff and North Start Estates property management of the area's flood risk and specific flood-prone structures. City staff provided feedback on proposed modifications in and around North Star Estates to make structures accessible by emergency vehicles. In the meantime, it is our understanding that the City will assist North Star Estates by providing materials to install temporary flood-risk mitigation measures if necessary.

F. Street sweeping (Barr project manager, Michael B. McKinney; RWMWD project manager, Paige Ahlborg)

The purpose of this study is to support the 2024 enhanced street-sweeping grant program.

Recently, Barr coordinated with district staff to kick off 2024 enhanced street-sweeping grant efforts. Barr assisted in processing final information provided by 2023 grantees, including invoice review and evaluation of TP removal associated with collected street sweeping mass collected. Barr also assisted the district in preparing information for the January 25 Public Works Forum meeting. The district plans to be supporting a number of street sweeping efforts again this year.

G. Retrofit inventory (Barr project manager, Marcy Bean; RWMWD project manager, Paige Ahlborg)

The purpose of this study is to review 2014 property data and selection criteria that determined which sites were considered for retrofit projects. This information will be compared to updated property data. The study will also consider equity metrics and use GIS (geographic information system) mapping to overlay implemented projects and potential retrofit sites with other district initiatives.

As a final step in this inventory, Barr GIS staff have been working with RWMWD staff to create a shared online mapping tool that includes the latest project data across program areas and allows staff to track

potential projects moving forward. This mapping tool will directly connect the historical review of sites across the district with the development of an updated screening process for potential retrofit projects. A new project scope summary has been provided for this work.

Research projects

H. Kohlman Lake aquatic plant management effects study (Barr project manager, Keith Pilgrim; RWMWD project manager, Paul Erdmann)

The objective of this investigation is to determine the effect of intensive aquatic plant management on Kohlman Lake water quality. The goal is to help the district identify a science-based aquatic plant management policy.

The fieldwork is now complete. As was mentioned in the previous monthly update, a critical error was identified in the County's dataset. They neglected to collect aquatic plant biomass data, which was needed to model and evaluate the effect of aquatic plant populations on Kohlman Lake water quality. The outcome is that water quality modeling cannot be conducted as originally intended. However, valuable data were collected and include:

- 1. High-frequency water quality data (water quality data in Kohlman Lake collected by RWMWD and Ramsey County) can be used to understand internal loading in Kohlman Lake.
- 2. Sediment chemistry data for Kohlman and Beaver Lake—the sediment data collected for Kohlman Lake can be used to design another alum treatment.
- 3. Drone flyovers: We have not analyzed these data yet, but they may be used to visually and quantitatively assess how herbicide treatment impacted plant populations across the lake.
- 4. Continuous dissolved oxygen data for Kohlman and Beaver Lake.

A qualitative analysis of the data (including the drone flyover data) can be conducted to evaluate the effect of plant management activities in Kohlman Lake on plant populations and water quality. April Londo of the MN DNR has requested that a statistical analysis be conducted to determine differences in aquatic plant populations and water quality in Kohlman, Keller, Gervais, and potentially Beaver Lake. We are currently assessing whether enough data are available to conduct this analysis.

I. Shallow lake aeration study (Barr project manager: Keith Pilgrim; RWMWD project manager: Paul Erdmann)

The purpose of this project is to determine the potential for aeration to reduce internal phosphorus loading from bottom sediments in shallow lakes and ponds.

Aerators have been placed in Bennett Lake (mid-2022), Markham Pond, and Gervais Mill Pond (end of 2022). Monitoring began in 2022, and the initial results demonstrated that aeration could reduce internal loading. Monitoring by Barr and RWMWD staff was conducted again in 2023 to get a full-year evaluation of the benefits for Bennett Lake and Gervais Mill Pond. A final report, with a comprehensive analysis and recommendation regarding the potential for shallow lake aeration to control internal

loading and improve shallow lake water quality, is being finalized and will be presented to the board at a future board meeting.

The report will include a recommendation for the next steps.

