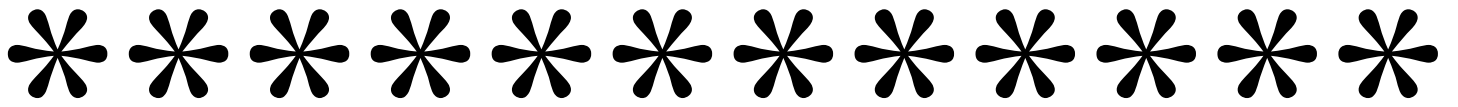




RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

May 2020
Board Packet



Agenda





Regular Board Meeting Agenda

Wednesday, May 6, 2020

6:30 P.M.

Due to the COVID19 pandemic, this month's board meeting will be held via the video conferencing platform Zoom. Board members, staff, consultants, and general public will be able to join in via video and/or phone. The public that wish to will be able to listen to meeting but not participate with the exception of the visitor comments portion of the agenda. If you have comments you may speak on the Zoom meeting during the visitor comments agenda item. Instructions for joining in on the Zoom meeting can be found after the agenda.

1. Call to Order – 6:30 PM
2. **Approval of Agenda (pg. 3)**
3. **Consent Agenda: To all be approved with one motion unless removed from consent agenda for discussion.**
 - A. Approval of Regular Meeting Minutes April 1, 2020 including written visitor comments. (pg. 8)
 - B. Treasurer's Report and Bill List (pg. 24)
 - C. Review and Accept the 2019 District Annual Financial Audit (pg. 33)
 - D. Permit Applications
 - i. 20-17 Woodbury PFAS Treatment Facility, Woodbury (pg. 123)
 - ii. 20-20 Maplewood Dennis-McClelland SIP, Maplewood (pg. 127)
 - iii. 20-21 Tartan High School Redevelopment Phase I, Oakdale (pg. 130)
 - iv. 20-22 Maplewood Elementary, Maplewood (pg. 134)
 - E. Stewardship Grant Program
 - i. 20-10 CS Knappmiller, native habitat restoration (pg. 139)
 - ii. 20-11 CS Ramundt, rain garden, native habitat restoration (pg. 141)
 - iii. 20-12 CS Jacobson, native habitat restoration (pg. 143)
 - iv. 20-13 CS Brenner, filtration basin (pg. 145)
 - v. 20-14 CS Carver Lake Parking Lot, rain garden, native habitat restoration (pg. 147)
4. Visitor Comments (limited to 4 minutes each)

5. Permit Program
 - A. Applications – permit below include variance requests and therefore were not included in consent agenda
 - i. 20-19 Maplewood County Road B and Arcade, Maplewood (pg. 150)**
 - B. Enforcement Action Report (pg. 161)
6. Stewardship Grant Program
 - A. Applications – see consent agenda
 - B. Budget Status Update (pg. 164)
7. Presentations and Action Items
 - A. **Twin Lake Outlet Action Items (pg. 166)**
 - i. Operation Plan Update (pg. 167)**
 - ii. 20-18 RWMWD Twin Lake Outlet Project Permit (pg. 173)**
 - iii. Approval of Plans, and Authorization to Advertise for Bid (pg. 181)**
 - B. **Beltline Resiliency Study Accept Response to Comments (pg. 191)**
8. Administrator’s Report (pg. 201)
 - A. Meetings Attended
 - B. Upcoming Meetings and Dates
 - C. COVID-19 District Update
 - D. Ramsey County Property Tax Extension
 - E. Introducing Lauren Hazenson – Communications and Outreach Coordinator
9. Project and Program Status Reports (pg. 204) (***)for discussion at meeting
 - A. Ongoing Project and Program Updates
 - i. Beltline Resiliency and Phalen Chain Water Level Studies
 - ii. West Vadnais to South I-694 Conveyance Feasibility Study ***
 - iii. FEMA Flood Mapping
 - iv. Automated Lake Monitoring Systems
 - v. Wakefield Park/Frost Avenue Stormwater Project
 - vi. Targeted Retrofit Projects
 - vii. Target Stores Stormwater Retrofit Projects***
 - viii. Aldrich Arena Stormwater Project
 - ix. Keller Channel Weir and Phalen Outlet Resiliency Modifications
 - x. West Vadnais Lakes Outlet Lowering ***
 - xi. CIP Maintenance and Repair 2020 Project
 - xii. Beltline/Battle Creek Tunnel Inspection
10. *Items in **bold** signify that an action needs to be taken by the Board.*

xiii. Natural Resources Program

xiv. Education Program

10. Report of Managers

11. Adjourn

Items in **bold signify that an action needs to be taken by the Board.*



RAMSEY-WASHINGTON

METRO WATERSHED DISTRICT

NOTICE OF BOARD MEETING

Wednesday, May 6, 2020

6:30 PM

Via Web Conference and In Lieu of an In-Person Meeting

Per Minnesota Statute 13D.021, President Marj Ebensteiner has determined that an in-person meeting of the RWMWD Board of Managers is not practical or prudent given the COVID-19 pandemic. In compliance with Center for Disease Control and Minnesota Department of Health guidance on minimizing potential for spread of the virus, RWMWD will conduct its regular Wednesday, May 6, 2020, meeting at 6:30 p.m. CDT, by web conference and conference call. Members of the public wishing to participate in the meeting may do so by accessing the web-based conference, or by phone.

To access the meeting via webcast, please use this link:

[JOIN MEETING](#)

<https://us02web.zoom.us/j/82171061324?pwd=d0xmVkYdUtNM2RrVzZMdFp3aUhmZz09>

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 **821 7106 1324**. The meeting password is **026703**.

If you have any questions, please contact Tina Carstens at tina.carstens@rwmwd.org.



Consent Agenda





**Ramsey-Washington Metro Watershed District
Minutes of Regular Board Meeting
April 1, 2020**

The Regular Meeting of April 1, 2020, was held at the District Office Board Room, 2665 Noel Drive, Little Canada, Minnesota, at 6:30 p.m.

Due to the COVID-19 pandemic, this month's Board meeting was held via a video conferencing platform called Zoom. Board members, staff consultants and general public were able to join in via video and/or phone. Only items requiring action were included in the packet and on the agenda. Visitor comments were emailed to tina.carstens@rwmwd.org prior to the meeting. Some comments that were pertinent to agenda items were read at the meeting but the full comments submitted are attached to these minutes.

PRESENT:

Marj Ebensteiner, President
Cliff Aichinger, Vice President
Lawrence Swope, Treasurer
Dianne Ward, Secretary
Dr. Pam Skinner, Manager

ABSENT:

ALSO PRESENT:

Tina Carstens, District Administrator
Tracey Galowitz, Attorney for District
Brandon Barnes, Barr Engineering
Robert Johnson, Resident
Kelly Bopray, Frattalone Wetland Specialist
Matt Woodruff, Frattalone Civil Engineer
Burt Johnson, Twin Lake Association President
Cheryl LeClair-Sommer, Twin Lake Resident

Paige Ahlborg, Project Manager
Brad Lindaman, Barr Engineering
Nicole Soderholm, Permit Coordinator
Terry Telega, Twin Lake Resident
Bruce Copley, Crestview Resident
Mitch Honsa, Frattalone Design Engineer
Terry Siebent, St. Paul Emergency Management Director
Tim Freeman, Frattalone Development Consultant

1. CALL TO ORDER

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

2. APPROVAL OF AGENDA

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

Further discussion: A Manager requested to add a manager comment period at the end of the agenda and asked whether visitor comments were going to be received. It was noted that the agenda did not include that element. Attorney for the District provided input noting that amendments to the agenda would need to be done via motion.

Motion: Manager Swope moved, Manager Aichinger seconded, to add a manager comment period to the end of the agenda.

A roll call vote was performed:

Manager Swope aye

Manager Aichinger aye
Manager Skinner aye
Manager Ward aye
President Ebensteiner nay

Motion carried.

Motion: Manager Swope moved, Manager Ward seconded, to add visitor comments to the agenda.

Further discussion: A staff member stated that the agenda asked that visitor comments be provided to her prior to the meeting via email, which will be distributed to the Board and can be included fully in the meeting minutes. A manager stated that the meeting was setup to have visitor comments submitted in this method and the intent is to keep this meeting short. A manager stated that she was under the impression that providing the instructions to visitors on how to access the meeting meant that visitors would be able to make comments. Two managers stated that they would be opposed to allowing visitors to comment at this meeting in this format. A Manager noted that comments specific to a permit can be reviewed by staff during the discussion of that item, rather than allowing visitor comments during this meeting.

A roll call vote was performed on the motion to add Visitor Comments to the agenda:

Manager Swope nay
Manager Ward aye
Manager Aichinger nay
Manager Skinner nay
President Ebensteiner nay

Motion failed.

A roll call vote was performed to approve the agenda:

Manager Aichinger aye
Manager Skinner aye
Manager Ward aye
Manager Swope aye
President Ebensteiner aye

Motion carried.

3. VERBAL UPDATE FROM ADMINISTRATOR ON RWMWD COVID-19 RESPONSE

A staff member provided an update on the District response to the COVID-19 pandemic. Staff is working from home as much as possible, while some staff continue to complete essential service work in the field. Staff continues to respond to email and voicemail messages and completing work. A staff member confirmed that while staff is working from home, they continue to receive full salary and any work in the field requiring two employees requires those employees to drive separately.

A Manager suggested delaying the May meeting to later in the month which could possibly allow for an in-person meeting. Staff members provided input on payment of the bills and the 60-day review timeline. Additional Managers stated that they would like to hold the May meeting on the regular date in a similar format, if needed, in order to complete necessary business. It was the consensus of the Board to hold the regular May Board meeting on its regular date in an electronic format.

4. APPROVAL OF THE REGULAR MEETING MINUTES OF MARCH 4, 2020

Motion: Manager Aichinger moved, Manager Skinner seconded, to approve the March 4, 2020 meeting minutes as presented.

Further discussion: A Manager requested to add, under the Beltline Resiliency Study, it should state, "...all of the elements comments received..." Under the Target Store Retrofit Project, the following statement should be added, "Staff indicated that they would prepare information on the cost per pounds of phosphorus removal for past projects."

A roll call vote was performed:

| | |
|-----------------------|-----|
| Manager Swope | aye |
| Manager Aichinger | aye |
| Manager Skinner | aye |
| Manager Ward | aye |
| President Ebensteiner | aye |

Motion carried.

5. TREASURER’S REPORT AND BILL LIST

Motion: Manager Aichinger moved, Manager Ward seconded, to approve the April 1, 2020, bill list as submitted.

Further discussion: Staff noted that funds will be received in June from a grant received for the retrofit project and the District will receive the first tax levy portion in July.

A roll call vote was performed:

| | |
|-----------------------|-----|
| Manager Swope | aye |
| Manager Skinner | aye |
| Manager Aichinger | aye |
| Manager Ward | aye |
| President Ebensteiner | aye |

Motion carried.

6. PERMIT PROGRAM

A. Applications

Permit #20-14: Central Park Pathway Maintenance – Roseville

A staff member stated that the city is looking to maintain trails within a park, noting that the existing trails are located within a wetland complex and therefore the District rules were triggered. The city will provide compensatory storage resulting in no net loss of floodplain.

Motion: Manager Swope moved, Manager Ward seconded, to approve Permit #20-14.

A roll call vote was performed:

| | |
|-----------------------|-----|
| Manager Aichinger | aye |
| Manager Skinner | aye |
| Manager Swope | aye |
| Manager Ward | aye |
| President Ebensteiner | aye |

Motion carried.

Permit #20-15: Spoon Lake Boat Launch Reconstruction

A staff member stated that this application is to reconstruct a boat launch that triggered the floodplain rule. Ramsey County Parks will provide compensatory storage for the fill placement.

Motion: Manager Aichinger moved, Manager Swope seconded, to approve Permit #20-15.

A roll call vote was performed:

| | |
|-----------------------|-----|
| Manager Swope | aye |
| Manager Ward | aye |
| Manager Aichinger | aye |
| Manager Ward | aye |
| President Ebensteiner | aye |

Motion carried.

Permit #20-16: Mondello Shores + #20-03 WCA Mondello Shores Wetland Replacement Plan – Vadnais Heights and Little Canada

A staff member provided a brief presentation on the project which is proposed on the Frattalone property and would replace the light agricultural use that currently exists with residential development. The project meets the volume reduction water quality standards. The project results in work below the floodplain and therefore compensatory storage is proposed. The project would result in a net increase of flood storage and decrease in the existing runoff rates. The project would propose to fill the smaller northern wetland and expand the southern wetland, which would meet the District's policy for no net loss of wetlands. The applicant is also submitting a wetland replacement plan to satisfy the WCA requirements, noting that the applicant will be purchasing wetland bank credits to satisfy the requirement. The applicant submitted a variance request for disturbance to the wetland buffer in order to complete the work. The applicant would be required to obtain a MPCA permit and comply with District and State regulations for erosion and sediment control. Additional information was provided on the condition related to the District's outlet, which would need to occur in order for the development to be constructed as proposed. The permit is consistent with other developments permitted through the District.

Motion: Manager Aichinger moved, Manager Skinner seconded, to approve Permit #20-16 and #20-03 WCA.

Further discussion: A Manager asked if the southern wetland could be expanded further so that the purchase of offsite wetland credits would not be necessary. A staff member explained that the type of replacement that could be done would not meet the WCA requirements which is why additional credits are necessary. A Manager asked under what conditions, if any, the site would overflow to Twin Lake. A staff member stated that the peak runoff rates would decrease and provided additional information on how the water would discharge from the site. The staff member confirmed that there are situations in which water would run from this property into Twin Lake and reviewed the current runoff rates compared to the runoff rates under the proposed development as well as the provision that the connection would be required to the MnDOT system. A Manager asked if this additional flow would impact the flow to Owasso Basin and other downstream areas. A staff member confirmed that runoff volume from that site would be conveyed into the MnDOT system and would discharge south, and in order to mitigate that additional volume the outlet would be provided with flexibility for the Managers to operate it in a manner to mitigate that risk. The staff member provided additional details on the operation plan that would be necessary. A staff member confirmed that, as proposed, the flow rate to Twin Lake would not increase over the current conditions. A Manager provided additional details on the operation plan that was discussed recently, noting that the Managers supported opportunistic discharge during the summer months. A Manager asked how

the 100-year flood level would be impacted under the alternative configuration included by the applicant. A representative explained that WCA requires an alternative option to be shown, which is what that document was. The staff member explained that if that alternative would follow, that wetland would not maintain hydrology and would not be preferred over the proposed configuration. A Manager stated that they would be hesitant to allow this to move forward without allowing the residents that desired to make comments be allowed the ability to speak.

A staff member read aloud portions of visitor comments related to this application for the Board to receive and consider with additional staff members providing additional clarifications. It was confirmed that the Board makes its decision based on the information provided and is separate from the city approvals. Staff confirmed that they could follow up with Vadnais Heights to discuss the activity at the Vadnais Heights Planning Commission meeting.

A roll call vote was performed:

| | |
|-----------------------|-----|
| Manager Swope | aye |
| Manager Ward | nay |
| Manager Skinner | aye |
| Manager Aichinger | aye |
| President Ebensteiner | aye |

Motion carried.

7. STEWARDSHIP GRANT PROGRAM

A. Applications

Permit #20-06 CS: Butler – Native Habitat Restoration

Motion: Manager Aichinger moved, Manager Ward seconded, to approve Permit #20-06 CS.

A roll call vote was performed:

| | |
|-----------------------|-----|
| Manager Aichinger | aye |
| Manager Swope | aye |
| Manager Ward | aye |
| Manager Skinner | aye |
| President Ebensteiner | aye |

Motion carried.

Permit #20-07 CS: Keller Golfview – Porous Parking

Motion: Manager Aichinger moved, Manager Swope seconded, to approve Permit #20-07 CS.

Further discussion: A Manager asked for clarification on the portion of the porous pavement that the cost-share would fund and whether there is adequate flow to the area to reduce stormwater runoff. A staff member confirmed that the cost-share would only fund a portion of the porous pavement that the applicant is installing and confirmed that there would be adequate flow to result in reduced stormwater runoff.

A roll call vote was performed:

| | |
|-------------------|-----|
| Manager Aichinger | aye |
| Manager Swope | aye |
| Manager Skinner | aye |
| Manager Ward | aye |

President Ebensteiner aye

Motion carried.

Permit #20-08 CS: Hagerman – Master Water Steward Shoreline Restoration

Motion: Manager Swope moved, Manager Ward seconded, to approve Permit #20-08 CS.

Further discussion: A Manager commented that this is a great area for restoration and hoped that it would encourage others to complete similar work. Another Manager asked if this area would be inundated if the water level in Lake Gervais were to increase. A staff member replied that the plantings should not be impacted.

A roll call vote was performed:

| | |
|-----------------------|-----|
| Manager Ward | aye |
| Manager Skinner | aye |
| Manager Swope | aye |
| Manager Aichinger | aye |
| President Ebensteiner | aye |

Motion carried.

8. MANAGER COMMENT PERIOD

A Manager commented on the minutes that were just approved, asking how the District intends to follow up on the items that the Board requested additional information on. A staff member replied that those items could be included in the next Board packet. A Manager stated that they would still like to continue the discussion related to the new minute format, as the manager found the new method extremely hard to follow and believed that it reduced the transparency to the outside world. Another Manager proposed to postpone that discussion until the Board can meet in person to allow for a more interactive discussion.

It was the consensus of the Board to postpone the special wetland meeting until a time the Board can meet in person

A Manager asked that the Board be provided with the full packet, including project and program updates, even if those items are not included on the agenda.

Staff noted that the decision on WaterFest will be made later in April, but advised that the event will most likely be canceled.

A Manager asked for a status update on the lowering of the West Vadnais outlet. A staff member provided an update, noting that staff has reached out to a contractor that is available and interested and could begin work once the District receives the necessary permits from the DNR and MnDOT. The staff member commented that the permits should be obtained the next week, with the contractor beginning the following week.

A staff member provided an update on the interview process for the Communications Coordinator position.

9. ADJOURN

Motion: Manager Swope moved, Manager Skinner seconded, to adjourn the meeting at 8:35 p.m. Motion carried unanimously.



Visitor comments received ahead
of April 1, 2020 RWMWD Board
Meeting for submission in
meeting minute record.



From: [Bruce Copley](#)
To: [Tina Carstens](#); [Marj Ebensteiner](#); [Lawrence Swope](#); [Cliff Aichinger](#); [Pam Skinner](#); [Dianne Ward](#)
Cc: [Matt Gray](#); [Steven La Berge](#); [Greg Windsperger](#); [James Mulholland](#); [Sheila and Ken Otto](#)
Subject: Visitor presentation for April 1, 2020 board meeting
Date: Wednesday, April 1, 2020 7:02:17 AM
Attachments: [April 1,2020 RWMWD board meeting.docx](#)

Caution: This email originated outside our organization; please use caution.

Tina,

I have attached the visitor presentation that we from Crestview addition would like to make at the upcoming board meeting. In your published agenda there is not a time listed for visitor presentations at this meeting.

Given the unique nature of this month's board meeting I understand why you are trying to keep the agenda as short as possible, but we do want to get our comments into the record for this meeting.

Please let me know how you would like to handle this evening.

Thanks,

Bruce

In Crestview addition we are highly concerned about the developing situation.

The water district elected not to pursue opportunistic pumping of W. Vadnais Lake during a winter and early spring that seemed ideal for this. The Barr models predicted up to 2 months of benefit into May would have resulted. In hindsight even more pumping and benefit may have been achieved.

Now we find ourselves in a situation where Grass and W. Vadnais lakes are within inches of overflowing again. The GFS accumulated precipitation model for the next 12 days shows 2+ inches of rain. Up to 4 inches are predicted if the actual precipitation moves just 40 miles south. I expect this would put all storage areas near capacity before we have even entered the rainy season.

When storage capacity is near the max, it puts Crestview addition at high risk of major flooding should significant rainfall occur. This is especially true right now. You may recall that the emergency response plan required a Suzanne pond pump upgrade to prevent the flooding of Crestview addition.

The existing pump in Suzanne pond has been slowly failing and took a significant turn for the worse in the last few weeks. The pond has been steadily rising. Shoreview brought in a temporary pump to keep the pond from overtaking sheds and homes.

The temporary pump can only move water to North Gramsie pond, but not to Grass Lake where it could exit the area. Water pumped to North Gramsie pond flows back into Suzanne pond and raises the groundwater level near the Gray home. In fact their sump pumps are working full-time to keep his basement dry.

The temporary pump only circulates water from Suzanne pond to North Gramsie pond and then back to Suzanne in an infinite loop. We are 2 years after the emergency response plan was put in place for our neighborhood and the critical upgrade, construction of a new pump system, has still not even started.

Neither the existing system nor the temporary pump will save us if we get a large storm. Only by keeping Grass and W. Vadnais as low as possible will we have a chance of dodging a catastrophe. None of this should be a surprise to you as Barr modeled this in the emergency response plan.

Please reconsider opportunistic pumping of W. Vadnais lake as we work with Shoreview to complete the new pumping system.

The second issue I would like to address is with regard to the Mondelo Shores Permit application. This whole area is key to dealing with water that flows to and from Twin lake and also dealing with overflow plans for West Vadnais lake.

It appears from the diagrams that the surface area available for floodwater storage in a 100 year event is being significantly reduced. The Beltline Resiliency draft shows much of this area is flooded in 100 year event.

If this surface area is not available to spread the water out in a large rainstorm I fear there will be significant problems that cannot be addressed at a later date.

Possibly more important, is the fact that the permit request does not deal with the rate at which water leaves this area, only the replacement of lost wetland. The rate at which it goes into Owasso basin is critical.

Finally, some of the plans in the beltline study require use and modification of MnDOT ponds. I do not believe that careful consideration has been given to how this development could impact future construction of the proposed projects in the beltline study. Development in this area should be held up until all of these issues are resolved.

From: [Burt Johnson](#)
To: [Tina Carstens](#)
Subject: Re: Automatic reply: Update from a neighbor with solid data
Date: Wednesday, April 1, 2020 11:15:16 AM

Caution: This email originated outside our organization; please use caution.

Tina,

My comments for now are below. I may revise them or add to them later on.

On Twin Lake, we are all aware of the public health crisis that is going on and are hoping for the safety and public health of all through the pandemic.

We are also sincerely concerned that water levels are now the cause of sincere concerns that remind us of last year. The recent rain has substantially raised the surface elevation of the lake. Several homeowners have taken accurate readings and those readings are well above the proper historic outflow elevation of Twin Lake.

The West Vadnais berm has not been overtaken but the water level has come closer to the crest of the berm.

We know that the watershed has put plans in place to restore an outlet. Our association has advised that the outlet needs to be maintained at the historic elevation outflow of ditch number 16. At the March meeting, we observed the Board take action to put an Operations Plan together for the outflow to be targeted at 872.2 and that is appropriate. The initial Barr report operations plan had the "trigger level" of opening the gate at 873.5 based on concerns down flow. The problem with that logic is that the targeted elevation has little to no relevance of downstream risk. The pace at which water flows to the south and its proximity to rain events are the only things that matter downstream. So there is no reason to arbitrarily target any surface elevation above the historic outflow for Twin Lake. It was frustrating to hear Bahr engineering make that statement without any support for this arbitrary target. We ask the watershed district to target a surface elevation for Twin Lake at its historic elevation consistent with the 872.2 gate. We understand that the gate may need to be closed to 1. Prevent back flow from the Frattalone property and 2. Prevent flooding downstream until more capacity is built downstream. We are very happy to see that the watershed district is also building capacity down stream so that this operations plan Kenmore securely establish our historic outflow in the future. But, even until then, the watershed district can adopt an operations plan that targets it's a proper elevation and opens the gate when it's safe to do so.

We are concerned about the West Vadnais elevation level and the need to commence pumping there. Please address that.

We are also concerned about the Frattalone development and its impact on all of the surrounding areas in terms of backflow into Twin Lake and water quality. We urge the watershed to thoroughly review and question this development to address these concerns. Residents are offering comments independently as to the development.

Many residents continue to be interested in exploring shoreline restoration. I would ask that

the watershed look into doing some type of video conference technology to allow interested residence to learn more about it.

Also, could the watershed help coordinate a video conference discussion related to water quality and aquatic species in Twin Lake with DNR?

I perfectly understand the inability to hold these public meetings in a large group, however, it may be a really good opportunity to use videoconferencing technology to move this process forward even while people are primarily stuck at home.

Thank you.

Burt Johnson
Twin Lake Assn.

|

From: [Cheryl Leclair-Sommer](#)
To: [Tina Carstens](#)
Cc: [Cheryl Leclair-Sommer](#)
Subject: Tonight's meeting - Please provide this information to the RWMWD Board for submission into the public comments
Date: Wednesday, April 1, 2020 3:03:53 PM

Caution: This email originated outside our organization; please use caution.

Dear RWMWD Board Members,

Thank you for the opportunity to comment on upcoming issues relative to Twin Lake and the Frattalone Development (near Twin Lake).

I have one main issue to comment upon and ask that the RWMWD Board Members consider relative to the Frattalone Development in Vadnais Heights.

At the meeting of the City Council of the City of Vadnais Heights, this development was considered and accepted as a Variance to the City of Vadnais Height Shoreland Ordinance since the site to be developed rests within the riparian guidelines covered by the municipal ordinance (as developed some time ago without the assistance of the DNR). Previously at the Planning Commission, the reasons for the variance were listed as: the city has very little property abutting Twin Lake and the water discharge will NEVER flow into Twin Lake. The City Planner indicated this information was based upon information provided by RWMWD. Please confirm this statement is accurate that RWMWD provided this information to the City of Little Canada (it seems likely). If the information is not accurate, the proposal should be returned to the City of Vadnais Heights planning commission for a public hearing based upon actual facts.

At the same meeting of the City Council of the City of Vadnais Heights, I brought up the problem of potential maintenance of the filtration pond, which will eventually drain underground into the wetland nearer to the culvert draining back/forth between Twin Lake and the wetland, eventually into "Ditch 16." A city council member asked this question of the City Planner, who indicated on the record that this issue would be in the hands of the RWMWD. So, in that regard I have the following concerns:

Relative to maintenance of the filtration pond, THERE IS CURRENTLY NO PLAN FOR MAINTENANCE, DETERMINATION WHO IS FINANCIALLY RESPONSIBLE FOR MAINTENANCE, INSPECTION OR MAINTENANCE SCHEDULE, MAINTENANCE OR REPAIR STANDARDS, NOR ANY MONEY SET ASIDE BY THE DEVELOPER OR HOMEOWNERS ASSOCIATION OR THE CITY OF VADNAIS HEIGHTS to be sure that this filtration pond is maintained to serve the intended purpose (Slow and clean water that will drain underground into the wetland).

These provisions are absolutely necessary in order for the filtration pond to filtrate sediment and to slow the water proceeding into the wetland (that may pass into Twini Lake).

Please provide a clear message to the City of Vadnais Heights and require the City to provide:

1. An annual inspection by a professional with a report provided annually to RWMWD

relative to all drainage within this development and the condition of the filtration pond;

2. A maintenance plan for when the floor of the filtration pond gets filled in and needs to be retrenched;

3. The guidelines to be utilized in inspecting and maintaining the filtration pond;

4. The responsible party to provide the budget to inspect and maintain/rehabilitate the filtration pond; and

5. Place signs around the filtration pond every 25-35 feet indicating "no dumping of any kind." Otherwise, It is human nature to dump leaves at the back of their lot to the lowest spot; and

6. The drainage from this high density development (for a riparian overlay district) should never allow any water to flow into the wetland (other than through the filtration pond) and all drainage from this development shall flow only into the wetland. If the water from the development increases the level in the wetland beyond 872, the City of Vadnais Heights agrees to be financially responsible for remediating this movement of water north into Twin Lake and re-engineering the drainage so that it flows through the filtration pond only at a rate anticipated and acceptable to the RWMWD.

There are other issues relative to the current high water in Twin Lake but I will defer those comments to others.

Thank you for your time and consideration.

Sincerely yours,

Cheryl LeClair-Sommer
285 Twin Lake Trail
Little Canada, MN 55127

From: [Terry Telega](#)
To: [Burt Johnson](#); [Tina Carstens](#)
Cc: [Angie Malone Agency](#); [Amit Chandra](#); [Cheryl Leclair-Sommer](#); [KYLE WAHLSTROM](#); [Melissa Elke](#); [Stanton Martin](#); [Val Eisele](#); [Ward Isaacson](#)
Subject: Re: TL association
Date: Wednesday, April 1, 2020 5:28:06 PM

Caution: This email originated outside our organization; please use caution.

Hello,

As a member of the twin lake association, my question is how will it even benefit us to have a pipe or outlet installed at 872.1 feet when Fratalone has created a second smaller pond at a higher elevation. The water from his development runs into this pond and directly into our lake. Only when the water level is high enough will the excess water run into the larger pond and then to the outlet pipe. This guarantees the water from his development will run into our lake first before it goes into the outlet pipe. We believe he did this about three years ago. Our water level will never get down to the 872.1 because of his actions. How was he even allowed to do this and what action can we take to change this? I will follow this with pictures we took today.

According to our neighbor, the lake level rose 7" with the last rain.

I just took pictures today of this area. The video shows the water running our lake. I will send them separately.

Sent from my iPhone

From: [Burt Johnson](#)
To: [Tina Carstens](#)
Subject: Re: Automatic reply: Update from a neighbor with solid data
Date: Wednesday, April 1, 2020 6:00:12 PM

Caution: This email originated outside our organization; please use caution.

Tina,

One more comment to add to my previous email:

Some residents submitted comments on the Frattalone development and concerns about the filtration system and water coming into Twin Lake via a culvert that has not yet been addressed by the watershed. We are all concerned that the watershed will give a permit to Frattalone at a time when we cannot attend the meeting and before an adequate study has been completed as to all of the sources of potential inflow to Twin Lake have been studied.

The concerns of residence in our area need to be addressed prior to permitting the Frattalone development. I understand the pandemic and that we cannot have an in person meeting. I do wonder if submitting written comments in advance is sufficient for allowing public participation. Thanks for your work.

Wishing safety and health to you and all watershed employees.

Burt

RWMWD BUDGET STATUS REPORT
 Administrative & Program Budget
 Fiscal Year 2020
 4/30/2020

| Budget Category | Budget Item | Account Number | Original Budget | Budget Transfers | Current Month Expenses | Year-to-Date Expenses | Current Budget Balance | Percent of Budget |
|--|---|----------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|
| Manager | Per diems | 4355 | \$8,500.00 | - | - | 500.00 | \$8,000.00 | 5.88% |
| | Manager expenses | 4360 | 3,500.00 | - | - | - | 3,500.00 | 0.00% |
| | Committee/Bd Mtg. Exp. | 4365 | 3,500.00 | - | 219.00 | 1,053.50 | 2,446.50 | 30.10% |
| Sub-Total: Managers/Committees: | | | \$15,500.00 | \$0.00 | \$219.00 | \$1,553.50 | \$13,946.50 | 10.02% |
| Employees | Staff salary/taxes/benefits | 4010 | 1,450,000.00 | - | 103,232.67 | 432,415.11 | 1,017,584.89 | 29.82% |
| | Employee expenses | 4020 | 10,000.00 | - | 1,184.55 | 1,882.38 | 8,117.62 | 18.82% |
| | District training & education | 4350 | 25,000.00 | - | - | 855.04 | 24,144.96 | 3.42% |
| | Sub-Total: Employees: | | | \$1,485,000.00 | \$0.00 | \$104,417.22 | \$435,152.53 | \$1,049,847.47 |
| Administration/ Office | GIS system maint. & equip. | 4170 | 15,000.00 | - | 707.00 | 1,694.02 | 13,305.98 | 11.29% |
| | Data Base/GIS Maintenance | 4171 | 5,000.00 | - | - | - | 5,000.00 | 0.00% |
| | Equipment maintenance | 4305 | 3,000.00 | - | - | - | 3,000.00 | 0.00% |
| | Telephone | 4310 | 8,000.00 | - | 57.48 | 229.92 | 7,770.08 | 2.87% |
| | Office supplies | 4320 | 5,000.00 | - | 283.22 | 1,105.77 | 3,894.23 | 22.12% |
| | IT/Internet/Web Site/Software Lic. | 4325 | 55,000.00 | - | 4,413.71 | 17,131.74 | 37,868.26 | 31.15% |
| | Postage | 4330 | 5,000.00 | - | - | 143.55 | 4,856.45 | 2.87% |
| | Printing/copying | 4335 | 8,000.00 | - | 294.00 | 1,535.35 | 6,464.65 | 19.19% |
| | Dues & publications | 4338 | 11,000.00 | - | - | 7,500.00 | 3,500.00 | 68.18% |
| | Janitorial/Trash Service | 4341 | 15,000.00 | - | - | - | 15,000.00 | 0.00% |
| | Utilities/Bldg.Contracts | 4342 | 20,000.00 | - | 3,949.78 | 13,954.89 | 6,045.11 | 69.77% |
| | Bldg/Site Maintenance | 4343 | 200,000.00 | - | 145.13 | 3,590.82 | 196,409.18 | 1.80% |
| | Miscellaneous | 4390 | 5,000.00 | - | - | 377.00 | 4,623.00 | 7.54% |
| | Insurance | 4480 | 40,000.00 | - | 33,918.00 | 34,275.02 | 5,724.98 | 85.69% |
| | Office equipment | 4703 | 150,000.00 | - | 479.10 | 479.10 | 149,520.90 | 0.32% |
| | Vehicle lease, maintenance | 4810-40 | 43,000.00 | - | 284.98 | 30,525.24 | 12,474.76 | 70.99% |
| | Sub-Total: Administration/Office: | | | \$588,000.00 | \$0.00 | \$44,532.40 | \$112,542.42 | \$475,457.58 |
| Consultants/ Outside Services | Auditor/Accounting | 4110 | 60,000.00 | - | 2,236.59 | 11,817.73 | 48,182.27 | 19.70% |
| | Engineering-administration | 4121 | 93,000.00 | - | 6,946.00 | 25,212.90 | 67,787.10 | 27.11% |
| | Engineering-permit I&E | 4122 | 10,000.00 | - | - | - | 10,000.00 | 0.00% |
| | Engineering-eng. review | 4123 | 55,000.00 | - | 3,798.00 | 11,155.00 | 43,845.00 | 20.28% |
| | Engineering-permit review | 4124 | 55,000.00 | - | 3,083.50 | 18,980.00 | 36,020.00 | 34.51% |
| | Project Feasibility Studies | 4129 | 570,000.00 | - | 13,633.23 | 34,847.73 | 535,152.27 | 6.11% |
| | Attorney-permits | 4130 | 10,000.00 | - | - | - | 10,000.00 | 0.00% |
| | Attorney-general | 4131 | 40,000.00 | - | 3,553.00 | 12,069.00 | 27,931.00 | 30.17% |
| | Outside Consulting Services | 4160 | 40,000.00 | - | - | - | 40,000.00 | 0.00% |
| | Sub-Total: Consultants/Outside Services: | | | \$933,000.00 | \$0.00 | \$33,250.32 | \$114,082.36 | \$818,917.64 |
| Programs | Educational programming | 4370 | 60,000.00 | - | 71.44 | 5,593.59 | 54,406.41 | 9.32% |
| | Communications & Marketing | 4371 | 25,000.00 | - | - | 1,469.61 | 23,530.39 | 5.88% |
| | Events | 4372 | 50,000.00 | - | 5,519.72 | 18,592.03 | 31,407.97 | 37.18% |
| | Water QM-Engineering | 4520-30 | 185,000.00 | - | 16,482.24 | 42,684.93 | 142,315.07 | 23.07% |
| | Project operations | 4650 | 160,000.00 | - | 4,842.23 | 14,186.99 | 145,813.01 | 8.87% |
| | SLMP/TMDL Studies | 4661 | 173,000.00 | - | 5,866.50 | 7,312.00 | 165,688.00 | 4.23% |
| | Natural Resources/Keller Creek | 4670-72 | 140,000.00 | - | 4,315.06 | 9,821.70 | 130,178.30 | 7.02% |
| | Outside Prog.Support/Weed Mgmt. | 4683-84 | 67,000.00 | - | 4,003.37 | 29,464.45 | 37,535.55 | 43.98% |
| | Research Projects | 4695 | 95,000.00 | - | 12,810.50 | 12,810.50 | 82,189.50 | 13.48% |
| | Health and Safety Program | 4697 | 3,000.00 | - | 48.75 | 139.39 | 2,860.61 | 4.65% |
| | NPDES Phase II | 4698 | 10,000.00 | - | - | - | 10,000.00 | 0.00% |
| Sub-Total: Programs: | | | \$968,000.00 | \$0.00 | \$53,959.81 | \$142,075.19 | \$825,924.81 | 14.68% |
| GENERAL FUND TOTAL | | | \$3,989,500.00 | \$0.00 | \$236,378.75 | \$805,406.00 | \$3,184,094.00 | 20.19% |
| CIP's | CIP Project Repair & Maintenance | 516 | 1,115,000.00 | - | 29,438.97 | 696,852.61 | 418,147.39 | 62.50% |
| | Targeted Retrofit Projects | 518 | 1,012,000.00 | - | 46,302.35 | 125,624.23 | 886,375.77 | 12.41% |
| | Flood Risk Reduction Fund | 520 | 4,000,000.00 | - | 30,322.74 | 138,152.41 | 3,861,847.59 | 3.45% |
| | Debt Services-96-97 Beltline/MM/Battle Creek | 526 | 400,074.00 | - | - | 276,886.63 | 123,187.37 | 69.21% |
| | Stewardship Grant Program Fund | 528-529 | 1,000,000.00 | - | 19,208.39 | 31,093.99 | 968,906.01 | 3.11% |
| | Impervious Surface Volume Reduction Opportunity | 531 | 1,600,000.00 | - | - | - | 1,600,000.00 | 0.00% |
| | Wakefield Park Project | 553 | 100,000.00 | - | 2,028.50 | 2,358.50 | 97,641.50 | 2.36% |
| District Office Bond Payment | 585 | 194,885.00 | - | - | 120,358.21 | 74,526.79 | 61.76% | |
| CIP BUDGET TOTAL | | | \$9,421,959.00 | \$0.00 | \$127,300.95 | \$1,391,326.58 | \$8,030,632.42 | 14.77% |
| TOTAL BUDGET | | | \$13,411,459.00 | \$0.00 | \$363,679.70 | \$2,196,732.58 | \$11,214,726.42 | 16.38% |

Current Fund Balances:

| Fund: | Beginning Fund Balance @ 12/31/19 | Fund Transfers | Year to date Revenue | Current Month Expenses | Year to Date Expense | Fund Balance @ 04/30/20 |
|---|-----------------------------------|----------------|----------------------|------------------------|-----------------------|-------------------------|
| 101 - General Fund | \$4,633,167.33 | - | 71,118.14 | 236,378.75 | 805,406.00 | 3,898,879.47 |
| 516 - CIP Project Repair & Maintenance | 1,160,359.00 | - | - | 29,438.97 | 696,852.61 | 463,506.39 |
| 518 - Targeted Retrofit Projects | (52,309.00) | - | - | 46,302.35 | 125,624.23 | (177,933.23) |
| 520 - Flood Damage Reduction Fund | 2,565,820.00 | - | 15,231.35 | 30,322.74 | 138,152.41 | 2,442,898.94 |
| 526 - Debt Services-96-97 Beltline/MM/Beltline-Battle Creek Tunnel Repair | 1,252,348.00 | - | - | - | 276,886.63 | 975,461.37 |
| 528/529 - Stewardship Grant Program Fund | 711,696.00 | - | - | 19,208.39 | 31,093.99 | 680,602.01 |
| 531 - Impervious Surface Volume Reduction Opportunity | 1,484,215.00 | - | - | - | - | 1,484,215.00 |
| 553 - Wakefield Park Project | 268,349.00 | - | - | 2,028.50 | 2,358.50 | 265,990.50 |
| 580 - Contingency Fund | 891,682.00 | - | - | - | - | 891,682.00 |
| 585 - Certificates of Participation | 130,460.00 | - | 335.47 | - | 120,358.21 | 10,437.26 |
| Total District Fund Balance | \$13,045,787.33 | \$0.00 | \$86,684.96 | \$363,679.70 | \$2,196,732.58 | \$10,935,739.71 |

Ramsey Washington Metro Watershed Dist.
Check Register
For the Period From Apr 1, 2020 to Apr 30, 2020

| Check # | Date | Payee ID | Invoice # | Payee | Description | Amount |
|--------------|----------|----------|----------------------|---|-----------------------------------|---------------------|
| 70275 | 04/01/20 | edm001 | 19-03 CS | Randee Edmundson | Stewardship Grant Program | \$200.00 |
| EFT | 04/08/20 | hea002 | May 2020 | HealthPartners | Employee Benefits | 11,421.64 |
| EFT | 04/10/20 | nsp001 | Apr 2020 | Xcel Energy | Project Operations/Utilities | 2,017.63 |
| EFT | 04/20/20 | voy001 | Apr 2020 | US Bank Voyager Fleet Sys. | Vehicle Expense | 211.85 |
| 71418V | 04/28/20 | edm001 | 19-03 CS | Randee Edmundson | Stewardship Grant Program | (200.00) |
| 71442 | 04/29/20 | ada002 | 3104821/31116636 | Adam's Pest Control, Inc. | Utilities/Bldg. Contracts | 158.00 |
| 71443 | 04/29/20 | ahl001 | Apr 2020 | Paige Ahlborg | Employee Reimbursement | 291.00 |
| 71444 | 04/29/20 | att002 | 28756653401X04252020 | AT & T Mobility - ROC | Water QM Staff | 80.45 |
| 71445 | 04/29/20 | aws001 | S1335957-040120 | AWS Service Center | Utilities/Bldg. Contracts | 396.01 |
| 71446 | 04/29/20 | bar001 | 3/14/20-4/17/20 | Barr Engineering | March/April Engineering Expense | 150,278.32 |
| 71447 | 04/29/20 | bar004 | Apr 2020 | Deborah Barnes | Employee Reimbursement | 45.33 |
| 71448 | 04/29/20 | bar010 | WF20 | Geri Barber | Events | 100.00 |
| 71449 | 04/29/20 | ben002 | 94236 | Benefit Extras, Inc. | Employee Benefits | 90.00 |
| 71450 | 04/29/20 | bfg001 | 1523090-00 | BFG Supply Co., LLC | Educational Program | 20.80 |
| 71451 | 04/29/20 | bro001 | 13869641-00 | Brock White Company LLC | Natural Resources Project | 478.38 |
| 71452 | 04/29/20 | cad001 | 16788862 | Allstream | Water QM Staff | 65.01 |
| 71453 | 04/29/20 | car007 | RWMWD_04/21/20 | Carp Solutions, LLC | Natural Resources Project | 1,625.00 |
| 71454 | 04/29/20 | cit001 | 007734-000 | City of Little Canada | Utilities/Bldg. Contracts | 110.72 |
| 71455 | 04/29/20 | cit011 | 228853 | City of Roseville | IT/Website/Software | 4,163.00 |
| 71456 | 04/29/20 | com004 | 04/16/20 | Comcast | Utilities/Bldg. Contracts | 144.52 |
| 71457 | 04/29/20 | don001 | Mar/Apr 2020 | Matthew Doneux | Employee Reimbursement | 467.18 |
| 71458 | 04/29/20 | esr002 | 93813512 | Environmental Systems Research Institut | GIS System Maintenance | 707.00 |
| 71459 | 04/29/20 | fit002 | Apr 2020 | Mary Fitzgerald | Employee Reimbursement | 169.66 |
| 71460 | 04/29/20 | gal001 | 04/22/20 | Galowitz Olson, PLLC | April Legal Fees | 6,328.00 |
| 71461 | 04/29/20 | gil001 | 191287 | Gilbert Mechanical Contractors, Inc. | Utilities/Bldg. Contracts | 142.12 |
| 71462 | 04/29/20 | gla001 | Apr 2020 | Glacial Ridge Drilling, Inc. | Stewardship Grant Program | 1,110.00 |
| 71463 | 04/29/20 | hej001 | 318697 | Hejny Rental | Natural Resources Project | 266.06 |
| 71464 | 04/29/20 | inn002 | IM2916393 | Innovative Office Solutions LLC | Office Supplies | 175.39 |
| 71465 | 04/29/20 | int001 | W20030507 | Office of MN, IT Services | Telephone Expense | 57.48 |
| 71466 | 04/29/20 | kha001 | WF20 | Hussein Khatib | Events | 100.00 |
| 71467 | 04/29/20 | kub001 | Mar/Apr 2020 | Kyle W. Kubitza | Employee Reimbursement | 337.53 |
| 71468 | 04/29/20 | lea002 | 04/14/20 | League of Minnesota Cities | Insurance Expense | 33,918.00 |
| 71469 | 04/29/20 | mau001 | Apr 2020 | Ashly Maus | Employee Reimbursement | 154.10 |
| 71470 | 04/29/20 | mbc001 | 1073 | MB Consulting | Events | 5,043.47 |
| 71471 | 04/29/20 | mcl001 | Mar/Apr 2020 | Michelle L. Melser | Employee Reimbursement | 377.44 |
| 71472 | 04/29/20 | min008 | 23231/23146 | Minnesota Native Landscapes, Inc. | Construction Imp.-Maint. & Repair | 564.50 |
| 71473 | 04/29/20 | nar001 | IN00132009 | Nardini Fire Equipment | Utilities/Bldg. Contracts | 409.40 |
| 71474 | 04/29/20 | ncp001 | 930700052020 | NCPERS Group Life Ins. | Employee Benefits | 16.00 |
| 71475 | 04/29/20 | nsp001 | 681681750 | Xcel Energy | Project Operations/Utilities | 483.37 |
| 71476 | 04/29/20 | out001 | 20-031/20-024 | Outdoor Lab Landscape Design, Inc. | Construction Imp.-Maint. & Repair | 9,940.00 |
| 71477 | 04/29/20 | pho001 | 19-03 CS | Aloun Phoulavan | Stewardship Grant Program | 187.39 |
| 71478 | 04/29/20 | pre003 | 317451701 | Premium Waters, Inc. | Utilities/Bldg. Contracts | 24.00 |
| 71479 | 04/29/20 | qwe001 | 04/10/20 | CenturyLink | Project Operations | 464.28 |
| 71480 | 04/29/20 | ram002 | PRK-001740 | Ramsey County | Stewardship Grant Program | 11,808.00 |
| 71481 | 04/29/20 | red002 | 150452440 | Redpath & Company, Ltd | March Accounting Services | 2,236.59 |
| 71482 | 04/29/20 | reg002 | 0340028199 | Regents of the University of Minnesota | Research Projects | 9,428.00 |
| 71483 | 04/29/20 | sch009 | 24912 | Schlomka Services, LLC | Project Operations | 3,580.00 |
| 71484 | 04/29/20 | sim001 | Apr 2020 | Emily Simmons | Employee Reimbursement | 186.88 |
| 71485 | 04/29/20 | sod001 | Apr 2020 | Nicole Soderholm | Employee Reimbursement | 53.23 |
| 71486 | 04/29/20 | stu001 | 2019348 | Studio Lola | Events | 276.25 |
| 71487 | 04/29/20 | tes001 | 53310597-IN | The Tessman Company | Constr.-Maint./Natural Resources | 92.44 |
| 71488 | 04/29/20 | thr004 | 18-05 | 3M Company | Dev. Escrow-General | 56,500.00 |
| 71489 | 04/29/20 | thr004 | 17-07 | 3M Company | Dev. Escrow-General | 31,500.00 |
| 71490 | 04/29/20 | thr004 | 16-23 | 3M Company | Dev. Escrow-General | 16,000.00 |
| 71491 | 04/29/20 | thr004 | 16-27 | 3M Company | Dev. Escrow-General | 36,000.00 |
| 71492 | 04/29/20 | tim002 | M25581 | Timesaver Off-Site Secretarial, Inc. | Committee/Board Meeting Expense | 219.00 |
| 71493 | 04/29/20 | tro002 | 20-04 | Cathy Troendle | Educational Program | 37.50 |
| 71494 | 04/29/20 | usb002 | Apr 2020 | U.S. Bank | April Credit Card Expense | 4,476.63 |
| 71495 | 04/29/20 | usb005 | 410899264 | US Bank Equipment Finance | Printing Expense | 294.00 |
| 71496 | 04/29/20 | van001 | 71755 | Vanguard Cleaning Systems of Minnesota | Utilities/Bldg. Contracts | 1,100.00 |
| 71497 | 04/29/20 | van003 | Apr 2020 | Erika Van Krevelen | Employee Reimbursement | 139.15 |
| 71498 | 04/29/20 | voy001 | 869293423017 | US Bank Voyager Fleet Sys. | Vehicle Expense | 73.13 |
| 71499 | 04/29/20 | was002 | 4806/4833 | Washington Conservation District | Outside Support/Stewardship | 4,650.00 |
| Total | | | | | | \$411,790.83 |