Capital improvements

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

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

At the end of December, Barr provided the 90% design plan sheets to RWMWD, the City of Woodbury, and Target staff for review. Staff were provided 3 weeks (until mid-January) to review the designs, ask questions, and provide comments. Barr's follow-up included responding to email comments by RWMWD and Target staff and included hosting a virtual meeting with City of Woodbury staff to answer questions.

Following comments, Barr developed the 100% design plan sheets, finalized the front-end documents and technical specifications, developed the 100% design opinion of probable costs, performed MIDs calculations, and wrote the 100% design memo.

Barr has provided the 100% design memorandum and plan sheets for RWMWD Board of Manager review for bidding considerations. Pending Board approval, Barr will release the project for bid on February 9.

K. Roosevelt Homes (Barr project manager: Marcy Bean; RWMWD project manager: Paige Ahlborg)

The purpose of this project is to create construction documents for a multi-phase flood management and water quality improvement project at the Roosevelt Homes public housing area in St. Paul.

Roosevelt Homes is a flood-prone multi-family housing area owned by the Saint Paul Public Housing Authority (SPHA). For the first part of this 1- to 2-year phased retrofit, two stormwater basins were constructed in late 2023. The vegetation components of the project have been developed into a separate bid package to tie the planting contract directly with 2 years of vegetation maintenance. After the basins have been planted, a large turf hillside will be converted into prairie. In tandem, SPHA has been awarded a grant from the Minnesota DNR to remove dead and dying ash trees from the property and has agreed to 1:1 replacement of the trees. They are working with district staff to plan an engagement event with residents to communicate the work that has been done for stormwater management and create habitat at the site.

Included in this board packet is a set of plans and a specification table of contents for the Roosevelt Homes stormwater improvements landscape restoration, along with the engineer's opinion of cost provided for board consideration at the February 7 board meeting. If the board deems it appropriate, they should consider a motion that "approves the draft plans and specifications, proposed schedule, and project cost, and directs staff to advertise the project for the purpose of bidding." If authorized, staff will likely receive bids in February and will present those bids to the board at the March 6 meeting.

L. Targeted retrofit projects 2024 (Barr project manager, Marcy Bean; RWMWD project manager, Paige Ahlborg)

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

During this period, Barr initiated cost estimating for inspection work needed to inform the design of green and blue roof options for the St. Paul Youth Services site. At the request of St. Pascal Baylon Catholic Church, we began a desktop analysis of potential additional stormwater BMPs that could be implemented at their property. Both projects will be reviewed in more detail with district staff in February.

M. Stewardship grant program (Barr project manager, Leslie DellAngelo; RWMWD project manager, Paige Ahlborg)

The purpose of this project is to 1) provide BMP design and review services to cost-share applicants throughout the RWMWD on an as-needed basis and 2) support the development of the stewardship grant program.

The construction documents for the Woodland Hills Church site "tiny homes" project are expected to be completed in February 2024. The project removes over 1.25 acres of pavement, captures up to 270 pounds of total suspended solids annually, adds native habitat, and creates gathering spaces for facility users. The site will become a model community for tiny homes in partnership with the non-profit group "Settled." During this period, the property owner took drawings to the City of Maplewood Planning Commission for review. These were approved. Construction documents are being finalized, and we anticipate the owner will seek bids and manage construction in spring 2024.

N. Arbogast stormwater filtration BMP (Barr project manager, Leslie DellAngelo; RWMWD project manager, Paige Ahlborg

The purpose of this project is to complete the final design, plans, and specifications for a regional stormwater BMP in the Lake Emily subwatershed. The goal of the BMP is to decrease phosphorus loads to Lake Emily, which is at risk of impairment from excess nutrients.

Barr issued the final change order that addressed the resolution of the incorrect concrete testing protocol for the cast-in-place concrete vault base slab and walls. Barr completed the final payment application and collected other remaining submittal documents for project close-out. The contractor agreed that it is appropriate to withhold a portion of the retainage on the project because the final (28-day) concrete test indicated that the concrete was at approximately 98% of the specified strength.

O. Pioneer Park stormwater reuse (Barr project manager, Jennifer Koehler; RWMWD project manager, Paige Ahlborg)

The purpose of this project is to complete the final design, plans, and specifications for a stormwater reuse system in Pioneer Park that will reduce the usage of groundwater for irrigation and phosphorus loads to downstream water bodies.

Barr has worked with the district staff and attorney to review all submittals from Peterson Companies to fully execute the agreement and the notice to proceed. Barr has also coordinated the preconstruction meeting and is in the process of reviewing the pump and water treatment submittals. Construction is expected to begin in Spring 2024.

P. Fish Creek tributary improvements (Barr project manager, Tyler Olsen; RWMWD project manager, Tina Carstens)

The purpose of this project is to design and implement vegetation improvements around Double Driveway Pond, as well as stream-stabilization improvements in the Fish Creek tributary upstream.

During this period, Barr continued the development of technical specifications and refined the addalternate design of the private driveway/culvert crossing along the tributary. Additionally, Barr updated the cost estimate to reflect the add-alternate design. Barr and RWMWD staff met on January 29th to review the plans and discuss the next steps for the project. Currently, easement valuations and legal descriptions are being prepared for discussions with the property owners. We expect those discussions to occur this spring with hopes of a fall 2024 construction period.

Q. Cottage Place Wetland Regeneration (Barr project manager, Brendan Dougherty; RWMWD project manager, Paige Ahlborg)

The purpose of this project is to design and restore a degraded wetland on City of Shoreview property located near the Cottage Place cul-de-sac. The project will involve the creation of plans, bidding, and construction administration to provide additional stormwater treatment and restore wildlife habitat within the project area.

This period, Barr continued working toward a 30% plan design, revising trail details in response to feedback from area residents, the City of Shoreview and St. Odilia Catholic Church.

R. County Road C culvert (Barr project manager, Tyler Olsen; RWMWD project manager, Paige Ahlborg)

The purpose of this project is to design and construct a box culvert where Kohlman Creek crosses under County Road C (owned by Ramsey County) in the City of Maplewood. The culvert was identified as a flood-risk-reduction improvement project in the Kohlman Creek Flood Risk Reduction Feasibility Study.

During this period, Barr continued its geotechnical design work using the data obtained from the drilling in December. This month's invoice includes the subcontractor fee for American Engineering Testing Company (AET). Additionally, Barr staff began preparing plans and specifications in January for the 90%

design. Barr will provide a plan set for RWMWD staff and then Ramsey County staff to review before completing 100% design and bidding the project. Construction is anticipated later in 2024.

CIP project repair and maintenance

S. 2024 CIP maintenance and repairs projects (Barr project managers, Gareth Becker; RWMWD project manager, Dave Vlasin)

The purpose of this effort is to maintain the RWMWD's existing capital improvement projects.

Notice to Proceed was issued on January 8, 2024, and Fitzgerald Excavating Inc. began work the same day. To date, the work has been performed on sites 5 and 8 and is progressing on schedule. The contractor has chosen to forego a partial payment application this month due to the limited amount of work completed. The unusually mild winter has delayed work on several sites from starting as planned. At this time, we assume no change to the overall project schedule.

T. Beltline Mississippi Branch Outfall Replacement Project (Barr project managers, Joe Welna and Nathan Campeau; RWMWD project manager, Dave Vlasin)

The purpose of this project is to replace the final approximately 70 feet of the Beltline Storm Sewer Interceptor adjacent to the Mississippi River that failed in July 2023.

In early July 2023, a sinkhole was discovered over the Beltline Storm Sewer Interceptor Mississippi Branch alignment, just upstream of the outfall into the Mississippi River. An inspection inside the tunnel revealed two holes in the sides of the large steel pipe section about 10 feet from the outfall to the Mississippi River and another tunnel area needing immediate attention. During the repair work, it was clear that a more extensive, long-term repair would be needed for approximately 70 feet of corroded steel tunnel. Barr then completed a hydraulic evaluation of several repair alternatives and a construction feasibility and cost estimate of the selected alternative, which includes full replacement of the steel pipe section.