Ramsey Washington Metro Watershed Dist.
Check Register
For the Period From Apr 1, 2020 to Apr 30, 2020

| Check # | Date | Payee ID | Invoice # | Payee | Description | Amount |
|-------------------------|---|----------|---------------------|----------------------------------|--------------|----------------------------|
| EFT | 03/06/20 | myp001 | 03/06/20 | March 3rd Payroll Fees | 4110-101-000 | 69.05 |
| EFT | 03/20/20 | myp001 | 03/20/20 | March 20th Payroll Fees | 4110-101-000 | 71.00 |
| Dir.Dep. | 04/03/20 | --- | Payroll Expense-Net | April 3rd Payroll | 4010-101-000 | 25,402.16 |
| EFT | 04/03/20 | int002 | Internal Rev.Serv. | April 3rd Federal Withholding | 2001-101-000 | 8,951.90 |
| EFT | 04/03/20 | mnd001 | MN Revenue | April 3rd State Withholding | 2003-101-000 | 1,637.56 |
| EFT | 04/03/20 | per001 | PERA | April 3rd PERA | 2011-101-000 | 5,699.22 |
| EFT | 04/03/20 | emp002 | Empower Retirement | Employee Def.Comp. Contributions | 2016-101-000 | 3,029.00 |
| EFT | 04/03/20 | emp002 | Empower Retirement | Employee IRA Contributions | 2018-101-000 | 425.00 |
| Dir.Dep. | 04/17/20 | --- | Payroll Expense-Net | April 17th Payroll | 4010-101-000 | 25,080.94 |
| EFT | 04/17/20 | int002 | Internal Rev.Serv. | April 17th Federal Withholding | 2001-101-000 | 8,871.41 |
| EFT | 04/17/20 | mnd001 | MN Revenue | April 17th State Withholding | 2003-101-000 | 1,628.04 |
| EFT | 04/17/20 | per001 | PERA | April 17th PERA | 2011-101-000 | 5,642.32 |
| EFT | 04/17/20 | emp002 | Empower Retirement | Employee Def.Comp. Contributions | 2016-101-000 | 3,029.00 |
| EFT | 04/17/20 | emp002 | Empower Retirement | Employee IRA Contributions | 2018-101-000 | 425.00 |
| Payroll/Benefits | | | | | | <u>\$89,961.60</u> |
| Total | Accounts Payable/Payroll/Benefits: | | | | | <u>\$501,752.43</u> |

Ramsey Washington Metro Watershed Dist.
Cash Disbursements Journal
For the Period From Apr 1, 2020 - Apr 30, 2020

| Date | Check # | Vendor ID | Name | Account ID | Account Description | Amount | Check Detail |
|----------|---------|-----------|------------------------------|--------------|------------------------------------|------------|--------------|
| 04/01/20 | 70275 | edm001 | Randee Edmundson | 4682-529-000 | Stewardship Grant Fund | \$200.00 | |
| 04/08/20 | EFT | hea002 | HealthPartners | 4040-101-000 | Employee Benefits-General | 11,421.64 | |
| 04/10/20 | EFT | nsp001 | Xcel Energy | | | 2,017.63 | |
| | | | | 4650-101-000 | Project Operations-General | | 385.35 |
| | | | | 4342-101-000 | Utilities/Bldg. Contracts | | 989.83 |
| | | | | 4650-520-000 | Project Operations-Flood | | 642.45 |
| 04/20/20 | EFT | voy001 | US Bank Voyager Fleet System | 4830-101-000 | Vehicle Fuel | 211.85 | |
| 04/28/20 | 71418V | edm001 | Randee Edmundson | 4682-529-000 | Stewardship Grant Fund | (200.00) | |
| 04/29/20 | 71442 | ada002 | Adam's Pest Control | 4342-101-000 | Utilities/Bldg. Contracts | 158.00 | |
| 04/29/20 | 71443 | ahl001 | Paige Ahlborg | | | 291.00 | |
| | | | | 4020-101-000 | Employee Expenses-General | | 51.00 |
| | | | | 4040-101-000 | Employee Benefits-General | | 240.00 |
| 04/29/20 | 71444 | atr002 | AT & T Mobility -ROC | 4530-101-000 | Water QM Staff-General | 80.45 | |
| 04/29/20 | 71445 | aws001 | AWS Service Center | 4342-101-000 | Utilities/Bldg. Contracts | 396.01 | |
| 04/29/20 | 71446 | bar001 | Barr Engineering | | | 150,278.32 | |
| | | | | 4121-101-000 | Engineering Admin-General Fund | | 6,946.00 |
| | | | | 4123-101-000 | Engineering-Review | | 3,798.00 |
| | | | | 4129-101-000 | Project Feasability-General | | 154.00 |
| | | | | 4129-101-000 | Project Feasability-General | | 2,740.50 |
| | | | | 4129-101-000 | Project Feasability-General | | 882.00 |
| | | | | 4129-101-000 | Project Feasability-General | | 2,127.50 |
| | | | | 4129-101-000 | Project Feasability-General | | 490.00 |
| | | | | 4129-101-000 | Project Feasability-General | | 490.00 |
| | | | | 4129-101-000 | Project Feasability-General | | 6,042.73 |
| | | | | 4129-101-000 | Project Feasability-General | | 706.50 |
| | | | | 4520-101-000 | Water QM-Engineering | | 2,053.00 |
| | | | | 4520-101-000 | Water QM-Engineering | | 365.00 |
| | | | | 4520-101-000 | Water QM-Engineering | | 5,815.38 |
| | | | | 4520-101-000 | Water QM-Engineering | | 4,627.03 |
| | | | | 4520-101-000 | Water QM-Engineering | | 251.50 |
| | | | | 4520-101-000 | Water QM-Engineering | | 3,124.88 |
| | | | | 4124-101-000 | Engineering-Permit Review | | 3,083.50 |
| | | | | 4661-101-000 | SLMP/TMDL Studies | | 114.00 |
| | | | | 4661-101-000 | SLMP/TMDL Studies | | 3,472.50 |
| | | | | 4661-101-000 | SLMP/TMDL Studies | | 467.00 |
| | | | | 4661-101-000 | SLMP/TMDL Studies | | 227.50 |
| | | | | 4661-101-000 | SLMP/TMDL Studies | | 1,585.50 |
| | | | | 4695-101-000 | Research Projects-General | | 262.50 |
| | | | | 4695-101-000 | Research Projects-General | | 1,120.00 |
| | | | | 4695-101-000 | Research Projects-General | | 2,000.00 |
| | | | | 4650-101-000 | Project Operations-General | | 196.00 |
| | | | | 4128-518-000 | Engineering-School/Commer Retrofit | | 39,890.35 |
| | | | | 4128-518-000 | Engineering-School/Commer Retrofit | | 210.00 |
| | | | | 4128-518-000 | Engineering-School/Commer Retrofit | | 2,702.00 |
| | | | | 4128-553-000 | Engineering-Wakefield | | 2,028.50 |
| | | | | 4128-518-000 | Engineering-School/Commer Retrofit | | 275.00 |
| | | | | 4128-518-000 | Engineering-School/Commer Retrofit | | 1,912.50 |
| | | | | 4128-518-000 | Engineering-School/Commer Retrofit | | 1,312.50 |

Ramsey Washington Metro Watershed Dist.
Cash Disbursements Journal
For the Period From Apr 1, 2020 - Apr 30, 2020

| Date | Check # | Vendor ID | Name | Account ID | Account Description | Amount | Check Detail |
|----------|---------|-----------|--|--------------|-----------------------------------|-----------|--------------|
| | | | | 4682-529-000 | Stewardship Grant Fund | | 3,128.00 |
| | | | | 4128-520-000 | Engineering-Flood Damage | | 5,731.20 |
| | | | | 4128-520-000 | Engineering-Flood Damage | | 6,978.50 |
| | | | | 4128-520-000 | Engineering-Flood Damage | | 14,079.00 |
| | | | | 4128-516-000 | Engineering-Maint. & Repair | | 2,019.00 |
| | | | | 4128-516-000 | Engineering-Maint. & Repair | | 4,973.35 |
| | | | | 4128-516-000 | Engineering-Maint. & Repair | | 11,895.90 |
| 04/29/20 | 71447 | bar004 | Deborah Barnes | | | 45.33 | |
| | | | | 4040-101-000 | Employee Benefits-General | | 40.00 |
| | | | | 4020-101-000 | Employee Expenses-General | | 5.33 |
| 04/29/20 | 71448 | bar010 | Geri Barber | 4372-101-000 | Events | 100.00 | |
| 04/29/20 | 71449 | ben002 | Benefit Extras, Inc. | 4040-101-000 | Employee Benefits-General | 90.00 | |
| 04/29/20 | 71450 | bfg001 | BFG Supply Co., LLC | 4370-101-000 | Educational Program-General | 20.80 | |
| 04/29/20 | 71451 | bro001 | Brock White Company, LLC | 4670-101-000 | Natural Resources Project-General | 478.38 | |
| 04/29/20 | 71452 | cad001 | Allstream | 4530-101-000 | Water QM Staff-General | 65.01 | |
| 04/29/20 | 71453 | car007 | Carp Solutions, LLC | 4670-101-000 | Natural Resources Project-General | 1,625.00 | |
| 04/29/20 | 71454 | cit001 | City of Little Canada | 4342-101-000 | Utilities/Bldg. Contracts | 110.72 | |
| 04/29/20 | 71455 | cit011 | City of Roseville | 4325-101-000 | IT/Website/Software | 4,163.00 | |
| 04/29/20 | 71456 | com004 | Comcast | 4342-101-000 | Utilities/Bldg. Contracts | 144.52 | |
| 04/29/20 | 71457 | don001 | Matthew Doneux | | | 467.18 | |
| | | | | 4040-101-000 | Employee Benefits-General | | 122.61 |
| | | | | 4020-101-000 | Employee Expenses-General | | 277.15 |
| | | | | 4670-101-000 | Natural Resources Project-General | | 67.42 |
| 04/29/20 | 71458 | fit001 | Environmental Systems Research Institute | 4170-101-000 | GIS System Maint. & Equipment | 707.00 | |
| 04/29/20 | 71459 | fit002 | Mary Fitzgerald | | | 169.66 | |
| | | | | 4040-101-000 | Employee Benefits-General | | 40.00 |
| | | | | 4020-101-000 | Employee Expenses-General | | 129.66 |
| 04/29/20 | 71460 | gal001 | Galowitz Olson, PLLC | | | 6,328.00 | |
| | | | | 4131-101-000 | Attorney-General | | 3,553.00 |
| | | | | 4131-520-000 | Attorney-Flood Damage | | 2,775.00 |
| 04/29/20 | 71461 | gil001 | Gilbert Mechanical Contractors, Inc. | 4342-101-000 | Utilities/Bldg. Contracts | 142.12 | |
| 04/29/20 | 71462 | gla001 | Glacial Ridge Drilling, Inc. | 4682-529-000 | Stewardship Grant Fund | 1,110.00 | |
| 04/29/20 | 71463 | hej001 | Hejny Rental | 4670-101-000 | Natural Resources Project-General | 266.06 | |
| 04/29/20 | 71464 | inn001 | Innovative Office Solutions, LLC | | | 175.39 | |
| | | | | 4320-101-000 | Office Supplies-General | | 162.25 |
| | | | | 4370-101-000 | Educational Program-General | | 13.14 |
| 04/29/20 | 71465 | int001 | Office of MN, IT Services | 4310-101-000 | Telephone-General | 57.48 | |
| 04/29/20 | 71466 | kha001 | Hussein Khatib | 4372-101-000 | Events | 100.00 | |
| 04/29/20 | 71467 | kub001 | Kyle W. Kubitz | 4020-101-000 | Employee Expenses-General | 337.53 | |
| 04/29/20 | 71468 | lea002 | League of Minnesota Cities | 4480-101-000 | Insurance-General | 33,918.00 | |
| 04/29/20 | 71469 | mau001 | Ashly Maus | 4020-101-000 | Employee Expenses-General | 154.10 | |
| 04/29/20 | 71470 | mbe001 | MB Consulting | 4372-101-000 | Events | 5,043.47 | |
| 04/29/20 | 71471 | mel001 | Michelle L. Melser | | | 377.44 | |
| | | | | 4342-101-000 | Utilities/Bldg. Contracts | | 325.00 |
| | | | | 4020-101-000 | Employee Expenses-General | | 52.44 |
| 04/29/20 | 71472 | min008 | Minnesota Native Landscapes, Inc. | 4630-516-000 | Construction Imp.-Maint. & Repair | 564.50 | |
| 04/29/20 | 71473 | nar001 | Nardini Fire Equipment | 4342-101-000 | Utilities/Bldg. Contracts | 409.40 | |
| 04/29/20 | 71474 | nep001 | NCPERS Group Life Ins. | 2015-101-000 | Employee Health-General | 16.00 | |
| 04/29/20 | 71475 | nsp001 | Xcel Energy | | | 483.37 | |
| | | | | 4650-520-000 | Project Operations-Flood | | 116.59 |
| | | | | 4650-101-000 | Project Operations-General | | 203.53 |
| | | | | 4342-101-000 | Utilities/Bldg. Contracts | | 150.18 |

Ramsey Washington Metro Watershed Dist.
Cash Disbursements Journal
For the Period From Apr 1, 2020 - Apr 30, 2020

| Date | Check # | Vendor ID | Name | Account ID | Account Description | Amount | Check Detail |
|--------------------------------|---------|-----------|--|--------------|-----------------------------------|---------------------|--------------|
| | | | | 4650-101-000 | Project Operations-General | | 13.07 |
| 04/29/20 | 71476 | out001 | Outdoor Lab Landscape Design, Inc. | 4630-516-000 | Construction Imp.-Maint. & Repair | 9,940.00 | |
| 04/29/20 | 71477 | pho001 | Aloun Phoulavan | 4682-529-000 | Stewardship Grant Fund | 187.39 | |
| 04/29/20 | 71478 | pre003 | Premium Waters, Inc. | 4342-101-000 | Utilities/Bldg. Contracts | 24.00 | |
| 04/29/20 | 71479 | qwe001 | CenturyLink | 4650-101-000 | Project Operations-General | 464.28 | |
| 04/29/20 | 71480 | ram002 | Ramsey County | 4682-529-000 | Stewardship Grant Fund | 11,808.00 | |
| 04/29/20 | 71481 | red002 | Redpath & Company, Ltd. | 4110-101-000 | Auditor/Accounting | 2,236.59 | |
| 04/29/20 | 71482 | reg002 | Regents of the University of Minnesota | 4695-101-000 | Research Projects-General | 9,428.00 | |
| 04/29/20 | 71483 | sch009 | Schlmoka Services, LLC | 4650-101-000 | Project Operations-General | 3,580.00 | |
| 04/29/20 | 71484 | sim001 | Emily Simmons | 4020-101-000 | Employee Expenses-General | 186.88 | |
| 04/29/20 | 71485 | sod001 | Nicole Soderholm | | | 53.23 | |
| | | | | 4040-101-000 | Employee Benefits-General | | 40.00 |
| | | | | 4020-101-000 | Employee Expenses-General | | 13.23 |
| 04/29/20 | 71486 | stu001 | Studio Lola | 4372-101-000 | Events | 276.25 | |
| 04/29/20 | 71487 | tes001 | The Tessman Company | | | 92.44 | |
| | | | | 4630-516-000 | Construction Imp.-Maint. & Repair | | 46.22 |
| | | | | 4670-101-000 | Natural Resources Project-General | | 46.22 |
| 04/29/20 | 71488 | thr004 | 3M Company | 2024-101-000 | Dev.Escrow-General | 56,500.00 | |
| 04/29/20 | 71489 | thr004 | 3M Company | 2024-101-000 | Dev.Escrow-General | 31,500.00 | |
| 04/29/20 | 71490 | thr004 | 3M Company | 2024-101-000 | Dev.Escrow-General | 16,000.00 | |
| 04/29/20 | 71491 | thr004 | 3M Company | 2024-101-000 | Dev.Escrow-General | 36,000.00 | |
| 04/29/20 | 71492 | tim002 | Timesaver Off-Site Secretarial, Inc. | 4365-101-000 | Committee/Board Meeting Expense | 219.00 | |
| 04/29/20 | 71493 | tro002 | Cathy Troendle | 4370-101-000 | Educational Program-General | 37.50 | |
| 04/29/20 | 71494 | usb002 | U.S. Bancorp | | | 4,476.63 | |
| | | | | 4670-101-000 | Natural Resources Project-General | | 151.98 |
| | | | | 4343-101-000 | Bldg./Site Maintenance | | 36.81 |
| | | | | 4320-101-000 | Office Supplies-General | | 28.90 |
| | | | | 4325-101-000 | IT/Website/Software | | 89.75 |
| | | | | 4343-101-000 | Bldg./Site Maintenance | | 108.32 |
| | | | | 4320-101-000 | Office Supplies-General | | 34.26 |
| | | | | 4697-101-000 | Health & Safety Program | | 48.75 |
| | | | | 4320-101-000 | Office Supplies-General | | 39.57 |
| | | | | 4320-101-000 | Office Supplies-General | | 18.24 |
| | | | | 4530-101-000 | Water QM Staff-General | | 99.99 |
| | | | | 4703-101-000 | Office Equipment | | 479.10 |
| | | | | 4325-101-000 | IT/Website/Software | | 160.96 |
| | | | | 4670-101-000 | Natural Resources Project-General | | 1,680.00 |
| | | | | 4682-529-000 | Stewardship Grant Fund | | 1,500.00 |
| 04/29/20 | 71495 | usb005 | US Bank Equipment Finance | 4335-101-000 | Printing-General | 294.00 | |
| 04/29/20 | 71496 | van001 | Vanguard Cleaning Systems of Minnesota | 4343-101-000 | Utilities/Bldg. Contracts | 1,100.00 | |
| 04/29/20 | 71497 | van003 | Erika Van Krevelen | 4020-101-000 | Employee Expenses-General | 139.15 | |
| 04/29/20 | 71498 | voy001 | US Bank Voyager Fleet System | 4830-101-000 | Vehicle Fuel | 73.13 | |
| 04/29/20 | 71499 | was002 | | | | 4,650.00 | |
| | | | | 4683-101-000 | Outside Program Support | | 3,175.00 |
| | | | | 4682-529-000 | Stewardship Grant Fund | | 1,475.00 |
| Accounts Payable Total: | | | | | | \$411,790.83 | |

Ramsey Washington Metro Watershed Dist.
Cash Disbursements Journal
For the Period From Apr 1, 2020 - Apr 30, 2020

| Date | Check # | Vendor ID | Name | Account ID | Account Description | Amount | Check Detail |
|-------------|----------------|------------------|--------------------------|-------------------|----------------------------------|---------------------|---------------------|
| EFT | 03/06/20 | myp001 | Payroll Fees | 4110-101-000 | March 3rd Payroll Fees | 69.05 | |
| EFT | 03/20/20 | myp001 | Payroll Fees | 4110-101-000 | March 20th Payroll Fees | 71.00 | |
| Dir.Dep. | 04/03/20 | --- | Payroll Expense-Net | 4010-101-000 | April 3rd Payroll | 25,402.16 | |
| EFT | 04/03/20 | int002 | Internal Revenue Service | 2001-101-000 | April 3rd Federal Withholding | 8,951.90 | |
| EFT | 04/03/20 | mnd001 | MN Revenue | 2003-101-000 | April 3rd State Withholding | 1,637.56 | |
| EFT | 04/03/20 | per001 | PERA | 2011-101-000 | April 3rd PERA | 5,699.22 | |
| EFT | 04/03/20 | emp002 | Empower Retirement | 2016-101-000 | Employee Def.Comp. Contributions | 3,029.00 | |
| EFT | 04/03/20 | emp002 | Empower Retirement | 2018-101-000 | Employee IRA Contributions | 425.00 | |
| Dir.Dep. | 04/17/20 | --- | Payroll Expense-Net | 4010-101-000 | April 17th Payroll | 25,080.94 | |
| EFT | 04/17/20 | int002 | Internal Revenue Service | 2001-101-000 | April 17th Federal Withholding | 8,871.41 | |
| EFT | 04/17/20 | mnd001 | MN Revenue | 2003-101-000 | April 17th State Withholding | 1,628.04 | |
| EFT | 04/17/20 | per001 | PERA | 2011-101-000 | April 17th PERA | 5,642.32 | |
| EFT | 04/17/20 | emp002 | Empower Retirement | 2016-101-000 | Employee Def.Comp. Contributions | 3,029.00 | |
| EFT | 04/17/20 | emp002 | Empower Retirement | 2018-101-000 | Employee IRA Contributions | 425.00 | |
| | | | | | | \$89,961.60 | |
| | | | Payroll/Benefits | | | \$501,752.43 | |
| | | | TOTAL: | | | \$501,752.43 | |



**Summary of Professional Engineering Services During the Period
March 14, 2020 through April 17, 2020**

| | Total Engineering Budget (2020) | Total Fees to Date (2020) | Budget Balance (2020) | Fees During Period | District Accounting Code | Plan Implementation Task Number |
|--|---------------------------------|---------------------------|-----------------------|--------------------|--------------------------|--|
| Engineering Administration | | | | | | |
| General Engineering Administration | \$76,000.00 | \$25,212.90 | \$50,787.10 | \$6,946.00 | 4121-101 | DW-13 |
| RWMWD Health and Safety/ERTK Program | \$2,000.00 | \$0.00 | \$2,000.00 | | 4697-101 | DW-13 |
| Educational Program/Educational Forum Assistance | \$20,000.00 | \$1,109.50 | \$18,890.50 | | 4129-101 | DW-11 |
| Engineering Review | | | | | | |
| Engineering Review | \$55,000.00 | \$11,155.00 | \$43,845.00 | \$3,798.00 | 4123-101 | DW-13 |
| Project Feasibility Studies | | | | | | |
| Interim emergency response plan funds for top priority District flooding areas | \$45,000.00 | \$154.00 | \$44,846.00 | \$154.00 | 4129-101 | DW-19 |
| Beltline Resiliency and Phalen Chain Water Level Management Study | \$217,000.00 | \$169,047.50 | \$47,952.50 | \$2,740.50 | 4129-101 | BELT-3 |
| FEMA Flood Mapping Update | \$109,720.00 | \$49,223.50 | \$60,496.50 | \$882.00 | 4129-101 | DW-9 |
| Modeling of 500-year event Atlas 14 District-wide (Climate Change Scenario) and Generation of Flood Maps for Future Outreach Efforts | \$70,000.00 | \$47,182.00 | \$22,818.00 | | 4129-101 | DW-9 |
| Hillcrest Golf Course (multi-use) | \$25,000.00 | \$5,966.00 | \$19,034.00 | | 4129-101 | DW-6 |
| Gold BRT planning | \$20,000.00 | \$0.00 | \$20,000.00 | | 4129-101 | DW-6 |
| Owasso Basin by-pass pipeline feasibility study/prelim design (Atlas 14 #1 priority area) | \$125,000.00 | \$3,860.50 | \$121,139.50 | \$2,127.50 | 4129-101 | GC-3, BELT-3 |
| Wetland Creek flood damage reduction feasibility study (Atlas 14 #2 priority flooding area) | \$50,000.00 | \$1,117.00 | \$48,883.00 | \$490.00 | 4129-101 | DW-9, BELT-3 |
| Ames Lake area flood damage reduction feasibility study (Atlas 14 #3 priority area) | \$50,000.00 | \$1,117.00 | \$48,883.00 | \$490.00 | 4129-101 | DW-9, BELT-3 |
| West Vadnais Lake to South of I-694 Conveyance Feasibility Study | \$35,000.00 | \$7,516.73 | \$27,483.27 | \$6,042.73 | 4129-101 | DW-9, BELT-3 |
| Battle Creek PFAS (monitoring, source ID, meetings, communications) | \$25,000.00 | \$1,062.50 | \$23,937.50 | | 4129-101 | DW-10 |
| 694/494/94 WQ treatment feasibility study | \$30,000.00 | \$0.00 | \$30,000.00 | | 4129-101 | BCL-3 |
| Subwatershed feasibility studies for At-Risk creeks (Fish Creek and Gervais Creek) | \$40,000.00 | \$938.50 | \$39,061.50 | \$706.50 | 4129-101 | DW-1, DW-2 |
| Battle Creek Lower Ravine Restoration Feasibility Study | \$25,000.00 | \$0.00 | \$25,000.00 | | 4129-101 | BC-3 |
| Wetland Restoration Site Search | \$25,000.00 | \$29,059.60 | -\$4,059.60 | | 4129-101 | DW-8 |
| Contingency* | \$25,000.00 | \$0.00 | \$25,000.00 | | 4129-101 | |
| GIS Maintenance | | | | | | |
| GIS Maintenance | \$5,000.00 | \$0.00 | \$5,000.00 | | 4170-101 | DW-13 |
| Monitoring Water Quality/Project Monitoring | | | | | | |
| Lake Water Quality Monitoring (Misc QA/QC) | \$10,000.00 | \$0.00 | \$10,000.00 | | 4520-101 | DW-2 |
| Special Project BMP Monitoring and annual report development | \$25,000.00 | \$2,585.50 | \$22,414.50 | \$2,053.00 | 4520-101 | DW-12 |
| Auto lake monitoring system for Grass Lake | \$20,000.00 | \$20,281.61 | -\$281.61 | \$365.00 | 4520-101 | DW-18 |
| Auto lake monitoring system for Owasso Lake | \$20,000.00 | \$16,016.98 | \$3,983.02 | \$5,815.38 | 4520-101 | DW-18 |
| Auto lake monitoring system for Phalen Lake | \$20,000.00 | \$13,717.53 | \$6,282.47 | \$4,627.03 | 4520-101 | DW-18 |
| Auto lake monitoring system for Snail Lake | \$20,000.00 | \$19,003.49 | \$996.51 | \$251.50 | 4520-101 | DW-18 |
| Auto lake monitoring system for Wabasso Lake | \$20,000.00 | \$17,658.40 | \$2,341.60 | \$3,124.88 | 4520-101 | DW-18 |
| Permit Processing, Inspection and Enforcement | | | | | | |
| Permit Application Inspection and Enforcement | \$10,000.00 | \$0.00 | \$10,000.00 | | 4122-101 | DW-7 |
| Permit Application Review | \$55,000.00 | \$18,980.00 | \$36,020.00 | \$3,083.50 | 4124-101 | DW-7 |
| Lake Studies/WRPPs/TMDL Reports | | | | | | |
| 2020 Grant Applications | \$20,000.00 | \$133.00 | \$19,867.00 | | 4661-101 | DW-13 |
| Tanners Flood Response Tool Model Update | \$3,000.00 | \$378.00 | \$2,622.00 | \$114.00 | 4661-101 | TaL-1 |
| Internal load management - Sediment cores and macrophyte surveys for Wakefield, Bennett, Kohlman Lake, Round Lake (LC), Beaver Lake, Battle Creek Lake, Lake Owasso, Lake Emily, Twin Lake | \$50,000.00 | \$3,472.50 | \$46,527.50 | \$3,472.50 | 4661-101 | KL-2, GC-2, WL-3, BL-3, BCL-2, LE-4, Bel-3, LO-5, LE-4 |
| Wakefield Lake internal load modeling (sediment and curlyleaf) | \$30,000.00 | \$467.00 | \$29,533.00 | \$467.00 | 4661-101 | WL-3, WL-4 |
| WMP Updates - Including Implementation Plan Updates | \$10,000.00 | \$1,247.50 | \$8,752.50 | \$227.50 | 4661-101 | DW-13 |
| Prioritization of water quality projects from subwatershed feasibility studies | \$15,000.00 | \$1,614.00 | \$13,386.00 | \$1,585.50 | 4661-101 | DW-13 |
| Contingency for Lake Studies | \$25,000.00 | \$0.00 | \$25,000.00 | | 4661-101 | |
| Research Projects | | | | | | |
| New Technology Mini Case Studies (average 6 per year) | \$12,000.00 | \$262.50 | \$11,737.50 | \$262.50 | 4695-101 | DW-12 |
| Kohlman Permeable Weir Test System - Implement Monitoring Plan | \$15,000.00 | \$1,120.00 | \$13,880.00 | \$1,120.00 | 4695-101 | DW-12 |
| Phalen Chain of Lakes Changes in Water Quality | \$5,000.00 | \$2,000.00 | \$3,000.00 | \$2,000.00 | 4695-101 | DW-12 |
| Project Operations | | | | | | |
| 2020 Tanners Alum Facility Monitoring | \$15,000.00 | \$294.00 | \$14,706.00 | \$196.00 | 4650-101 | TaL-3 |
| Beltline Outlet and Keller Channel Operations Plans | \$30,000.00 | \$0.00 | \$30,000.00 | | 4650-101 | DW-9, BELT-3 |
| Capital Improvements | | | | | | |
| Target and Motel 6 | \$289,400.00 | \$196,203.33 | \$93,196.67 | \$39,890.35 | 4128-518 | DW-6 |
| Owasso County Park Stormwater Master Plan and Detailed Design: Phase 1 and Phase 2 | \$20,000.00 | \$210.00 | \$19,790.00 | \$210.00 | 4128-518 | DW-6 |
| Aldrich Arena (soils and plantings) | \$25,000.00 | \$3,156.00 | \$21,844.00 | \$2,702.00 | 4128-518 | DW-6, WL-1 |
| Wakefield Park/Frost Avenue Stormwater Project | \$17,500.00 | \$2,358.50 | \$15,141.50 | \$2,028.50 | 4128-553 | DW-6, WL-1 |
| Commercial Sites Retrofit Projects 2020 (Targeted Retrofits) - Target/Motel 6/Boys club | \$45,000.00 | \$7,249.50 | \$37,750.50 | \$275.00 | 4128-518 | DW-6 |
| School Sites Retrofit Projects 2020 (Targeted Retrofits) | \$45,000.00 | \$4,182.50 | \$40,817.50 | \$1,912.50 | 4128-518 | DW-6 |
| Church Sites Retrofit Projects 2020 (Targeted Retrofit) | \$45,000.00 | \$4,743.50 | \$40,256.50 | \$1,312.50 | 4128-518 | DW-6 |
| BMP Incentive Fund: Gen'l BMP Design Assistance and Review (cases where Dist is approached by landowner, or landowner is not commercial, school, church). | \$75,000.00 | \$15,013.60 | \$59,986.40 | \$3,128.00 | 4682-529 | DW-6 |
| Lowering West Vadnais Lake Outlet | \$50,000.00 | \$39,779.45 | \$10,220.55 | \$5,731.20 | 4128-520 | DW-9 |
| Wetland Restoration (Cottage Place or other) | \$100,000.00 | \$0.00 | \$100,000.00 | | 4128-529 | DW-1, DW-8 |
| Keller Channel Weir & Phalen Outlet Resiliency Modifications | \$250,000.00 | \$6,978.50 | \$243,021.50 | \$6,978.50 | 4128-520 | DW-9, BELT-3 |
| Twin Lake Outlet Easement Acquisition, Permitting, Construction Plans | \$65,000.00 | \$47,706.93 | \$17,293.07 | \$14,079.00 | 4128-520 | DW-9 |
| West Vadnais Lake Emergency Overflow - Twin Lake By-Pass (permanent structures) | \$30,000.00 | \$0.00 | \$30,000.00 | | 4128-520 | DW-9 |
| CIP Project Repair & Maintenance | | | | | | |
| Routine CIP Inspection and Unplanned Maintenance Identification | \$75,000.00 | \$4,240.00 | \$70,760.00 | \$2,019.00 | 4128-516 | DW-5 |
| Beltline 5-year Inspection | \$100,000.00 | \$40,059.80 | \$59,940.20 | \$4,973.35 | 4128-516 | BELT-2 |
| 2020 CIP Maintenance and Repairs | \$150,000.00 | \$52,649.73 | \$97,350.27 | \$11,895.90 | 4128-516 | DW-5 |
| 2021 CIP Maintenance and Repairs (planning, bidding, and project setup) | \$30,000.00 | \$0.00 | \$30,000.00 | | 4128-516 | DW-5 |

TOTAL PAYABLE FOR PERIOD 3/14/20 - 4/17/20

\$150,278.32

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

Bradley J. Lindaman, Vice President

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

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

Page: 1
April 22, 2020
File No: 9M

| | Balance |
|-----------------------|-------------------|
| General Account | \$3,553.00 |
| Twin Lakes BP Project | \$2,775.00 |
| | <u>\$6,328.00</u> |

Consent Agenda Action Item

Board Meeting Date: May 6, 2020

Agenda Item No: 3C

Preparer: Tina Carstens, Administrator

Item Description: Review and Accept the 2019 District Annual Financial Audit

Background:

The District is required by law to complete and file an annual audit of the District's financial records. A final audit report is enclosed for your review. The auditor has also prepared an audit management letter that serves as an easier way to understand a summary of the audit. The audit was sent to the State Auditor as well as the Board of Water and Soil Resources.

The audit gives the District a clean opinion. There were no changes to our financial management recommended.

Applicable District Goal and Action Item:

Goal: Manage organization effectively – Operate in a manner that achieves the District's mission while adhering to its core principles.

Action Item: Maintain financial solvency and accountability.

Staff Recommendation:

Accept the 2019 Annual Audit Report.

Financial Implications:

None.

Board Action Requested:

Accept the 2019 Annual Audit Report by motion of the Board.



April 7, 2020

Ms. Tina Carstens, Administrator
Ramsey-Washington Metro Watershed District
2665 Noel Drive
Little Canada, MN 55117

Dear Tina:

Enclosed is an electronic copy of the Annual Financial Report and the Audit Management Letter for the Ramsey-Washington Metro Watershed District for the year ended December 31, 2019. The State of Minnesota Legal Compliance Report and the Internal Control Letter are included in the Annual Financial Report.

Additional copies have been sent to the State Auditor's Office and to the Board of Water and Soil Resources (via email) to fulfill the reporting requirements of the District. Electronic versions of each report have also been sent to you via email.

Electronic versions of each workpaper we prepared or assisted preparing, as listed below, were emailed to you on April 6, 2020:

- Government-wide workpaper and GASB 34 entries
- Grouping reports, closing journal entries and reclassifying journal entries
- Accrued interest calculation
- Net position lead and fund balance classifications
- GASB 40 Investment footnote

In addition, we provided the GASB 68 (pension) workpapers to you during the meeting on March 5, 2020.

Thank you for the opportunity to be of service. If you or the Board would like to discuss any topics in the Management Letter or the Annual Financial Report, we are available at your convenience.

Sincerely,

REDPATH AND COMPANY, LTD.

A handwritten signature in black ink that reads "Andy Hering".

Andy Hering, CPA

AH/bab

**RAMSEY-WASHINGTON METRO
WATERSHED DISTRICT**

AUDIT MANAGEMENT LETTER

December 31, 2019

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To the Honorable Managers of the
Ramsey-Washington Metro Watershed District
Little Canada, Minnesota

We have completed our audit of the Ramsey-Washington Metro Watershed District (the District) for the year ended December 31, 2019, and have issued our report thereon. In conjunction with that audit, we present this management letter on matters relating to the financial operations of the District. We offer this report as an additional analytical perspective for the Board of Managers in monitoring the financial position and operations of the accounts and funds of the District. This report also contains required communications to those charged with governance.

Several reports are issued in conjunction with the audit. A summary is as follows:

- Opinion on Financial Statements – Unmodified (clean) opinion
- Report on Internal Control – No internal control findings
- Minnesota Legal Compliance Report – No compliance findings

Thank you for the opportunity to serve the District. We are available to discuss this report with you.

Redpath and Company, Ltd.

REDPATH AND COMPANY, LTD.

St. Paul, Minnesota

April 7, 2020

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Ramsey-Washington Metro Watershed District

Audit Management Letter

Cash and Investments

Cash and investment balances at December 31, 2019 and 2018 were as follows:

| Fund | December 31, | | Increase (Decrease) |
|-------------------------------|---------------------|---------------------|------------------------|
| | 2019 | 2018 | |
| General | \$5,838,073 | \$5,257,503 | \$580,570 |
| Debt Service Funds: | | | |
| General Obligation Bonds | 976,693 | 107,825 | 868,868 |
| Certificates of Participation | 123,186 | 123,186 | - |
| Capital Project Funds: | | | |
| Capital Projects CIB | 7,631,880 | 8,225,040 | (593,160) |
| Total | <u>\$14,569,832</u> | <u>\$13,713,554</u> | <u>\$856,278</u> |

Investment income totaled \$268,427 for the year ended December 31, 2019 as compared to \$201,240 for the year ended December 31, 2018.

Taxes Receivable

Taxes receivable at December 31, 2019 and 2018 consisted of the following:

| | December 31, | | Increase (Decrease) |
|-----------------|------------------|------------------|------------------------|
| | 2019 | 2018 | |
| Delinquent | \$120,160 | \$84,232 | \$35,928 |
| Due from County | 84,880 | 94,550 | (9,670) |
| Total | <u>\$205,040</u> | <u>\$178,782</u> | <u>\$26,258</u> |

Ramsey-Washington Metro Watershed District

Audit Management Letter

Delinquent taxes receivable at December 31, 2019 represent the balance of unpaid property taxes levied for collection in 2010 through 2019. The uncollected portion of property taxes has been classified as unavailable revenue and is not part of the fund balance at the end of the current fiscal year. Accounting standards related to revenue recognition for governments require revenue to be both measurable and available.

Due from County consists of current and delinquent taxes collected by the County but not remitted to the District as of December 31, 2019. These amounts were remitted to the District in January 2020.

The District's overall property tax collection rate was 98.5% for the year ended December 31, 2019. The following table details the District's 2019 levy and collections:

| | Ramsey & Washington Counties |
|--|------------------------------------|
| Total levy (pay 2019) | <u>\$6,763,498</u> |
| <u>2019 collections:</u> | |
| July 2019 collections | \$3,554,260 |
| December 2019 collections | 3,026,366 |
| January 2020 collections | <u>83,870</u> |
| Total collections - 2019 | <u>\$6,664,496</u> |
| Collection percentage - current and delinquent | <u>98.5%</u> |

Ramsey-Washington Metro Watershed District

Audit Management Letter

Fund Balances

Fund balances represent net current assets of each fund (i.e., cash plus receivables minus liabilities).

The District's funds are all governmental type funds. Governmental type funds are accounted for using the current financial resources measurement focus. With this measurement focus, only current assets and current liabilities generally are included on the balance sheet.

The fund balances of the District were as follows at December 31, 2019 and 2018:

| Fund | December 31, | | Increase (Decrease) |
|-------------------------------|---------------------|---------------------|------------------------|
| | 2019 | 2018 | |
| General | \$4,633,167 | \$4,464,553 | \$168,614 |
| Debt Service Funds: | | | |
| General Obligation Bonds | 1,252,348 | 381,949 | 870,399 |
| Certificates of Participation | 130,460 | 131,513 | (1,053) |
| Capital Project Funds: | | | |
| Capital Projects CIB | <u>7,029,812</u> | <u>8,324,531</u> | <u>(1,294,719)</u> |
| Total | <u>\$13,045,787</u> | <u>\$13,302,546</u> | <u>(\$256,759)</u> |

During 2019, the District transferred \$863,674 from the Capital Projects CIB fund to the General Obligation Bonds fund. This amount represents unspent bond proceeds and other funds restricted for the Beltline and Battle Creek Tunnel Repair project which was completed in 2018.

Ramsey-Washington Metro Watershed District

Audit Management Letter

General Fund

The fund balance of the General Fund increased by \$168,614 during the year. Statement 6 of the Annual Financial Report details the General Fund budget versus actual operating results. A summary is presented below:

| | | |
|---|------------|------------------|
| Budgeted change in fund balance | | (\$1,400,000) |
| Actual revenue over (under) budgeted revenue: | | |
| Property taxes | (\$33,256) | |
| Intergovernmental | (23,140) | |
| Investment income | 87,747 | |
| Permit escrow fees | 180 | |
| Stormwater impact payment | 344,782 | |
| Refunds, reimbursements and other | 47,695 | |
| | | <u>424,008</u> |
| Actual expenditures (over) under budget: | | |
| Engineering | 50,284 | |
| Salaries/payroll taxes/benefits | 30,374 | |
| Watershed programs | 567,286 | |
| All other - net | 496,662 | |
| | | <u>1,144,606</u> |
| Net change in fund balance | | <u>\$168,614</u> |

The significant expenditure budget variance for watershed programs is primarily the result of the project feasibility studies and lake studies/WRAPS/TMDL's. The significant expenditure budget variance for all other – net is primarily the result of office equipment and maintenance, water quality monitoring, and project operations expenditures being significantly under budget.

Ramsey-Washington Metro Watershed District

Audit Management Letter

Intergovernmental Revenue

Intergovernmental grants and aids, and cost sharing agreement revenue (in all funds) in 2019 includes the following:

| | |
|--------------------------------------|-----------------|
| MN DNR Flood Hazard Mitigation grant | \$48,723 |
| MN PCA Markham Pond grant | 4,791 |
| Met Council WOMP grants | 5,835 |
| Other | 2,302 |
| | <hr/> |
| Total intergovernmental revenue | <u>\$61,651</u> |

Stormwater Impact Payments

Stormwater impact payment revenue totaled \$344,782 for the year ended December 31, 2019 as compared to \$38,660 for the year ended December 31, 2018. The majority of the increase is due to a \$231,300 alternative compliance payment received from the City of Woodbury related to its Upper Afton Road project.

Pension Liability

In 2015, the District implemented GASB Statement No. 68, which required the reporting of the District's proportionate share of the PERA Net Pension Liability (NPL). During 2019, the District's share of PERA's NPL increased by \$3,139 to \$707,683. During 2019, the District paid its required contribution of \$68,723 to the Plan. The required contribution is a percentage of eligible wages.

103.B Levy Authority

Beginning with the 1998 tax levy, the District levied under Minnesota Statutes 103B.241 authority. As such, the District's General Fund is not limited by the \$250,000 tax levy authorized in Minnesota Statutes 103.D. The District no longer employs the Special Revenue Funds to account for maintenance and projects and instead levies for all non-CIB Fund projects out of the General Fund. Minnesota Statutes Section 103B.241 Subd.1 reads in part as follows:

103B.241 LEVIES

Subdivision 1. Watershed plans and projects. Notwithstanding chapter 103D, a local government unit or watershed management organization may levy a tax to pay the increased costs of preparing a plan under sections 103B.231 and 103B.235 or for projects identified in an approved and adopted plan necessary to implement the purposes of section 103B.201. The proceeds of any tax levied under this section shall be deposited in a separate fund and expended only for the purposes authorized by this section. Watershed management organizations and local government units may accumulate the proceeds of levies as an alternative to issuing bonds to finance improvements.

In 1998, the District closed the Survey and Data Acquisition, Water Management Planning and Water Maintenance and Repair Special Revenue Funds and accounts for all non-CIB projects in the General Fund budget process.

Ramsey-Washington Metro Watershed District

Audit Management Letter

The fund balance of the General Fund for the past ten years has been as follows:

| <u>Year Ended December 31</u> | <u>Amount</u> | <u>Increase (Decrease)</u> |
|-----------------------------------|---------------|--------------------------------|
| 2010 | \$1,979,029 | \$50,813 |
| 2011 | 2,493,960 | 514,931 |
| 2012 * | 1,363,334 | (1,130,626) |
| 2013 | 1,725,348 | 362,014 |
| 2014 | 2,211,684 | 486,336 |
| 2015 | 2,901,187 | 689,503 |
| 2016 | 3,420,562 | 519,375 |
| 2017 | 4,329,905 | 909,343 |
| 2018 | 4,464,553 | 134,648 |
| 2019 | 4,633,167 | 168,614 |

* Restated for prior period adjustment

In 1998, the District began levying for and expending all non-CIB Fund projects out of the General Fund. The District now sets the General Fund tax levy and budgeted expenditures at a level consistent with the District's reserve balance policy. In 2019, the District's final budget reflected a decrease of \$1,400,000 in General Fund reserves. Actual reserves increased by \$168,614 as detailed previously.