During January, we continued our geotechnical analysis and began developing plansheets for the detailed 30% design of the tunnel replacement. We anticipate completing the 30% design in February. The construction and repair work are planned for later in 2024. Staff are also exploring potential grant and loan options for this infrastructure improvement.

U. Natural Resources Update–Paul Erdmann, Patrick Williamson & Joe Tillotson

Natural Resources Program staff attended several meetings regarding aquatic vegetation management in District lakes. We also met with Ramsey County staff to discuss expanding our turf to prairie conversion work at Goodrich Golf Course. There's a good chance we will be expanding our restoration areas at the course, and adding some new ones, in 2024.

In the field, NR staff interseeded our prairie restoration areas at Keller Regional Park. Interseeding is a technique of sowing seed directly into existing vegetation without plowing or applying herbicide to that vegetation. The initial seeding of these areas was not very successful, either due to drought, poor distribution of seed, or other factors. We did not want to "start from scratch," as some of the initial seed

did take, and perennial invasive plant pressure is low at the site. Staff worked with Prairie Moon to create a custom seed mix composed of species recommended by the Xerces Society and others that are likely to establish and persist when interseeded.

Earlier in January, we finally had some cold temps that allowed us to put up thin ice signs on Markham and Gervais Mill Pond and turn on aeration systems in the ponds. These two shallow water bodies are susceptible to winterkills. The aeration systems add oxygen to the ponds, creating better conditions for fish. Native fish, such as bluegill sunfish, are important players in our Carp Management Program, as they eat many carp eggs.

The NR staff continues other winter work, including woody vegetation management, prescribed burn planning, and miscellaneous office and computer tasks.

Photos clockwise from top left- NR staff interseed at Keller Regional Park. Joe and Ashely install thin ice signs. Our aeration also creates open water habitat for waterfowl, such as these trumpeter swans and ducks.



v. Public Involvement and Education Program – Sage Passi

L'Etoile du Nord 4th/5th Graders Learn Skills in Water Quality Monitoring

Winter poses challenges for field trips when the lakes don't freeze over or the weather is too cold. Last year the snow was too deep on the boardwalk at Ames Lake where L'Etoile du Nord students have typically walked to get a hands-on introduction to water quality monitoring. In the past, our water quality monitoring staff have augured though the ice at several of L'Etoile du Nord's neighborhood lakes to draw water for their classes to monitor the water quality using dissolved oxygen kits, pH and

thermometer pens and transparency tubes. Classes have gathered on the boardwalk at Ames Lake or Beaver Lake (both lakes within walking distance of the school) to conduct these tests in the winter with the support of our water quality team, education staff and Water Stewards.



Left: In January 2024, Henriette Bissoy, science teacher at L'Etoile du Nord French Immersion checks out the water clarity. **Left Center**: Students observe clarity of Kohlman Creek water using a transparency tube. **Right Center**: Kyle Kubitza, RWMWD Water Monitoring Technician introduces the Sonde, a sophisticated water quality measuring tool. **Right photo**: A team of L'Etoile 4th and 5th graders compare their DO results with the color chart.

At these sites, water monitoring staff have demonstrated the use of the Sonde by lowering it into an augured hole in the ice to take measurements. They've draw water out of the lakes through the ice and fill buckets on the boardwalk so students could measure and record the water levels of dissolved oxygen, pH, temperature and clarity using kits we provide and compared this data with the results from the Sonde.

On January 22 and 29 this winter, with unseasonably warm conditions (ice melting on Ames Lake in January!), our monitoring staff, Kyle and Lyndsey brought large containers of water from Kohlman Creek (where open water is accessible this time of year) into Bissoy's science classes at L'Etoile du Nord so students could test the water with dissolved oxygen kits and clarity tubes but also see how the Sonde provides additional data. Kyle came the first day and then Lyndsey joined him a week later for the second class. Lyndsey also demonstrated how a secchi disk is used in a boat. Together they worked with education staff to help students fill secchi tubes to measure the clarity of the water and conduct dissolved oxygen tests.

Kyle and Lyndsey explained the parameters that the high tech Sonde can measure and provided data from this instrument (temperature, dissolved oxygen, conductivity, and turbidity) so that students could compare their data from their tools with the Sonde's readings and summarize Kohlman Creek's water quality.









Left: (*Nature at Nine*) Harriet Alexander Nature Center class participants learn how to stratify seeds. **Right:** Woodbury High Environmental Club hosted by Science Teacher Noor Sinada (on the right) stratify native seeds for their school grounds restoration project. They will grow the seedlings over the rest of the winter and spring and transplant them outdoors in late May.

December through February is a prime time to start native seeds for germination over the winter so the seedlings can be transplanted outdoors in the late spring. Watershed staff Sage Passi introduced the seed stratifying process originally taught to her by Sean Uslabar from Ramsey County Correctional Nursery and shared it with the nature center in Roseville after being invited to participate in their monthly class series, *Nature at Nine* for the public.

Watershed education staff and Ramsey County Master Gardeners also engaged in a seed starting lesson with two third grade science classes at L'Etoile du Nord in St. Paul on January 12. Tracy Leavenworth provided a puppet show to go along with the lesson.

Below are some photos shot at the seed stratification lesson at L'Etoile du Nord. Thank you to the four Ramsey Gardeners who helped with this hands-on lesson!



Seed preparation at L'Etoile du Nord with third graders with support from Ramsey County Master Gardeners

On January 30, Sage taught a group of Woodbury High School Environmental Club teens how to prepare seeds by removing the stems and leaves, mixing the seeds with vermiculite and a small amount of water and refrigerating them. They also used our research sheets to learn more about the plants they will grow. This is the second year this lesson has been offered there.

Thank you to Water Steward and newly appointed RWMWD Board of Manager, Stephanie Wang, a resident of Woodbury for helping the Woodbury Environmental Club with this seed starting process and for advising them on their installation of a prairie last spring. We look forward to helping them "grow" their prairie!

Government to Government: Tribal State Relations Training





On January 17-18 Sage Passi, Lyndsey Provos and Kyle Kubitza traveled to Morton, Minnesota to participate in an intensive two-day training attended by staff from state government agencies, indigenous representatives and tribal leaders, hosted by the Cansa'ypi (Lower Sioux Indian Community) and facilitated by Professor Joseph Bauerkemper from the Dept. of American Indian Studies at the University of Minnesota Duluth. The primary instructor, Tadd Johnson, Esq., Professor Emeritus at the U of Minnesota, U of M's first senior director of American Indian Tribal Nation Relations, retired Full Professor, Department Head, Director of Graduate Studies and Director of the Tribal Sovereignty Institute was the primary instructor for the training on Federal Indian Policy and the Legal Background between tribes and states. The objectives for this training included: 1) enhanced understanding of American Indian tribal sovereignty; 2) increased awareness of the unique relationships and complex issues shared across tribal, state and federal governments; 3) familiarity with the ongoing impacts that historical periods of federal Indian policy have on tribal-state relations; 4) Expanded understanding of American Indian history and cultures within and beyond Minnesota; 5) Applicable insight into effective approaches to collaborating and building partnerships with Minnesota American Indian nations; and 6) improved effectiveness and efficiencies in state government.

To:Board of Managers and StaffFrom:Tina Carstens and Brad LindamanSubject:Project and Program Status Report February 2024Date:January 31, 2024

The first day the presenters covered historical eras of Indian Policy including International Relations (1770-1830), Removal (1800-1890), Reservation (1850-1890), Allotment/Assimilation (1870-1930), Reorganization (1930-1950), Termination (1940-1970) and Self-Determination (1970-Present). We were introduced to the Minnesota Indian Affairs Council and participated in a Dakota Language exercise led by two students from Redwood Valley High School. At the end of the day we listened to a moderated tribal history and culture panel with the director of the Tribal Historic Preservation Office, a community member of the Lower Sioux Indian Council and the treasurer of the Red Lake Nation Tribal Council. During the dinner in the evening we were treated to a beautiful performance by Unity Youth Group Dancers (see photo below) and the Red Tree Drum Group.