The District budget includes a higher level of program activity in the General Fund, and as such requires a levy. Schedules and completion of projects is variable and often results in carryover fund balances and unspent levy amounts. These program funds are generally spent in the following budget year if not spent in the current budget year. Excess budget balances are considered in the following year levy/budget process to reduce ensuing year tax levies by spending down available fund balances. Past management reports have discussed the purposes and benefits of maintaining adequate cash flow reserve balances. A summary of these purposes and benefits is as follows:

1. Cash flow reserve. The District receives revenue from property taxes primarily in December and July. The District, however, incurs expenditures throughout the entire twelve month operating period. Timing differences in the receipt of property taxes should be compensated for with adequate operating reserves. The District targets 50% of the ensuing year's expenditure budget as end of year minimum unassigned fund balance. The unassigned balance at December 31, 2019 was \$4,598,342 or 115% of the ensuing year's expenditure budget.
2. Emergency and/or unanticipated expenditures. Operating budgets are estimates only. The District requires a surplus to finance unforeseen events. One method of measuring the amount of this type of surplus is to use a percent of the District's annual operating budget (i.e., 10% to 15% or more, depending upon the budget philosophy of the District).
3. Preliminary project funding. Feasibility studies of potential projects require financing. The District does receive such preliminary funding for certain projects. Other minor projects may be more efficiently funded through available reserves.

Ramsey-Washington Metro Watershed District

Audit Management Letter

CIB Authority

This fund was established to account for the Capital Improvement Budget (CIB) process of the District. A summary of financial activity of this fund from inception is presented in Exhibit 2 of the Annual Financial Report.

Beginning in 1993 with the removal of levy limits and under authorities provided by State Statute Section 103B.241, the District is authorized to levy ad valorem taxes for the purposes of financing the CIB projects. The District has levied the following amounts for the CIB projects over the past ten years:

| <u>Collectible Year</u> | <u>CIB Levy Certified</u> |
|-----------------------------|-------------------------------|
| 2010 | \$1,150,481 |
| 2011 | 859,379 |
| 2012 | 1,584,379 |
| 2013 | 2,268,479 |
| 2014 | 2,945,481 |
| 2015 | 3,513,200 |
| 2016 | 3,839,885 |
| 2017 | 3,205,383 |
| 2018 | 3,859,885 |
| 2019 | 3,754,885 |

These levies have financed the CIB projects detailed in Exhibit 2 of the Annual Financial Report. A summary of the District's ad valorem tax levies is presented in Exhibit 1 of the Annual Financial Report. Additionally, a breakdown of the District's CIB Fund levy by project is presented in Exhibit 2 of the Annual Financial Report.

Long-Term Debt

The District entered into three separate G.O. Bond/loan agreements in 2012 and 2016 that remain outstanding as follows:

- G.O. Bonds of 2012 – Public Facilities Authority (PFA)
- Certificates of Participation, Series 2012B
- G.O. Drainage Bonds of 2016A

The schedule of indebtedness and deferred tax levies associated are presented in Exhibits 3 and 4 of the Annual Financial Report.

The District has a Debt Service Fund to account for activity associated with the \$1,177,217 G.O. Bonds of 2012 and the \$3,860,000 G.O. Drainage Bonds of 2016A. Fund balance increased from \$381,949 at December 31, 2018 to \$1,252,348 at December 31, 2019. As previously mentioned, the primary reason for the increase was due to a transfer of \$863,674 from the Capital Projects CIB fund.

The District established a Debt Service Fund for the \$2,440,000 Certificates of Participation during 2005 (called for early redemption during 2013), which now includes the Refunding Certificates of Participation, 2012B. As of February 1, 2020, these certificates fully matured and the amount held in escrow was returned to the District.

COMMUNICATION WITH THOSE CHARGED WITH GOVERNANCE

We have audited the financial statements of the governmental activities and each major fund of the Ramsey-Washington Metro Watershed District (the District) for the year ended December 31, 2019. Professional standards require that we provide you with information about our responsibilities under generally accepted auditing standards, as well as certain information related to the planned scope and timing of our audit. We have communicated such information in our letter to you dated January 15, 2020. Professional standards also require that we communicate to you the following information related to our audit.

Significant Audit Matters

Qualitative Aspects of Accounting Practices

Management is responsible for the selection and use of appropriate accounting policies. The significant accounting policies used by the District are described in Note 1 to the financial statements. No new accounting policies were adopted and the application of existing policies was not changed during 2019. We noted no transactions entered into by the District during the year for which there is a lack of authoritative guidance or consensus. All significant transactions have been recognized in the financial statements in the proper period.

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected. The most sensitive estimates affecting the Governmental Activities financial statements are management's estimates of the net pension liability, the pension related deferred outflows and inflows of resources and pension expense. Management's estimates relating to the net

pension liability, pension related deferred outflows and inflows of resources and pension expense are based on actuarial studies. We evaluated the key factors and assumptions used to develop these estimates in determining that they are reasonable in relation to the financial statements taken as a whole.

Certain financial statement disclosures are particularly sensitive because of their significance to financial statement users. Determining sensitivity is subjective, however, we believe the disclosures most likely to be considered sensitive are Note 5 – Defined Benefit Pension Plans and Note 14 – Subsequent Events and Uncertainties.

The financial statement disclosures are neutral, consistent and clear.

Difficulties Encountered in Performing the Audit

We encountered no difficulties in dealing with management in performing and completing our audit.

Corrected and Uncorrected Misstatements

Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are clearly trivial, and communicate them to the appropriate level of management. There were no uncorrected misstatements that have an effect on our opinion on the financial statements. There were no corrected misstatements identified during the audit.

Disagreements with Management

For purposes of this letter, a disagreement with management is a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditor's report. We are pleased to report that no such disagreements arose during the course of our audit.

Management Representations

We have requested certain representations from management that are included in the management representation letter dated April 7, 2020.

Management Consultations with Other Independent Accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a "second opinion" on certain situations. If a consultation involves application of an accounting principle to the District's financial statements or a determination of the type of auditor's opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Other Audit Findings or Issues

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as the District's auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

Other Matters

We applied certain limited procedures to the budgetary comparison schedule and pension information which are required supplementary information (RSI) that supplements the basic financial statements. Our procedures consisted of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We did not audit the RSI and do not express an opinion or provide any assurance on the RSI.

We were engaged to report on the individual fund financial statements, which accompany the financial statements but are not RSI. With respect to this supplementary information, we made certain inquiries of management and evaluated the form, content, and methods of preparing the information to determine that the information complies with accounting principles generally accepted in the United States of America, the method of preparing it has not changed from the prior period, and the information is appropriate and complete in relation to our audit of the financial statements. We compared and reconciled the supplementary information to the underlying accounting records used to prepare the financial statements or to the financial statements themselves.

We were not engaged to report on the introductory and other information sections, which accompany the financial statements but are not RSI. Such information has not been subjected to the auditing procedures applied in the audit of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

Other Reports

Various reports on compliance and internal controls are contained in the Other Required Reports section of the audited financial statements document.

Restriction on Use

This information is intended solely for the information and use of management and Ramsey-Washington Metro Watershed District's Board, and is not intended to be, and should not be, used by anyone other than these specified parties.

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**RAMSEY-WASHINGTON METRO
WATERSHED DISTRICT**

ANNUAL FINANCIAL REPORT

December 31, 2019

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RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
TABLE OF CONTENTS

| | <u>Reference</u> | <u>Page No.</u> |
|--|------------------|-----------------|
| INTRODUCTORY SECTION | | |
| Organization | | 3 |
| FINANCIAL SECTION | | |
| Independent Auditor's Report | | 7 |
| Basic Financial Statements: | | |
| Government-Wide Financial Statements: | | |
| Statement of Net Position | Statement 1 | 12 |
| Statement of Activities | Statement 2 | 13 |
| Fund Financial Statements: | | |
| Balance Sheet - Governmental Funds | Statement 3 | 14 |
| Statement of Revenues, Expenditures and Changes in Fund Balance - Governmental Funds | Statement 4 | 15 |
| Reconciliation of the Statement of Revenues, Expenditures and Changes in Fund Balance of Governmental Funds | Statement 5 | 16 |
| Notes to Financial Statements | | 17 |
| Required Supplementary Information: | | |
| Budgetary Comparison Schedule - General Fund | Statement 6 | 40 |
| Schedule of Proportionate Share of Net Pension Liability - General Employees Retirement Fund | Statement 7 | 42 |
| Schedule of Pension Contributions - General Employees Retirement Fund | Statement 8 | 43 |
| Notes to RSI | | 45 |
| Individual Fund Financial Statements: | | |
| General Fund: | | |
| Comparative Balance Sheet | Statement 9 | 48 |
| Comparative Statement of Revenue, Expenditures and Changes in Fund Balance | Statement 10 | 49 |
| OTHER INFORMATION - UNAUDITED | | |
| Taxable Valuations, Tax Levies and Tax Rates | Exhibit 1 | 53 |
| CIB Fund - Schedule of Financial Activity from Inception | Exhibit 2 | 54 |
| Combined Schedule of Indebtedness | Exhibit 3 | 56 |
| Deferred Tax Levies - Per Board Resolutions | Exhibit 4 | 58 |
| OTHER REQUIRED REPORTS | | |
| Report on Internal Control | | 61 |
| Minnesota Legal Compliance Report | | 63 |

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INTRODUCTORY SECTION

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RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

ORGANIZATION

December 31, 2019

| | <u>Term Expires</u> |
|------------------------------------|---------------------|
| Managers: | |
| Marj Ebensteiner - President | February 23, 2021 |
| Clifton Aichinger - Vice President | February 23, 2022 |
| Pamela Skinner - Secretary | February 23, 2021 |
| Dianne Ward - Treasurer | February 23, 2023 |
| Larry Swope - Manager | February 23, 2023 |
| Administrator: | |
| Tina Carstens | Appointed |

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FINANCIAL SECTION

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INDEPENDENT AUDITOR'S REPORT

To the Honorable Managers of the
Ramsey-Washington Metro Watershed District
Little Canada, Minnesota

We have audited the accompanying financial statements of the governmental activities and each major fund of the Ramsey-Washington Metro Watershed District, as of and for the year ended December 31, 2019, and the related notes to the financial statements, which collectively comprise the Ramsey-Washington Metro Watershed District's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the governmental activities and each major fund of the Ramsey-Washington Metro Watershed District, as of December 31, 2019, and the respective changes in financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Report on Summarized Comparative Information

We have previously audited the Ramsey-Washington Metro Watershed District's 2018 financial statements, and we expressed an unmodified audit opinion on the respective financial statements of the governmental activities and each major fund in our report dated April 5, 2019. In our opinion, the summarized comparative information presented herein as of and for the year ended December 31, 2018 is consistent, in all material respects, with the audited financial statements from which it has been derived.

Other Matters

Required Supplementary Information

Management has omitted the management's discussion and analysis that accounting principles generally accepted in the United States of America require to be presented to supplement the basic financial statements. Such missing information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. Our opinion on the basic financial statements is not affected by this missing information.

Accounting principles generally accepted in the United States of America require that the Budgetary Comparison Schedule, the Schedule of Proportionate Share of Net Pension Liability and the Schedule of Pension Contributions, as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Ramsey-Washington Metro Watershed District's basic financial statements. The introductory section, individual fund financial statements, and other information sections are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The individual fund financial statements are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the individual fund financial statements are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

The introductory and other information sections have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

Redpath and Company, Ltd.

REDPATH AND COMPANY, LTD.

St. Paul, Minnesota

April 7, 2020

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BASIC FINANCIAL STATEMENTS

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

STATEMENT OF NET POSITION

Statement 1

December 31, 2019

With Comparative Totals For December 31, 2018

| | Primary Government | |
|--|-------------------------|---------------------|
| | Governmental Activities | |
| | 2019 | 2018 |
| Assets: | | |
| Cash and investments | \$14,446,646 | \$13,590,368 |
| Cash and investments with escrow | 123,186 | 123,186 |
| Due from other governmental units | 219,856 | 291,522 |
| Property taxes receivable: | | |
| Delinquent | 120,160 | 84,232 |
| Due from county | 84,880 | 94,550 |
| Prepaid items | 426,264 | 473,671 |
| Capital assets - net of accumulated depreciation: | | |
| Depreciable | 11,768,454 | 12,160,042 |
| Nondepreciable | 421,581 | 421,581 |
| Total assets | <u>27,611,027</u> | <u>27,239,152</u> |
| Deferred outflows of resources related to pensions | 72,003 | 143,070 |
| Liabilities: | | |
| Accounts payable | 47,475 | 66,058 |
| Salaries payable | 21,209 | 16,147 |
| Due to other governmental units | 689,290 | 31,865 |
| Escrow deposits payable | 1,375,739 | 974,665 |
| Retainage payable | 10,677 | 17,553 |
| Unearned revenue | 43,295 | 63,423 |
| Accrued interest payable | 35,106 | 38,657 |
| Compensated absences payable: | | |
| Due within one year | 96,798 | 81,756 |
| Due in more than one year | 2,765 | 6,912 |
| Unamortized bond premium | 63,566 | 68,827 |
| Bonds payable: | | |
| Due within one year | 436,000 | 499,000 |
| Due in more than one year | 3,794,000 | 4,230,000 |
| Net pension liability: | | |
| Due in more than one year | 707,683 | 704,544 |
| Total liabilities | <u>7,323,603</u> | <u>6,799,407</u> |
| Deferred inflows of resources related to pensions | 126,936 | 186,499 |
| Net position: | | |
| Net investment in capital assets | 11,385,035 | 11,507,623 |
| Restricted for debt service | 129,685 | 130,300 |
| Unrestricted | 8,717,771 | 8,758,393 |
| Total net position | <u>\$20,232,491</u> | <u>\$20,396,316</u> |

The accompanying notes are an integral part of these financial statements.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

STATEMENT OF ACTIVITIES

Statement 2

For The Year Ended December 31, 2019

With Comparative Totals For The Year Ended December 31, 2018

| Functions/Programs | Expenses | Program Revenues | | | Net (Expense) Revenue and Changes in Net Position Primary Government | |
|----------------------------------|--------------------|-------------------------|--|--|--|---------------------|
| | | Charges For Services | Operating Grants and Contributions | Capital Grants and Contributions | Totals | |
| | | | | | 2019 | 2018 |
| Primary government: | | | | | | |
| Governmental activities: | | | | | | |
| General government | \$2,301,519 | \$326,282 | \$1,648 | \$ - | (\$1,973,589) | (\$1,939,938) |
| Programs | 720,315 | - | 90,813 | - | (629,502) | (595,366) |
| Projects | 4,752,444 | - | 279,295 | - | (4,473,149) | (3,957,102) |
| Interest on long-term debt | 82,985 | - | - | - | (82,985) | (121,832) |
| Total governmental activities | <u>\$7,857,263</u> | <u>\$326,282</u> | <u>\$371,756</u> | <u>\$0</u> | <u>(7,159,225)</u> | <u>(6,614,238)</u> |
| General revenues: | | | | | | |
| Property taxes | | | | | 6,713,231 | 6,877,366 |
| Unrestricted investment earnings | | | | | 268,427 | 201,240 |
| Miscellaneous other | | | | | 13,742 | 13,620 |
| Total general revenues | | | | | <u>6,995,400</u> | <u>7,092,226</u> |
| Change in net position | | | | | (163,825) | 477,988 |
| Net position - January 1 | | | | | <u>20,396,316</u> | <u>19,918,328</u> |
| Net position - December 31 | | | | | <u>\$20,232,491</u> | <u>\$20,396,316</u> |

The accompanying notes are an integral part of these financial statements.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

BALANCE SHEET
 GOVERNMENTAL FUNDS
 December 31, 2019
 With Comparative Totals For December 31, 2018

Statement 3

| | General Fund | General Obligation Bonds | Certificates of Participation | Capital Projects CIB | Total Governmental Funds | |
|---|--------------------|--------------------------------|----------------------------------|-------------------------|--------------------------|---------------------|
| | | | | | 2019 | 2018 |
| Assets: | | | | | | |
| Cash and investments | \$5,838,073 | \$976,693 | \$ - | \$7,631,880 | \$14,446,646 | \$13,590,368 |
| Cash and investments with escrow | - | - | 123,186 | - | 123,186 | 123,186 |
| Due from other governmental units | 120,809 | - | - | 99,047 | 219,856 | 291,522 |
| Due from other funds | 115,530 | - | - | - | 115,530 | 185,709 |
| Property taxes receivable: | | | | | | |
| Delinquent | 47,333 | 7,006 | 3,439 | 62,382 | 120,160 | 84,232 |
| Due from county | 32,748 | 5,009 | 2,446 | 44,677 | 84,880 | 94,550 |
| Prepaid items | 34,825 | 271,081 | 120,358 | - | 426,264 | 473,671 |
| Total assets | \$6,189,318 | \$1,259,789 | \$249,429 | \$7,837,986 | \$15,536,522 | \$14,843,238 |
| Liabilities: | | | | | | |
| Accounts payable | \$38,730 | \$435 | \$ - | \$8,310 | \$47,475 | \$66,058 |
| Salaries payable | 21,209 | - | - | - | 21,209 | 16,147 |
| Due to other governmental units | 5,780 | - | - | 683,510 | 689,290 | 31,865 |
| Due to other funds | - | - | 115,530 | - | 115,530 | 185,709 |
| Escrow deposits payable | 1,375,739 | - | - | - | 1,375,739 | 974,665 |
| Retainage payable | - | - | - | 10,677 | 10,677 | 17,553 |
| Unearned revenue | - | - | - | 43,295 | 43,295 | 63,423 |
| Total liabilities | 1,441,458 | 435 | 115,530 | 745,792 | 2,303,215 | 1,355,420 |
| Deferred inflows of resources: | | | | | | |
| Unavailable revenue | 114,693 | 7,006 | 3,439 | 62,382 | 187,520 | 185,272 |
| Fund balance: | | | | | | |
| Nonspendable | 34,825 | 271,081 | 120,358 | - | 426,264 | 473,671 |
| Restricted | - | 981,267 | 10,102 | - | 991,369 | 113,568 |
| Assigned | - | - | - | 7,029,812 | 7,029,812 | 8,323,531 |
| Unassigned | 4,598,342 | - | - | - | 4,598,342 | 4,391,776 |
| Total fund balance | 4,633,167 | 1,252,348 | 130,460 | 7,029,812 | 13,045,787 | 13,302,546 |
| Total liabilities, deferred inflows of resources, and fund balance | \$6,189,318 | \$1,259,789 | \$249,429 | \$7,837,986 | \$15,536,522 | \$14,843,238 |
| Fund balance reported above | | | | | \$13,045,787 | \$13,302,546 |
| Amounts reported for governmental activities in the statement of net position are different because: | | | | | | |
| Capital assets used in governmental activities are not financial resources and, therefore, are not reported in the funds. | | | | | 12,190,035 | 12,581,623 |
| Other long-term assets are not available to pay for current period expenditures and, therefore, are reported as unavailable revenue in the funds. | | | | | 187,520 | 185,272 |
| Deferred outflows of resources related to pensions are not current financial resources and, therefore, are not reported in the funds. | | | | | 72,003 | 143,070 |
| Long-term liabilities are not due and payable in the current period and, therefore, are not reported in the funds. Long-term liabilities at year end consist of: | | | | | | |
| Bonds payable | | | | | (4,230,000) | (4,729,000) |
| Unamortized bond premium | | | | | (63,566) | (68,827) |
| Accrued interest payable | | | | | (35,106) | (38,657) |
| Compensated absences payable | | | | | (99,563) | (88,668) |
| Net pension liability | | | | | (707,683) | (704,544) |
| Deferred inflows of resources related to pensions are associated with long-term liabilities that are not due and payable in the current period and, therefore, are not reported in the funds. | | | | | (126,936) | (186,499) |
| Net position of governmental activities | | | | | \$20,232,491 | \$20,396,316 |

The accompanying notes are an integral part of these financial statements.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

STATEMENT OF REVENUES, EXPENDITURES AND
CHANGES IN FUND BALANCE
GOVERNMENTAL FUNDS

Statement 4

For The Year Ended December 31, 2019

With Comparative Totals For The Year Ended December 31, 2018

| | General Fund | General | Certificates of | Capital | Total Governmental Funds | |
|--------------------------------------|--------------------|--------------------|------------------|--------------------|--------------------------|---------------------|
| | | Obligation | | Participation | Projects CIB | 2019 |
| | | Bonds | | | | |
| Revenues: | | | | | | |
| General property taxes | \$2,576,244 | \$394,027 | \$192,401 | \$3,514,631 | \$6,677,303 | \$6,870,517 |
| Intergovernmental - grants | 56,860 | - | - | 4,791 | 61,651 | 350,507 |
| Stormwater impact payment | 344,782 | - | - | - | 344,782 | 38,660 |
| Investment income | 107,747 | 10,041 | - | 150,639 | 268,427 | 201,240 |
| Permit escrow fees | 15,180 | - | - | - | 15,180 | 10,500 |
| Refunds and reimbursements | 33,953 | - | - | 274,504 | 308,457 | 62,880 |
| Other | 13,742 | - | - | - | 13,742 | 13,620 |
| Total revenues | <u>3,148,508</u> | <u>404,068</u> | <u>192,401</u> | <u>3,944,565</u> | <u>7,689,542</u> | <u>7,547,924</u> |
| Expenditures: | | | | | | |
| Current: | | | | | | |
| General government | 2,195,910 | - | - | - | 2,195,910 | 1,934,950 |
| Programs | 716,715 | - | - | - | 716,715 | 634,467 |
| Capital outlay | 67,269 | - | - | - | 67,269 | 134,693 |
| Construction/projects | - | - | - | 4,375,610 | 4,375,610 | 3,952,361 |
| Debt service: | | | | | | |
| Principal | - | 309,000 | 190,000 | - | 499,000 | 521,692 |
| Interest and fiscal agent fees | - | 88,343 | 3,454 | - | 91,797 | 102,222 |
| Total expenditures | <u>2,979,894</u> | <u>397,343</u> | <u>193,454</u> | <u>4,375,610</u> | <u>7,946,301</u> | <u>7,280,385</u> |
| Revenues over (under) expenditures | <u>168,614</u> | <u>6,725</u> | <u>(1,053)</u> | <u>(431,045)</u> | <u>(256,759)</u> | <u>267,539</u> |
| Other financing sources (uses): | | | | | | |
| Transfers in | - | 863,674 | - | - | 863,674 | - |
| Transfers out | - | - | - | (863,674) | (863,674) | - |
| Total other financing sources (uses) | <u>0</u> | <u>863,674</u> | <u>0</u> | <u>(863,674)</u> | <u>0</u> | <u>0</u> |
| Net change in fund balance | 168,614 | 870,399 | (1,053) | (1,294,719) | (256,759) | 267,539 |
| Fund balance - January 1 | <u>4,464,553</u> | <u>381,949</u> | <u>131,513</u> | <u>8,324,531</u> | <u>13,302,546</u> | <u>13,035,007</u> |
| Fund balance - December 31 | <u>\$4,633,167</u> | <u>\$1,252,348</u> | <u>\$130,460</u> | <u>\$7,029,812</u> | <u>\$13,045,787</u> | <u>\$13,302,546</u> |

The accompanying notes are an integral part of these financial statements.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
RECONCILIATION OF THE STATEMENT OF REVENUES,
EXPENDITURES AND CHANGES IN FUND BALANCE OF
GOVERNMENTAL FUNDS

Statement 5

For The Year Ended December 31, 2019

With Comparative Totals For The Year Ended December 31, 2018

| | <u>2019</u> | <u>2018</u> |
|---|--------------------|------------------|
| Amounts reported for governmental activities in the statement of activities (Statement 2) are different because: | | |
| Net changes in fund balances - total governmental funds (Statement 4) | (\$256,759) | \$267,539 |
| Governmental funds report capital outlays as expenditures. However, in the statement of activities the cost of those assets is allocated over their estimated useful lives and reported as depreciation expense: | | |
| Depreciation expense | (458,857) | (450,197) |
| Capital outlay | 67,269 | 134,693 |
| Capitalized current expenditures | - | 28,028 |
| The net effect of various miscellaneous transactions involving capital assets (i.e. sales, trade-ins, and donations) is to increase net position. | - | 6,000 |
| Revenues in the statement of activities that do not provide current financial resources are not reported as revenues in the funds: | | |
| Change in unavailable revenue - delinquent property taxes | 35,928 | 6,849 |
| Change in unavailable revenue - stormwater impact payment | (33,680) | (33,680) |
| The issuance of long-term debt (e.g., bonds, leases) provides current financial resources to governmental funds, while the repayment of the principal of long-term debt consumes the current financial resources of governmental funds. Neither transaction, however, has any effect on net position. | | |
| Repayment of principal of long-term debt | 499,000 | 521,692 |
| Governmental funds report the effects of bond premiums and discounts when the debt is first issued, whereas these amounts are deferred and amortized over the life of the debt in the statement of activities. | | |
| Amortization of bond premium | 5,261 | 5,261 |
| Some expenses reported in the statement of activities do not require the use of current financial resources and, therefore, are not reported as expenditures in governmental funds. Changes in these expense accruals are as follows: | | |
| Change in accrued interest payable | 3,551 | (24,871) |
| Change in compensated absences payable | (10,895) | (2,602) |
| Governmental funds report pension contributions as expenditures, however, pension expense is reported in the statement of activities. This is the amount by which pension expense differed from pension contributions in the current period: | | |
| Pension contributions | 68,723 | |
| Pension expense | (83,366) | |
| | <u>(14,643)</u> | <u>19,276</u> |
| Change in net position of governmental activities (Statement 2) | <u>(\$163,825)</u> | <u>\$477,988</u> |

The accompanying notes are an integral part of these financial statements.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
NOTES TO FINANCIAL STATEMENTS
December 31, 2019

Note 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The accounting policies of the Ramsey-Washington Metro Watershed District (the District) conform to accounting principles generally accepted in the United States of America applicable to governmental units. The following is a summary of significant accounting policies.

A. FINANCIAL REPORTING ENTITY

The Ramsey-Washington Metro Watershed District was created in 1975 by the Minnesota Water Resources Board as provided in Minnesota Statutes Chapter 112. The District is operated by a five member Board of Managers appointed by the Ramsey and Washington County Boards of Commissioners for three year terms. In accordance with Governmental Accounting Standards Board (GASB) pronouncements and generally accepted accounting principles, the financial statements of the reporting entity should include the primary government and its component units. The District (primary government) does not have any component units.

B. GOVERNMENT-WIDE AND FUND FINANCIAL STATEMENTS

The government-wide financial statements (i.e., the statement of net position and the statement of activities) report information on all of the non-fiduciary activities of the primary government. For the most part, the effect of inter-fund activity has been removed from these statements. *Governmental activities*, which normally are supported by taxes and intergovernmental revenues, are reported separately from *business-type activities*. There are no *business-type activities*, which rely to a significant extent on fees and charges for support.

The statement of activities demonstrates the degree to which the direct expenses of a given function are offset by program revenues. *Direct expenses* are those that are clearly identifiable with a specific function. *Program revenues* include 1) charges to customers or applicants who purchase, use or directly benefit from goods, services or privileges provided by a given function and 2) grants and contributions that are restricted to meeting the operational or capital requirements of a particular function. Taxes and other items not included among program revenues are reported instead as *general revenues*.

Separate financial statements are provided for governmental funds. Major individual governmental funds are reported as separate columns in the fund financial statements.

C. MEASUREMENT FOCUS, BASIS OF ACCOUNTING AND FINANCIAL STATEMENT PRESENTATION

The government-wide financial statements are reported using the *economic resources measurement focus* and the *accrual basis of accounting*. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows. Property taxes are recognized as revenues in the year for which they are levied. Grants and similar items are recognized as revenue as soon as all eligibility requirements imposed by the provider have been met.

Governmental fund financial statements are reported using the *current financial resources measurement focus* and the *modified accrual basis of accounting*. Revenues are recognized as soon as they are both measurable and available. Revenues are considered to be *available* when they are collectible within the current period or soon enough thereafter to pay liabilities of the current period. For this purpose, the District considers all revenues, except reimbursement grants, to be available if they are collected within 60 days of the end of the current fiscal period. Reimbursement grants are considered available if they are

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
NOTES TO FINANCIAL STATEMENTS
December 31, 2019

collected within one year of the end of the current fiscal period. Expenditures generally are recorded when a liability is incurred, as under accrual accounting. However, debt service expenditures are recorded only when payment is due.

Property taxes, intergovernmental revenues and interest associated with the current fiscal period are all considered to be susceptible to accrual and so have been recognized as revenues of the current fiscal period. All other revenue items are considered to be measurable and available only when cash is received by the District.

The District reports the following major governmental funds:

General Fund is the general operating fund of the District. It is used to account for financial resources to be used for general administrative expenses and for the construction and maintenance of projects of common benefit to the District.

General Obligation Bonds Debt Service is established to account for accumulation of resources for, and the payment of, long-term debt principal, interest and related costs.

Certificates of Participation Debt Service is established to account for accumulation of resources for, and the payment of long-term debt principal, interest and costs related to the 2005 Certificates of Participation.

Capital Project CIB Fund is established to account for the capital improvement program as a part of the Watershed Management Plan. The fund is financed by an ad valorem tax levy. This fund was established pursuant to Minnesota Statutes, Chapter 473.

As a general rule the effect of inter-fund activity has been eliminated from the government-wide financial statements. Exceptions to this general rule are transactions that would be treated as revenues, expenditures or expenses if they involved external organizations, such as buying goods and services or payments in lieu of taxes, are similarly treated when they involve other funds of the District. Elimination of these charges would distort the direct costs and program revenues reported for the various functions concerned.

D. BUDGETS

The Board of Managers prepares annual revenue and expenditure budgets for the District's General Fund. The District monitors budget performance on the fund basis. All amounts over budget have been approved by the Board through the disbursement approval process. The modified accrual basis of accounting is used by the District for budgeting data. All appropriations end with the fiscal year for which they were made. Encumbrance accounting, under which purchase orders, contracts and other commitments of monies are recorded in order to reserve that portion of the applicable appropriation, is not employed by the District.

E. CASH AND INVESTMENTS

Cash and investment balances from all funds are pooled and invested to the extent available in authorized investments. Investment income is allocated to individual funds on the basis of the fund's equity in the cash and investment pool.

Investments are stated at fair value, except investments in external investment pools that meet GASB 79 requirements which are stated at amortized cost. Investment income is accrued at the balance sheet date.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
NOTES TO FINANCIAL STATEMENTS
December 31, 2019

Cash and investments with escrow represent money market accounts held by an escrow agent as the reserve account for the Certificates of Participation 2012B.

F. PROPERTY TAX REVENUE RECOGNITION

The Board of Managers annually adopts a tax levy and certifies it to the County in October (levy/assessment date) of each year for collection in the following year. The County is responsible for billing and collecting all property taxes for itself, the City, the local School District and other taxing authorities. Such taxes become a lien on January 1 and are recorded as receivables by the District at that date. Real property taxes are payable (by property owners) on May 15 and October 15 of each calendar year. Personal property taxes are payable by taxpayers on February 28 and June 30 of each year. These taxes are collected by the County and remitted to the District on or before July 7 and December 2 of the same year. Delinquent collections for November and December are received the following January. The District has no ability to enforce payment of property taxes by property owners. The County possesses this authority.

GOVERNMENT-WIDE FINANCIAL STATEMENTS

The District recognizes property tax revenue in the period for which the taxes were levied. Uncollectible property taxes are not material and have not been reported.

GOVERNMENTAL FUND FINANCIAL STATEMENTS

The District recognizes property tax revenue when it becomes both measurable and available to finance expenditures of the current period. In practice, current and delinquent taxes and State credits received by the District in July, December and January are recognized as revenue for the current year. Taxes collected by the county by December 31 (remitted to the District the following January) are classified as due from county. Taxes not collected by the county by December 31 are classified as delinquent taxes receivable. The portion of delinquent taxes not collected by the District in January is fully offset by deferred inflow of resources because they are not available to finance current expenditures.

PROPERTY TAX LEVY

103B Levy Authority

Beginning with the 1998 tax levy, the District levied under Minnesota Statutes 103B.241 authority. As such, the District's General Fund and the Capital Projects CIB Funds are not limited by the tax levy authorized in Minnesota Statutes 103D. The District no longer employs the Special Revenue Funds to account for maintenance and projects and instead levies for all such projects out of the General and CIB Funds. Minnesota Statutes Section 103B.241 Subd.1 reads in part as follows:

103B.241 LEVIES

Subdivision 1. Watershed plans and projects. Notwithstanding chapter 103D, a local government unit or watershed management organization may levy a tax to pay the increased costs of preparing a plan under sections 103B.231 and 103B.235 or for projects identified in an approved and adopted plan necessary to implement the purposes of section 103B.201. The proceeds of any tax levied under this section shall be deposited in a separate fund and expended only for the purposes authorized by this section. Watershed management organizations and local government units may accumulate the proceeds of levies as an alternative to issuing bonds to finance improvements.

G. INVENTORIES

The original cost of materials and supplies has been recorded as expenditures at the time of purchase. The District does not maintain material amounts of inventories.

H. PREPAID ITEMS

Certain payments to vendors reflect costs applicable to future accounting periods and are recorded as prepaid items in both government-wide and fund financial statements. Prepaid items are reported using the consumption method and recorded as expenditures/expenses at the time of consumption.

I. CAPITAL ASSETS

Capital assets, which include property, plant, equipment and infrastructure assets and intangible assets such as easements and computer software, are reported in the governmental activities columns in the government-wide financial statements. Capital assets (including intangible assets) are defined by the District as assets with an initial, individual cost of more than \$5,000 and an estimated useful life in excess of one year. Such assets are recorded at historical cost or estimated historical cost if purchased or constructed. Donated capital assets are recorded at acquisition value at the date of donation. The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend asset lives are not capitalized.

Property, plant and equipment of the District is depreciated using the straight-line method over the following estimated useful lives:

| | |
|--------------------|----------------|
| Buildings | 40 years |
| Furniture Fixtures | 5 years |
| Equipment | 5 years |
| Vehicles | 5 years |
| Infrastructure | 50 – 100 years |

J. LONG-TERM OBLIGATIONS

In the government-wide financial statements, long-term debt is reported as a liability in the applicable governmental activities statement of net position. Material bond premiums and discounts are amortized over the life of the bonds.

In the fund financial statements, governmental fund types recognize bond premiums and discounts during the current period. The face amount of debt issued is reported as other financing sources. Premiums received on debt issuances are reported as other financing sources while discounts on debt issuances are reported as other financing uses.

K. COMPENSATED ABSENCES

It is the District's policy to permit employees to accumulate earned but unused vacation and sick pay benefits. A liability for these amounts is reported in governmental funds only if they have matured, for example, as a result of employee resignations and retirements. All vacation pay and accumulated sick leave benefits that are vested as severance pay are accrued when incurred in the government-wide financial statements.

L. FUND BALANCE CLASSIFICATIONS

In the fund financial statements, governmental funds report fund balance in classifications that disclose constraints for which amounts in those funds can be spent. These classifications are as follows:

Nonspendable - consists of amounts that are not in spendable form, such as prepaid items.

Restricted - consists of amounts related to externally imposed constraints established by creditors, grantors or contributors; or constraints imposed by state statutory provisions.

Committed - consists of internally imposed constraints. These constraints are established by Resolution of the Board.

Assigned - consists of internally imposed constraints. These constraints reflect the specific purpose for which it is the Board's intended use. These constraints are established by the Board and/or management. Pursuant to Board Resolution, the Board's District Administrator and/or Treasurer is authorized to establish assignments of fund balance.

Unassigned - is the residual classification for the general fund and also reflects negative residual amounts in other funds.

When both restricted and unrestricted resources are available for use, it is the District's policy to first use restricted resources, and then use unrestricted resources as they are needed.

When committed, assigned or unassigned resources are available for use, it is the District's policy to use resources in the following order: 1) committed 2) assigned and 3) unassigned.

M. INTERFUND TRANSACTIONS

Interfund services provided and used are accounted for as revenues or expenditures. Transactions that constitute reimbursements to a fund for expenditures initially made from it that are properly applicable to another fund, are recorded as expenditures in the reimbursing fund and as reductions of expenditures in the fund that is reimbursed. All other interfund transactions are reported as transfers.

The District provides temporary advances to funds that have insufficient cash balances by means of an advance from another fund shown as due from other funds in the advancing fund, and due to other funds in the fund with the deficit, until adequate resources are received.

N. USE OF ESTIMATES

The preparation of financial statements in accordance with generally accepted accounting principles in the United States of America (GAAP) requires management to make estimates that affect amounts reported in the financial statements during the reporting period. Actual results could differ from such estimates.

O. RECLASSIFICATIONS

Certain reclassifications were made to prior year amounts to conform to the current year presentation.

P. COMPARATIVE TOTALS

The basic financial statements, individual fund financial statements, required supplementary information, and supplementary financial information include certain prior-year summarized comparative information in total but not at the level of detail required for presentation in conformity with generally accepted accounting principles. Accordingly, such information should be read in conjunction with the District's financial statements for the year ended December 31, 2018 from which the summarized information was derived.

Q. DEFERRED OUTFLOWS/INFLOWS OF RESOURCES

In addition to assets, the statement of net position reports a separate section for deferred outflows of resources. This separate financial statement element represents a consumption of net position that applies to future period and so will *not* be recognized as an outflow of resources (expense) until then. The District has one item that qualifies for reporting in this category. It is the pension related deferred outflows reported in the government-wide Statement of Net Position.

In addition to liabilities, the statement of net position reports a separate section for deferred inflows of resources. This separate financial statement element represents an acquisition of net position that applies to future periods and so will *not* be recognized as an inflow of resources (revenue) until that time. The District has pension related deferred inflows of resources reported in the government-wide Statement of Net Position. The District also has an item, which arises only under a modified accrual basis of accounting, that qualifies for reporting in this category. Accordingly, the item, unavailable revenue, is reported only in the governmental fund balance sheet. The governmental funds report unavailable revenues from property taxes and unavailable stormwater impact fees.

R. DEFINED BENEFIT PENSION PLANS

For purposes of measuring the net pension liability, deferred outflows/inflows of resources, and pension expense, information about the fiduciary net position of the Public Employees Retirement Association (PERA) and additions to/deductions from PERA's fiduciary net position have been determined on the same basis as they are reported by PERA except that PERA's fiscal year end is June 30. For this purpose, plan contributions are recognized as of employer payroll paid dates and benefit payments and refunds are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Note 2 DEPOSITS AND INVESTMENTS

A. DEPOSITS

In accordance with Minnesota Statutes, the District maintains deposits at those depository banks authorized by the District, all of which are members of the Federal Reserve System.

Minnesota Statutes require that all District deposits be protected by insurance, surety bond, or collateral. The market value of collateral pledged must equal 110% of the deposits not covered by insurance or bonds.

Minnesota Statutes require that securities pledged as collateral be held in safekeeping by the District or in a financial institution other than that furnishing the collateral. Authorized collateral includes the following:

- a) United States government treasury bills, treasury notes and treasury bonds;
- b) Issues of United States government agencies and instrumentalities as quoted by a recognized industry quotation service available to the government entity;
- c) General obligation securities of any state or local government with taxing powers which is rated "A" or better by a national bond rating service, or revenue obligation securities of any state or local government with taxing powers which is rated "AA" or better by a national bond rating service;
- d) General obligation securities of a local government with taxing powers may be pledged as collateral against funds deposited by that same local government entity;
- e) Irrevocable standby letters of credit issued by Federal Home Loan Banks to a municipality accompanied by written evidence that the bank's public debt is rated "AA" or better by Moody's Investors Service, Inc. or Standard & Poor's Corporation; and
- f) Time deposits that are fully insured by any federal agency.

The District did not have deposits at December 31, 2019.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
NOTES TO FINANCIAL STATEMENTS
December 31, 2019

B. INVESTMENTS

Minnesota Statutes authorize the District to invest in the following:

- a) Direct obligations or obligations guaranteed by the United States or its agencies, its instrumentalities or organizations created by an act of Congress, excluding mortgage-backed securities defined as high risk.
- b) Shares of investment companies registered under the Federal Investment Company Act of 1940 and whose only investments are in securities described in (a) above, general obligation tax-exempt securities, or repurchase or reverse repurchase agreements.
- c) Obligations of the State of Minnesota or any of its municipalities as follows:
 - 1) any security which is a general obligation of any state or local government with taxing powers which is rated "A" or better by a national bond rating service;
 - 2) any security which is a revenue obligation of any state or local government with taxing powers which is rated "AA" or better by a national bond rating service; and
 - 3) a general obligation of the Minnesota Housing Finance Agency which is a moral obligation of the State of Minnesota and is rated "A" or better by a national bond rating agency.
- d) Bankers acceptances of United States banks.
- e) Commercial paper issued by United States corporations or their Canadian subsidiaries, of the highest quality, and maturing in 270 days or less.
- f) Repurchase or reverse repurchase agreements with banks that are members of the Federal Reserve System with capitalization exceeding \$10,000,000; a primary reporting dealer in U.S. government securities to the Federal Reserve Bank of New York; certain Minnesota securities broker-dealers; or, a bank qualified as a depositor.
- g) General obligation temporary bonds of the same governmental entity issued under section 429.091, subdivision 7; 469.178, subdivision 5; or 475.61, subdivision 6.

As of December 31, 2019, the District had the following investments and maturities:

| <u>Investment Type</u> | <u>Rating</u> | <u>Fair Value</u> | <u>Investment Maturities (in Years) Less Than 1</u> |
|------------------------------------|---------------|---------------------|---|
| External investment pool - 4M Fund | Not rated | \$14,446,646 | \$14,446,646 |
| Money market fund | Not rated | <u>123,186</u> | <u>123,186</u> |
| Total investments | | <u>\$14,569,832</u> | <u>\$14,569,832</u> |

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
NOTES TO FINANCIAL STATEMENTS
December 31, 2019

A reconciliation of cash and investments as shown on the statement of net position is as follows:

| | |
|----------------------------------|----------------------------|
| Cash and investments | \$14,446,646 |
| Cash and investments with escrow | 123,186 |
| Total | <u><u>\$14,569,832</u></u> |

The District categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs to measure the fair value of the asset. The hierarchy has three levels. Level 1 investments are valued using inputs that are based on quoted prices in active markets for identical assets. Level 2 investments are valued using inputs that are based on quoted prices for similar assets or inputs that are observable, either directly or indirectly. Level 3 investments are valued using inputs that are unobservable. Pooled investments and mutual funds are not required to be categorized.

| Investment Type | 12/31/2019 |
|------------------------------------|----------------------------|
| Investments not categorized: | |
| External investment pool - 4M Fund | \$ 14,446,646 |
| Money Market Fund | <u>123,186</u> |
| Total | <u><u>\$14,569,832</u></u> |

C. INVESTMENT RISKS

Credit Risk. Credit risk is the risk that an issuer or other counterparty to an investment will be unable to fulfill its obligation to the holder of the investment. State law limits investments to commercial paper to those rated in the highest quality category by at least two nationally recognized rating agencies; in any security of the State of Minnesota or any of its municipalities which is rated “A” or better by a national bond rating service for general obligation and rated “AA” or better for a revenue obligation; a general obligation of the Minnesota Housing Finance Agency to those rated “A” or better by a national bond rating agency; mutual funds or money market funds whose investments are restricted to securities described in MS 118A.04. The District follows State Statutes in regards to credit risk of investments. The District does not have an investment policy which further limits its investment choices.

The District’s external investment pool investment is with the 4M Fund which is regulated by Minnesota Statutes and the Board of Directors of the League of Minnesota Cities. The 4M fund is an unrated pool and the value of the position in the pool is the same as the value of pool shares. The pool is managed to maintain a portfolio weighted average maturity of no greater than 60 days and seeks to maintain a constant net asset value (NAV) per share of \$1. The pool measures its investments at amortized cost in accordance with Government Accounting Standards Board Statement No. 79.

The 4M Liquid Asset Fund has no redemption requirements.

Interest Rate Risk. Interest rate risk is the risk that changes in the interest rates of debt investments could adversely affect the fair value of an investment. The District does not have an investment policy which limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
NOTES TO FINANCIAL STATEMENTS
December 31, 2019

Concentration of Credit Risk. Concentration of credit risk is the risk of loss that may be attributed to the magnitude of the District's investment in a single issuer. The District does not have an investment policy which addresses the concentration of credit risk.

Custodial Credit Risk. For investments in securities, custodial credit risk is the risk that in the event of a failure of the counterparty, the District will not be able to recover the value of its investment securities that is in the possession of an outside party. Investments in investment pools and money markets are not evidenced by securities that exist in physical or book entry form, and therefore are not subject to custodial credit risk disclosures. The District does not have an investment policy which addresses custodial credit risk.

Note 3 RECEIVABLES

Significant receivable balances not expected to be collected within one year of December 31, 2019 are as follows:

| | Major Funds | | | | Total |
|---------------------------|-------------|--------------------------------|-------------------------------------|----------------------------|-----------|
| | General | General Obligation Bonds | Certificates of Participation | Capital Projects CIB | |
| Delinquent property taxes | \$40,900 | \$6,100 | \$3,000 | \$54,000 | \$104,000 |

Note 4 UNAVAILABLE REVENUES

Governmental funds report deferred inflows of resources in connection with receivables for revenues that are not considered to be available to liquidate liabilities of the current period. At the end of the current fiscal year, the various components of unavailable revenue reported in the governmental funds were as follows:

| | Property Taxes | Stormwater Impact Payment | Total |
|-------------------------------|----------------|------------------------------|-----------|
| General Fund | \$47,333 | \$67,360 | \$114,693 |
| General Obligation Bonds | 7,006 | - | 7,006 |
| Certificates of Participation | 3,439 | - | 3,439 |
| Capital Projects CIB | 62,382 | - | 62,382 |
| Total unavailable revenue | \$120,160 | \$67,360 | \$187,520 |

Note 5 **DEFINED BENEFIT PENSION PLANS**

A. PLAN DESCRIPTION

The District participates in the General Employees Retirement Fund, which is a cost-sharing multiple-employer defined benefit pension plan administered by the Public Employees Retirement Association of Minnesota (PERA). PERA's defined benefit pension plans are established and administered in accordance with Minnesota Statutes, Chapters 353 and 356. PERA's defined benefit pension plans are tax qualified plans under Section 401(a) of the Internal Revenue Code.

All full-time and certain part-time employees of the District are covered by the General Employees Retirement Fund (GERF). GERF members belong to the Coordinated Plan. Coordinated Plan members are covered by Social Security.

B. BENEFITS PROVIDED

PERA provides retirement, disability, and death benefits. Benefit provisions are established by state statute and can only be modified by the state legislature. Vested, terminated employees who are entitled to benefits but are not receiving them yet are bound by the provisions in effect at the time they last terminated their public service.

Benefits are based on a member's highest average salary for any five successive years of allowable service, age, and years of credit at termination of service. Two methods are used to compute benefits for PERA's Coordinated Plan members. Members hired prior to July 1, 1989, receive the higher of Method 1 or Method 2 formulas. Only Method 2 is used for members hired after June 30, 1989. Under Method 1, the accrual rate for Coordinated Plan members is 1.2% of average salary for each of the first ten years of service and 1.7% of average salary for each additional year. Under Method 2, the accrual rate for Coordinated Plan members is 1.7% of average salary for all years of service. For members hired prior to July 1, 1989 a full annuity is available when age plus years of service equal 90 and normal retirement age is 65. For members hired on or after July 1, 1989 normal retirement age is the age for unreduced Social Security benefits capped at 66.

Annuities, disability benefits, and survivor benefits are increased effective every January 1. Beginning January 1, 2019, the postretirement increase will be equal to 50% of the cost-of-living adjustment (COLA) announced by the SSA, with a minimum increase of at least 1% and a maximum of 1.5%. Recipients that have been receiving the annuity or benefit for at least a full year as of the June 30 before the effective date of the increase will receive the full increase. For recipients receiving the annuity or benefit for at least one month but less than a full year as of the June 30 before the effective date of the increase will receive a reduced prorated increase. For members retiring on January 1, 2024 or later, the increase will be delayed until normal retirement age (age 65 if hired prior to July 1, 1989, or age 66 for individuals hired on or after July 1, 1989). Members retiring under Rule of 90 are exempt from the delay to normal retirement.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
NOTES TO FINANCIAL STATEMENTS
December 31, 2019

C. CONTRIBUTIONS

Minnesota Statutes Chapter 353 sets the rates for employer and employee contributions. Contribution rates can only be modified by the state legislature.

Coordinated Plan members were required to contribute 6.50% of their annual covered salary in fiscal year 2019; the District was required to contribute 7.50% for Coordinated Plan members. The District's contributions to the GERP for the year ended December 31, 2019, were \$68,723. The District's contributions were equal to the required contributions as set by state statute.

D. PENSION COSTS

At December 31, 2019, the District reported a liability of \$707,683 for its proportionate share of the GERP's net pension liability. The Districts' net pension liability reflected a reduction due to the State of Minnesota's contribution of \$16 million to the fund in 2019. The State of Minnesota is considered a non-employer contributing entity and the state's contribution meets the definition of a special funding situation. The State of Minnesota's proportionate share of the net pension liability associated with the District totaled \$21,999. The net pension liability was measured as of June 30, 2019, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of that date. The District's proportionate share of the net pension liability was based on the District's contributions received by PERA during the measurement period for employer payroll paid dates from July 1, 2018, through June 30, 2019, relative to the total employer contributions received from all of PERA's participating employers. At June 30, 2019, the District's proportionate share was .0128% which was an increase of .0001% from its proportion measured as of June 30, 2018.

| | |
|--|-------------------------|
| Districts proportionate share of the net pension liability | \$707,683 |
| State of Minnesota's proportionate share of the net pension liability associated with the District | <u>21,999</u> |
| Total | <u><u>\$729,682</u></u> |

For the year ended December 31, 2019, the District recognized pension expense of \$83,366 for its proportionate share of the GERP's pension expense. In addition, the District recognized an additional \$1,648 as pension expense (and grant revenue) for its proportionate share of the State of Minnesota's contribution of \$16 million to the GERP.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
NOTES TO FINANCIAL STATEMENTS
December 31, 2019

At December 31, 2019, the District reported its proportionate share of the GERS's deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

| | <u>Deferred Outflows of Resources</u> | <u>Deferred Inflows of Resources</u> |
|--|---|--|
| Differences between expected and actual economic experience | \$19,649 | \$ - |
| Changes in actuarial assumptions | - | 55,730 |
| Net collective difference between projected and actual investment earnings | - | 71,206 |
| Changes in proportion | 18,203 | - |
| Contributions paid to PERA subsequent to the measurement date | 34,151 | - |
| Total | <u>\$72,003</u> | <u>\$126,936</u> |

\$34,151 reported as deferred outflows of resources related to pensions resulting from District contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended December 31, 2020. Other amounts reported as deferred outflows and inflows of resources related to pensions will be recognized in pension expense as follows:

| <u>Year Ended December 31,</u> | <u>Pension Expense Amount</u> |
|------------------------------------|---------------------------------------|
| 2020 | (\$26,995) |
| 2021 | (50,728) |
| 2022 | (12,500) |
| 2023 | 1,139 |
| 2024 | - |
| Thereafter | - |

Pension liabilities are generally liquidated by the General Fund.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
NOTES TO FINANCIAL STATEMENTS
December 31, 2019

E. ACTUARIAL ASSUMPTIONS

The total pension liability in the June 30, 2019 actuarial valuation was determined using an individual entry-age normal actuarial cost method and the following actuarial assumptions:

| | |
|------------------------------|----------------|
| Inflation | 2.50% per year |
| Active Member Payroll Growth | 3.25% per year |
| Investment Rate of Return | 7.50% |

Salary increases were based on a service-related table. Mortality rates for active members, retirees, survivors, and disabilitants for all plans were based on RP 2014 tables for males or females, as appropriate, with slight adjustments to fit PERA’s experience. Cost of living benefit increases after retirement for retirees are assumed to be 1.25% per year for the General Employees Plan.

Actuarial assumptions used in the June 30, 2019 valuation were based on the results of actuarial experience studies. The most recent four-year experience study in the General Employees Plan was completed in 2019.

The following changes in actuarial assumptions and plan provisions occurred in 2019:

Changes in Actuarial Assumptions:

- The mortality projection scale was changed from MP-2017 to MP-2018.

Changes in Plan Provisions:

- The employer supplemental contribution was changed prospectively, decreasing from \$31.0 million to \$21.0 million per year. The State’s special funding contribution was changed prospectively, requiring \$16.0 million due per year through 2031.

The State Board of Investment, which manages the investments of PERA, prepares an analysis of the reasonableness on a regular basis of the long-term expected rate of return using a building-block method in which best-estimate ranges of expected future rates of return are developed for each major asset class. These ranges are combined to produce an expected long-term rate of return by weighting the expected future rates of return by the target asset allocation percentages. The target allocation and best estimates of geometric real rates of return for each major asset class are summarized in the following table:

| Asset Class | Target Allocation | Long-Term Expected Real Rate of Return |
|----------------------|-------------------|--|
| Domestic Equity | 35.5% | 5.10% |
| Private Market | 25.0% | 5.90% |
| Fixed Income | 20.0% | 0.75% |
| International Equity | 17.5% | 5.90% |
| Cash Equivalents | 2.0% | 0.00% |
| Total | 100% | |

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
NOTES TO FINANCIAL STATEMENTS
December 31, 2019

F. DISCOUNT RATE

The discount rate used to measure the total pension liability in 2019 was 7.50%. The projection of cash flows used to determine the discount rate assumed that contributions from plan members and employers will be made at rates set in Minnesota statute. Based on that assumption, the fiduciary net position of the GERP was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

G. PENSION LIABILITY SENSITIVITY

The following presents the District’s proportionate share of the net pension liability for all plans it participates in, calculated using the discount rate disclosed in the preceding paragraph, as well as what the District’s proportionate share of the net pension liability would be if it were calculated using a discount rate 1 percentage point lower or 1 percentage point higher than the current discount rate:

| | <u>1% Decrease in Discount Rate (6.5%)</u> | <u>Discount Rate (7.5%)</u> | <u>1% Increase in Discount Rate (8.5%)</u> |
|--|--|-----------------------------|--|
| District's proportionate share of the net pension liability | \$1,163,393 | \$707,683 | \$331,404 |

H. PENSION PLAN FIDUCIARY NET POSITION

Detailed information about each pension plan’s fiduciary net position is available in a separately-issued PERA financial report that includes financial statements and required supplementary information. That report may be obtained on the Internet at www.mnpera.org.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
NOTES TO FINANCIAL STATEMENTS
December 31, 2019

Note 6 CAPITAL ASSETS

Capital asset activity for the year ended December 31, 2019 was as follows:

| | Beginning Balance | Increases | Decreases | Ending Balance |
|--|----------------------|-------------|-----------|-------------------|
| Governmental activities: | | | | |
| Capital assets, not being depreciated: | | | | |
| Land | \$421,581 | \$ - | \$ - | \$421,581 |
| Total capital assets, not being depreciated | 421,581 | 0 | 0 | 421,581 |
| Capital assets, being depreciated: | | | | |
| Building | 2,234,955 | - | - | 2,234,955 |
| Furniture and fixtures | 102,063 | - | - | 102,063 |
| Equipment | 125,736 | 5,374 | - | 131,110 |
| Vehicles | 118,892 | 14,049 | - | 132,941 |
| Infrastructure | 20,085,279 | 47,846 | - | 20,133,125 |
| Total capital assets, being depreciated | 22,666,925 | 67,269 | 0 | 22,734,194 |
| Less accumulated depreciation for: | | | | |
| Building | 682,965 | 55,876 | - | 738,841 |
| Furniture and fixtures | 102,063 | - | - | 102,063 |
| Equipment | 117,856 | 3,600 | - | 121,456 |
| Vehicles | 47,592 | 22,547 | - | 70,139 |
| Infrastructure | 9,556,407 | 376,834 | - | 9,933,241 |
| Total accumulated depreciation | 10,506,883 | 458,857 | 0 | 10,965,740 |
| Total capital assets being depreciated - net | 12,160,042 | (391,588) | 0 | 11,768,454 |
| Governmental activities capital assets - net | \$12,581,623 | (\$391,588) | \$0 | \$12,190,035 |

Depreciation expense was charged to function/programs of the primary government as follows:

| | |
|--|-----------|
| Governmental activities: | |
| General government | \$78,423 |
| Programs | 3,600 |
| Projects | 376,834 |
| Total depreciation expense - governmental activities | \$458,857 |

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
NOTES TO FINANCIAL STATEMENTS
December 31, 2019

Note 7 LONG-TERM DEBT

Annual debt service requirements to maturity for general obligation bonds are as follows:

| Year Ending December 31, | Governmental Activities | | | | | | | |
|-----------------------------|---|----------|--------------------------------|----------|------------------------------|-----------|-------------|-----------|
| | Certificates of Participation Series 2012B | | G.O. Bonds of 2012 PFA Bond | | G.O. Drainage Bonds 2016A | | Totals | |
| | Principal | Interest | Principal | Interest | Principal | Interest | Principal | Interest |
| 2020 | \$120,000 | \$990 | \$81,000 | \$11,611 | \$235,000 | \$69,813 | \$436,000 | \$82,414 |
| 2021 | - | - | 82,000 | 10,238 | 240,000 | 65,063 | 322,000 | 75,301 |
| 2022 | - | - | 83,000 | 8,848 | 240,000 | 60,263 | 323,000 | 69,111 |
| 2023 | - | - | 85,000 | 7,441 | 245,000 | 55,413 | 330,000 | 62,854 |
| 2024 | - | - | 86,000 | 6,000 | 250,000 | 50,463 | 336,000 | 56,463 |
| 2025 | - | - | 88,000 | 4,543 | 255,000 | 45,413 | 343,000 | 49,956 |
| 2026 | - | - | 89,000 | 3,051 | 260,000 | 40,263 | 349,000 | 43,314 |
| 2027 | - | - | 91,000 | 1,542 | 270,000 | 34,963 | 361,000 | 36,505 |
| 2028 | - | - | - | - | 275,000 | 29,513 | 275,000 | 29,513 |
| 2029 | - | - | - | - | 280,000 | 23,963 | 280,000 | 23,963 |
| 2030 | - | - | - | - | 285,000 | 17,956 | 285,000 | 17,956 |
| 2031 | - | - | - | - | 290,000 | 11,125 | 290,000 | 11,125 |
| 2032 | - | - | - | - | 300,000 | 3,750 | 300,000 | 3,750 |
| Total | \$120,000 | \$990 | \$685,000 | \$53,274 | \$3,425,000 | \$507,961 | \$4,230,000 | \$562,225 |

The following is a schedule of changes in the District's indebtedness for the year ended December 31, 2019:

| | Balance 12/31/18 | Additions | Deletions | Balance 12/31/19 | Due Within One Year |
|---|---------------------|-----------|-------------|---------------------|------------------------|
| Governmental activities: | | | | | |
| Bonded debt: | | | | | |
| General Obligation Bonds of 2012, PFA Bond | \$764,000 | \$ - | (\$79,000) | \$685,000 | \$81,000 |
| Certificates of Participation, Series 2012B | 310,000 | - | (190,000) | 120,000 | 120,000 |
| General Obligation Drainage Bonds of 2016A | 3,655,000 | - | (230,000) | 3,425,000 | 235,000 |
| Unamortized bond premium | 68,827 | - | (5,261) | 63,566 | - |
| Compensated absences | 88,668 | 113,181 | (102,286) | 99,563 | 96,798 |
| Total governmental activities | \$4,886,495 | \$113,181 | (\$606,547) | \$4,393,129 | \$532,798 |

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
NOTES TO FINANCIAL STATEMENTS
December 31, 2019

2012 MINNESOTA PUBLIC FACILITIES AUTHORITY (PFA) BOND

The District entered into a loan agreement with the Minnesota Public Facilities Authority (PFA) on May 5, 2012. The agreement calls for the PFA to lend \$1,569,623 from the Clean Water Revolving Fund Principal Forgiveness – Green Project, to the District for the purpose of funding the eligible costs related to the Maplewood Mall project. Of this amount, \$1,177,217 (the “Loan”) has a final maturity date of August 20, 2027 and carries an interest rate of 1.695% per annum. The remaining \$392,406 (the “Green Principal Forgiveness”), is not required to be repaid except as otherwise provided per the terms of the agreement. The District’s management has indicated that the terms of the “Green Principal Forgiveness” will be met. The loan is considered a direct borrowing and is a general obligation of the District for which it pledges its full faith, credit and taxing powers to the payment of principal and interest on the bonds.

\$1,230,000 REFUNDING CERTIFICATES OF PARTICIPATION, SERIES 2012B

The District entered into an agreement with U.S. Bank National Association for \$2,440,000 of Certificates of Participation, Series 2005A in a lease – purchase agreement. The agreement was for the District to construct an administrative building to serve as the District headquarters. The District had requested the trustee to serve both as lessor under a lease purchase agreement and trustee. The \$1,230,000 Refunding Certificates of Participation refunded the Series 2005A Certificates of Participation. The final maturity date is February 1, 2020.

\$3,860,000 GENERAL OBLIGATION DRAINAGE BONDS, SERIES 2016A

The District sold the \$3,860,000 2016A Bonds on November 15, 2016 for the purpose of funding eligible ongoing maintenance and repairs for the Beltline and Battle Creek Tunnel repair project. The term of the bond is 15 years, at an interest rate of 2.0% - 2.5% per annum. The final maturity date is February 1, 2032.

PLEDGED REVENUE

Future revenue pledged for the payment of long-term debt is as follows:

| Bond Issue | Use of Proceeds | Revenue Pledged | | | Remaining Principal and Interest | Current Year | |
|------------|---|-----------------|-------------------------------|----------------|----------------------------------|-----------------------------|--------------------------|
| | | Type | Percent of Total Debt Service | Term of Pledge | | Principal and Interest Paid | Pledged Revenue Received |
| 2016A Bond | Beltline and Battle Creek Tunnel Repair | Property Taxes | 100% | 2016 - 2031 | \$3,932,961 | \$305,393 | \$399,113 |

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
NOTES TO FINANCIAL STATEMENTS
December 31, 2019

Note 8 CONTINGENCIES

The District’s management has indicated that there are no pending lawsuits or other actions in which the District is a defendant.

Note 9 COMMITTED CONTRACTS

At December 31, 2019, the District had committed contracts of \$209,253 for construction/repair projects.

Note 10 FUND BALANCE

A. CLASSIFICATIONS

At December 31, 2019, a summary of the governmental fund balance classifications are as follows:

| | <u>General Fund</u> | <u>General Obligation Bonds</u> | <u>Certificates of Participation</u> | <u>Capital Projects CIB</u> | <u>Total</u> |
|-----------------------|------------------------|---|--|-------------------------------------|-------------------------|
| Nonspendable: | | | | | |
| Prepaid items | \$34,825 | \$271,081 | \$120,358 | \$ - | \$426,264 |
| Restricted for: | | | | | |
| Debt service | - | 981,267 | 10,102 | - | 991,369 |
| Assigned for: | | | | | |
| Construction/projects | - | - | - | 7,029,812 | 7,029,812 |
| Unassigned | <u>4,598,342</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>4,598,342</u> |
| Total | <u>\$4,633,167</u> | <u>\$1,252,348</u> | <u>\$130,460</u> | <u>\$7,029,812</u> | <u>\$13,045,787</u> |

B. MINIMUM UNASSIGNED FUND BALANCE POLICY

The Board has formally adopted a policy regarding the minimum unassigned fund balance for the General Fund. The most significant revenue source of the General Fund is property taxes. This revenue source is received in two installments during the year – June and December. As such, it is the District’s goal to begin each fiscal year with sufficient working capital to fund operations between each semi-annual receipt of property taxes.

The policy establishes a year end targeted unassigned fund balance amount for cash-flow timing needs, emergencies/contingencies and compensated absences of 50% of the subsequent year’s budgeted expenditures. At December 31, 2019, the unassigned fund balance of the General Fund was 115% of the subsequent year’s budgeted expenditures.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
NOTES TO FINANCIAL STATEMENTS
December 31, 2019

Note 11 INTERFUND ACTIVITY

Individual fund interfund receivable and payable balances at December 31, 2019 are as follows:

| <u>Fund</u> | <u>Receivable</u> | <u>Payable</u> |
|-------------------------------|-------------------|------------------|
| General Fund | \$115,530 | \$ - |
| Certificates of Participation | - | 115,530 |
| Total | <u>\$115,530</u> | <u>\$115,530</u> |

Interfund receivables and payables are representative of lending/borrowing arrangements to cover deficit cash balances at the end of the fiscal year.

During 2019, the District transferred \$863,674 from the Capital Projects CIB fund to the General Obligation Bonds fund. This amount represents unspent bond proceeds and other funds restricted for the Beltline and Battle Creek Tunnel Repair project which was completed in 2018.

Note 12 RISK MANAGEMENT

The District is exposed to various risks of loss related to torts; theft of, damage to and destruction of assets; errors and omissions; injuries to employees; and natural disasters.

Workers compensation coverage for District employees and council members is provided through a pooled self-insurance program through the League of Minnesota Cities Insurance Trust (LMCIT). The District pays an annual premium to LMCIT. The District is subject to supplemental assessments if deemed necessary by the LMCIT. The LMCIT reinsures through Workers Compensation Reinsurance Association (WCRA) as required by law. For workers compensation, the District is not subject to a deductible. The District workers compensation coverage is retrospectively rated. With this type of coverage, final premiums are determined after loss experience is known. The amount of premium adjustment, if any, is considered immaterial and not recorded until received or paid.

Other insurance coverage is provided through a pooled self-insurance program through the LMCIT. The District pays an annual premium to the LMCIT. The District is subject to supplemental assessments if deemed necessary by the LMCIT. The LMCIT reinsures through commercial companies for claims in excess of various amounts. The District retains risk for the deductible portions of the insurance policies. The amount of these deductibles is considered immaterial to the financial statements.

There were no significant reductions in insurance from the previous year or settlements in excess of insurance coverage for any of the past three fiscal years.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
NOTES TO FINANCIAL STATEMENTS
December 31, 2019

Note 13 RECENTLY ISSUED ACCOUNTING STANDARDS

The Governmental Accounting Standards Board (GASB) recently approved the following statements which were not implemented for these financial statements:

Statement No. 87 *Leases*. The provisions of this Statement are effective for reporting periods beginning after December 15, 2019.

Statement No. 89 *Accounting for Interest Cost Incurred before the End of a Construction Period*. The provisions of this Statement are effective for reporting periods beginning after December 15, 2019.

Statement No. 91 *Conduit Debt Obligations*. The provisions of this Statement are effective for reporting periods beginning after December 15, 2020.

The effect these standards may have on future financial statements is not determinable at this time.

Note 14 SUBSEQUENT EVENTS AND UNCERTAINTIES

The COVID-19 pandemic continues to cause rapidly changing disruptions world-wide. Management has evaluated these conditions and believes that it is not possible to reasonably estimate the financial impact, if any, of COVID-19 on the District's financial statements at December 31, 2019.

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REQUIRED SUPPLEMENTARY INFORMATION

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

REQUIRED SUPPLEMENTARY INFORMATION

BUDGETARY COMPARISON SCHEDULE - GENERAL FUND

For The Year Ended December 31, 2019

With Comparative Actual Amounts For The Year Ended December 31, 2018

Statement 6

Page 1 of 2

| | 2019 | | | Variance with Final Budget - Positive (Negative) | 2018 Actual Amounts |
|--------------------------------------|------------------|------------------|-------------------|---|---------------------------|
| | Budgeted Amounts | | Actual Amounts | | |
| | Original | Final | | | |
| Revenues: | | | | | |
| General property taxes | \$2,609,500 | \$2,609,500 | \$2,576,244 | (\$33,256) | \$2,564,734 |
| Intergovernmental - grants | 80,000 | 80,000 | 56,860 | (23,140) | 33,785 |
| Stormwater impact payment | - | - | 344,782 | 344,782 | 38,660 |
| Investment income | 20,000 | 20,000 | 107,747 | 87,747 | 76,735 |
| Permit escrow fees | 15,000 | 15,000 | 15,180 | 180 | 10,500 |
| Refunds and reimbursements | - | - | 33,953 | 33,953 | 8,468 |
| Other | - | - | 13,742 | 13,742 | 13,620 |
| Total revenues | 2,724,500 | 2,724,500 | 3,148,508 | 424,008 | 2,746,502 |
| Expenditures: | | | | | |
| General government: | | | | | |
| Engineering: | | | | | |
| Administration | 93,000 | 93,000 | 74,260 | 18,740 | 75,833 |
| Permit review | 55,000 | 55,000 | 47,186 | 7,814 | 54,018 |
| Engineer review | 65,000 | 65,000 | 41,270 | 23,730 | 47,972 |
| Subtotal engineering | 213,000 | 213,000 | 162,716 | 50,284 | 177,823 |
| Consulting | 40,000 | 40,000 | - | 40,000 | 7,832 |
| District training | 25,000 | 25,000 | 25,222 | (222) | 22,430 |
| Dues | 11,000 | 11,000 | 10,097 | 903 | 10,152 |
| Employee expenses | 10,000 | 10,000 | 7,910 | 2,090 | 5,742 |
| Insurance | 35,000 | 35,000 | 36,122 | (1,122) | 33,865 |
| Legal and audit | 105,000 | 105,000 | 83,984 | 21,016 | 66,814 |
| Manager's per diem and expenses | 10,000 | 10,000 | 9,796 | 204 | 5,129 |
| Miscellaneous | 5,000 | 5,000 | 538 | 4,462 | 400 |
| Office equipment and maintenance | 360,000 | 360,000 | 162,076 | 197,924 | 43,990 |
| Office supplies and postage | 15,000 | 15,000 | 5,728 | 9,272 | 7,632 |
| Printing | 8,000 | 8,000 | 6,002 | 1,998 | 5,100 |
| Salaries/payroll taxes/benefits | 1,385,000 | 1,385,000 | 1,354,626 | 30,374 | 1,219,782 |
| Telephone | 8,000 | 8,000 | 6,442 | 1,558 | 3,694 |
| Utilities | 20,000 | 20,000 | 25,125 | (5,125) | 16,864 |
| Vehicle lease and maintenance | 43,000 | 43,000 | 75,168 | (32,168) | 49,579 |
| Water quality monitoring | 300,000 | 300,000 | 219,551 | 80,449 | 164,898 |
| GIS system maintenance and equipment | 20,000 | 20,000 | (1,135) | 21,135 | 5,401 |
| Internet/website | 45,000 | 45,000 | 40,900 | 4,100 | 35,051 |
| Project operations | 160,000 | 160,000 | 28,642 | 131,358 | 92,068 |
| Committee expenditures | 3,500 | 3,500 | 3,669 | (169) | 3,141 |
| Communications and marketing | 25,000 | 25,000 | 6,001 | 18,999 | 6,691 |
| Total general government | 2,846,500 | 2,846,500 | 2,269,180 | 577,320 | 1,984,078 |

See accompanying notes to the required supplementary information.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

REQUIRED SUPPLEMENTARY INFORMATION

BUDGETARY COMPARISON SCHEDULE - GENERAL FUND

For The Year Ended December 31, 2019

With Comparative Actual Amounts For The Year Ended December 31, 2018

Statement 6

Page 2 of 2

| | 2019 | | Actual Amounts | Variance with Final Budget - Positive (Negative) | 2018 Actual Amounts |
|------------------------------------|----------------------|----------------------|--------------------|---|---------------------------|
| | Budgeted Amounts | | | | |
| | Original | Final | | | |
| Watershed programs: | | | | | |
| Project feasibility studies | \$790,000 | \$790,000 | \$434,794 | \$355,206 | \$315,190 |
| Education programming | 60,000 | 60,000 | 16,096 | 43,904 | 32,224 |
| Natural resources program | 115,000 | 115,000 | 109,034 | 5,966 | 98,014 |
| Research projects | 115,000 | 115,000 | 59,457 | 55,543 | 65,835 |
| Waterfest | 50,000 | 50,000 | 39,445 | 10,555 | 41,987 |
| NPDES Phase II | 10,000 | 10,000 | - | 10,000 | 10,262 |
| Health and safety program | 3,000 | 3,000 | 1,043 | 1,957 | 2,748 |
| Lake Studies/WRAPS/TMDL | 68,000 | 68,000 | 4,115 | 63,885 | 18,725 |
| Outside programs | 67,000 | 67,000 | 46,730 | 20,270 | 42,791 |
| Total watershed programs | <u>1,278,000</u> | <u>1,278,000</u> | <u>710,714</u> | <u>567,286</u> | <u>627,776</u> |
| Total expenditures | <u>4,124,500</u> | <u>4,124,500</u> | <u>2,979,894</u> | <u>1,144,606</u> | <u>2,611,854</u> |
| Revenues over (under) expenditures | <u>(\$1,400,000)</u> | <u>(\$1,400,000)</u> | 168,614 | <u>\$1,568,614</u> | 134,648 |
| Fund balance - January 1 | | | <u>4,464,553</u> | | <u>4,329,905</u> |
| Fund balance - December 31 | | | <u>\$4,633,167</u> | | <u>\$4,464,553</u> |

See accompanying notes to the required supplementary information.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
 REQUIRED SUPPLEMENTARY INFORMATION
 SCHEDULE OF PROPORTIONATE SHARE OF NET PENSION LIABILITY -
 GENERAL EMPLOYEES RETIREMENT FUND
 For The Last Ten Years

Statement 7

| Measurement Date June 30 | Fiscal Year Ending December 31 | District's Proportionate (Percentage) of the Net Pension Liability | District's Proportionate Share (Amount) of the Net Pension Liability (a) | State's Proportionate Share (Amount) of the Net Pension Liability Associated with District (b) | District's Proportionate Share of the Net Pension Liability and the State's Proportionate Share of the Net Pension Liability Associated with District (a+b) | Covered Payroll (c) | Proportionate Share of the Net Pension Liability as a Percentage of its Covered Payroll (a+b)/c | Plan Fiduciary Net Position as a Percentage of the Total Pension Liability |
|-----------------------------|-----------------------------------|--|--|--|---|---------------------|---|--|
| 2015 | 2015 | 0.0132% | \$684,093 | \$ - | \$684,093 | \$773,820 | 88.4% | 78.2% |
| 2016 | 2016 | 0.0120% | 974,340 | 12,771 | 987,111 | 747,482 | 132.1% | 68.9% |
| 2017 | 2017 | 0.0125% | 797,992 | 10,038 | 808,030 | 805,604 | 100.3% | 75.9% |
| 2018 | 2018 | 0.0127% | 704,544 | 23,081 | 727,625 | 852,560 | 85.3% | 79.5% |
| 2019 | 2019 | 0.0128% | 707,683 | 21,999 | 729,682 | 903,338 | 80.8% | 80.2% |

The schedule is provided prospectively beginning with the District's fiscal year ended December 31, 2015 and is intended to show a ten year trend. Additional years will be reported as they become available.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF PENSION CONTRIBUTIONS - GENERAL EMPLOYEES RETIREMENT FUND
For The Last Ten Years

Statement 8

| Fiscal Year Ending December 31 | Statutorily Required Contribution (a) | Contributions in Relation to the Statutorily Required Contribution (b) | Contribution Deficiency (Excess) (a-b) | Covered Payroll (c) | Contributions as a Percentage of Covered Payroll (b/c) |
|--------------------------------------|--|---|---|---------------------------|---|
| 2015 | \$57,121 | \$57,121 | \$ - | \$761,606 | 7.5% |
| 2016 | 57,310 | 57,310 | - | 764,138 | 7.5% |
| 2017 | 60,595 | 60,595 | - | 807,938 | 7.5% |
| 2018 | 65,933 | 65,933 | - | 879,103 | 7.5% |
| 2019 | 68,723 | 68,723 | - | 916,307 | 7.5% |

The schedule is provided prospectively beginning with the District's fiscal year ended December 31, 2015 and is intended to show a ten year trend. Additional years will be reported as they become available.

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RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
REQUIRED SUPPLEMENTARY INFORMATION
NOTES TO RSI
December 31, 2019

Note A LEGAL COMPLIANCE – BUDGETS

The General Fund budget is legally adopted on a basis consistent with accounting principles generally accepted in the United States of America. The legal level of budgetary control is at the fund level for the General Fund.

Note B PENSION INFORMATION

PERA – General Employees Retirement Fund

2019 Changes

Changes in Actuarial Assumptions:

- The mortality projection scale was changed from MP-2017 to MP-2018.

Changes in the Plan Provisions

- The employer supplemental contribution was changed prospectively, decreasing from \$31.0 million to \$21.0 million per year. The State's special funding contribution was changed prospectively, requiring \$16.0 million due per year through 2031.

2018 Changes

Changes in Actuarial Assumptions:

- The mortality projection scale was changed from MP-2015 to MP-2017.
- The assumed benefit increase was changed from 1.0% per year through 2044 and 2.50% per year thereafter to 1.25% per year.

2017 Changes

Changes in Actuarial Assumptions

- The Combined Service Annuity (CSA) loads were changed from 0.8% for active members and 60% for vested and non-vested deferred members. The revised CSA loads are 0.0% for active member liability, 15.0% for vested deferred member liability and 3.0% for non-vested deferred member liability.
- The assumed post-retirement benefit increase rate was changed from 1.0% per year for all years to 1.0% per year through 2044 and 2.5% per year thereafter.

2016 Changes

Changes in Actuarial Assumptions:

- The assumed post-retirement benefit increase rate was changed from 1.0% per year through 2035 and 2.5% per year thereafter to 1.0% per year for all future years.
- The assumed investment return was changed from 7.9% to 7.5%. The single discount rate was changed from 7.9% to 7.5%.
- Other assumptions were changed pursuant to the experience study dated June 30, 2015. The assumed future salary increases, payroll growth, and inflation were decreased by 0.25% to 3.25% for payroll growth and 2.50% for inflation.

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INDIVIDUAL FUND FINANCIAL STATEMENTS

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

COMPARATIVE BALANCE SHEET

Statement 9

GENERAL FUND

December 31, 2019

With Comparative Totals For December 31, 2018

| | <u>2019</u> | <u>2018</u> |
|--|---------------------------|---------------------------|
| Assets: | | |
| Cash and investments | \$5,838,073 | \$5,257,503 |
| Due from other governmental units | 120,809 | 117,413 |
| Due from other funds | 115,530 | 185,709 |
| Property taxes receivable: | | |
| Delinquent | 47,333 | 34,502 |
| Due from county | 32,748 | 35,260 |
| Prepaid items | <u>34,825</u> | <u>12,936</u> |
| Total assets | <u><u>\$6,189,318</u></u> | <u><u>\$5,643,323</u></u> |
| Liabilities: | | |
| Accounts payable | \$38,730 | \$41,761 |
| Salaries payable | 21,209 | 16,147 |
| Due to other governmental units | 5,780 | 10,655 |
| Escrow deposits payable | <u>1,375,739</u> | <u>974,665</u> |
| Total liabilities | <u><u>1,441,458</u></u> | <u><u>1,043,228</u></u> |
| Deferred inflows of resources: | | |
| Unavailable revenue | <u>114,693</u> | <u>135,542</u> |
| Fund balance: | | |
| Nonspendable | 34,825 | 12,936 |
| Unassigned | <u>4,598,342</u> | <u>4,451,617</u> |
| Total fund balance | <u><u>4,633,167</u></u> | <u><u>4,464,553</u></u> |
| Total liabilities, deferred inflows of resources, and fund balance | <u><u>\$6,189,318</u></u> | <u><u>\$5,643,323</u></u> |

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
COMPARATIVE STATEMENT OF REVENUE, EXPENDITURES AND
CHANGES IN FUND BALANCE
GENERAL FUND

Statement 10

For The Year Ended December 31, 2019

With Comparative Totals For The Year Ended December 31, 2018

| | <u>2019</u> | <u>2018</u> |
|----------------------------|---------------------------|---------------------------|
| Revenues: | | |
| General property taxes | \$2,576,244 | \$2,564,734 |
| Intergovernmental - grants | 56,860 | 33,785 |
| Stormwater impact payment | 344,782 | 38,660 |
| Investment income | 107,747 | 76,735 |
| Permit escrow fees | 15,180 | 10,500 |
| Refunds and reimbursements | 33,953 | 8,468 |
| Other | 13,742 | 13,620 |
| Total revenues | <u>3,148,508</u> | <u>2,746,502</u> |
| Expenditures: | | |
| Current: | | |
| General government | 2,195,910 | 1,934,950 |
| Programs | 716,715 | 634,467 |
| Capital outlay | 67,269 | 42,437 |
| Total expenditures | <u>2,979,894</u> | <u>2,611,854</u> |
| Revenues over expenditures | 168,614 | 134,648 |
| Fund balance - January 1 | <u>4,464,553</u> | <u>4,329,905</u> |
| Fund balance - December 31 | <u><u>\$4,633,167</u></u> | <u><u>\$4,464,553</u></u> |

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OTHER INFORMATION - UNAUDITED

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RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
TAXABLE VALUATIONS, TAX LEVIES AND TAX RATES - UNAUDITED

Exhibit 1

| | 2019/20 | | 2018/19 | | 2017/18 | | 2016/17 | |
|----------------------|----------------------|-------------------|----------------------|-------------------|----------------------|-------------------|----------------------|-------------------|
| | Tax Capacity | | Tax Capacity | | Tax Capacity | | Tax Capacity | |
| | Values | | Values | | Values | | Values | |
| Taxable valuations: | | | | | | | | |
| Washington County | \$35,312,865 | ** | \$38,883,443 | | \$35,953,519 | | \$33,577,746 | |
| Ramsey County | 162,368,516 | ** | 153,459,180 | | 142,027,646 | | 131,503,926 | |
| Total | <u>\$197,681,381</u> | | <u>\$192,342,623</u> | | <u>\$177,981,165</u> | | <u>\$165,081,672</u> | |
| Tax levies extended: | | | | | | | | |
| Extended in year | 2019 | | 2018 | | 2017 | | 2016 | |
| Collectible in year | 2020 | | 2019 | | 2018 | | 2017 | |
| | Levy | Tax Capacity Rate | Levy | Tax Capacity Rate | Levy | Tax Capacity Rate | Levy | Tax Capacity Rate |
| General Fund | \$2,499,500 | 1.300 | \$2,609,500 | 1.357 | \$2,562,550 | 1.453 | \$3,121,500 | 1.934 |
| Debt levy | 92,611 | .048 | 399,113 | .208 | 448,951 | .255 | 238,977 | .148 |
| CIB Fund | 4,211,885 | 2.190 | 3,754,885 | 1.952 | 3,859,885 | 2.189 | 3,205,383 | 1.985 |
| Total | <u>\$6,803,996</u> | <u>3.538</u> | <u>\$6,763,498</u> | <u>3.538</u> | <u>\$6,871,386</u> | <u>3.897</u> | <u>\$6,565,860</u> | <u>4.067</u> |

** - Based on the 2020 proposed value, final value was not available.

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
CIB FUND - UNAUDITED
SCHEDULE OF FINANCIAL ACTIVITY FROM INCEPTION

| Project | CIB Year | Expenditures | | |
|---|-------------|--------------|-----------|--------------|
| | | Prior Years | 2019 | Total |
| Completed projects: | | | | |
| Subtotal - completed projects | 1987-2013 | \$30,056,825 | \$ - | \$30,056,825 |
| Projects recently closed: | | | | |
| 519 - District Office Retrofit | 2015 | 115,836 | 25,763 | 141,599 |
| 549 - Beltline/Battle Creek | 2016 | 3,867,900 | - | 3,867,900 |
| 550 - Frost/Kennard Project | 2016 | 403,950 | - | 403,950 |
| 551 - Markham Pond Project | 2016 | 461,272 | 5,842 | 467,114 |
| 554 - Willow Pond Project | 2018 | 444,537 | (259) | 444,278 |
| Current CIB projects: | | | | |
| 516 - Project Maintenance and Repair | 1992-2018 | 10,336,740 | 1,072,788 | 11,409,528 |
| 529 - BMP Incentive Grant Program | 2007-2018 | 3,927,886 | 911,526 | 4,839,412 |
| 528 - Faith Based Volume Reduction | 2013 | 425,554 | - | 425,554 |
| 531 - Volume Reduction Opportunity Fund | 2014 | - | - | - |
| 518 - School/Commercial Site Retrofit | 2015 | 1,080,615 | 1,244,485 | 2,325,100 |
| 520 - Flood Damage | 2015 | 594,630 | 334,528 | 929,158 |
| 553 - Wakefield Project | 2017 | 52,493 | 780,937 | 833,430 |
| Subtotal | | 21,711,413 | 4,375,610 | 26,087,023 |
| 580 - CIB contingency account | | 266,879 | - | 266,879 |

| Revenue | Revenue | | | | | Revenue |
|----------------------------------|---------------|-------------------|-------------------------|-----------------------------|---------------|---------------------------|
| Prior Years Revenue | 2019 CIB Levy | Investment Income | Transfers/ Reallocation | Grant/Project Reimbursement | Total Revenue | Over/(Under) Expenditures |
| \$30,097,208 | \$ - | \$ - | \$ - | \$ - | \$30,097,208 | \$40,383 |
| 148,641 | - | - | (7,042) | - | 141,599 | - |
| 4,731,574 | - | - | (863,674) | - | 3,867,900 | - |
| 473,967 | - | - | (70,017) | - | 403,950 | - |
| 571,651 | - | - | (75,678) | 4,791 | 500,764 | 33,650 |
| 399,949 | - | - | - | - | 399,949 | (44,329) |
| 11,288,703 | 1,105,727 | - | - | 175,457 | 12,569,887 | 1,160,359 |
| 4,118,255 | 617,035 | - | - | - | 4,735,290 | (104,122) |
| 624,337 | 617,035 | - | - | - | 1,241,372 | 815,818 |
| 1,484,215 | - | - | - | - | 1,484,215 | 1,484,215 |
| 2,075,340 | 197,451 | - | - | - | 2,272,791 | (52,309) |
| 2,418,548 | 977,383 | - | - | 99,047 | 3,494,978 | 2,565,820 |
| 1,101,779 | - | - | - | - | 1,101,779 | 268,349 |
| 29,436,959 | 3,514,631 | 0 | (1,016,411) | 279,295 | 32,214,474 | 6,127,451 |
| 825,481 | - | 150,639 | 152,737 | - | 1,128,857 | 861,978 |
| Fund balance - December 31, 2019 | | | | | | \$7,029,812 |

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
COMBINED SCHEDULE OF INDEBTEDNESS - UNAUDITED
 December 31, 2019

| | <u>Dated</u> | <u>Final Due Date</u> | <u>Net Interest Rate</u> |
|---|--------------|-------------------------------|----------------------------------|
| Bonded indebtedness: | | | |
| General Obligation Debt: | | | |
| G.O. Bonds of 2012 - PFA Bond | 5/5/2012 | 8/20/2027 | 1.70% |
| Refunding Certificates of Participation, Series 2012B | 12/5/2012 | 2/1/2020 | 1.22% |
| G.O. Drainage Bonds of 2016A | 11/15/2016 | 2/1/2032 | 2.09% |
| Total bonded indebtedness | | | |
| Unamortized bond premiums | | | |
| Compensated absences | | | |
| Total indebtedness | | | |

| Authorized and Issued | Retired | Outstanding 12/31/19 | Due in 2020 | |
|--------------------------|--------------------|-------------------------|------------------|-----------------|
| | | | Principal | Interest |
| \$1,177,217 | \$492,217 | \$685,000 | \$81,000 | \$11,611 |
| 1,230,000 | 1,110,000 | 120,000 | 120,000 | 990 |
| <u>3,860,000</u> | <u>435,000</u> | <u>3,425,000</u> | <u>235,000</u> | <u>69,813</u> |
| <u>6,267,217</u> | <u>2,037,217</u> | <u>4,230,000</u> | <u>436,000</u> | <u>82,414</u> |
| | | 63,567 | - | - |
| | | <u>99,563</u> | <u>96,798</u> | <u>-</u> |
| <u>\$6,267,217</u> | <u>\$2,037,217</u> | <u>\$4,393,130</u> | <u>\$532,798</u> | <u>\$82,414</u> |

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT
DEFERRED TAX LEVIES - PER BOARD RESOLUTIONS - UNAUDITED
 December 31, 2019

Exhibit 4

| Year of Levy/ Collection | G.O. Drainage Bonds of 2016A | Total |
|-----------------------------|---------------------------------|--------------------|
| 2019/2020 | \$322,836 | \$322,836 |
| 2020/2021 | 317,796 | 317,796 |
| 2021/2022 | 318,006 | 318,006 |
| 2022/2023 | 318,111 | 318,111 |
| 2023/2024 | 318,111 | 318,111 |
| 2024/2025 | 318,006 | 318,006 |
| 2025/2026 | 323,046 | 323,046 |
| 2026/2027 | 322,626 | 322,626 |
| 2027/2028 | 322,101 | 322,101 |
| 2028/2029 | 321,471 | 321,471 |
| 2029/2030 | 319,988 | 319,988 |
| 2030/2031 | 322,875 | 322,875 |
| Totals | <u>\$3,844,973</u> | <u>\$3,844,973</u> |

OTHER REQUIRED REPORTS

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REPORT ON INTERNAL CONTROL

To the Honorable Managers and Management of the
Ramsey-Washington Metro Watershed District
Little Canada, Minnesota

In planning and performing our audit of the financial statements of the governmental activities and each major fund of the Ramsey-Washington Metro Watershed District as of and for the year ended December 31, 2019, in accordance with auditing standards generally accepted in the United States of America, we considered the Ramsey-Washington Metro Watershed District's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Ramsey-Washington Metro Watershed District's internal control. Accordingly, we do not express an opinion on the effectiveness of the Ramsey-Washington Metro Watershed District's internal control.

A *deficiency* in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or combination of deficiencies in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis.

Our consideration of internal control was for the limited purpose described in the first paragraph and was not designed to identify all deficiencies in internal control that might be material weaknesses. Given these limitations, during our audit, we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

This communication is intended solely for the information and use of management, the Ramsey-Washington Metro Watershed District's Board of Managers, and others within the District, and is not intended to be, and should not be, used by anyone other than these specified parties.

Redpath and Company, Ltd.

REDPATH AND COMPANY, LTD.
St. Paul, Minnesota

April 7, 2020

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MINNESOTA LEGAL COMPLIANCE REPORT

To the Honorable Managers of the
Ramsey-Washington Metro Watershed District
Little Canada, Minnesota

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of the governmental activities and each major fund of the Ramsey-Washington Metro Watershed District as of and for the year ended December 31, 2019, and the related notes to the financial statements which collectively comprise the Ramsey-Washington Metro Watershed District's basic financial statements, and have issued our report thereon dated April 7, 2020.

In connection with our audit, nothing came to our attention that caused us to believe that the Ramsey-Washington Metro Watershed District failed to comply with the provisions of the contracting and bidding, deposits and investments, conflicts of interest, claims and disbursements, and miscellaneous provisions sections of the *Minnesota Legal Compliance Audit Guide for Other Political Subdivisions*, promulgated by the State Auditor pursuant to Minn. Stat. § 6.65, insofar as they relate to accounting matters. However, our audit was not directed primarily toward obtaining knowledge of such noncompliance. Accordingly, had we performed additional procedures, other matters may have come to our attention regarding the Ramsey-Washington Metro Watershed District's noncompliance with the above referenced provisions, insofar as they relate to accounting matters.

This report is intended solely for the information and use of those charged with governance and management of the Ramsey-Washington Metro Watershed District and the State Auditor and is not intended to be, and should not be, used by anyone other than these specified parties.

Redpath and Company, Ltd.

REDPATH AND COMPANY, LTD.
St. Paul, Minnesota

April 7, 2020

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Permit Application Coversheet

Date May 06, 2020

Project Name Woodbury PFAS Treatment Facility Project Number 20-17

Applicant Name Jim Westerman, City of Woodbury

Type of Development Industrial

Property Description

This project is located off Tower Drive adjacent to the Tamarack Swamp in the City of Woodbury. A temporary Erosion and Sediment Control permit was issued on 2/21/2020 to accommodate the project schedule. Construction is currently underway and has been regularly inspected by District staff. The applicant is proposing to complete a drinking water treatment facility in response to a municipal state of emergency for well contamination with the chemical group PFAS (per- and polyfluoroalkyl substances). Two filtration basins are proposed to meet stormwater treatment requirements. Filtration is being proposed due to the site's location in a DWSMA (Drinking Water Supply Management Area). Pretreatment will include filter strips and sumps. Impacts to the Tamarack Swamp are not anticipated, however the applicant did receive a wetland utility exemption for construction of a junction box in case there are any unforeseen impacts (#20-05 WCA). Temporarily disturbed areas will be restored.