On the second day we listened to a state agency tribal liaison panel, watched a very stirring video on the Carlisle Indian Schools and listened to a discussion about Indian Boarding Schools. The rest of the day included panels with tribal government administrators, tribal leaders, a debrief and dialogue about Building Partnerships and a Closing Ceremony.



A dance performance by UNITY Youth Group Dancers and Red Tree Drum Group

Stem Justice Geopath Training with the Kitty Anderson Center at the Science Museum of MN

Carrie Magnuson, Mary Fitzgerald and Sage Passi attended a three afternoon Community Network of Stem Justice support online training on January 8, 9, 10 sponsored by the Science Museum of Minnesota. As watershed professionals, we will be part of a community network of support helping high school juniors and seniors engaged with the Kitty Anderson Science Center who are exploring potential education and career paths in the geosciences field. Support partners include Capitol Region Watershed District, Friends of the Mississippi, RWMWD, St. Croix Water Research Station, Dakota County Technical College TRIO Upward Bound, geo-professionals and geosciences faculty from colleges and universities in Minnesota and Wisconsin. Youth involved in the program will be introduced to a meaningful research project in paleolimnology and have opportunities to participate in hands on activities at the St. Croix Research Station and other locations, a week-long field experience, a salty lakes winter coring experience, opportunities to present at Youth Service Day, STEM Freedom School and Research Rendezvous and campus and career visits at local colleges.

W. Communications and Outreach Program – Lauren Hazenson

Current Projects

Website Accessibility Project

The audit conducted by WeCo for website accessibility has identified seven issues affecting users who rely on screen readers for website navigation. These concerns encompass limitations in functionality when the page is zoomed to 400% and preset options in fillable forms. St. Paul Media, our website contractor, will collaborate with us to address the high and medium-priority issues over the next six months, prioritizing the resolution of page navigation issues.

Community Survey

Over the upcoming week, residents within district boundaries will receive a five-question survey. These surveys will be transmitted via text to individuals' phones, a method proven to be highly successful in the area, according to contractor FlashVote. Our approach involves distributing the survey to a statistically significant portion of each city within our boundaries until we achieve nearly accurate demographic data for each city. Additionally, we can delve into survey analytics to observe response trends by subwatershed. The outcomes will play a crucial role in shaping the content and delivery strategies for communication campaigns, addressing various best water management practices, and highlighting opportunities for engagement with RWMWD.

WaterFest Partner Engagement

RWMWD hosted a partner meeting and dinner on January 16th to speak with exhibitors, partners, and community leaders to discuss how we can further connect WaterFest with the surrounding community. We will continue those discussions with individual organizations to strategize better engagement around public waters in a way that speaks to each community's values.

Project Management and Program Evaluation

This year, communications will develop project management practices to improve cross-departmental collaboration on outreach and engagement initiatives. The goal will be to leverage our current staff and intern capacity and improve efficiency and visibility in tracking projects, individual task assignments, and evaluating campaigns after completion. We will also include more post-event surveys and other feedback-gathering measures to ensure we continue to grow our communications and outreach efforts in the right direction.

E-newsletter

Open rate: 50.6% Clicks: 2.2% Audience: 1,601 To:Board of Managers and StaffFrom:Tina Carstens and Brad LindamanSubject:Project and Program Status Report February 2024Date:January 31, 2024

Social Media (Facebook, YouTube, Instagram)

Numbers as of 1/29:

Facebook

Reach: 3,489 Engagement (likes, shares, comments): 230 Audience: 1,604

Instagram

Reach: 102 Engagement: 28 Audience: 907

YouTube

Views: 1,786 Watch time (hours): 28 Subscribers: 330 Viewers: 1,400

Resident Communications/Professional Development/ Public Meetings, Misc.

Owasso story map project Lake Owasso signage Roosevelt Homes communications Arbogast sand filter article