Watershed District Policies or Standards Involved:

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

Water Quantity Considerations

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

Water Quality Considerations

Short Term

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

Long Term

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

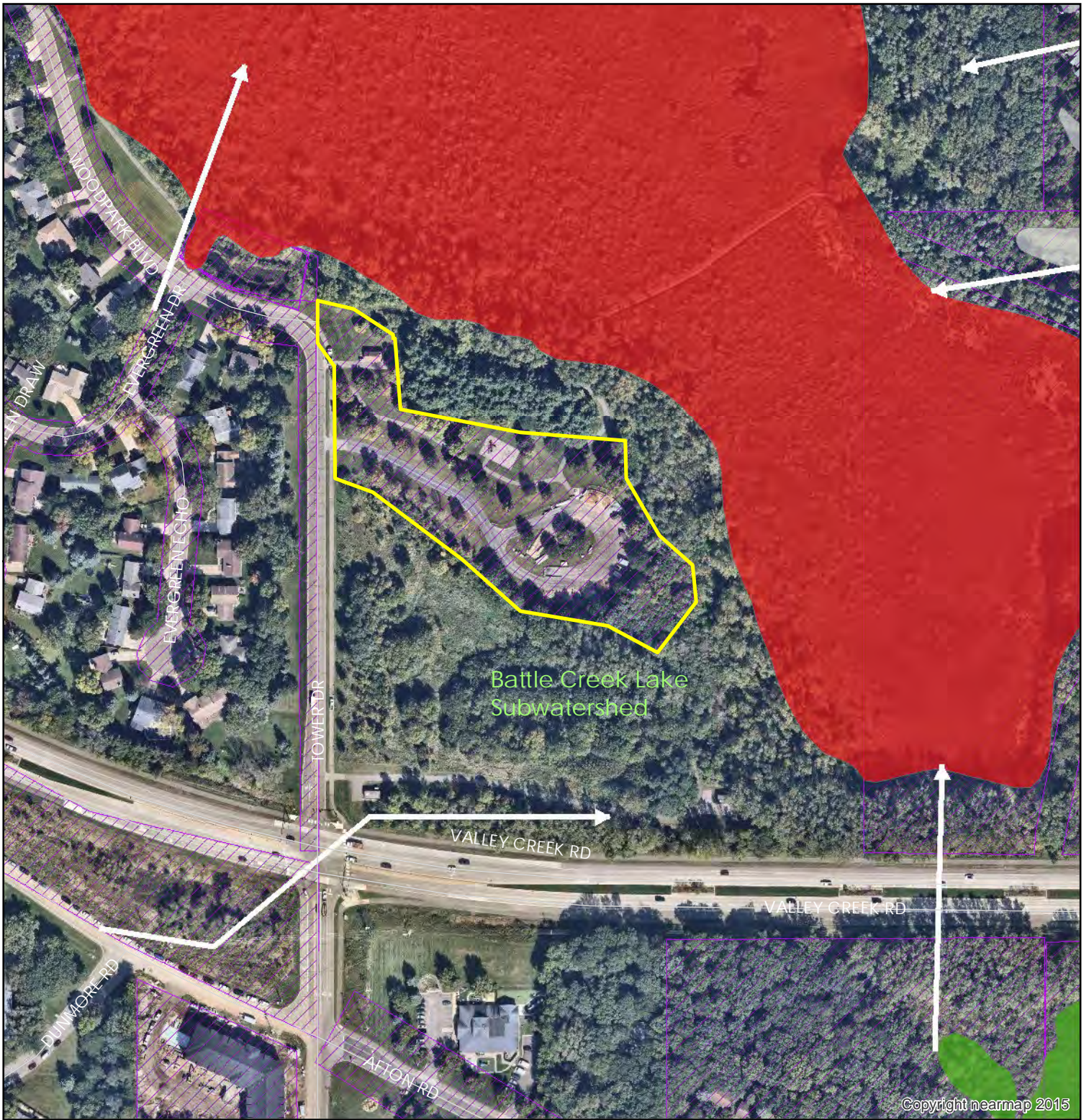
Staff Recommendation

Staff recommends approval of this permit with the special provision.

Attachments:

- Project Location Map
- Project Grading Plan

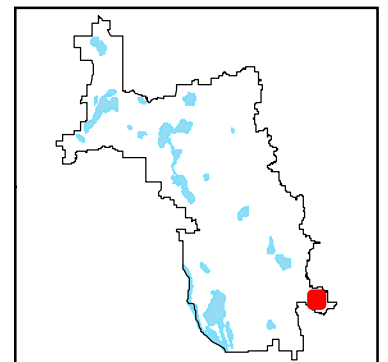
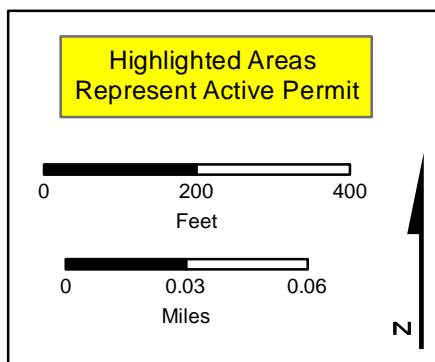
#20-17 Woodbury PFAS Treatment Facility



Wetlands

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

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



20-17

Special Provisions

1. The applicant shall add a note to Sheets C106 and C107: "Notify Nicole Soderholm, Ramsey-Washington Metro Watershed District, at least 48 hours prior to construction of the stormwater filtration basins."

| APP# | DATE | DESCRIPTION |
|------|---------|-------------------|
| CM | 5/06/20 | STORM SEWER ADDED |
| CM | 5/06/20 | TABLE ADDED |



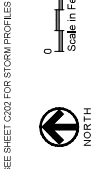
TEMPORARY PFAWS WTP DESIGN
CITY OF WOODBURY
WOODBURY, MINNESOTA
STORM SEWER PLAN

| | |
|---------------------|-------------------|
| PREPARED BY | DATE |
| DESIGNED BY | 2020-03-08 |
| CHECKED BY | |
| SCALE | CDM / CDM |
| PROJECT NUMBER | 2020-03-08 |
| CITY PROJECT NUMBER | 10557-4-2019-0008 |
| DRAWING NUMBER | 05-0020-01 |

C-108

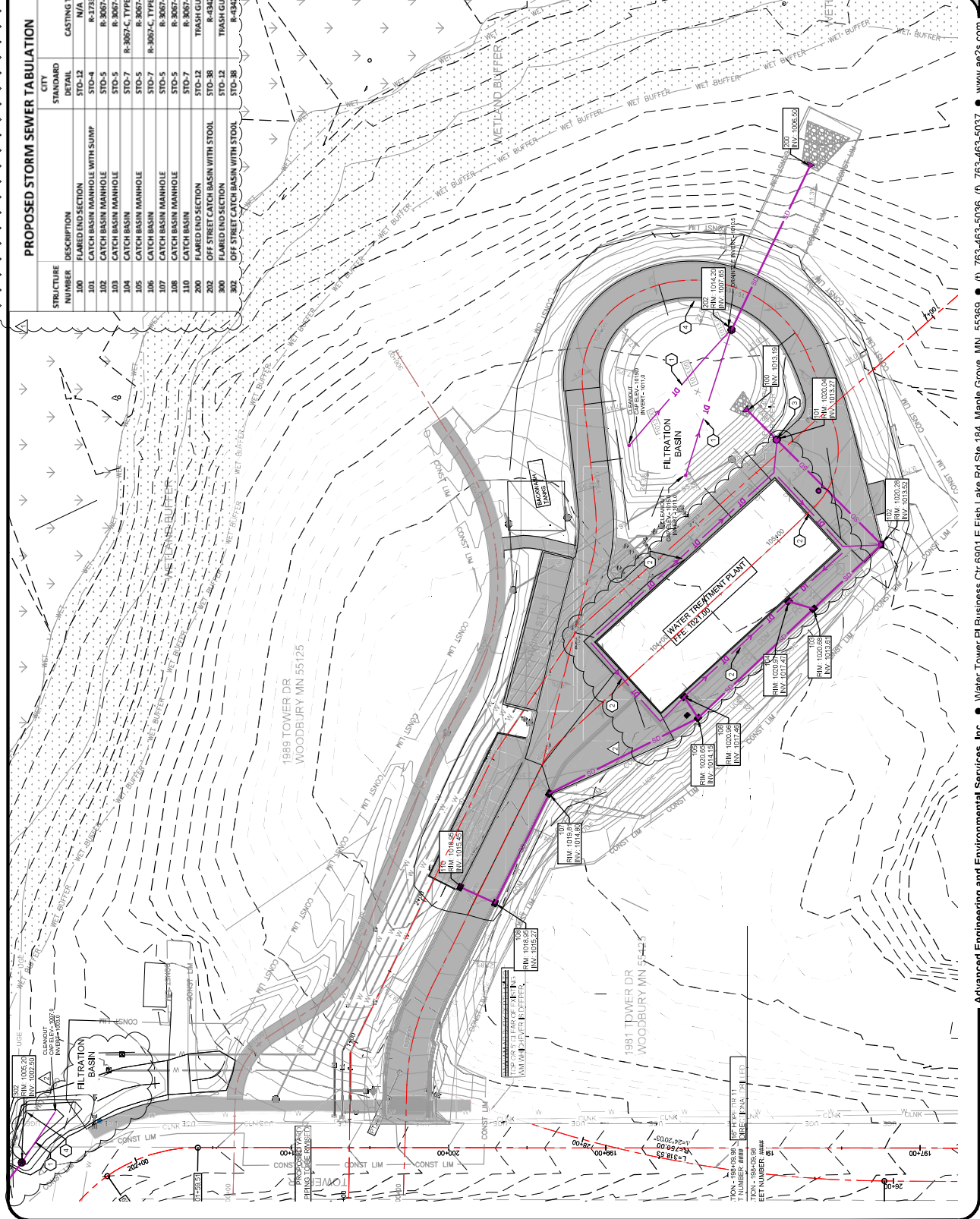
- LEGEND**
- PROPOSED ELEVATION
 - DRAINAGE FLOW ARROW
 - BOLLARD TYP

- CONSTRUCTION NOTES**
- PVC PERFORATED DRAINILE CONNECTED TO 18" MANHOLE WITH 1/2" SLOPE TO 18" MANHOLE (SEE CITY DETAIL ST-19)
 - PVC PERFORATED DRAINILE @ 0.2%
 - STRUCTURE 101 (CATCH BASIN, MM. STD. 60) WITH SUMP (SEE DETAIL ST-4)
 - EMERGENCY OVERFLOW ROUTE FOR FILTRATION BASIN
 - SIZE OF BOX STRUCTURE AGAINST BUILDINGS



PROPOSED STORM SEWER TABULATION

| STRUCTURE NUMBER | DESCRIPTION | CITY STANDARD DETAIL | CASTING TYPE |
|------------------|-----------------------------------|----------------------|-------------------------|
| 300 | FLARED END SECTION | STD-12 | N/A |
| 301 | CATCH BASIN MANHOLE WITH SUMP | STD-4 | R-3007-V |
| 302 | CATCH BASIN MANHOLE | STD-5 | R-3007-V |
| 303 | CATCH BASIN MANHOLE | STD-7 | R-3007-C TYPICAL GRIATE |
| 304 | CATCH BASIN MANHOLE | STD-5 | R-3007-V |
| 305 | CATCH BASIN MANHOLE | STD-5 | R-3007-C TYPICAL GRIATE |
| 306 | CATCH BASIN MANHOLE | STD-5 | R-3007-V |
| 307 | CATCH BASIN MANHOLE | STD-7 | R-3007-V |
| 308 | CATCH BASIN MANHOLE | STD-5 | R-3007-V |
| 309 | FLARED END SECTION | STD-12 | R-4342 |
| 310 | OFF STREET CATCH BASIN WITH STOOL | STD-38 | R-4342 |
| 311 | FLARED END SECTION | STD-12 | R-4342 |
| 312 | OFF STREET CATCH BASIN WITH STOOL | STD-38 | R-4342 |
| 313 | FLARED END SECTION | STD-12 | R-4342 |
| 314 | OFF STREET CATCH BASIN WITH STOOL | STD-38 | R-4342 |



Advanced Engineering and Environmental Services, Inc. • Water Tower Pl Business Cir 6901 E Fish Lake Rd Ste 184 Maple Grove, MN 55389 • (t) 763-463-5038 (f) 763-463-5037 • www.ae2s.com

Permit Application Coversheet

Date May 06, 2020

Project Name Maplewood Dennis-McClelland SIP Project Number 20-20

Applicant Name Jon Jarosch, City of Maplewood

Type of Development Linear

Property Description

This project is located in a residential neighborhood between Battle Creek and Upper Afton Road in the City of Maplewood. The applicant is proposing to reconstruct the street sections within project limits. The total site area is 12.6 acres. Two underground infiltration systems will be constructed to partially treat stormwater onsite. The applicant is proposing to withdraw the remaining volume from available banked credits. Rate control and TSS removal requirements have been met onsite with the proposed design. A number of residents in the affected neighborhood have expressed interest in rainwater gardens so there may be additional treatment onsite as the project progresses.

Watershed District Policies or Standards Involved:

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

Water Quantity Considerations

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

Water Quality Considerations

Short Term

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

Long Term

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

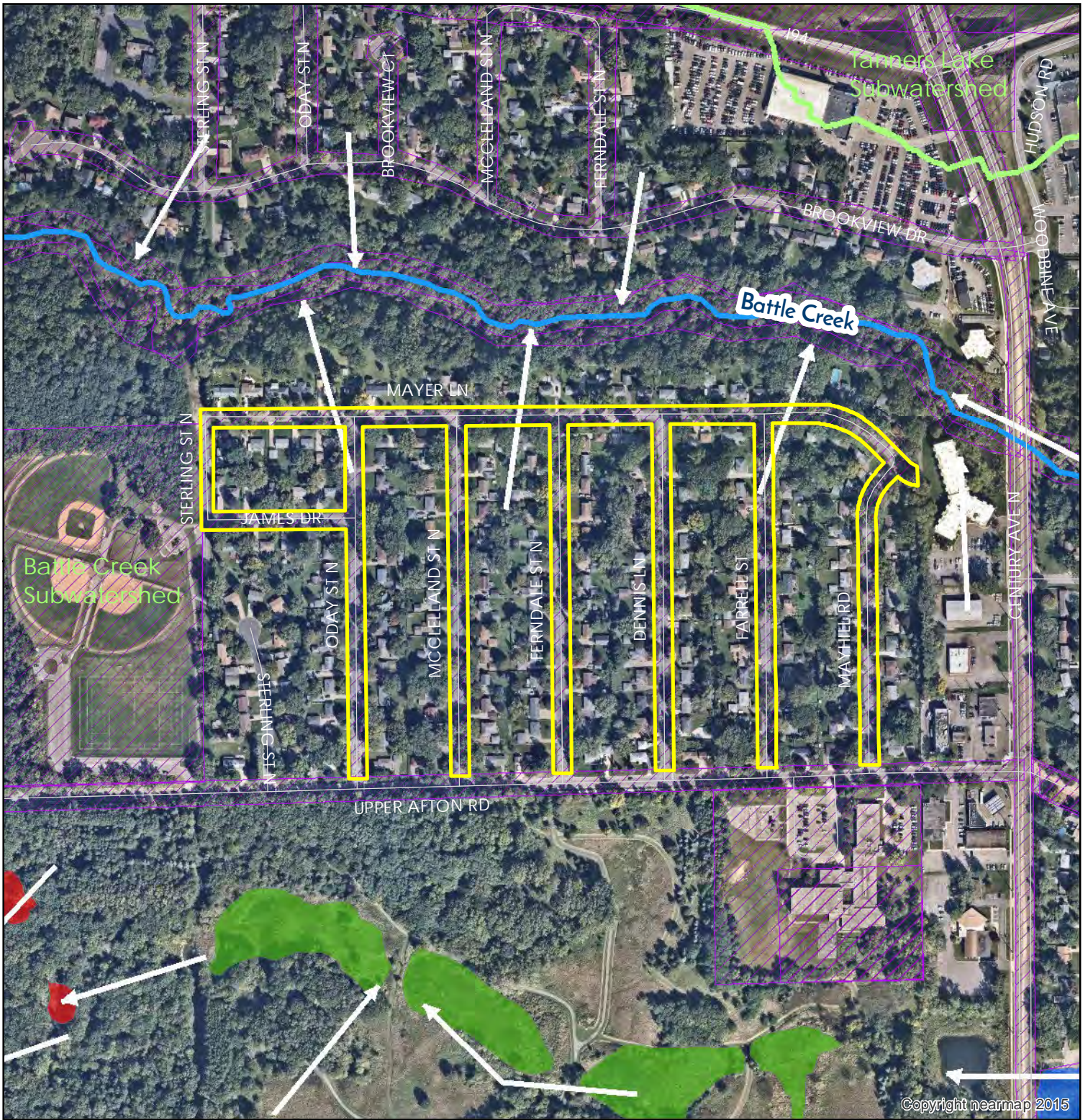
Staff Recommendation

Staff recommends approval of this permit with the special provisions.

Attachments:

- Project Location Map
- Project Grading Plan

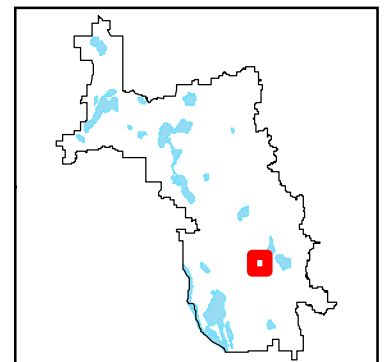
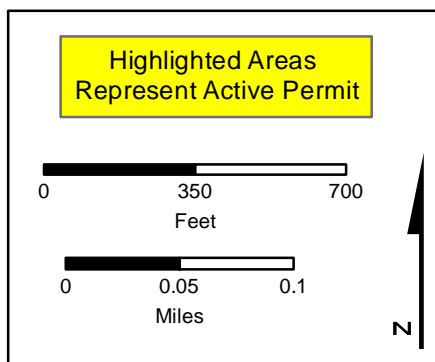
#20-20 Maplewood Dennis - McClelland SIP



Wetlands

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

| | |
|--|-------------------|
| | RWMWD Boundary |
| | Flow Arrows |
| | Major Flow Arrows |
| | Subwatersheds |
| | Creeks |
| | Permits |



Special Provisions

1. The applicant shall add notes to the plans:
 - A. **“Notify Nicole Soderholm, Ramsey-Washington Metro Watershed District, at 651-792-7976 prior to beginning construction activity to schedule an initial SWPPP inspection.”**
 - B. Provide direction on best practices for construction of underground infiltration systems.
 - C. **“Notify Nicole Soderholm, Ramsey-Washington Metro Watershed District, at 651-792-7976 at least 48 hours prior to installation of underground stormwater systems.”**
 - D. **“The specified erosion/sediment control practices are the minimum. Additional practices may be required during the course of construction.”**
2. The applicant shall submit the final, signed plans.
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 permit coverage for the project.

Permit Application Coversheet

Date May 06, 2020

Project Name Tartan High School Redevelopment Phase I Project Number 20-21

Applicant Name Randy Anderson, ISD 622

Type of Development Institutional

Property Description

This project is located at the existing Tartan High School campus off Greenway Avenue in the City of Oakdale. The applicant is proposing to complete Phase I of a larger redevelopment to be completed in the coming years. Phase I includes updating ballfields and a new field event/recreation area. The total site area is 18.7 acres. While the impervious area is minimal for this phase, the applicant is proposing to construct a filtration basin that will bank volume reduction credit for future phases of the project. Filtration is being proposed due to poor soils and high groundwater. Pretreatment will include sumped manholes with SAFL baffles. Subsequent phase(s) of the project will require additional permit application and review to ensure stormwater treatment requirements continue to be met.

Watershed District Policies or Standards Involved:

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

Water Quantity Considerations

There are no water quantity considerations.

Water Quality Considerations

Short Term

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

Long Term

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

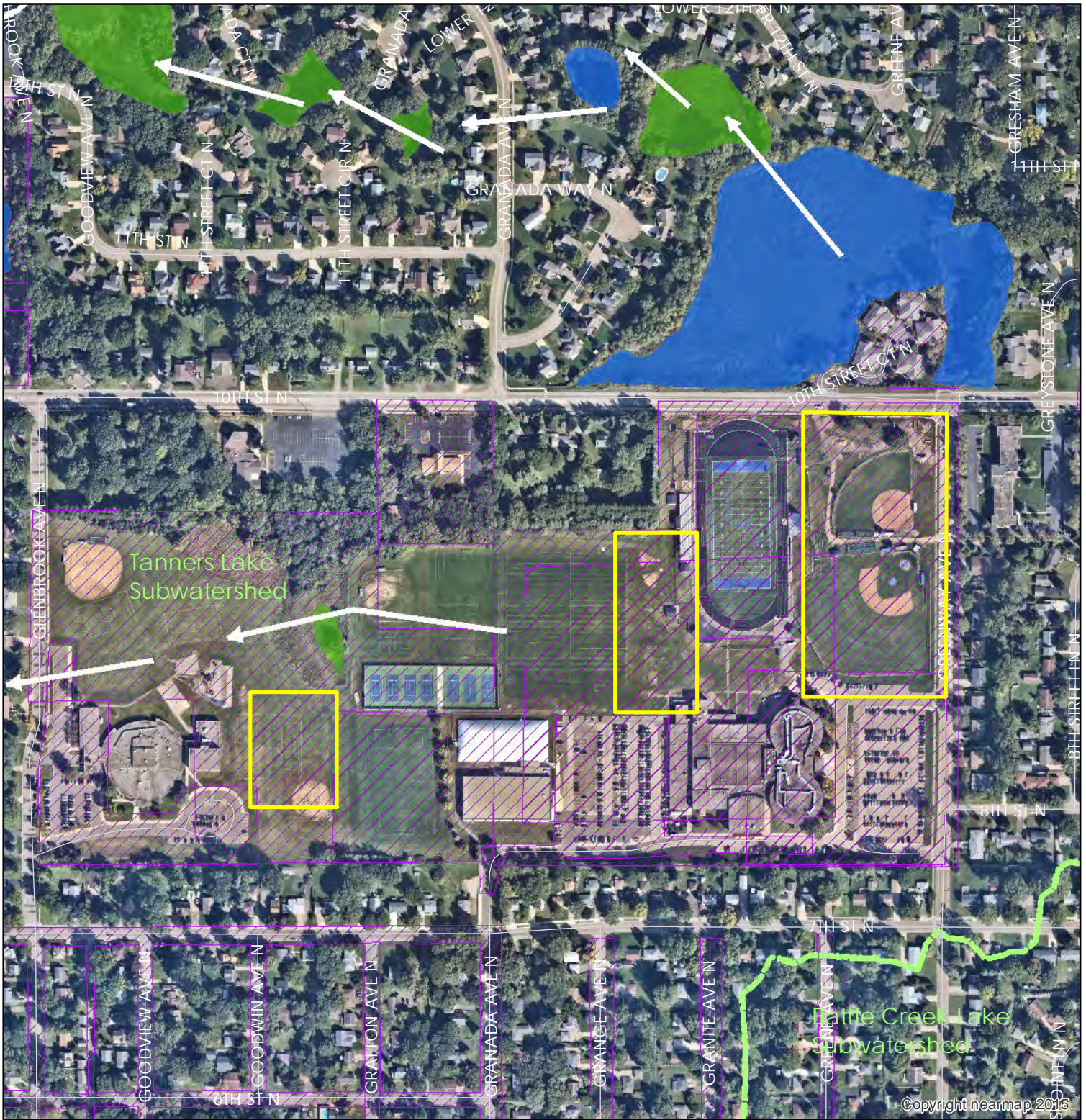
Staff Recommendation

Staff recommends approval of this permit with the special provisions.

Attachments:

- Project Location Map
 Project Grading Plan

#20-21 Tartan High School Redevelopment Phase I



Wetlands

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

- RWMWD Boundary
- Flow Arrows
- ➔ Major Flow Arrows
- Subwatersheds
- Creeks
- Permits

**Highlighted Areas
Represent Active Permit**

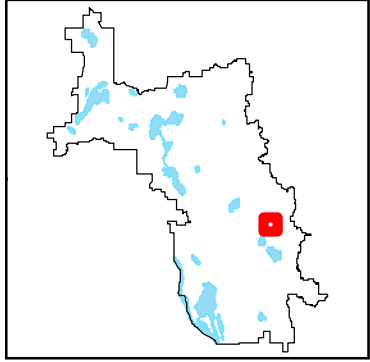
0 300 600

Feet

0 0.05 0.1

Miles

N



Copyright nearmap 2015

Special Provisions

1. The applicant shall add notes to Sheet C202:
 - A. Providing direction to the contractor on best practices for construction of filtration basin
 - B. "Notify Nicole Soderholm, Ramsey-Washington Metro Watershed District, at 651-792-7976 at least 48 hours prior to construction of the stormwater filtration basin."
2. The applicant shall add notes to Sheet C002:
 - A. "Notify Nicole Soderholm, Ramsey-Washington Metro Watershed District, at 651-792-7976 prior to beginning construction activity to schedule an initial SWPPP inspection."
3. The applicant shall submit final, signed plans.
4. The applicant shall submit signed stormwater maintenance agreement.
5. The applicant shall submit contact information for the trained erosion control coordinator responsible for implementing the Stormwater Pollution Prevention Plan (SWPPP).
6. The applicant shall submit a copy of the approved Minnesota Pollution Control Agency's NPDES permit coverage for the project.



PERFORMANCE
DRIVEN DESIGN.
LHBcorp.com

701 Washington Ave. N, Ste 200 | Minneapolis, MN 55401 | 612.334.2029

PRELIMINARY
NOT FOR CONSTRUCTION
04/15/2020

CLIENT:
ISD #622 PUBLIC SCHOOLS
MAPLEWOOD-OAKDALE

2520 EAST 12 AVENUE
NORTH ST. PAUL MN 55109

THIS SQUARE APPEARS 1/2" x 1/2" ON
FULL SIZE SHEETS.

| | | |
|----|------------|---------------------|
| 3 | 04/15/2020 | WATERSHED SUBMITTAL |
| 2 | 04/10/2020 | PRICING SET |
| 1 | 04/01/2020 | 50% REVIEW |
| NO | DATE | ISSUED FOR |

| NO | DATE | REVISION |
|----|------|----------|
| | | |
| | | |
| | | |

I HEREBY CERTIFY that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

SIGNATURE: *Adam Besse*

TYPED OR PRINTED NAME: ADAM BESSE

DATE: 04/15/2020 REG. NO.: 52597

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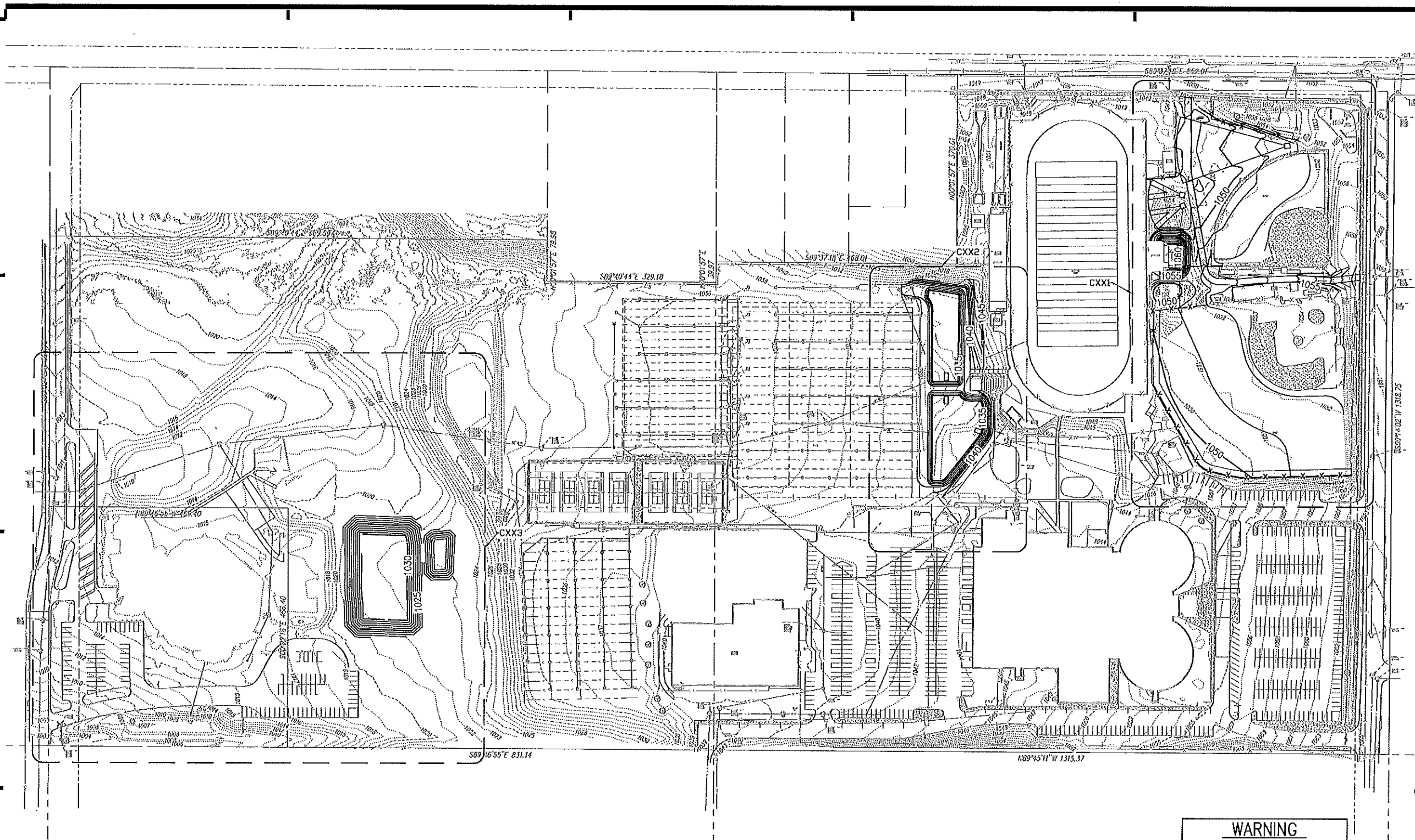
PROJECT NAME:
TARTAN HIGH SCHOOL

828 GREENWAY AVE N
OAKDALE MN 55128

DRAWING TITLE:
INDEX PLAN

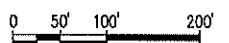
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DRAWN BY: DPG
CHECKED BY: AFB
PROJ. NO.: 190620
DRAWING NO.:

C001



WARNING
LOCATION OF ALL UNDERGROUND
UTILITIES SHALL BE VERIFIED BY
THE CONTRACTOR.
CALL BEFORE DIGGING.

MINNESOTA
ONE-CALL SYSTEM
1-800-252-1166
REQUIRED BY
MN STATUTE 216D



Permit Application Coversheet

Date May 06, 2020

Project Name Maplewood Elementary Project Number 20-22

Applicant Name Mike Boland, ISD 622

Type of Development Institutional

Property Description

This project is located at the former Maplewood Middle School site off Holloway Avenue in the City of Maplewood. The applicant is proposing to demolish the existing school to create a new elementary school, parking lot, and sidewalk areas. The total site area is 15.2 acres. Two filtration basins are proposed to meet stormwater treatment requirements. Filtration is being proposed due to poor soils. Pretreatment will include sumps. Two existing rain gardens constructed with funding from the District will not be impacted by construction and will continue to treat impervious area.

Watershed District Policies or Standards Involved:

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

Water Quantity Considerations

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

Water Quality Considerations

Short Term

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

Long Term

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

Staff Recommendation

Staff recommends approval of this permit with the special provisions.

Attachments:

- Project Location Map
- Project Grading Plan

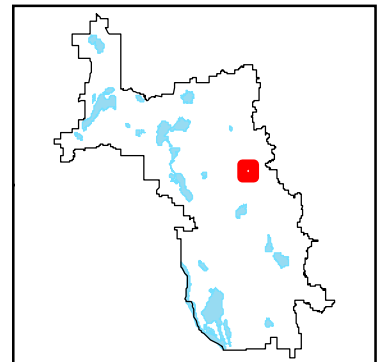
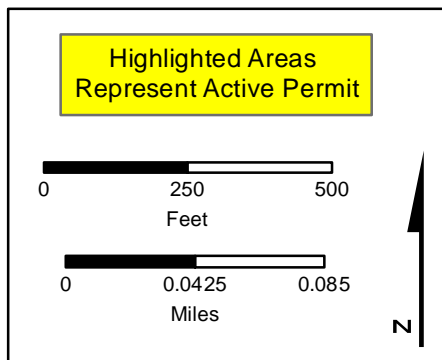
#20-22 Maplewood Elementary



Wetlands

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

| | |
|--|-------------------|
| | RWMWD Boundary |
| | Flow Arrows |
| | Major Flow Arrows |
| | Subwatersheds |
| | Creeks |
| | Permits |



Special Provisions

1. The applicant shall provide confirmation that the city will allow an increase in peak discharge to the west for the 2, 10- and 100-year events.
2. The applicant shall submit the Stormwater Pollution Prevention Plan (SWPPP).
3. The applicant shall provide contact information for the trained erosion control coordinator responsible for implementing the SWPPP.
4. The applicant shall submit final, signed plans.
5. The applicant shall submit a signed stormwater maintenance agreement.
6. The applicant shall submit a draft, site-specific BMP Operations & Maintenance Plan. A final, as-built O&M Plan will be required prior to permit closure.
7. The applicant shall submit a copy of the approved Minnesota Pollution Control Agency's NPDES permit coverage for the project.

**NEW MAPLE WOOD
ELEMENTARY
SCHOOL**

2410 Holloway Ave E
Maplewood, MN 55109

**INDEPENDENT SCHOOL
DISTRICT #622**

2520 12th Ave E
North St. Paul, MN 55109



**WOLD ARCHITECTS
AND ENGINEERS**

333 Moore Ave, Suite 300
St. Paul, MN 55101

www.woldmn.com | 612.277.7773

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

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LEGEND

- 5'0" --- EXISTING CONTOURS
- 9'0" --- PROPOSED CONTOURS - MAJOR INTERVAL
- 6'0" --- PROPOSED CONTOURS - MINOR INTERVAL
- GRADE BREAK LINE
- GRADE SLOPE
- 2.0%
- SILT FENCE
- SEWER/STORM ROLL
- RIP-RAP / ROCK CONST. ENTRANCE
- FILTRATION BASIN
- INLET PROTECTION
- CONCRETE WASHOUT STATION (LOCATE DURING CONSTRUCTION)
- SPOT ABBREVIATIONS:
TC - TOP OF CURB
GL - GUTTER LINE
B - BITUMINOUS
C - CONCRETE
CC - CURB CUT
EOP - EMERGENCY OVERFLOW
TW - TOP OF WALL
BW - BOTTOM OF WALL (F.O.)
(*) - EXISTING TO BE VERIFIED

GRADING NOTES

1. Tree protection consisting of snare fence or safety fence installed at the site shall be in place prior to beginning any grading or demolition work at the site.
2. All elevations with an asterisk (*) shall be field verified. If elevations vary significantly, notify the Engineer for further instructions.
3. Grades shown in paved areas represent finish elevation.
4. All construction shall be performed in accordance with state and local standard specifications for construction.
5. Add 100G to spot elevations and contours listed for NAVD 83 elevation datum.

EROSION CONTROL NOTES

1. Owner and Contractor shall obtain MPCA-NPDES permit. Contractor shall be responsible for all fees pertaining to this permit. The SWPPP shall be kept onsite at all times.
2. Install temporary erosion control measures (silt fence, silt fence, and rock construction entrances) prior to beginning any excavation or demolition work at the site.
3. Erosion control measures shown on the erosion control plan are the absolute minimum. The contractor shall install temporary earth dikes, sediment traps or basins, additional silt fence, and/or rock to the contours as deemed necessary to further control erosion. All changes shall be recorded in the SWPPP.
4. All construction site entrances shall be surfaced with crushed rock across the entire width of the entrance and from the entrance to a point 50' into the construction zone.
5. The toe of the silt fence shall be bermed in a minimum of 6". The berms shall be compacted with a vibratory plate compactor.
6. All grading operations shall be conducted in a manner to minimize the potential for site erosion. Sediment control practices must be established on all down graded perimeter before any up graded land disturbing activities begin.
7. All exposed soil areas must be stabilized as soon as possible to limit erosion and in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Temporary slopes without significant soil, clay or organic components (e.g., clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) and the constructed base components of roads, parking lots and similar surfaces are exempt from this requirement.
8. The normal wetted perimeter of any temporary or permanent drainage ditch or swale that drains water from any portion of the construction site, or drains water around the site, must be stabilized within 200 feet from the property edge, or from the point of discharge into any surface water. Stabilization of the full 200 feet must be completed within 24 hours after connecting to a surface water. Stabilization of the remaining portions of any temporary or permanent ditches or swales must be complete within 14 days after connecting to a surface water and construction in that portion of the ditch has temporarily or permanently ceased.
9. Pipe outlets must be provided with energy dissipation within 24 hours of connection to surface water.
10. All pipe shall be installed with a filter material or soil separation fabric and comply with the Minnesota Department of Transportation Standard Specifications.
11. All storm sewers discharging into wetlands or water bodies shall be installed at or below the normal water level of the respective wetland or water body at an elevation where the downstream slope is 1 percent or flatter. The normal water level shall be the highest elevation of the outlet of the wetland or water body.
12. All storm sewer catch basins not needed for site drainage during construction shall be covered to prevent runoff from entering the storm sewer system. Catch basins necessary for site drainage during construction shall be covered with silt protection.
13. In areas where concentrated flows occur (such as swales and areas in front of storm catch basins and ditches) the erosion control facilities shall be backed by stabilization structure to protect those facilities from the concentrated flows.
14. Inspect the construction site once every seven days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours. All inspections shall be recorded in the SWPPP.
15. All silt fences must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches 1/3 of the height of the fence. These repairs must be made within 24 hours of discovery, or as soon as field conditions allow access. All repairs shall be recorded in the SWPPP.
16. If sediment escapes the construction site, off-site accumulations of sediment must be removed in a manner and at a frequency sufficient to minimize off-site impacts.
17. All soil tracked onto pavement shall be removed daily.
18. All infiltration areas must be heaped to ensure that no sediment from ongoing construction activity is reaching the infiltration area and these areas are protected from compaction due to construction equipment driving across the infiltration area.
19. Temporary soil stockpiles must have a silt fence or other effective sediment control, and cannot be placed in surface waters, including stormwater conveyance such as ditches and gutters, or conduits and ditches unless there is a bypass in place for the stormwater. Collected sediment, asphalt and concrete millings, routing ditches, paper, plastic, fabric, construction and demolition debris and other wastes must be disposed of properly and comply with MPCA disposal requirements.
20. Oil, gasoline, paint and any hazardous substances must be properly stored, including secondary containment, to prevent spills, leaks or other discharge. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with MPCA regulations.
21. External washing of trucks and other construction vehicles must be limited to a defined area of the site. Runoff must be contained and waste properly disposed of. No engine degreasing is allowed onsite.
22. All liquid and solid wastes generated by concrete washout operations must be contained in a leak-proof containment facility or impermeable liner. A compacted clay liner that does not allow washout liquids to enter ground water is considered an impermeable liner. The liquid and solid wastes must not contact the ground, and there must not be runoff from the concrete washout operations or areas. Liquid and solid wastes must be disposed of properly and in compliance with MPCA regulations. A sign must be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities.
23. Upon completion of the project and stabilization of all graded areas, all temporary erosion control facilities (silt fences, hay bales, etc.) shall be removed from the site.
24. All permanent sedimentation basins must be restored to their design condition immediately following stabilization of the site.
25. Contractor shall submit Notice of Termination for MPCA-NPDES permit within 30 days after Final Stabilization.
26. Contractor shall take all necessary precautions to protect the subsurface during construction from damage to the existing plants, drain tile, and from sediments. This may require the installation of additional erosion control BMP's beyond what is shown on the plan and phasing of the work in this area.
27. Notify Nicole Soderholm, Ramsey-Washington Metro Watershed District, at 651-792-7978 prior to beginning any and all construction activity in order to schedule an Initial SWPPP inspection.
28. Notify Nicole Soderholm, Ramsey-Washington Metro Watershed District, at 651-792-7978 prior to beginning any and all construction activity in order to schedule an Initial SWPPP inspection.
29. Notify Nicole Soderholm, Ramsey-Washington Metro Watershed District, at 651-792-7978 at least 48 hours prior to construction of the stormwater filtration basins.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the state of Minnesota.

Greg A. Buchel, P.E.

Date: 04.10.20 Lt. No.: 23769

| NO. | REVISION | DATE |
|-----|----------|------|
| | | |
| | | |
| | | |
| | | |

Comm: 13196180

Date: 04.10.2020

Drawn: JMS/BAK

Check: GAB

Scale: 1"=30'

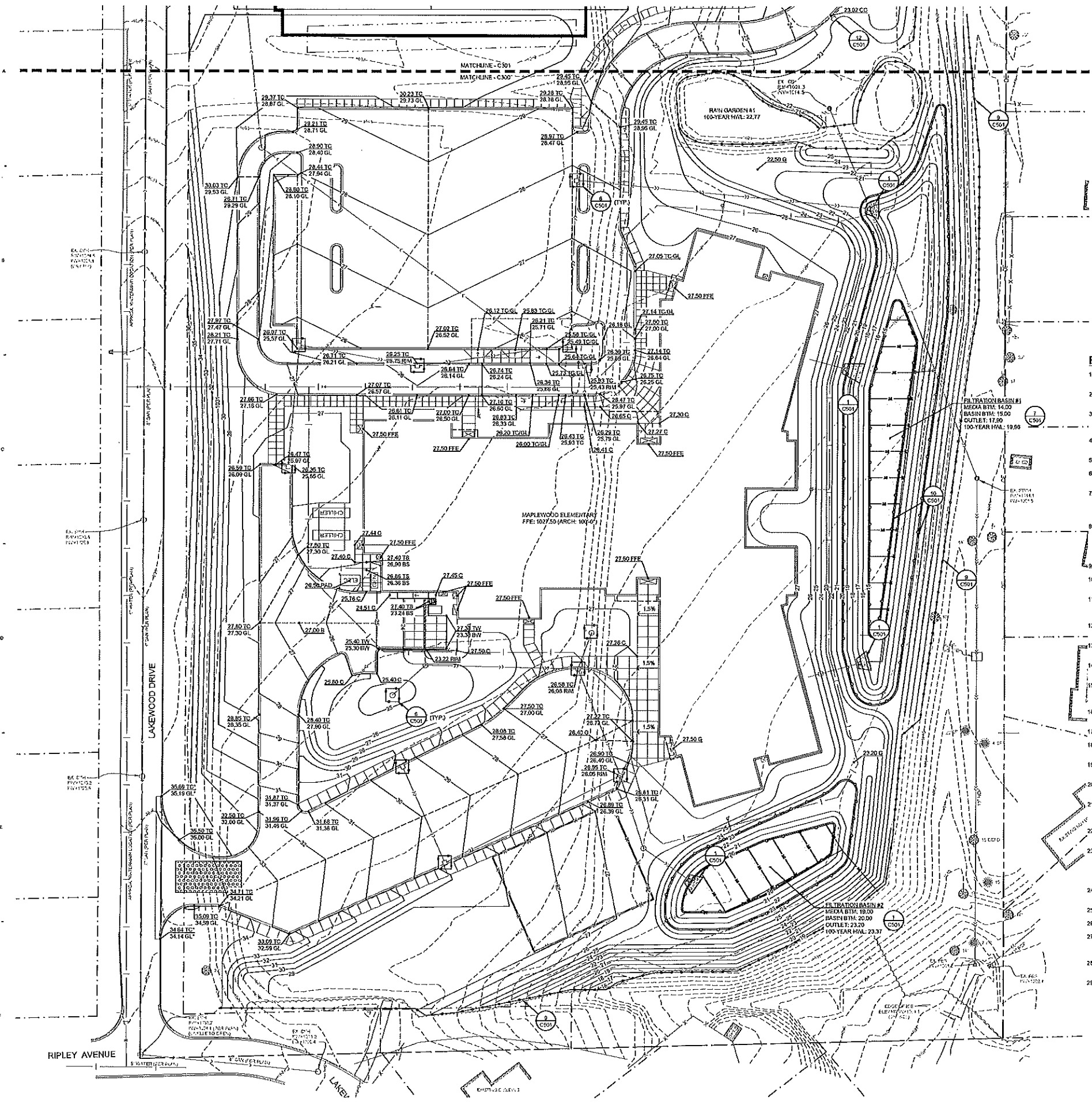


**GRADING AND
EROSION
CONTROL
PLAN - SOUTH**

Scale

C300

**RWWWD SUBMITTAL
NOT FOR CONSTRUCTION**



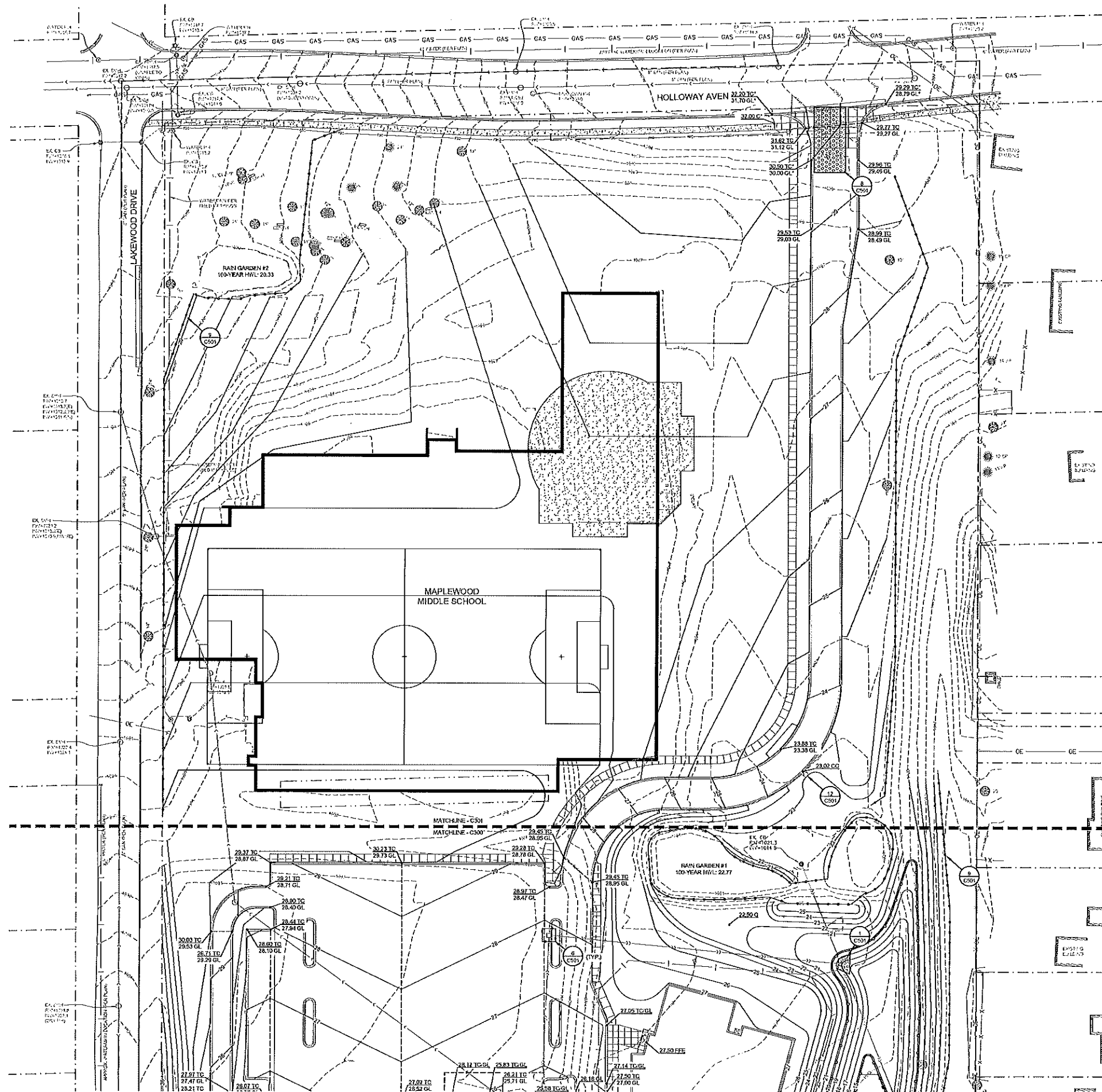
MIN

RIPLBY AVENUE

LAKWOOD DRIVE

Project: 13196180 - New Maple Wood Elementary School, Grading and Erosion Control Plan - South

MN



LEGEND

- 520 --- EXISTING CONTOURS
- 540 --- PROPOSED CONTOURS - MAJOR INTERVAL
- 549 --- PROPOSED CONTOURS - MINOR INTERVAL
- 2.0% --- GRADE BREAK LINE
- 2.0% --- GRADE SLOPE
- SILT FENCE
- SEDIMENT ROLL
- RIP-RAP / ROCK CONST. ENTRANCE
- FILTRATION BASIN
- INLET PROTECTION
- CONCRETE WASHOUT STATION (LOCATE BEFORE CONSTRUCTION)
- SPOT ELEVATIONS:
 - TC - TOP OF CURB
 - GL - GUTTER LINE
 - B - BITUMINOUS
 - C - CONCRETE
 - CC - CURB CLIFF
 - EOF - EMERGENCY OVERFLOW
 - TW - TOP OF WALL
 - BW - BOTTOM OF WALL (F.G)
 - (?) - EXISTING TO BE VERIFIED

GRADING NOTES

- See sheet C300 for Grading Notes.

EROSION CONTROL NOTES

- See sheet C300 for Erosion Control Notes.

NEW MAPLE WOOD ELEMENTARY SCHOOL

2410 Holloway Ave E
Maplewood, MN 55109

INDEPENDENT SCHOOL DISTRICT #622

2520 12th Ave E
North St. Paul, MN 55109



WOLD ARCHITECTS AND ENGINEERS

343 Minnesota Street, Suite W2000
Saint Paul, MN 55104

www.wold.com | 651 227 7773

Larson Engineering, Inc.

3524 Labore Road
White Bear Lake, MN 55110
651.481.9120 (T) 651.481.8201
www.larsonengr.com

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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.

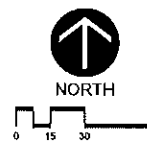
Greg A. Bucher, P.E.

Date: 04.18.20 Lic. No.: 29789

| Description | Revisions | |
|-------------|-----------|----|
| | Date | By |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Comm: 12/06/10
Date: 04/18/20
Drawn: MTS/SBK
Check: GAB

GRADING AND EROSION CONTROL PLAN - NORTH



RWMWD SUBMITTAL
NOT FOR CONSTRUCTION

C301

Stewardship Grant Application Summary

Project Name: Knappmiller

Application Number 20-10 CS

Board Meeting Date: 5/6/2020

Applicant Name: Stuart Knappmiller

Residential

Commercial/Government

Project Overview:

This project is located off Orange Ave E and Frank St N just south of Lake Phalen in the City of St. Paul. The applicant is a Master Water Steward proposing to install two rain gardens and a native planting area as his final capstone project. The rain gardens will treat roof and sidewalk runoff from this property as well as the two neighboring properties.

This project is eligible for 100% funding up to \$15,000.

BMP type(s):

Native Habitat Restoration(1), Rain Garden(2)

Grant Request:

\$15,000.00

Recommendation:

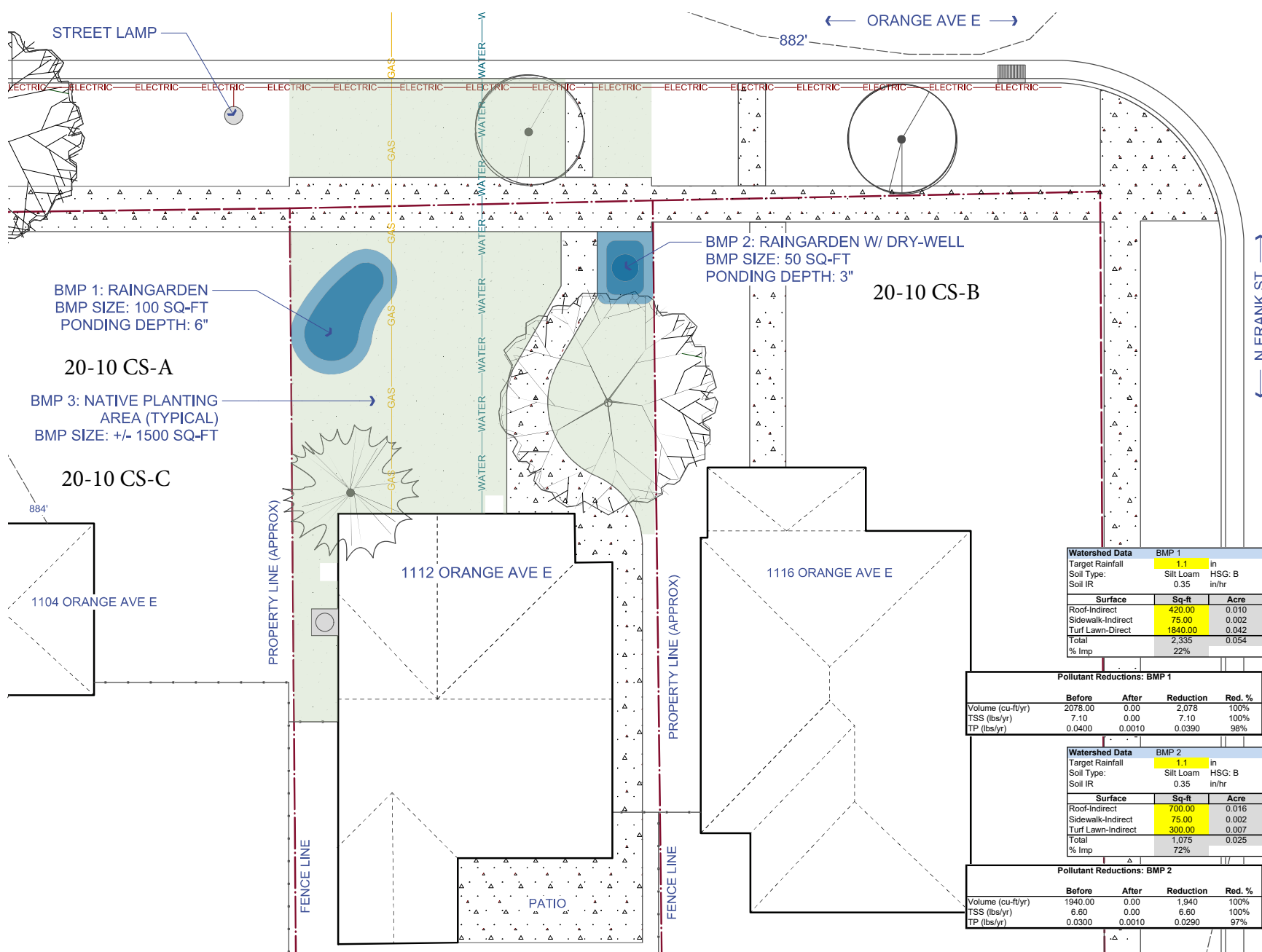
Staff recommends approval of this application.

Subwatershed:

Lake Phalen

Location Maps:





RAMSEY COUNTY

RAMSEY COUNTY SWCD
 1425 PAUL KIRKWOLD DR
 ARDEN HILLS, MN 55112
 651-266-7274
 www.ramseycounty.us

PROJECT: KNAPMILLER RESIDENCE
 LOCATION:
 1112 ORANGE AVE E
 SAINT PAUL, MN 55106
 WATERSHED DISTRICT:

RAMSEY-WASHINGTON
 METRO WATERSHED DISTRICT

DESIGNER: MPS
 DATE: 05/29/2019
 REVISION: 03/30/2020
 REVISION:
 REVISION:
 REVISION:
 CHECKED BY:
 TAA:

NOTES:
 CONTRACTOR MUST ACQUIRE ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION
 CONTRACTOR SHALL LOCATE ALL UTILITIES PRIOR TO WORK
 UTILITIES WITHIN OR NEAR CONSTRUCTION AREA SHALL BE POTHOLED

ORIGINAL SHEET SIZE: 11" x 17"

SCALE: 1"=10'-0"

SITE PLAN

L100

| Watershed Data | | | BMP 1 | | |
|-------------------|-----------|--------|-------|--|--|
| Target Rainfall | 1.1 | in | | | |
| Soil Type: | Silt Loam | HSG: B | | | |
| Soil IR | 0.35 | in/hr | | | |
| Surface | Sq-ft | Acres | | | |
| Roof-Indirect | 420.00 | 0.010 | | | |
| Sidewalk-Indirect | 75.00 | 0.002 | | | |
| Turf Lawn-Direct | 1840.00 | 0.042 | | | |
| Total | 2,335 | 0.054 | | | |
| % Imp | 22% | | | | |

| Pollutant Reductions: BMP 1 | | | | |
|-----------------------------|---------|--------|-----------|--------|
| | Before | After | Reduction | Red. % |
| Volume (cu-ft/yr) | 2078.00 | 0.00 | 2,078 | 100% |
| TSS (lbs/yr) | 7.10 | 0.00 | 7.10 | 100% |
| TP (lbs/yr) | 0.0400 | 0.0010 | 0.0390 | 98% |

| Watershed Data | | | BMP 2 | | |
|--------------------|-----------|--------|-------|--|--|
| Target Rainfall | 1.1 | in | | | |
| Soil Type: | Silt Loam | HSG: B | | | |
| Soil IR | 0.35 | in/hr | | | |
| Surface | Sq-ft | Acres | | | |
| Roof-Indirect | 700.00 | 0.016 | | | |
| Sidewalk-Indirect | 75.00 | 0.002 | | | |
| Turf Lawn-Indirect | 300.00 | 0.007 | | | |
| Total | 1,075 | 0.025 | | | |
| % Imp | 72% | | | | |

| Pollutant Reductions: BMP 2 | | | | |
|-----------------------------|---------|--------|-----------|--------|
| | Before | After | Reduction | Red. % |
| Volume (cu-ft/yr) | 1940.00 | 0.00 | 1,940 | 100% |
| TSS (lbs/yr) | 6.60 | 0.00 | 6.60 | 100% |
| TP (lbs/yr) | 0.0300 | 0.0010 | 0.0290 | 97% |



Stewardship Grant Application Summary

Project Name: Ramundt

Application Number 20-11 CS

Board Meeting Date: 5/6/2020

Applicant Name: Katherine Ramundt

Residential

Commercial/Government

Project Overview:

This project is located off Lexington Ave and Laurie Rd in the City of Roseville. The applicant is proposing to install a curb cut rain garden to capture and treat street runoff. They are also proposing to remove a large area of turf grass and replace with native plantings to provide habitat for pollinators.

The rain garden is eligible for 75% funding and the native planting is eligible for 50% funding up to \$15,000.

BMP type(s):

Native Habitat Restoration(1), Rain Garden(1)

Grant Request:

\$10,000.00

Recommendation:

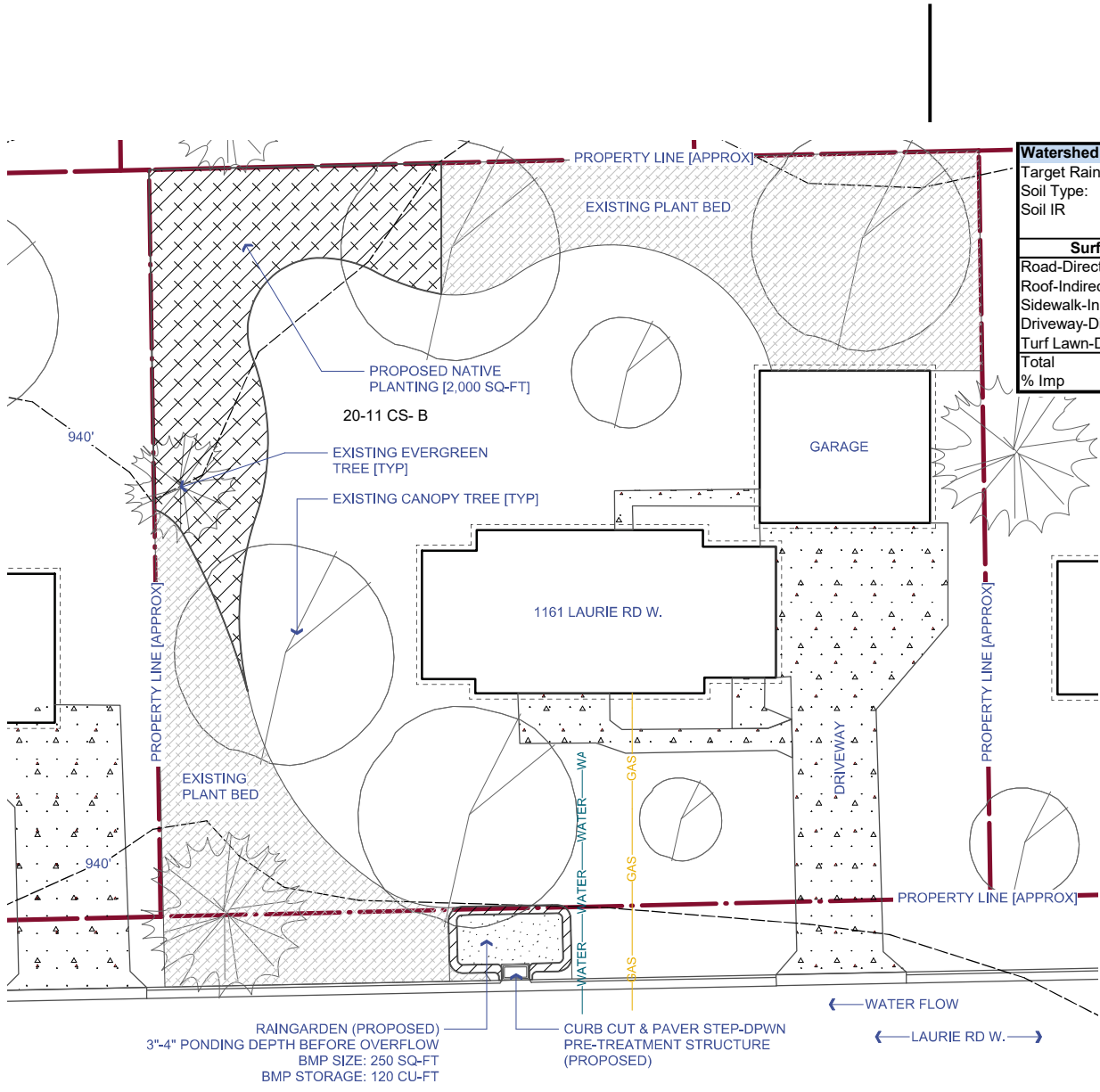
Staff recommends approval of this application.

Subwatershed:

Bennett Lake

Location Maps:





| Watershed Data | | BMP 1 | |
|-------------------|------------|--------|----|
| Target Rainfall | 0.3 | in | |
| Soil Type: | Sandy Loam | HSG: C | |
| Soil IR | 0.335 | in/hr | |
| Surface | Sq-ft | Acre | CN |
| Road-Direct | 2807.00 | 0.064 | 98 |
| Roof-Indirect | 2309.00 | 0.053 | 98 |
| Sidewalk-Indirect | 512.00 | 0.012 | 98 |
| Driveway-Direct | 4127.00 | 0.095 | 98 |
| Turf Lawn-Direct | 6716.00 | 0.154 | 79 |
| Total | 16,471 | 0.378 | |
| % Imp | 58% | | |

| | |
|--|--------------------------|
| | EXISTING PLANTING BED |
| | PROPOSED NATIVE PLANTING |

RAMSEY COUNTY
 RAMSEY COUNTY SWCD
 1425 PAUL KIRKWOLD DR
 ARDEN HILLS, MN 55112
 651-266-7274
 www.ramseycounty.us

PROJECT: RAMUMDT RESIDENCE
 LOCATION:
 1161 LAURIE RD W.
 ROSEVILLE, MN 55113
 WATERSHED DISTRICT:



DESIGNER: MPS
 DATE: 08/07/2019
 REVISION:
 REVISION:
 REVISION:
 REVISION:
 REVISION:
 CHECKED BY:
 TAA:

- NOTES:
1. CONTRACTOR MUST ACQUIRE A RIGHT-OF-WAY PERMIT WITH CITY OF ROSEVILLE
 2. CONTRACTOR TO LOCATE ALL UTILITIES PRIOR TO WORK
 3. UTILITIES WITHIN OR NEAR CONSTRUCTION AREA SHALL BE POTHOLED

ORIGINAL SHEET SIZE: 11" x 17"
 SCALE: 1"=20'-0"

SITE PLAN

L100

20-11 CS-A

Stewardship Grant Application Summary

Project Name: Jacobson

Application Number 20-12 CS

Board Meeting Date: 5/6/2020

Applicant Name: Michele Jacobson

Residential

Commercial/Government

Project Overview:

This project is located off McKnight Rd and Burlington Rd in the City of St. Paul. The applicant owns a two acre property surrounded by woodlands. Buckthorn has been removed from the property, and now the applicant is proposing to install native plants throughout the area. The contractor will use a combination of seed and plugs for the native planting. The applicant plans to have the contractor maintain the site for at least two years after the project is complete.

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

BMP type(s):

Native Habitat Restoration(1)

Grant Request:

\$15,000.00

Recommendation:

Staff recommends approval of this application.

Subwatershed:

Blufflands

Location Maps:





PROPOSED BMPs

| BMP ID | BMP TYPE | SIZE | COST ESTIMATE | ESTIMATED GRANT AWARD | ESTIMATED LANDOWNER COST | PRIORITY AREA | DESIGN SERVICES AVAILABLE |
|--------|---------------------|-------------|---------------|-----------------------|--------------------------|---------------|---------------------------|
| A | HABITAT RESTORATION | +/- 0.10 AC | \$4,600 | 50% / \$2,300 | 50% / \$2,300 | N/A | YES |
| B | HABITAT RESTORATION | +/- 1.20 AC | \$27,000 | 50% / \$13,500 | 50% / \$13,500 | N/A | YES |
| | | | | | | | |
| | | | | | | | |

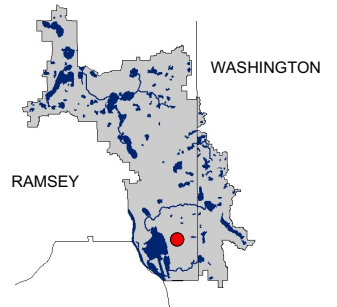
LEGEND

- UPLAND PRAIRIE
- UPLAND WOODLAND
- WET-TRANSITIONAL
- SURFACE WATER (APPROX)

NOTES

1. CONCEPTUAL DRAWING FOR REFERENCE USE ONLY

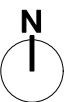
PROJECT LOCATION WITHIN WATERSHED:



STEWARDSHIP GRANT PROGRAM - CONCEPT PLAN

PROPERTY OWNER:
JACOBSON RESIDENCE
ADDRESS:
598 WIGGINS RD
ST PAUL, MN 55106

DATE: 03/19/2020
CLEAN WATER PLAN PROVIDED BY:
RAMSEY-WASHINGTON METRO WATERSHED DISTRICT [RWMWD] & RAMSEY COUNTY SOIL & WATER CONSERVATION DIVISION



Stewardship Grant Application Summary

Project Name: Brenner Filtration Basin

Application Number 20-13 CS

Board Meeting Date: 5/6/2020

Applicant Name: Ryan Johnson

Residential

Commercial/Government

Project Overview:

This project is located off Victoria St N and Brenner Ave west of Lake in the City of Roseville. The City owns a parcel of land that was purchased in 2011 for a future stormwater project to alleviate local flooding concerns and treat stormwater that drains to Lake Owasso. The City will be doing a mill and overlay of the street in the summer of 2020. As part of the project, they plan to construct an iron enhanced filtration basin and reroute stormwater to the basin. Total estimated cost for the basin is \$152,200. This project is located in a priority subwatershed and is eligible for 100% funding up to \$100,000.

BMP type(s):

Filtration Basin(1)

Grant Request:

\$100,000.00

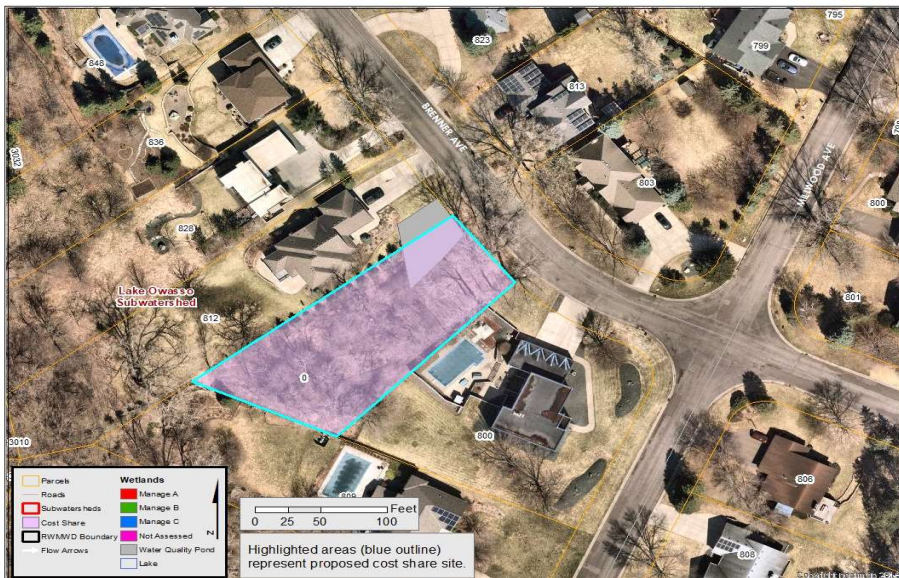
Recommendation:

Staff recommends approval of this application.

Subwatershed:

Lake Owasso

Location Maps:



Stewardship Grant Application Summary

Project Name: Carver Lake Parking Lot

Application Number 20-14 CS

Board Meeting Date: 5/6/2020

Applicant Name: Kristin Seaman

Residential **Commercial/Government**

Project Overview:

This project is located at Carver Lake Park and Beach in the City of Woodbury. The City is planning to re-pave the parking lot and access road at Carver Lake Park this summer. They are proposing to install a rain garden to treat parking lot runoff before it enters Carver Lake. They will also be installing native plantings in the medians. About \$8,000 in Clean Water Fund grant dollars will be used toward the cost of the rain garden.

This project is in a priority area and is eligible for \$100,000 in funding. The rain garden is eligible for 100% coverage, and the native plantings are eligible for 50% coverage.

BMP type(s):

Native Habitat Restoration(1), Rain Garden(1)

Grant Request:

\$50,000.00

Recommendation:

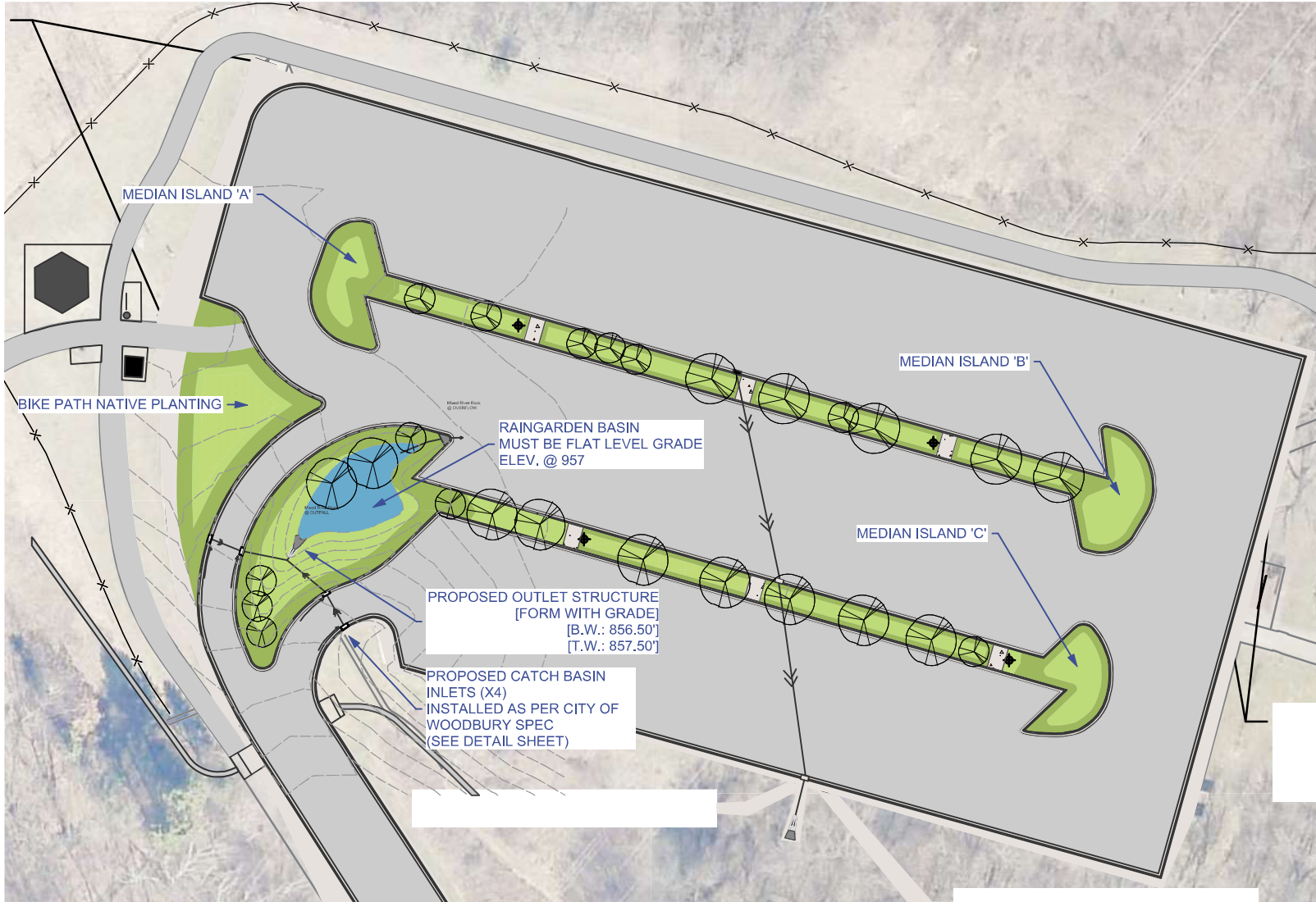
Staff recommends approval of this application.

Subwatershed:

Carver Lake

Location Maps:





1 Planting Plan
Scale: 1" = 40'-0"

plan created by:



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

Project Address
Carver Lake Park
3175 Century Ave S,
Woodbury, MN 55125

| | |
|---|------------------------------|
| Project Manager City of Woodbury Washington Conservation District | Drawn Andrew Novak |
| | Reviewed |
| | Revision |

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

Engineer Name
Concept
Reg. No. Date

Project Title
Carver Lake Park Improvements

Sheet Title
Planting Plan

CAD File Name: WCD - Carver Lake Plan (02)vw
LOCATION: Washington County, MN

Date
04/10/2020

* * * * *

Permit Program

* * * * *

Permit Application Coversheet

Date May 06, 2020

Project Name Maplewood County Road B and Arcade Project Number 20-19

Applicant Name Jon Jarosch, City of Maplewood

Type of Development Linear

Property Description

This project is located along County Road B and Arcade Street in the City of Maplewood. The applicant is proposing to reconstruct the street within project limits and construct new trails. The total site area is 9.6 acres. A filtration basin will be constructed off Arcade Street in Maplecrest Park to partially treat stormwater onsite. The applicant is proposing to withdraw the remaining volume from available banked credits. Rate control requirements have been met onsite with the proposed design, however the applicant has submitted a variance request for falling short of the 90% Total Suspended Solids (TSS) removal requirement (Rule C) when directly discharging to a wetland. A second variance request (Rule E) is requested for wetland and buffer impacts. A Wetland Conservation Act (WCA) utility exemption approval was issued on 3/16/2020 (#20-04 WCA). Any temporarily disturbed areas will be restored. The project will involve fill within the floodplain, and compensatory storage is being provided to ensure no net loss of floodplain storage.

Watershed District Policies or Standards Involved:

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

Water Quantity Considerations

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

Water Quality Considerations

Short Term

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

Long Term

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

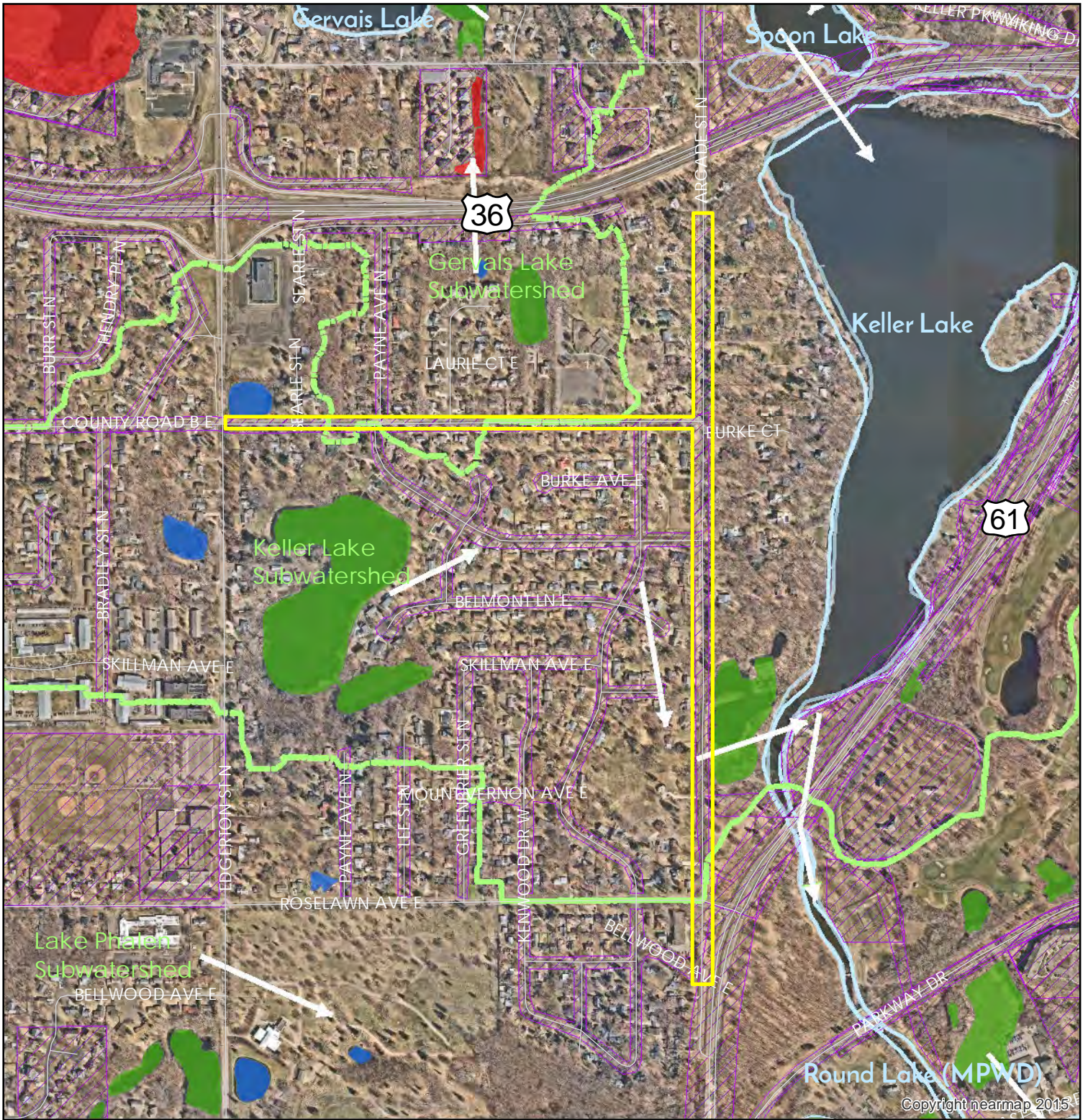
Staff Recommendation

Staff recommends approval of the permit with the special provisions and variance requests (Rule C, E).

Attachments:

- Project Location Map
- Project Grading Plan

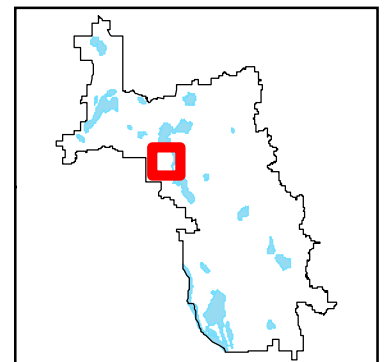
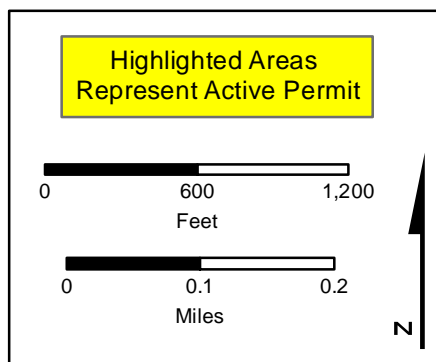
#20-19 Maplewood County Road B and Arcade



Wetlands

| | |
|------------|---------------|
| Red | Manage A |
| Green | Manage B |
| Blue | Manage C |
| Light Blue | Lake |
| Grey | Sediment Pond |
| Purple | Not Assessed |

| | |
|-------------------|-------------------|
| Black outline | RWMWD Boundary |
| White arrow | Flow Arrows |
| Green arrow | Major Flow Arrows |
| Green dashed line | Subwatersheds |
| Blue line | Creeks |
| Purple hatched | Permits |



Copyright nearmap 2015

Special Provisions

1. The applicant shall add a note to the plans: "The specified erosion and sediment control practices are the minimum. Additional practices may be required during the course of construction."
2. The applicant shall submit erosion control details for inlet protection, construction entrances, and perimeter control.
3. The applicant shall submit the final, signed plans.
4. The applicant shall submit contact information for the trained erosion control coordinator responsible for implementing the SWPPP.
5. The applicant shall submit a copy of the approved Minnesota Pollution Control Agency's NPDES Construction Permit.



Real People. Real Solutions.

2035 County Road D East
Maplewood, MN 55109-5314

Ph: (651) 704-9970
Fax: (651) 704-9971
Bolton-Menk.com

MEMORANDUM

Date: April 24th, 2020

To: Nicole Soderholm

From: Tim Olson, P.E.

Subject: Variance Request for the County Road B and Arcade Street Improvements Project
City of Maplewood
Project No.: N15.119374

The City of Maplewood hereby requests a variance of the Rule C Stormwater Management – (d) Water Quality requirement from the Ramsey Washington Metro Watershed District.

Introduction:

The City of Maplewood has approved the Street Improvement project which consists of the following project areas:

1) County Road B East: Edgerton Street to Arcade Street

The County Road B East and Arcade Street Improvements project involves the reconstruction of the existing County Road B East corridor from Edgerton Street to Arcade Street. Road widths will remain the same. The existing bituminous curb and gutter will be converted to concrete curb and gutter. A new 8' wide trail will be constructed on the south side of County Road B East from Edgerton Street to Arcade Street. The utility improvements along County Road B East will include select sanitary sewer, watermain, and storm sewer improvements. The County Road B East proposed improvements will create 2.86 acres of new and reconstructed impervious surfaces and disturb approximately 3.64 acres.

2) Arcade Street: Highway 36 bridge to Maplewood Drive (Highway 61)

The County Road B East and Arcade Street Improvements project involves the reconstruction of the existing Arcade Street corridor from the Highway 36 Bridge to Maplewood Drive. Road widths will remain the same except for Arcade Street south of Roselawn Avenue. The existing bituminous curb and gutter will be converted to concrete curb and gutter. A new 5' wide trail will be constructed on the east side of Arcade Street from County Road B East to the Highway 36 Bridge, and on the west side of Arcade Street from County Road B East to Roselawn Avenue East. A filtration basin will be constructed in Maplecrest Park for water quality and rate control requirements. The utility improvements along Arcade Street will include select sanitary sewer, watermain, and storm sewer

improvements. The Arcade Street proposed improvements will create 4.62 acres of new and reconstructed impervious surfaces and disturb approximately 5.97 acres.

Permits will be required from the MPCA as well as the Ramsey-Washington Metro Watershed District (RWMWD). RWMWD Stormwater Management Standards¹ apply to any land disturbing activity or the development of land one acre or greater or 10,000 square feet adjacent to a water body, unless specifically exempted by Rule C. The County Road B East and Arcade Street Improvements will disturb approximately 9.61 acres, therefore the RWMWD Stormwater Management Standards will apply to this project.

Alternatives Considered for Avoidance and Minimization of Environmental Impacts

Non-Feasible Alternatives with No Impact:

1. “No-Build” Alternative – The “no-build” alternative is not a prudent option for this project. If the reconstruction is not completed, County Road B and Arcade Street will continue to degrade, and safety for pedestrians and vehicles would not be addressed.
2. Simple maintenance practices such as a mill and overlay for the entire project corridor are only a short-term remedy and are not sustainable for the long term, as the roadway will continue to erode causing further safety issues. It is more prudent to construct a planned project rather than deal with an emergency situation. In addition, multiple utilities companies will be relocating and replacing infrastructure within the proposed project corridor, making it an opportune time for the City to preform long term street maintenance.

Feasible Alternative with Impacts: In order to meet the pedestrian safety and environmental impact reduction goals of the projects, feasible alternatives were developed that minimize impact to the maximum extent practicable.

1. Fully reconstruct the roadway while maintaining existing roadway widths to minimize the amount of disturbance. Reduce the width of the proposed sidewalk along County Road B to 8’ and Arcade Street to 5’ to reduce the amount of new impervious constructed on the project. This option would address long term road maintenance concerns and provide increased safety for pedestrians and vehicles.

Rule I: Variances

- ***According to Rule I, The RWMWD “Board of Managers shall have the power to grant variances from these Rules where they find that extraordinary and unnecessary hardships may result from strict compliance with these Rules; provided that such variances shall not have the effect of nullifying the intent and purpose of these Rules and the overall plan of the District as adopted.”***

The following describes the potential variance:

¹ District Rules, Ramsey-Washington Metro Watershed District (RWMWD), Stormwater Management Standards, Effective Date June 5, 2019

Rule C: Stormwater Management – (d) Water Quality

Hardships

Two site characteristics have a severe adverse impact the ability to achieve 90% TSS reduction from the disturbed area.

- The narrow nature of the County Road B and Arcade Street corridor make it infeasible to construct an above ground water quality feature large enough to meet the required 90% TSS load. Constructing an underground water quality feature would cause substantial economic burden on the City including construction and long-term operation and maintenance costs. In addition, constructing an underground filtration feature within the roadway corridor faces a magnitude of conflicts with existing and proposed utilities.
- The soil borings onsite indicate low soil permeability, prohibiting infiltration as a viable option. The soil borings are attached. The overall footprint of the filtration basin would need to be substantially larger compared to an infiltration BMP due to the difference in treatment effectiveness.

Considerations

- Project disturbance has been minimized to the maximum extent practicable, while still ensuring the safety of pedestrian and vehicle traffic.
- Two catch basins located immediately adjacent to the wetland located on the east side of arcade street were analyzed as potential locations for sump structures. These locations were determined to not be practical for the installation of sumps based on the following conditions:
 - The top down nature of the catch basin structures increases the potential for sediment resuspension and decreases the overall effectiveness of the sump.
 - The inverts of the structures are located below the NWL of the adjacent wetland. In order to maintain the sump structures, extensive dewatering practices would have to be used to remove any trapped sediment within the sumps.
- With the implementation of the proposed filter basin located in Maplecrest Park, the post construction TSS load into the wetland is less than the present day TSS load.
- Stormwater volume reduction requirements are being met through the use of the City's banked volume credits. These projects have already been paid for and constructed within the RWMWD and are providing both volume and water quality benefits.

Sincerely,

Bolton & Menk, Inc.



Timothy J. Olson, P.E. CFM
Water Resources Project Manager



Real People. Real Solutions.

1960 Premier Drive
Mankato, MN 56001-5900

Ph: (507) 625-4171
Fax: (507) 625-4177
Bolton-Menk.com

MEMORANDUM

Date: March 4, 2020
To: Ramsey-Washington Metro Watershed District Board of Managers
From: Kristina Bloomquist, Natural Resources Specialist
Subject: County Road B & Arcade Street Improvements Wetland Buffer Variance Request
City of Maplewood
Project No.: N15.119374

The City of Maplewood is proposing improvements to County Road B and Arcade Street. County Road B will be reconstructed from Edgerton Street to Arcade Street, and Arcade Street will be reconstructed from the TH 36 overpass to Maplewood Drive. Sanitary sewer, storm sewer, and water main will also be placed where old and outdated utilities exist. The majority of the existing storm and sanitary sewer utilities will remain in place. As part of the storm water management, an underground filtration basin will be placed within the City park, Maplecrest Park, on the west side of Arcade Street, where the tennis courts were located. An eight-foot bituminous trail will be placed along the south side of County Road B, and a five-foot sidewalk will be placed on the west side of Arcade Street from 500 feet south of TH 36 to Roselawn Avenue East.

There are six locations where storm sewer is proposed to be replaced, which can be seen on Figure 2. Additional inlets with updated inlet styles will be placed, which will fit the proposed curb and gutter better than the existing structures. These improvements will also increase collection efficiency and functionality of the storm sewer. The storm sewer line and flared end at the west end of County Road B, within Wetland 1, will be replaced in-kind and will result in only temporary impacts. The storm sewer inlet found within Wetland 3 will be replaced in-kind and will result in only temporary impacts. Wetland 5 currently has a 15" RCP that outlets into the wetland. This will be removed and replaced with an 18" RCP that will outlet slightly to the south of the previous outlet. A larger RCP will reduce the amount of scour at this location. Temporary impacts will take place in Wetland 5 during construction, and permanent impacts will be a result of the new flared end and riprap. Temporary impacts will be in place no longer than 90 days, per U.S. Army Corps of Engineers requirements.

Temporary impacts will be restored within 90 days of construction. The wetlands disturbed will be reseeded with State Seed Mix 34-171, Wetland Rehabilitation. The buffer areas around the wetlands that were disturbed will be reseeded with State Seed Mix 33-261, Stormwater South and West. The City of Maplewood, or a contractor designated by them, will be responsible for monitoring the buffer for three years following construction, along with other rules, per requirements set by the Ramsey-Washington Metro Watershed District (RWMWD).

Buffers will be in place surrounding Wetlands 2 and 6, which fall under the Manage Class C category, as designated by RWMWD. The buffer will meet requirements for Wetland 6 only, with a minimum buffer of 12.5 feet and an average buffer of 25 feet.

Impact locations can be seen on Figure 3. Temporary impacts total 0.05 acres. Permanent wetland impacts total 41 square feet. Due to corridor constraints and existing locations of utilities, it is not possible to meet buffer requirements and avoid all wetland impacts. A variance is being requested for Wetlands 1, 2, 3, 4, and 5, to be in place for 90 days during construction.

Name: County Road B & Arcade Street Improvements Wetland Buffer Variance Request

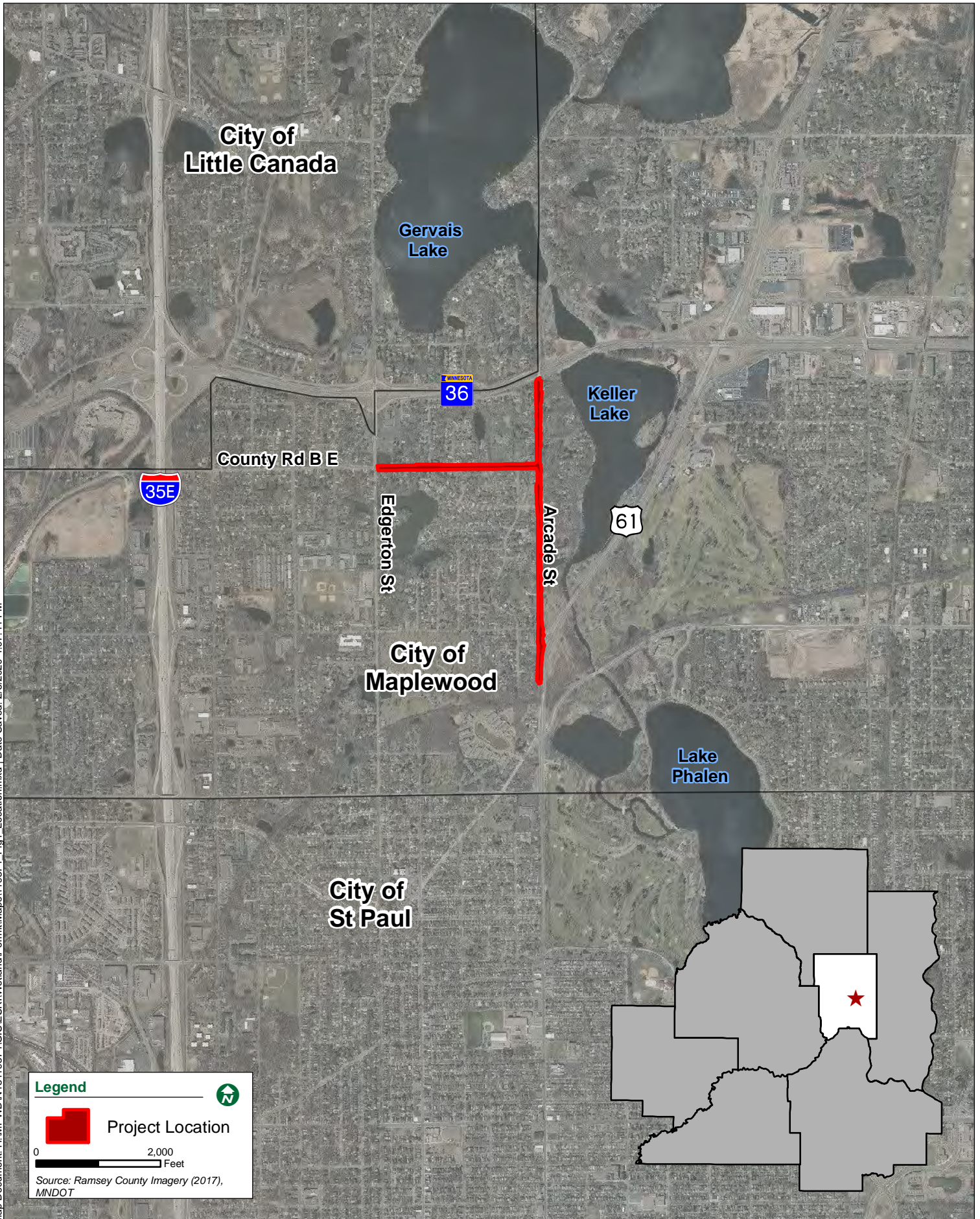
Date: March 4, 2020

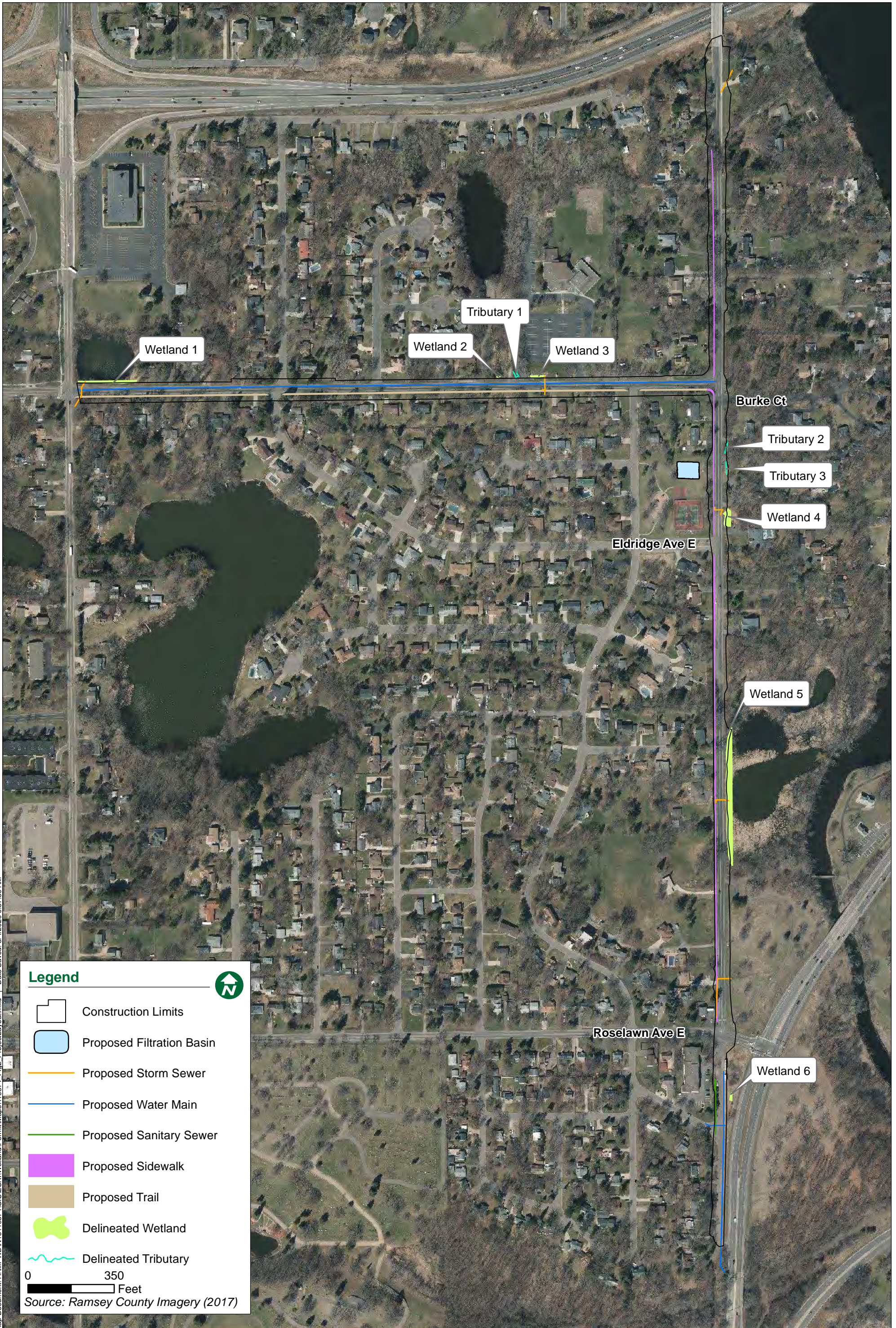
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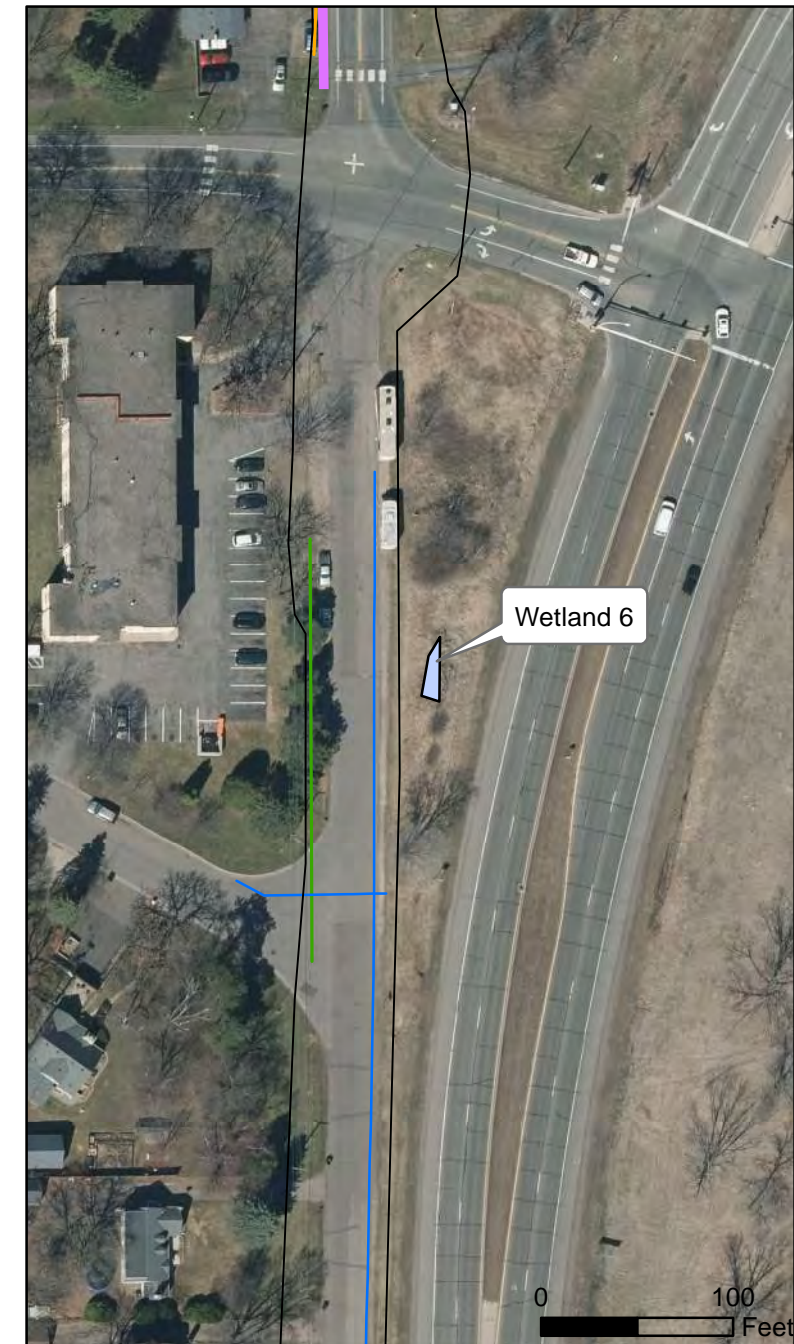
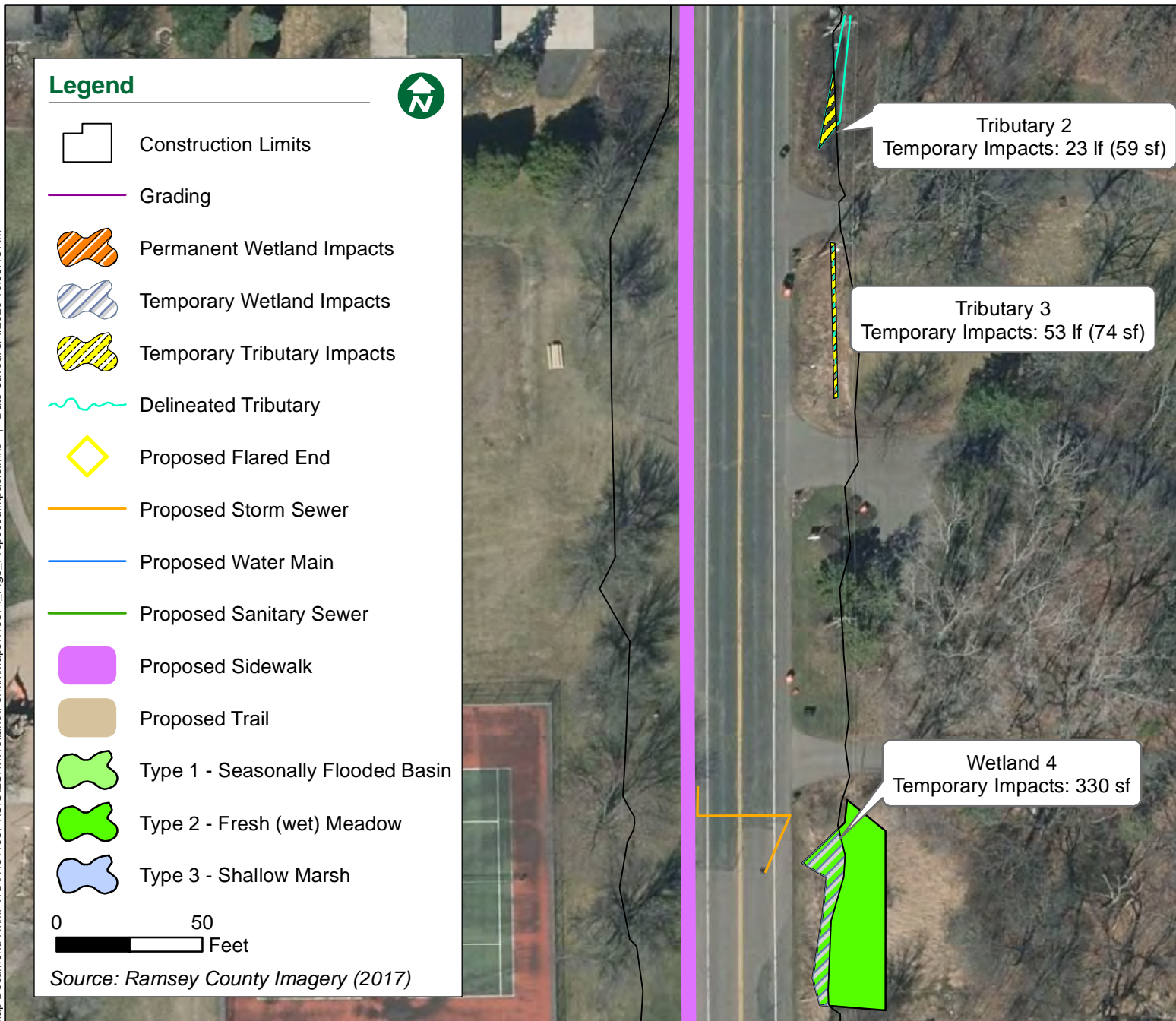
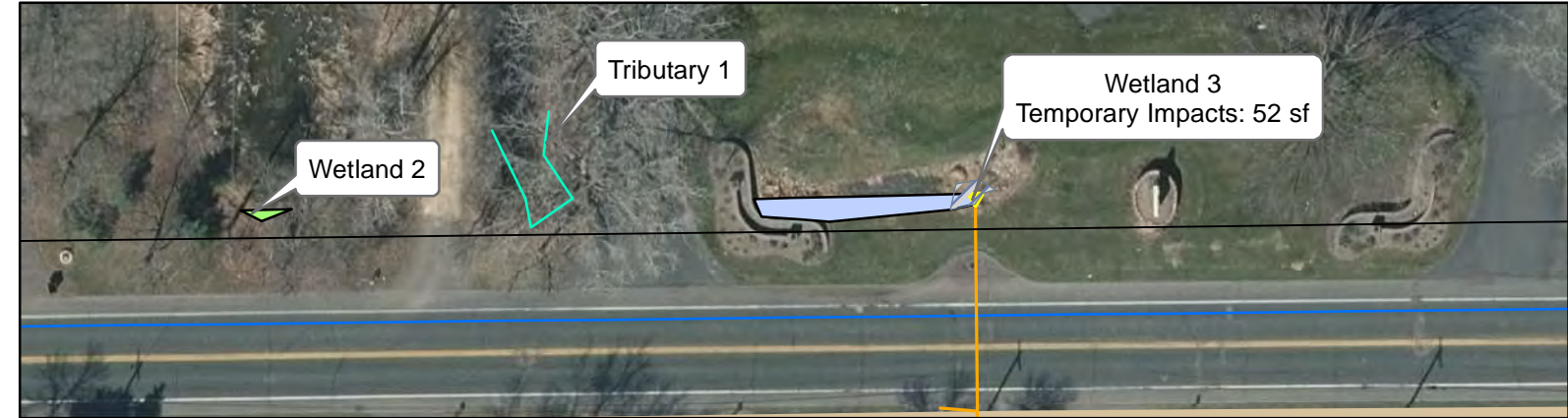
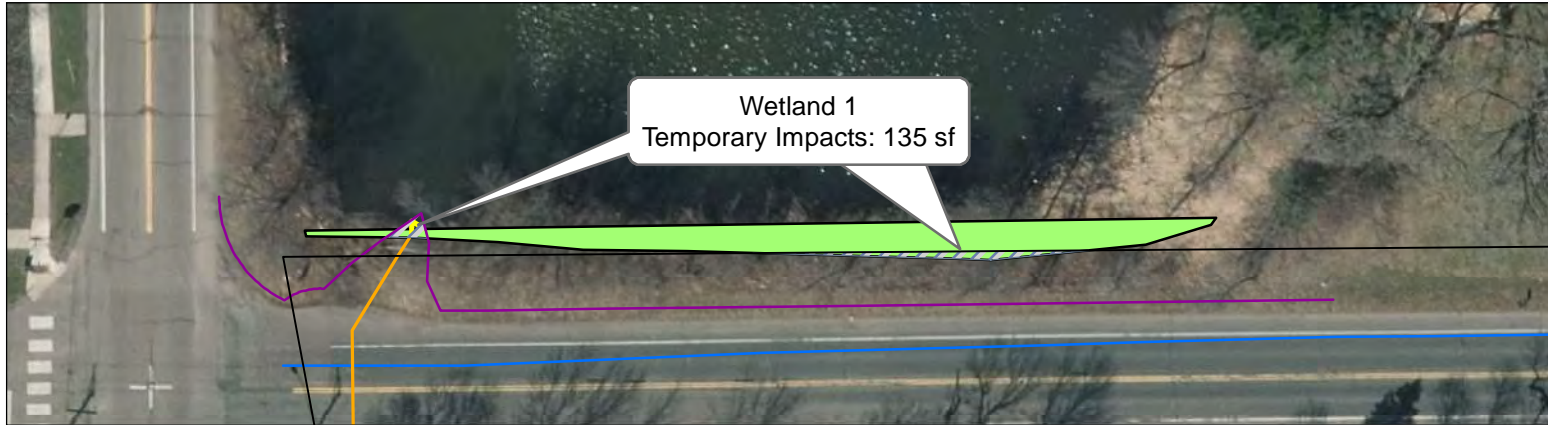
FIGURE 1 – Location Map

FIGURE 2 – Project Layout

FIGURE 3 – Proposed Impacts







Legend

- Construction Limits
- Grading
- Permanent Wetland Impacts
- Temporary Wetland Impacts
- Temporary Tributary Impacts
- Delineated Tributary
- Proposed Flared End
- Proposed Storm Sewer
- Proposed Water Main
- Proposed Sanitary Sewer
- Proposed Sidewalk
- Proposed Trail
- Type 1 - Seasonally Flooded Basin
- Type 2 - Fresh (wet) Meadow
- Type 3 - Shallow Marsh

0 50 Feet

Source: Ramsey County Imagery (2017)

Map Document: H:\MP\WDN15\19374\GIS\ESRI\Wetland\Permit\Maps\19374_Fig3_ProposedImpacts.mxd | Date Saved: 3/4/2020 10:35:18 AM



RAMSEY-WASHINGTON

METRO WATERSHED DISTRICT

MEMORANDUM

Date: May 6, 2020
To: Board of Managers and Staff
From: Nicole Soderholm, Permit Coordinator
Subject: April Enforcement Action Report

During April 2020:

| | |
|--|-----------|
| Number of Violations: | 13 |
| Install/Maintain Perimeter Control | 7 |
| Install/Maintain Construction Entrance | 1 |
| Sweep Streets | 2 |
| Stabilize Exposed Soils | 1 |
| Remove Discharged Sediment | 2 |

Activities:

Permitting assistance to private developers and public entities, permit review with Barr Engineering, miscellaneous inquiries, ongoing ESC site inspections and reporting, WCA administration and procedures, pre-construction meetings, permit team meeting, pre-application meeting, Red Rock Rail stakeholder meeting, draft 2019 MS4 Annual Report

Project Updates:

#19-30 White Bear Lake Apartments

Staff conducted a routine inspection on April 21st and found perimeter control to be damaged and missing in several areas; this made the site non-compliant. Staff spoke with onsite contractors over the phone to ensure that repairs were made promptly. Staff received an e-mail on April 22nd from onsite contractors confirming that repairs had been made, with photos of the repairs. Staff will continue to regularly inspect the site to ensure they stay in compliance.

#18-13 Trails Edge Apartments (Maplewood)

Staff conducted a routine inspection on April 23rd and found several maintenance items needed. Staff also discovered that perimeter control repairs had not been made as requested since the last visit. Failure to make repairs in a timely manner resulted in a non-compliant report. Staff emailed onsite personnel to ensure that these repairs would be made. Onsite personnel confirmed they will make the repairs. Staff plan to revisit the site the week of April 27th to ensure all repairs have been made, and to watch the expansion of the existing filtration basin.

#20-10 NSP 7th Ave Reconstruction

Staff met with onsite personnel on April 27th for an initial erosion control walk-through of the site. Overall the site had all necessary erosion and sediment control BMPs in place, but street sweeping and maintenance of inlet protection was needed. Staff communicated this need to the onsite contractor, as well as detailing it in an e-mailed report. Later in the evening of April 27th, staff received an e-mail with many photos detailing the repairs that were made to the site. Staff will continue to conduct regular inspections at this site.

#20-03 Vadnais Sports Center Indoor Turf Facility

On April 17th staff met with onsite contractors to perform an initial erosion control walk-through. Overall the site was well-maintained and all necessary erosion and sediment control BMPs were in place. The site had flagged off the existing underground stormwater system so that heavy equipment cannot drive over it. Staff will continue to meet with onsite contractors to perform SWPPP walk-throughs.

#19-38 McKnight Road – Anchor Block Commons (North St. Paul)

On April 23rd staff attended a socially distanced meeting onsite to discuss the next steps of the project. The Anchor Block Commons portion of the project is temporarily inactive, but the McKnight Road and Anchor Drive portion began on April 27th. Staff discussed the erosion and sediment control BMPs that would be needed before work can begin on the road project. Onsite personnel agreed and detailed what they would install. Staff drove by the site on April 27th and confirmed that the necessary erosion and sediment control BMPs had been installed. Staff will continue to inspect the site regularly.

Permits Closed in April 2020:

- 16-27 3M 8th Street Reconstruction
- 16-33 3M Building 229 Parking Ramp Demolition
- 17-05 Precision Tree Site Improvements (Withdrawn)
- 17-07 3M Building 229 Parking Ramp Reconstruction
- 18-05 3M North Parking Lot/11th Street

* * * * *

Stewardship Grant Program

* * * * *

Stewardship Grant Program Budget Status Update

May 6, 2020

| Homeowner | Coverage | Number of Projects | Funds Allocated |
|--|---------------------------------|--------------------|-----------------|
| Habitat Restoration and rain garden w/o hard surface drainage | 50% Cost Share \$15,000 Max | 3 | \$10,000 |
| Rain garden w/hard surface drainage, pervious pavement, green roof | 75% Cost Share \$15,000 Max | 1 | \$6,000 |
| Master Water Steward Project | 100% Cost Share \$15,000 Max | 1 | \$5,800 |
| Shoreland Restoration | 100% Cost Share \$15,000 Max | 1 | \$22,000 |

| Commercial, School, Government, Church, Associations, etc. | Coverage | Number of Projects | 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 | 1 | \$200,000 |
| Priority Area Projects | 100% Cost Share \$100,000 Max | 2 | \$200,000 |
| Non-Priority Area Projects | 75% Cost Share \$50,000 Max | 1 | \$50,000 |
| Public Art | 50% Cost Share | 0 | \$0 |
| Aquatic Veg Harvest/LVMP Development | 50% Cost Share \$15,000 Max | 0 | \$0 |
| Maintenance | 50% Cost Share \$5,000 Max for 5 Years | 28 | \$23,800 |
| Consultant Fees | | | \$23,000 |
| Total Allocated | | | \$540,600 |

| 2020 Stewardship Grant Program Budget | |
|---------------------------------------|------------------|
| Budget | \$1,000,000 |
| Total Funds Allocated | \$540,600 |
| Total Available Funds | \$459,400 |

* * * * *

Action Items

* * * * *

Request for Board Action

Board Meeting Date: May 6, 2020

Agenda Item No.: 7A

Preparer: Tina Carstens, Administrator

Item Description: Twin Lake Outlet Action Items

Background:

There are a number of items related to the Twin Lake Outlet project for your discussion and action at the May 6th meeting.

1. The **Twin Lake Outlet Operation Plan** update memo is attached to this cover sheet. This update describes the changes to the draft operating plan that were made after the discussion of the board at your March 2020 meeting. This item is first for discussion as the direction given on the operation plan changes the permit conditions and variance requests needed.
 2. Second on the agenda is the **District Permit Application** for discussion and ultimately a decision by the board. The permit application details are also attached to this cover sheet.
 3. And third, is a memo requesting the board to **Authorize Staff to Solicit Bids for Construction**. Included in that memo is the engineer's opinion of cost, schedule, and plan sheets.
-

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 that the Board consider the requests of the Twin Lake Outlet Operation Plan as well as the District Permit Application. In addition, 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:

The outlet construction project will be funded through the Flood Risk Reduction Fund where there are sufficient funds available.

Board Action Requested:

Consider the requests of the Twin Lake Outlet Operation Plan as well as the District Permit Application. Approve the preliminary design, estimated costs, and proposed project schedule, and direct staff to finalize the design and bidding documents and solicit bid proposals.

Memorandum

To: Ramsey-Washington Metro Watershed District (RWMWD) Board of Managers
From: Brandon Barnes, PE, Water Resources Engineer, Erin Anderson-Wenz, PE, Sr Water Resources Engineer, and Brad Lindaman, PE, RWMWD Engineer
Subject: Twin Lake Outlet Operation Plan Update
Date: April 27, 2020
Project: 23/62-1349.00
c: Tina Carstens, RWMWD Administrator

Background

At the March 2020 board meeting, Barr staff provided an overview of the proposed operation plan for the Twin Lake outlet structure and resulting changes to the 100-year peak water levels downstream of the outlet. During the meeting Managers provided comments related to the proposed operation plan and resulting changes to peak water levels. The following sections summarize:

1. Current operation plan and structure design
2. Comments provided by the Managers during the March board meeting, and corresponding modifications to the operation plan.
3. Changes to downstream water levels as a result of modifications to the operation plan.
4. Summary of RWMWD Rule D: Flood Control
5. General status update for the project.

Requested Manager Action

Approval of the elements in this document for purpose of development of the Twin Lake Outlet Operation Plan.

Current Operation Plan and Structure Design

The operation plan for the Twin Lake outlet is being evaluated to be consistent with the RWMWD policy listed in Rule D: Flood Control of the District's rule document. The District policy states:

It is the policy of the Board of Managers to:

- a. *Encourage water quantity controls to ensure no net increase in the impacts or potential for flooding on or off the site and encourage, where practical, controls to address existing flooding problems*
- b. *Discourage floodplain filling for new non-river dependent developments.*
- c. *Only allow floodplain development in a manner that is compatible with the dynamic nature of floodplains.*

To be consistent with the District policy, one of the primary objectives of the operation plan is to minimize the potential for increases to the floodplain elevation near North Star Estates, where dozens of homes are within the floodplain and Gervais Lake, where the City and District have developed an Emergency Response Plan during periods of flooding for low homes on the lake. During the March board meeting the Managers provided the following comments, each of which were considered and incorporated into the proposed operation plan. Following is a summary of comments provided and how each has been incorporated into the operation plan.

1. **Direction from Managers:** The outlet should include backflow prevention to stop water from flowing from the MnDOT system back into Twin lake.

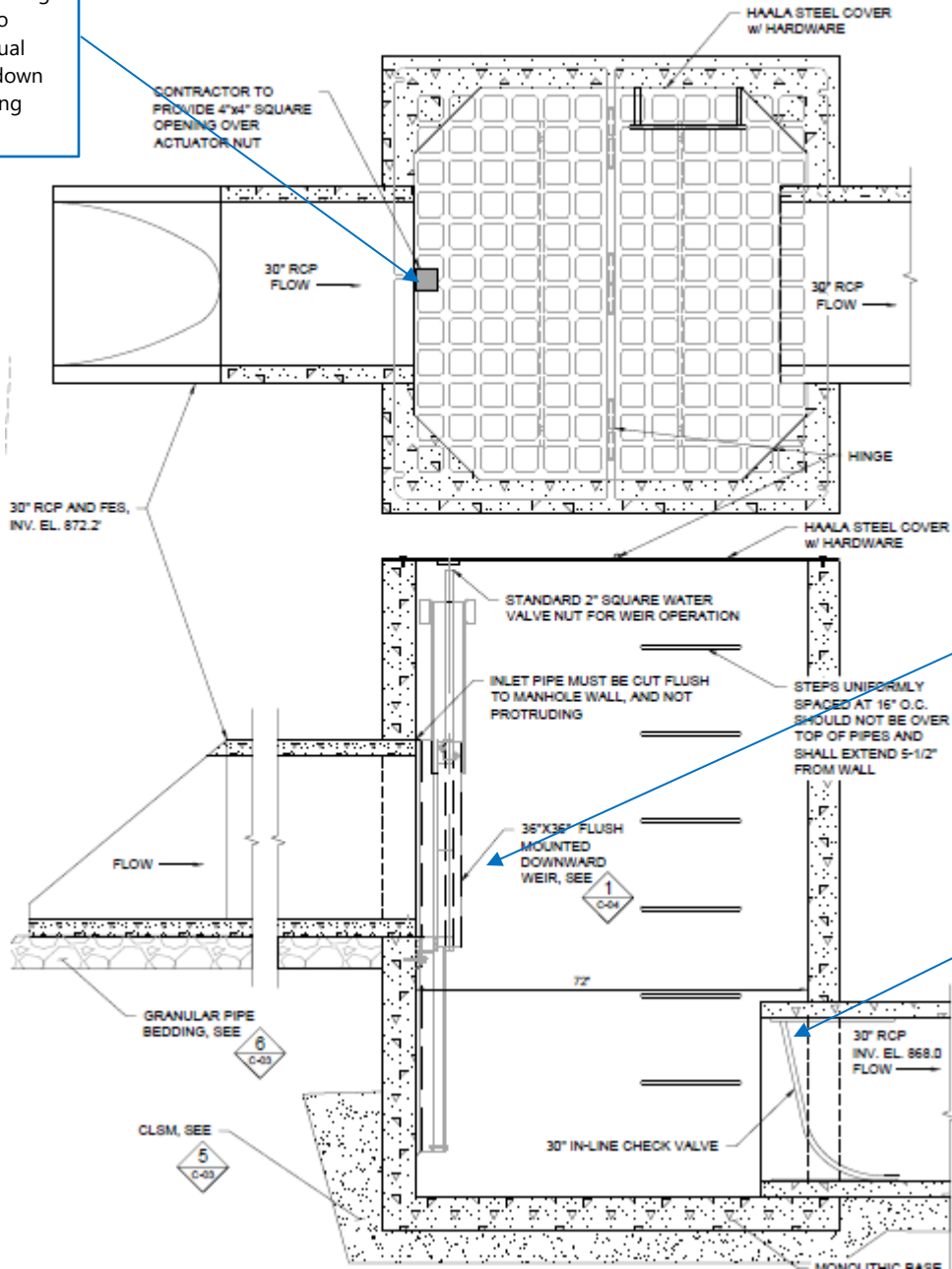
To: Ramsey-Washington Metro Watershed District (RWMWD) Board of Managers
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Subject: Twin Lake Outlet Operation Plan Update
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Page: 2

- **Staff Response:** A back-flow preventer was included in the feasibility design and has been included in the current design. The configuration of the backflow preventor has changed from a flap gate in the feasibility design, to an inline check valve. This change was made to allow for a drop-down weir, to provide greater flexibility to manage water levels in Twin Lake and to provide greater flexibility if the Managers choose to modify the operation plan in the future.
2. **Direction from Managers:** Provide flexibility to change how the operation plan works in the future, especially when the Keller/Phalen outlet structure changes are in place to allow more flow.
 - **Staff Response:** One of our design objectives is to design an outlet that would allow future flexibility without the need for structural modifications if the operation plan was modified in the future. To directly address this request, the manhole has been modified so that a drop-down weir will be mounted on the outlet pipe to allow for modifications for how upstream water levels are managed.
 3. **Direction from Managers:** As suggested in the presentation slides discussed during the March meeting, consider a lower trigger elevation for opening the gate (lower than 873.5) that involves a passive overflow in case someone can't get out to the outlet to open it during flood stage conditions (water elevations higher than the trigger elevation).
 - **Staff Response:** The outlet includes a drop-down weir. The current operation plan has been updated such that the weir crest would be at 873.5, which allows for a permanent opening above the weir to allow flow out of Twin Lake, even if staff are unable to get to the outlet during a flood event. In addition, the operation plan was revised such that the outlet can be adjusted when Twin Lake elevations reach 872.8. Elevation 872.8 was selected to prevent the low home from being inundated during a 4-day 100-year event.
 4. **Direction from Managers:** As suggested in the presentation slides, consider a longer window of the "gate open" season.
 - **Staff Response:** The gate open season was extended by one month. The current operation plan allows for the outlet to be open from November 1st – March 1st.
 5. **Direction from Managers:** Consider other conditions that would allow opening the outlet during the storm season during "dry conditions".
 - **Staff Response:** The current operation plan was modified to include a criterion to open the outlet during the summer if the water surface elevation at the Spoon Lake weir is lower than 858.0.
 6. **Direction from Managers:** Consider providing future flexibility and perhaps even automation of the controls on the Twin Lake outlet to minimize the amount of time someone has to actually run out to the site to operate the outlet.
 - **Staff Response:** Updates to the operation plan described above provide flood-risk reduction for structures on Twin Lake, even if staff are unable to respond immediately during a flood-event to operate the structure. Staff have discussed operation of the structure with City staff. Automation is not currently included in the design, to expedite construction of the outlet. However, future modifications to the structure could be readily incorporated to add this functionality in the future.

Following the evaluation of the items listed above, the current design of the structure is shown in Figure 1.

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Date: April 27, 2020
Page: 3

Proposed grated opening to allow for access to actuator nut and visual inspection of drop-down weir without removing cover.



Drop-down weir that will be operated to control upstream water levels. Weir can be used to completely close upstream pipe, but typical crest position is proposed at 873.5 to allow minimum 1-foot permanent opening. Current proposed operating plan allows for weir operation if upstream water level reaches 872.8-

Inline check valve to prevent back flow from MnDOT drainage system.

Flow is from left to right. Twin Lake is to the left of the image, and the MnDOT pond is to the right. There is a drop inside the structure because the outlet pipe must be 2-feet below the high-pressure petroleum pipeline located within the embankment. The invert elevation of the upstream pipe (left of the figure) is at the elevation of the outlet that was constructed in 1970 as part of the I-694 construction.

Figure 1 Detail of Current Outlet Structure Design

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Date: April 27, 2020
Page: 4

The drop-down weir in the outlet would be operated as follows to reduce the impact that the outlet has on capacity within the MnDOT drainage system, and peak water levels near North Star Estates and on Gervais Lake.

1. Time of year: November 1 – March 1.
 - The drop-down weir is open to lower upstream water levels to 872.2.
2. Time of year: March 2 – October 31
 - The drop-down weir crest elevation is set to 873.5.
 - If the water level in Twin Lake is above 872.8.
 - The drop-down weir may be adjusted (lowered) to decrease the upstream water level to 872.2. The drop-down weir must be returned (raised) to elevation 873.5 at least 12-hours prior to a forecasted rainfall event greater than 2-inches and would remain at that 873.5 position until the water level in Mn/DOT's Waldo Pond recedes and the water level in Owasso Basin is within 0.4-feet of the outlet. The City of Little Canada will have sole authority/responsibility for these adjustments. The RWMWD will provide the City with technical assistance and data to help the City determine when these adjustments may be appropriate.
 - If the water level in Twin Lake below 872.8.
 - The drop-down weir may be adjusted (lowered) IF the water level in Spoon Lake is below 858.0. The drop-down weir must be returned (raised) to elevation 873.5 at least 12-hours prior to a forecasted rainfall event greater than 2-inches, and would remain at that position until the water level in Waldo Pond recedes, the water level in Owasso Basin is within 0.4-feet of the outlet, and the water level in Spoon Lake is less than 858.0. The City of Little Canada will have sole authority/responsibility for these adjustments. The RWMWD will provide the City with technical assistance and data to help the City determine when these adjustments may be appropriate.
3. The outlet could be completely closed at the request of MnDOT or the City of Little Canada if needed to reduce downstream flood-risk.

The proposed outlet has been designed to allow for future changes to the operation plan at the RWMWD Manager's direction.

The operation plan results in no increase to water levels between downstream of Waldo Pond (i.e., the MnDOT stormwater pond) through Gervais Creek. However, because there is additional volume conveyed downstream, there is an increase to the 100-year water level on Gervais Lake. The following table

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Date: April 27, 2020
Page: 5

summarizes the change to the Gervais Lake floodplain elevation, assuming the starting elevation of Gervais Lake is at 858.0.

| Location | Existing Conditions 100-year Peak Water Surface Elevation | Post-Project Conditions 100-year Peak Water Surface Elevation | Change in 100-year Peak Water Surface Elevation |
|--------------|---|---|---|
| Owasso Basin | 875.81 | 875.81 | 0.00 |
| Gervais Lake | 861.66 | 861.68 | +0.02 |

Changes to Downstream Water Levels

During the March Board meeting, changes to downstream water levels near North Star Estates and Gervais Lake were presented. The operation plan mitigated potential increases to water levels near North Star Estates. Changes to water levels at North Star Estates are mitigated because the operation plan includes criteria to raise the drop-down weir to elevation 873.5 a minimum of 12-hours prior to a rainfall event greater than 2-inches. This 12-hour requirement is based on an evaluation of the system using the District's stormwater model and is consistent with the operation plan City staff followed during 2019 while operating emergency pumps.

During the March Board meeting, increases to 100-year peak water levels in Gervais Lake of 0.08-feet were discussed for outlet operations that allow more flow downstream. Following the modifications to the proposed operating plan, the increase to the peak 100-year water level in Gervais Lake is reduced to 0.02-feet. The reduction is due to providing additional storage volume in Twin Lake, so when the MnDOT stormwater pond overtops the embankment, more water can be stored in Twin Lake. However, because the revised operation plan results in more frequent operation of the outlet (i.e., based on direction provided by the Managers, the trigger elevation was lowered from 873.5 to 872.8), there is a greater potential for flow from Twin Lake to coincide with a larger rainfall event.

RWMWD Rule D: Flood Control

The RWMWD Rule D: Flood Control includes regulation that states:

"No person or political subdivision shall alter or fill land below the 100-year flood elevation of any water body, public water, or public water wetland without first obtaining a permit from the District."

Since the proposed outlet will alter land below the 100-year floodplain of the wetland south of Twin Lake, this project will require a District permit.

Rule D requires applicants to submit information related to grading within the 100-year floodplain (Rule D 3.a), and a stormwater management plan showing calculations for estimating runoff, drainage areas, stormwater storage, and flood elevations for the 2-year, 10-year, and 100-year storm events for both existing conditions and post-project conditions (Rule D 4.g).

Staff review permit applications for compliance with criteria and the policy of the Board of Managers listed in each rule. (The Board of Managers policy from Rule D is noted on the first page of this memorandum).

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Subject: Twin Lake Outlet Operation Plan Update
Date: April 27, 2020
Page: 6

The proposed outlet will reduce the 100-year floodplain elevation in Twin Lake and increase the floodplain elevation in Gervais Lake by 0.02-feet.

Status Update

The proposed outlet will require approvals from several entities. Staff have submitted preliminary plans to each of these entities and are waiting for approvals:

- **Tentative Approval Received - Xcel Energy.** The proposed drainage modification is located within the Xcel Energy easement for overhead transmission lines. Staff received email confirmation that the proposed modifications meet Xcel requirements. Staff are waiting to receive an approval letter from Excel.
- **Approval Received - BP Pipelines.** The proposed storm sewer crosses a 10-inch high pressure petroleum pipeline. BP Pipelines provided approval of the proposed outlet design.
- **Approval Received - City of Little Canada.** The proposed modification is located within the City of Little Canada, and the District or City of Little Canada will be responsible for operating and maintaining the drainage improvements. Preliminary plans were submitted to the City. The City confirmed that the proposed outlet would not require a City permit, and that the drop-down weir can be operated without purchase of specialized equipment.
- **Private Property Owner.** The proposed outlet will require a permanent drainage easement between the railroad and the MnDOT right-of-way. A permanent access easement will also be required. Staff have been in communication with the Property Owner to obtain required easements for drainage, construction, and site access following construction.
- **Comments Received - MnDOT.** The proposed outlet will be a new permanent connection to the MnDOT drainage system and require a drainage permit. Staff received comments from MnDOT Water Resources. Staff are waiting for confirmation that other MnDOT departments do not have additional comments.
- **RWMWD Permit.** The proposed drainage modifications will require a District permit for Rule D: Flood Control, Rule E: Wetland Management, and Rule F: Erosion and Sediment Control.

Permit Application Coversheet

Date May 06, 2020

Project Name Twin Lake Outlet Project Project Number 20-18

Applicant Name Tina Carstens, Ramsey-Washington Metro Watershed District

Type of Development Drainage

Property Description

The proposed permit is for a District-led project to construct an outlet from Twin Lake by conveying drainage to the MnDOT right of way ('Waldo Pond'). Drainage modifications include grading of a drainage channel and constructing a 30" storm sewer connection. The outlet structure is proposed to include a backflow preventer and drop-down weir for operational purposes. While the project is under an acre, work is proposed in the floodplain thus triggering District Rule D. A variance request is included with the application due to an increase in peak water surface elevation downstream on Gervais Lake. A variance request is also included for impacts to 'Wetland A' onsite due to excavation of the channel. A Wetland Conservation Act (WCA) no loss approval was issued on 4/26/2020 (#20-07 WCA). Any temporarily disturbed areas will be restored with a seed mix to be selected by District staff.

Watershed District Policies or Standards Involved:

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

Water Quantity Considerations

The proposed project increases the 100-year peak water surface elevation downstream on Gervais Lake.

Water Quality Considerations

Short Term

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

Long Term

There are no long term water quality considerations.

Staff Recommendation

Staff recommends approval of the permit with the special provision and Rule E variance request. If the Board of Managers grant the Rule D variance, staff will defer to the Board on this request.

Attachments:

- Project Location Map
- Project Grading Plan

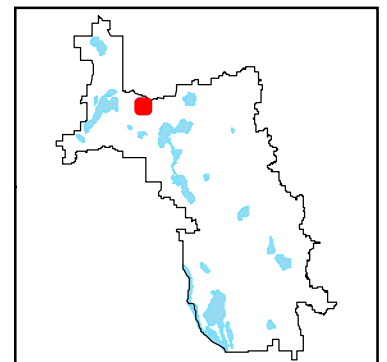
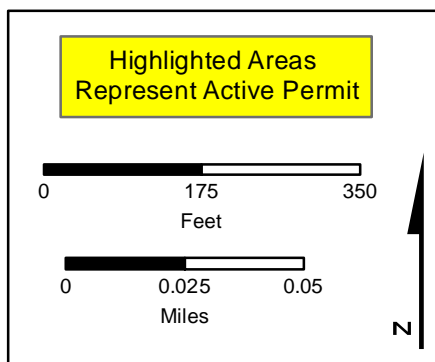
#20-18 Twin Lake Outlet Project



Wetlands

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

| | |
|---|-------------------|
| | RWMWD Boundary |
| → | Flow Arrows |
| → | Major Flow Arrows |
| | Subwatersheds |
| | Creeks |
| | Permits |

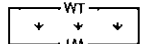


20-18

Special Provisions

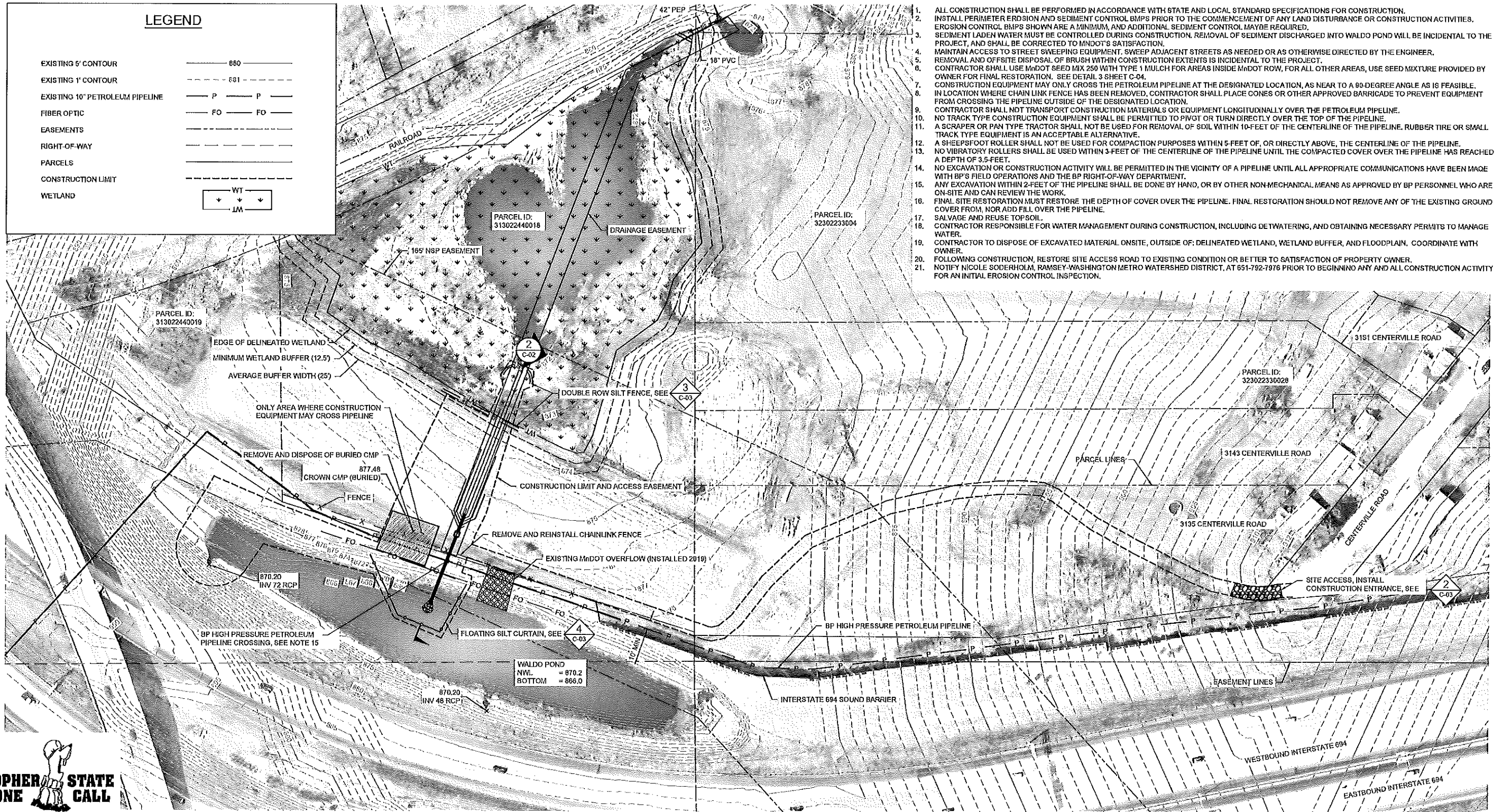
1. The applicant shall submit the final, signed plans.

LEGEND

- EXISTING 5' CONTOUR ——— 060 ———
- EXISTING 1' CONTOUR - - - - - 061 - - - - -
- EXISTING 10" PETROLEUM PIPELINE — P — P —
- FIBER OPTIC — FO — FO —
- EASEMENTS ——— ———
- RIGHT-OF-WAY ——— ———
- PARCELS ——— ———
- CONSTRUCTION LIMIT - - - - -
- WETLAND 

NOTES:

1. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH STATE AND LOCAL STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. INSTALL PERIMETER EROSION AND SEDIMENT CONTROL BMPs PRIOR TO THE COMMENCEMENT OF ANY LAND DISTURBANCE OR CONSTRUCTION ACTIVITIES. EROSION CONTROL BMPs SHOWN ARE A MINIMUM, AND ADDITIONAL SEDIMENT CONTROL MAYBE REQUIRED.
3. SEDIMENT LADEN WATER MUST BE CONTROLLED DURING CONSTRUCTION. REMOVAL OF SEDIMENT DISCHARGED INTO WALDO POND WILL BE INCIDENTAL TO THE PROJECT, AND SHALL BE CORRECTED TO MNDOT'S SATISFACTION.
4. MAINTAIN ACCESS TO STREET SWEEPING EQUIPMENT. SWEEP ADJACENT STREETS AS NEEDED OR AS OTHERWISE DIRECTED BY THE ENGINEER.
5. REMOVAL AND OFFSITE DISPOSAL OF BRUSH WITHIN CONSTRUCTION EXTENTS IS INCIDENTAL TO THE PROJECT.
6. CONTRACTOR SHALL USE MNDOT SEED MIX 250 WITH TYPE 1 MULCH FOR AREAS INSIDE MNDOT ROW. FOR ALL OTHER AREAS, USE SEED MIXTURE PROVIDED BY OWNER FOR FINAL RESTORATION. SEE DETAIL 3 SHEET C-04.
7. CONSTRUCTION EQUIPMENT MAY ONLY CROSS THE PETROLEUM PIPELINE AT THE DESIGNATED LOCATION, AS NEAR TO A 90-DEGREE ANGLE AS IS FEASIBLE.
8. IN LOCATION WHERE CHAIN LINK FENCE HAS BEEN REMOVED, CONTRACTOR SHALL PLACE CONES OR OTHER APPROVED BARRICADE TO PREVENT EQUIPMENT FROM CROSSING THE PIPELINE OUTSIDE OF THE DESIGNATED LOCATION.
9. CONTRACTOR SHALL NOT TRANSPORT CONSTRUCTION MATERIALS OR EQUIPMENT LONGITUDINALLY OVER THE PETROLEUM PIPELINE.
10. NO TRACK TYPE CONSTRUCTION EQUIPMENT SHALL BE PERMITTED TO PIVOT OR TURN DIRECTLY OVER THE TOP OF THE PIPELINE.
11. A SCRAPER OR PAN TYPE TRACTOR SHALL NOT BE USED FOR REMOVAL OF SOIL WITHIN 10-FEET OF THE CENTERLINE OF THE PIPELINE. RUBBER TIRE OR SMALL TRACK TYPE EQUIPMENT IS AN ACCEPTABLE ALTERNATIVE.
12. A SHEEPSFOOT ROLLER SHALL NOT BE USED FOR COMPACTION PURPOSES WITHIN 5-FEET OF, OR DIRECTLY ABOVE, THE CENTERLINE OF THE PIPELINE.
13. NO VIBRATORY ROLLERS SHALL BE USED WITHIN 3-FEET OF THE CENTERLINE OF THE PIPELINE UNTIL THE COMPACTED COVER OVER THE PIPELINE HAS REACHED A DEPTH OF 3.5-FEET.
14. NO EXCAVATION OR CONSTRUCTION ACTIVITY WILL BE PERMITTED IN THE VICINITY OF A PIPELINE UNTIL ALL APPROPRIATE COMMUNICATIONS HAVE BEEN MADE WITH BP'S FIELD OPERATIONS AND THE BP RIGHT-OF-WAY DEPARTMENT.
15. ANY EXCAVATION WITHIN 2-FEET OF THE PIPELINE SHALL BE DONE BY HAND, OR BY OTHER NON-MECHANICAL MEANS AS APPROVED BY BP PERSONNEL WHO ARE ON-SITE AND CAN REVIEW THE WORK.
16. FINAL SITE RESTORATION MUST RESTORE THE DEPTH OF COVER OVER THE PIPELINE. FINAL RESTORATION SHOULD NOT REMOVE ANY OF THE EXISTING GROUND COVER FROM, NOR ADD FILL OVER THE PIPELINE.
17. SALVAGE AND REUSE TOPSOIL.
18. CONTRACTOR RESPONSIBLE FOR WATER MANAGEMENT DURING CONSTRUCTION, INCLUDING DETWATERING, AND OBTAINING NECESSARY PERMITS TO MANAGE WATER.
19. CONTRACTOR TO DISPOSE OF EXCAVATED MATERIAL ONSITE, OUTSIDE OF: DELINEATED WETLAND, WETLAND BUFFER, AND FLOODPLAIN. COORDINATE WITH OWNER.
20. FOLLOWING CONSTRUCTION, RESTORE SITE ACCESS ROAD TO EXISTING CONDITION OR BETTER TO SATISFACTION OF PROPERTY OWNER.
21. NOTIFY NICOLE SODERHOLM, RAMSEY-WASHINGTON METRO WATERSHED DISTRICT, AT 651-792-7976 PRIOR TO BEGINNING ANY AND ALL CONSTRUCTION ACTIVITY FOR AN INITIAL EROSION CONTROL INSPECTION.



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

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

1 PLAN: TWIN LAKE OUTLET



ISSUE FOR
CLIENT REVIEW

CADD USER: Gopher W. Brender FILE: M:\DESIGN\2020\2300_000362\3660_TWIN_LK_OUTLET_C-01.DWG PLOT SCALE: 1:2 PLOT DATE: 4/24/2020 1:42 PM

| | | | | | | | | | |
|---|-----------|-----------------|--------|---------|---------|---|---|---|---|
| I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. | | CLIENT | 3/4/20 | 3/23/20 | 4/27/20 | | | | |
| PRINTED NAME | | CONSTRUCTION | | | | | | | |
| SIGNATURE | | RELEASED TO/FOR | A | B | C | D | 1 | 2 | 3 |
| DATE | LICENSE # | DATE RELEASED | | | | | | | |

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

Project Office:
BARR ENGINEERING CO.
4300 MARKET PINE DRIVE
SUITE 200
MINNEAPOLIS, MN 55435
Ph: 1-800-632-2277
Fax: (652) 832-2601
www.barr.com

| | |
|----------|------------|
| Scale | AS SHOWN |
| Date | 01/09/2020 |
| Drawn | GWB |
| Checked | BJL |
| Designed | BJB |
| Approved | BJB |



TWIN LAKE OUTLET PROJECT
LITTLE CANADA, MINNESOTA
SITE LAYOUT AND EROSION CONTROL
& EROSION CONTROL

| | |
|--------------------|---------------|
| BARR PROJECT No. | 23/62-1349.00 |
| CLIENT PROJECT No. | |
| DWG. No. | C-01 |
| REV. No. | C |

| NO. | BY | CHK | APP. | DATE | REVISION DESCRIPTION |
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Memorandum

To: Ramsey-Washington Metro Watershed District (RWMWD) Board of Managers
 From: Barr Engineering
 Subject: Twin Lake Outlet – Variance Request
 Date: April 27, 2020
 Project: 23/62-1349.00
 c: Tina Carstens, RWMWD Administrator

Project Description

The proposed outlet from Twin Lake would restore drainage patterns to 1970’s conditions. In general, the proposed modifications include:

- Grading a drainage channel on the parcel north of the MnDOT right-of-way. The proposed channel is a 4-foot bottom width and 4:1 side slopes. The channel geometry is consistent with historic documentation of County Ditch 16.
- Constructing a storm sewer connection to Waldo Pond. The proposed storm sewer is 30-inch RCP.
- The proposed outlet includes a backflow preventer and drop-down weir, which can be operated to minimize discharge to the MnDOT drainage system prior to rainfall events. Based on input from MnDOT staff, all operable components are located outside of MnDOT right-of-way.

A plan view of proposed modifications is shown in Figure 1.

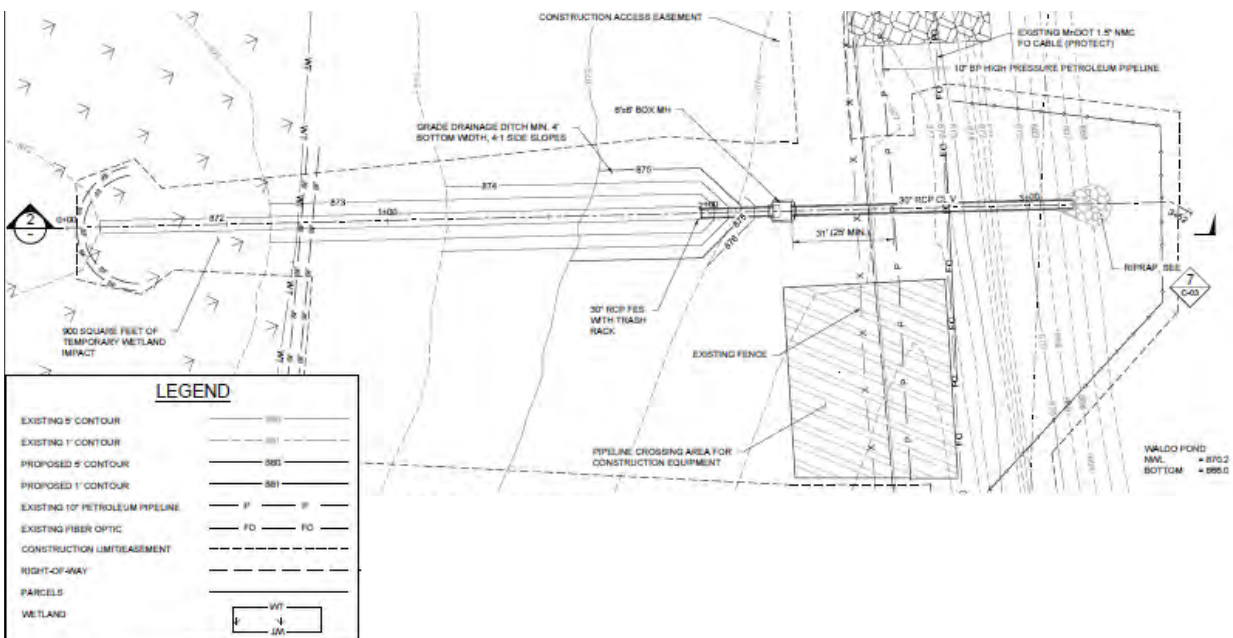


Figure 1. Plan View of Proposed Improvements

Rule D: Flood Control

The RWMWD policy listed in Rule D states:

It is the policy of the Board of Managers to:

- a. *Encourage water quantity controls to ensure no net increase in the impacts or potential for flooding on or off the site and encourage, where practical, controls to address existing flooding problems*
- b. *Discourage floodplain filling for new non-river dependent developments.*
- c. *Only allow floodplain development in a manner that is compatible with the dynamic nature of floodplains.*

Downstream floodplain impacts were evaluated by comparing post-project conditions (i.e., after the outlet has been constructed) to existing conditions (i.e., no outlet from Twin Lake). Since the proposed project includes discharging flow downstream, an operation plan for the outlet was developed to balance the project goal of reducing flood-risk on Twin Lake while minimizing downstream impacts. The operation plan provides guides how the drop-down weir in the structure should be adjusted based on upstream and downstream water levels. The initial operation plan that is proposed is as follows:

1. Time of year: November 1 – March 1.
 - o The drop-down weir is open to lower upstream water levels to 872.2.
2. Time of year: March 2 – October 31
 - o The drop-down weir crest elevation is set to 873.5.
 - If the water level in Twin Lake is above 872.8.
 - The drop-down weir may be adjusted (lowered) to decrease the upstream water level to 872.2. The drop-down weir must be returned (raised) to elevation 873.5 at least 12-hours prior to a forecasted rainfall event greater than 2-inches and would remain at that 873.5 position until the water level in Mn/DOT's Waldo Pond recedes and the water level in Owasso Basin is within 0.4-feet of the outlet. The City of Little Canada will have sole authority/responsibility for these adjustments. The RWMWD will provide the City with technical assistance and data to help the City determine when these adjustments may be appropriate.
 - If the water level in Twin Lake below 872.8.
 - The drop-down weir may be adjusted (lowered) IF the water level in Spoon Lake is below 858.0. The drop-down weir must be returned (raised) to elevation 873.5 at least 12-hours prior to a forecasted rainfall event greater than 2-inches, and would remain at that position until the water level in Waldo Pond recedes, the water level in Owasso Basin is within 0.4-feet of the outlet, and the water level in Spoon Lake is less than 858.0. The City of Little Canada will have sole authority/responsibility for these adjustments. The RWMWD will provide

the City with technical assistance and data to help the City determine when these adjustments may be appropriate.

3. The outlet could be completely closed at the request of MnDOT or the City of Little Canada if needed to reduce downstream flood-risk.

The proposed outlet has been designed to allow for future changes to the operation plan at the RWMWD Manager's direction.

The operation plan results in no increase to water levels between downstream of Waldo Pond (i.e., the MnDOT stormwater pond) through Gervais Creek. However, because there is additional volume conveyed downstream, there is an increase to the 100-year water level on Gervais Lake. The following table summarizes the change to the Gervais Lake floodplain elevation, assuming the starting elevation of Gervais Lake is at 858.0.

| Location | Existing Conditions 100-year Peak Water Surface Elevation | Post-Project Conditions 100-year Peak Water Surface Elevation | Change in 100-year Peak Water Surface Elevation |
|--------------|---|---|---|
| Owasso Basin | 875.81 | 875.81 | 0.00 |
| Gervais Lake | 861.66 | 861.68 | +0.02 |

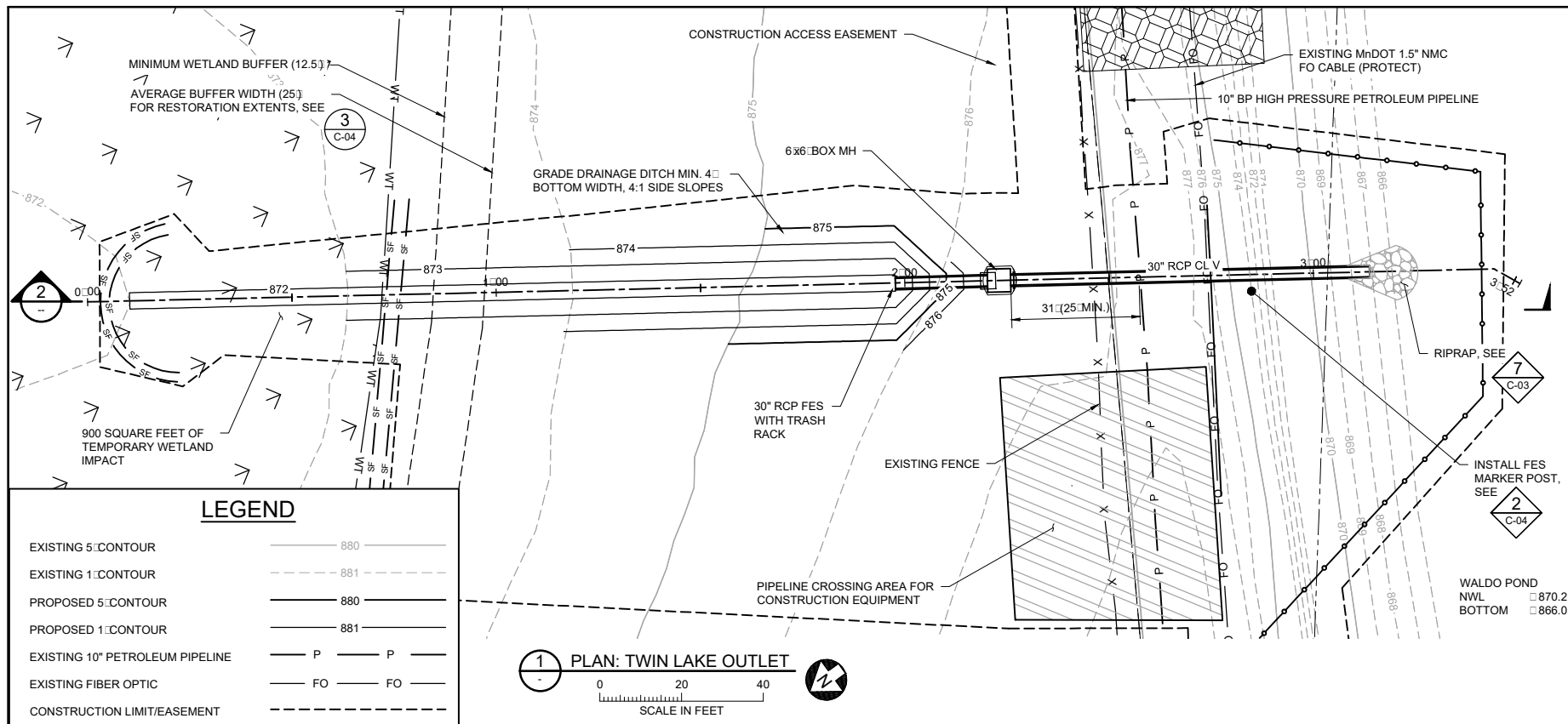
A variance is requested for the proposed increase in downstream peak water levels on Gervais Lake.

Rule E: Wetland Management

The District Rule E Section 3.d.1 lists the no-disturb buffer widths and minimum buffer widths that must be met. The wetland onsite is classified as a managed C wetland which has an average buffer width of 25-feet and minimum buffer width of 12.5-feet. The approximate elevation of the wetland boundary is elevation 873.0.

The District evaluated several options for providing an outlet from this site. Options evaluated are presented in the Feasibility Study (December 2019).

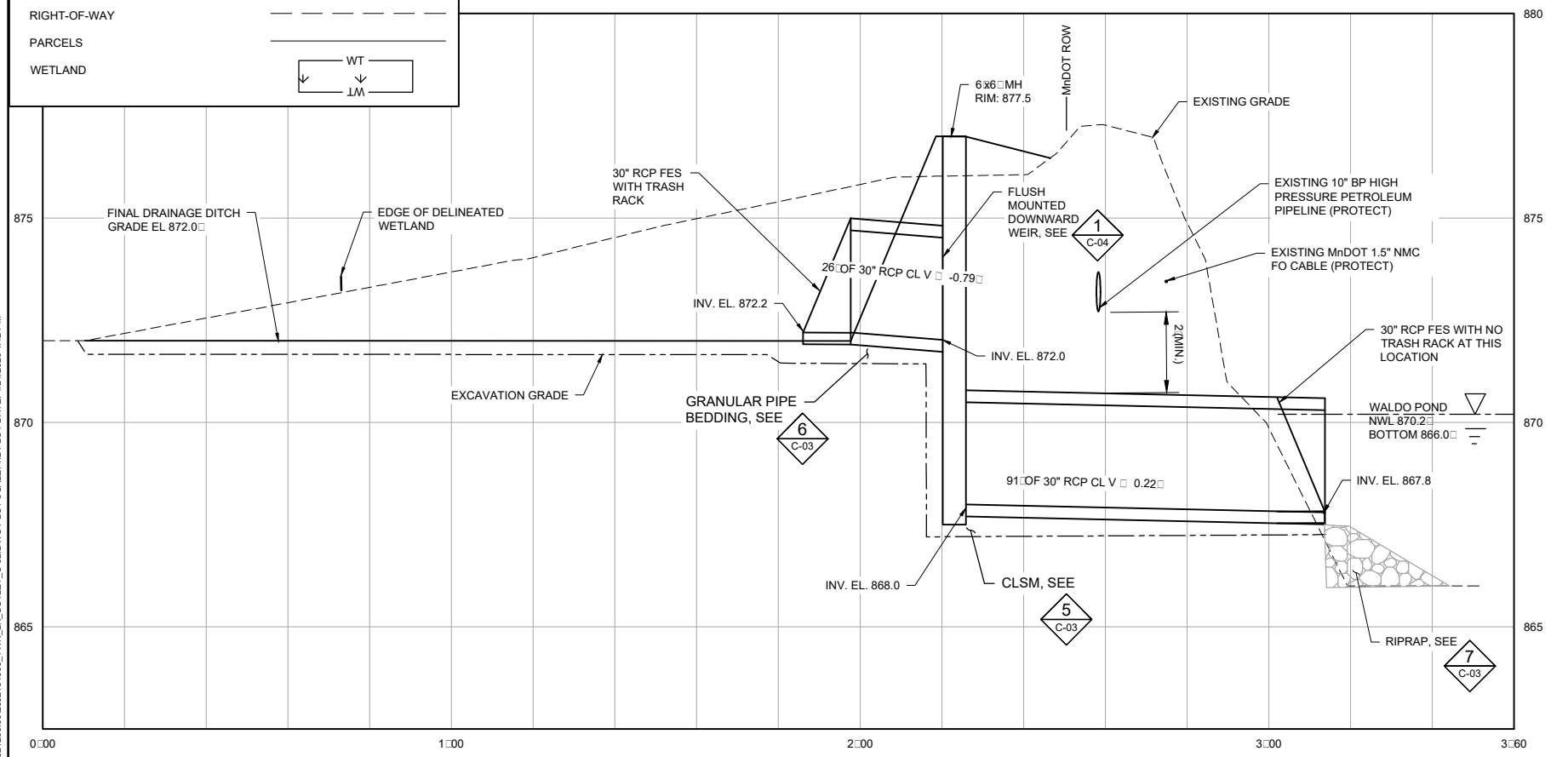
A variance is requested for work within the wetland buffer to grade the drainage ditch to allow positive drainage at elevation 872.2 to the new outlet. The disturbed area will be reseeded with a seed mix selected by District staff following the steps in District Rule E Section 3.d.7.



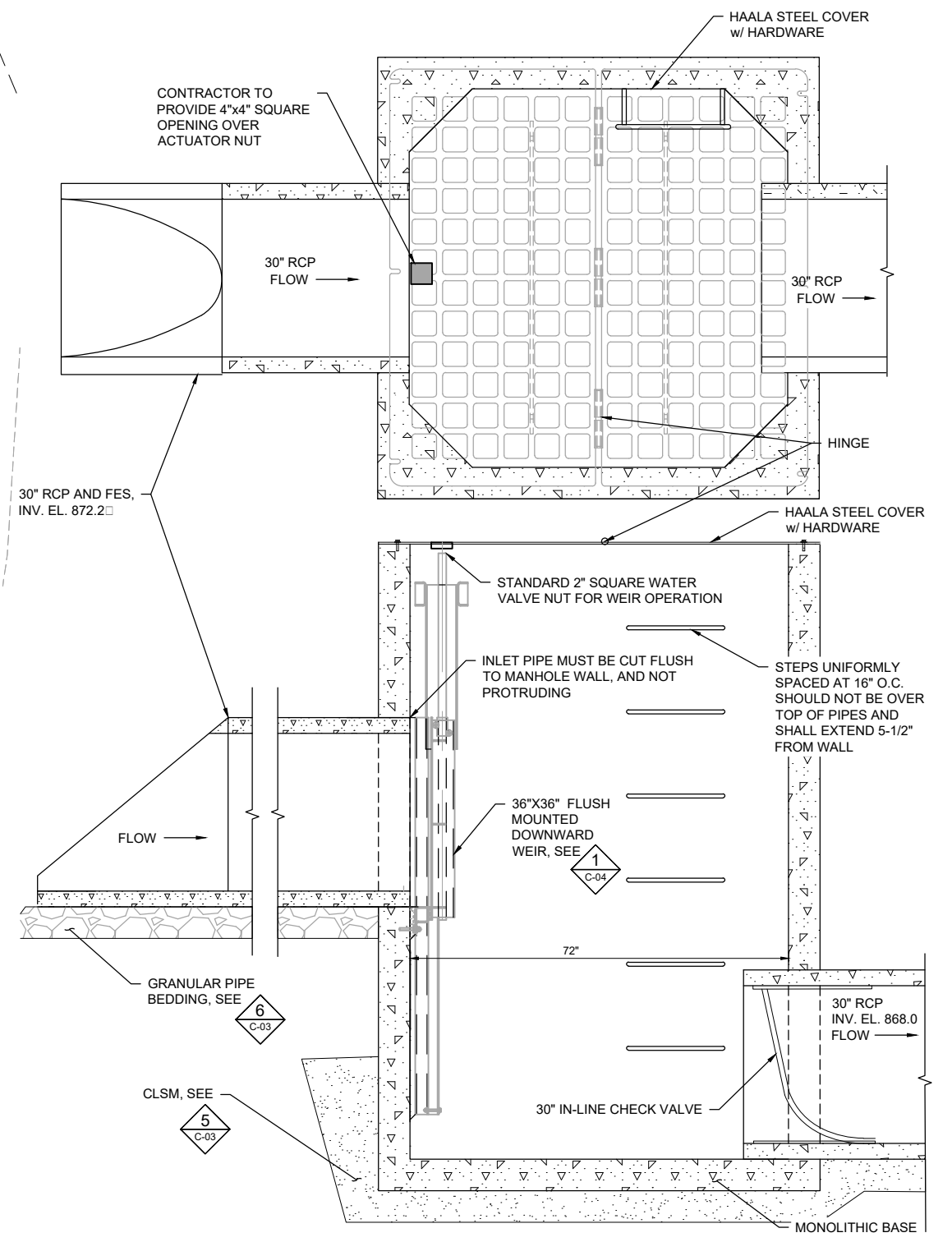
LEGEND

| | |
|---------------------------------|----------|
| EXISTING 5' CONTOUR | 880 |
| EXISTING 1' CONTOUR | 881 |
| PROPOSED 5' CONTOUR | 880 |
| PROPOSED 1' CONTOUR | 881 |
| EXISTING 10" PETROLEUM PIPELINE | P P |
| EXISTING FIBER OPTIC | FO FO |
| CONSTRUCTION LIMIT/EASEMENT | - - - - |
| RIGHT-OF-WAY | - - - - |
| PARCELS | |
| WETLAND | WT JM |

1 PLAN: TWIN LAKE OUTLET
SCALE IN FEET



2 PROFILE: TWIN LAKE OUTLET
SCALE IN FEET 1H:10V



3 6x6 PRECAST STRUCTURE
NOT TO SCALE

- NOTES:**
- SUPPLY JOINT SEALS FOR ALL PRECAST JOINTS CAPABLE OF PROVIDING A WATER TIGHT SEAL FOR WATER PRESSURES UP TO 9-FEET IN HYDROSTATIC HEAD DIFFERENTIAL.
 - ALL STORM SEWER SHALL HAVE JOINT TIES.
 - CONTRACTOR SHALL PROVIDE LOCKING ACCESS HATCH.
 - ALL PICK HOLES SHALL BE FILLED WITH GROUT.

ISSUE FOR CLIENT REVIEW

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| CLIENT | 3/4/20 | 3/23/20 | 4/27/20 | | | | | | |
| BID | | | | | | | | | |
| CONSTRUCTION | | | | | | | | | |
| RELEASED TO/FOR | A | B | C | 0 | 1 | 2 | 3 | | |
| DATE RELEASED | | | | | | | | | |

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

| | |
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| Scale | AS SHOWN |
| Date | 01/09/2020 |
| Drawn | GW/B |
| Checked | BJL |
| Designed | BJB |
| Approved | BJB |



| | |
|--|--|
| TWIN LAKE OUTLET PROJECT LITTLE CANADA, MINNESOTA | |
| GRADING □ PIPE LAYOUT PLAN AND PROFILE | |

| | |
|--------------------|---------------|
| BARR PROJECT No. | 23/62-1349.00 |
| CLIENT PROJECT No. | |
| DWG. No. | C-02 |
| REV. No. | C |

Memorandum

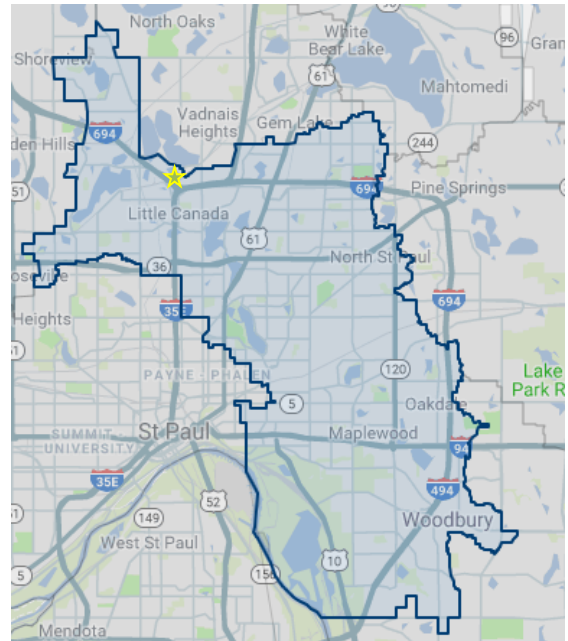
To: Ramsey-Washington Metro Watershed District Board of Managers
From: Barr Engineering Co.
Subject: Twin Lake Outlet Project – Request Board Authorization to Solicit Bids for Construction
Date: April 28, 2020
Project: 23/62-1349.00
c: Tina Carstens – RWMWD Administrator

During the spring and summer of 2019, record high water levels were measured in Twin Lake. Lake levels exceeded the 100-year water level and the low floor elevation of the lowest habitable structure on Twin Lake (154 Twin Lake Boulevard). In response to high-water levels, the RWMWD Board of Managers authorized the evaluation of alternatives to reduce flood risk to habitable structures.

The District completed a feasibility evaluation of flood-risk reduction alternatives in December 2019. The feasibility study identified a gravity outlet at 872.2 as the most feasible flood-risk mitigation alternative. At the December 2019 board meeting the RWMWD Board of Managers authorized final design and preparation of construction documents for the gravity outlet from Twin Lake.

Construction documents including bidding documents, technical specifications, and construction drawings have been prepared for the proposed Twin Lake outlet. The design of the proposed outlet includes, but not limited to, grading a drainage ditch to near the MnDOT right-of-way, a 30-inch RCP outlet, construction of a control structure which includes a drop-down weir and a back flow preventer, erosion control, and site restoration. Drawings submitted for permitting are attached.

The Engineer's opinion of probable cost presented in the December 2019 feasibility study as well as the opinion of cost based on the construction documents prepared for the Twin Lake Outlet Project is summarized in Table 1. The estimated construction cost (Row A) is higher than the feasibility study, which is primarily due to modifications to the proposed design to provide greater flexibility in managing flows through the outlet. The change in cost is also a result of additional information obtained related to construction requirements near high-pressure petroleum pipelines obtained after the feasibility study.



Twin Lake Outlet Project Location

To: Ramsey-Washington Metro Watershed District Board of Managers
From: Barr Engineering Co.
Subject: Twin Lake Outlet Project – Request Board Authorization to Solicit Bids for Construction
Date: April 28, 2020
Page: 2

However, the estimated project cost (Row G/H) is within the estimated accuracy range calculated during the feasibility study.

Table 1. Engineer’s Opinion of Probable Cost

| Row | Item | Feasibility Study (December 2019) | 100% Submittal (April 2020) |
|-----|-----------------------------------|--------------------------------------|--------------------------------|
| A | ESTIMATED CONSTRUCTION COST | \$ 128,000 | \$ 167,000 |
| B | PLANNING, ENGINEERING & DESIGN | \$ 46,500 | \$ 65,000 |
| C | PERMITTING & REGULATORY APPROVALS | \$ 10,000 | |
| D | CONSTRUCTION MANAGEMENT | \$ 13,000 | \$ 25,000 |
| E | EASEMENT ACQUISITION | \$ 28,000 | \$ 0 |
| F | ESTIMATED TOTAL PROJECT COST | \$ 225,500 | \$ 257,000 |
| G | ESTIMATED ACCURACY RANGE | \$ 181,000 | \$ 257,000 |
| H | | \$ 339,000 | |

*Estimated accuracy range for feasibility study is -20% and +50% of the estimated total project cost, rounded up to the nearest thousand dollars.

* Easement acquisition cost is \$0. Per discussions with property owner, RWMWD is not being asked to pay for drainage easements or access easements.

*RowF = RowA+ RowB + RowC+ RowD + RowE

*Estimate does not include cost to install monitoring equipment, long-term maintenance, or operation.

The opinion of probable cost provided is made on the basis of Barr Engineering’s experience and qualifications and represents our best judgment as experienced and qualified professionals familiar with the project. Because we have no control over the cost of labor, materials, equipment or services furnished by others, or over the contractor’s methods of determining prices, or over competitive bidding or market conditions, Barr Engineering cannot and does not guarantee that proposals, bids, or actual costs will not vary from the opinion of probable cost presented.

Pending Approvals

The proposed Twin Lake Outlet Project design has been submitted for review and approval from the following entities:

1. **BP Pipelines. APPROVED.** The proposed drainage modification is located within the BP Pipeline easement for a high-pressure petroleum pipeline. Approval was received on April 21, 2020.
2. **Little Canada. APPROVED.** The proposed drainage modifications are located within Little Canada. City staff provided comments and confirmed no City permits were required on March 11, 2020.

3. **Xcel Energy. PENDING APPROVAL.** The proposed drainage modification is located within the Xcel Energy easement for overhead transmission lines. Information was submitted to Xcel on March 6, 2020. Notification of approval was received on April 16, 2020. Currently waiting on signed approval.
4. **MnDOT. COMMENTS RECEIVED.** The proposed drainage modification includes reestablishing a permeant connection the I-694 drainage system. Information was submitted to MnDOT on March 23, 2020. MnDOT Water Resources were received on April 18, 2020. Staff are addressing MnDOT comments, and waiting for comments from other MnDOT departments.

Staff anticipate having required approvals by the end of May. Staff recommend that the Board of Managers authorize staff to solicit bids for the Twin Lake Outlet modification.

Covid 19 Pandemic Considerations

In light of the Covid 19 pandemic, staff will only be accepting online electronic bids. Staff will use Quest CDN VirtuBid to collect online bids. Quest CDN is the site that contractors use to download the bid documents, so we don't anticipate that using an online bidding process will affect the number or quality of bids received.

Staff proposed to hold the public bid opening using WebEx. A meeting link for the public bid opening will be provided in the advertisement for bids.

Revisions to Project Specific Insurance Requirements

The Twin Lake outlet includes excavation near, exposing, constructing a pipe, and backfilling around a high-pressure petroleum pipeline. Staff are recommending that the umbrella coverage for the project is increased by an additional \$1 million. The change to the insurance requirements is not anticipated to significantly increase the number or quality of bids received.

Request for Board of Managers

It is requested that the RWMWD Board of Managers authorize Barr Engineering Co. to solicit bids from contractors to construct the Twin Lake Outlet Project as designed and shown on the construction documents. If the Board of Managers authorizes solicitation of bids to construct the Twin Lake Outlet Project, the following tasks would be completed:

- May 6, 2020 – Board of Managers authorizes Barr Engineering Co. to solicit bids
- May 11, 2020 – Advertise in construction bulletin and local papers
- May 29, 2020 – Open bids
- June 3, 2020 – Present bid results to the Board

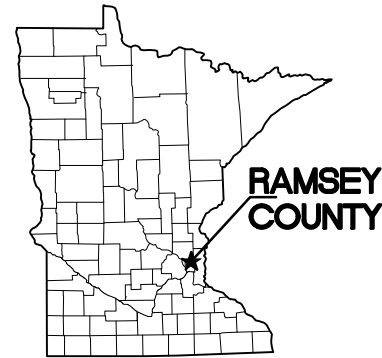
To: Ramsey-Washington Metro Watershed District Board of Managers
From: Barr Engineering Co.
Subject: Twin Lake Outlet Project – Request Board Authorization to Solicit Bids for Construction
Date: April 28, 2020
Page: 4

Attachments

- Drawings for the Twin Lake Outlet Project

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

TWIN LAKE OUTLET PROJECT



RAMSEY COUNTY

LOCATION MAP

CONTACTS

BARR PROJECT MANAGER / ENGINEER:
BRANDON BARNES
BARR ENGINEERING
PHONE: 952-832-2737
EMAIL: bbarnes@barr.com

WATERSHED ADMINISTRATOR:
TINA CARSTENS
RAMSEY WASHINGTON METRO WATERSHED DISTRICT
PHONE: 651-792-7960
EMAIL: tina.carstens@rwmwd.org

BP DAMAGE PREVENTION SPECIALIST:
DEBRA HUBERTY
BP PIPELINES
PHONE: 651-260-2800
EMAIL: debra.huberty@bp.com

MnDOT CONTACT:
JASON SWENSON
MnDOT MS4 ENGINEER
PHONE: 651-234-7539
EMAIL: jason.swenson@state.mn.us

PROPERTY OWNER:
FRANK FRATTALONE
EMAIL: frank@frattalonecompanies.com



DRAWING INDEX

- G-01.... COVER SHEET AND DRAWING INDEX
- G-02.... STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
- C-01.... SITE LAYOUT AND EROSION CONTROL
- C-02.... PIPE PLAN, PROFILE, □ STRUCTURE DETAIL
- C-03.... DETAILS
- C-04.... DETAILS



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

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

VICINITY MAP

NOTE: 2019-08-29 NEARMAP ORTHOGRAPHIC IMAGE SHOWN

PROJECT COORDINATE SYSTEM

HORIZONTAL: MnDOT RAMSEY COUNTY, US FOOT, NAD83 DATUM
VERTICAL: NAVD88 DATUM

GENERAL NOTES:

1. BP REPRESENTATIVE MUST BE ON SITE WHEN ANY WORK IS BEING PERFORMED WITHIN 25-FEET OF THE PETROLEUM PIPELINE, OR WHEN THE REACH OF MECHANIZED EQUIPMENT IS CAPABLE OF EXTENDING WITHIN 25-FEET OF THE PIPELINE. BP REQUIRES 48 HOURS (2 WORKING DAYS) PRIOR NOTICE OF ANY WORK. NOTICE TO BP DOES NOT RELIEVE ANY CONTRACTOR OF ITS OBLIGATION TO COMPLETE A GOPHER STATE ONE CALL.
2. CONTRACTOR IS RESPONSIBLE FOR TAKING ALL NECESSARY SAFETY PRECAUTIONS FOR WORKING NEAR THE PETROLEUM PIPELINE AND WILL BE RESPONSIBLE FOR ANY DAMAGES TO PROPERTY OR FOR PERSONAL INJURY CAUSED BY THE WORK.



ISSUE FOR CLIENT REVIEW

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|-----|----|------|------|---|----------------------|--|--|----------------------------------|--|--|--|---|--|--|--|---|--|--|--|--|--|--|--|-----------------------------------|--|--|--|
| | | | | I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. | | | | CLIENT 3/4/20 3/23/20 4/27/20 | | | | Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435 Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com | | | | Scale: NTS Date: 1/24/2020 Drawn: GWB Checked: BJL Designed: BJB Approved: BJB | | | | TWIN LAKE OUTLET PROJECT LITTLE CANADA, MINNESOTA | | | | BARR PROJECT No. 23/62-1349.00 | | | |
| | | | | PRINTED NAME: _____ SIGNATURE: _____ DATE: _____ LICENSE # _____ | | | | RELEASED TO/FOR | | | | Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 | | | | RAMSEY-WASHINGTON METRO WATERSHED DISTRICT | | | | CLIENT PROJECT No. | | | | | | | |
| | | | | DATE RELEASED | | | | A B C 0 1 2 3 | | | | COVER SHEET AND DRAWING INDEX | | | | DWG. No. G-01 | | | | REV. No. C | | | | | | | |
| NO. | BY | CHK. | APP. | DATE | REVISION DESCRIPTION | | | | | | | | | | | | | | | | | | | | | | |

CADD USER: Garrett W. Becker FILE: M:\DESIGN\23621200.00\2362134900_TWIN_LK_OUTLET_G-01.DWG PLOT SCALE: 1:2 PLOT DATE: 4/24/2020 1:41 PM
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 User: M:\Design\23621200.00\2362134900_G-01_Cover.dwg Plot in Job: 02/29/2019 12:12:26

GENERAL CONSTRUCTION ACTIVITY INFORMATION:

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

This project is a flood control project to provide an outlet from Twin Lake for the Ramsey-Washington Metro Watershed District. The purpose of the project is to provide an outlet to the MnDOT drainage system, and install a level control structure and back-flow preventer to protect the surface waters within the watershed. The project is located within the Ramsey-Washington Metro Watershed District within Ramsey County in the City of Little Canada, Minnesota. Proposed construction will take place within the SE 1/4 of Section 31, T30N, R22W Latitude: 45.0364, Longitude: -93.0878.

LOCATION MAP

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

The project work includes mobilization and demobilization, removal of old existing lake outlet piping, control of water and or dewatering to perform work, excavation and grading of new channel with on-site disposal of excavated materials, installation of new piping system with level control structure, installation of back flow preventer, riprap and filter installation at inlets/outlets, site restoration with native seed mixes, temporary and permanent erosion controls. Erosion prevention measures are required to prevent sediment from being transported off site or to nearby surface waters. Refer to project drawings for further details.

The anticipated total area of disturbance is approximately 0.88 acres. Project is under one acre and does not require a General Permit Authority to Discharge Stormwater Associated with Construction Activity (NPDES Permit).

The total area of pre-construction impervious area is approximately 0.00 acres.
The total area of post-construction impervious area is approximately 0.00 acres.

DATES OF CONSTRUCTION: Begin Construction June 2020, Completion August 2020.

RESPONSIBLE PERSONS:

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

RESPONSIBLE PERSONS:

OWNER: Ramsey-Washington Metro Watershed District
MAILING ADDRESS: 2665 Noel Drive, Little Canada, MN 55117
CONTACT PERSON: Tina Carstens, Administrator
PHONE: 651-792-7960
MOBILE PHONE:
EMAIL: tina.carstens@rwmd.org
EMAIM:
Dave Vlasin, Watershed Project Manager, Ramsey-Washington Metro Watershed District, 2665 Noel Drive, Little Canada, MN 55117, 651-792-7972

CONTRACTOR: TBD
MAILING ADDRESS: TBD, MN 55---
CONTACT PERSON: TBD
PHONE: 000-000-0000
MOBILE PHONE: 000-000-0000
EMAIL: TBD

| TRAINED INDIVIDUAL | RESPONSIBILITY | APPLICABLE TRAINING | TRAINING DOCUMENTATION ATTACHED |
|---|----------------------|---|---------------------------------|
| Jacob N. Burggraff Barr Engineering Co. 4300 MarketPointe Drive Bloomington, MN 55435 952-832-2743 612-991-0042 jburggraff@barr.com | Preparation of SWPPP | Design of Construction SWPPPs U of MN, April 2008, Updated Nov. 2010, March 2014, Ma 2017 Expires Mar 31, 2020 | No |

| | | | |
|---|---|--|----|
| Brandon J. Barnes Barr Engineering Co. 4300 MarketPointe Drive Bloomington, MN 55435 952-832-2737 651-295-6778 bbarnes@barr.com | Oversight of SWPPP Implementation, Revision Amendment | Project Management Barr Engineering | No |
|---|---|--|----|

| | | | |
|--|---|---|----|
| TBD TBD TBD TBD, MN 55000 000-000-0000 | Performance or Supervision of Installation Maintenance, and Repair of BMPs. Performance of SWPPP Inspections. | Construction Site Manager U of M Expires 00, 0000 | No |
|--|---|---|----|

RECEIVING WATERS:

| Water Body Name | Water body ID | Special Water | Impaired Water |
|-----------------|---------------|---------------|----------------------|
| Gervais Lake | 62-0007-00 | No | Yes-Non/Construction |
| Gervais Creek | Not on List | No | No |

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

REGULATORY CONTEXT:

Special or Impaired Waters: This project discharges to impaired waters within one mile of the sites with non-related construction impairments and will not need to follow the requirements for discharging to an impaired water in 23.1, 23.2, 23.7, 23.8, 23.9, and 23.10 of the permit.

This project stormwater discharge is not anticipated to impact any of the following: Outstanding resource value waters, trout waters, calcareous fens, properties listed by the National Register of Historic Places or archaeological sites and is not subject to additional regulations due to any formal environmental reviews, endangered or threatened species. The project will have minimal impact on a wetland area and will follow the guidelines of the Ramsey-Washington Metro Watershed District Rule "C" while excavating the improved channel conditions.

PROJECT PLANS AND SPECIFICATIONS:

| Required Feature | Sheet No. |
|---|-------------------------|
| Cover Sheet and Drawing Index (Site Location Map) | G-01 |
| Stormwater Pollution Prevention Plan (SWPPP) | G-02 |
| Construction Limits | C-01 to C-02 |
| Existing and Final Grades with Flow Direction | C-01 to C-02 |
| Impervious Surfaces | C-01 to C-02 |
| Potential Pollution generating activities | C-01 to C-02 |
| Areas not to be disturbed | C-01 to C-02 |
| Areas where construction will be phased | C-01 to C-02 |
| Temporary and Permanent erosion and sediment control BMPs | C-01 to C-03 |
| Standard Details for erosion and sediment control | C-03 |
| Estimated Preliminary BMP Quantities | Bid Documents, Bid Form |

TEMPORARY EROSION CONTROL PRACTICES

Timing:

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

BMPs:

- Erosion control and stabilization practices to be installed are depicted on the Drawings No. G-02, C-01 and C-02, and include: silt fence, sediment control logs, riprap, outlet, inlet, drain protection, erosion control blanket, rock construction entrance, flotation silt curtain, and vegetation (through seeding).
- Soils stockpiles shall be stabilized with fast-growing cover crop and hydro mulch and silt fence or sediment log shall be placed around the perimeter of the stock piles.
- Erosion control blanket shall be used to cover all disturbed slopes.
- Direct construction site discharges to vegetated areas where feasible.
- Install all BMPs in accordance with relevant manufacturer specifications and accepted engineering practices.

TEMPORARY SEDIMENT CONTROL PRACTICES

Timing:

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

BMPs:

- Minimize soil compaction where feasible.
- Preserve topsoil where feasible. If topsoil must be removed, store in a segregated stockpile for reuse in site restoration.
- Sediment control practices to be installed are depicted on Sheets C-01, C-02 and C-03 and include: rock construction entrance, storm sewer pipe rip rap outlet, flotation silt curtain, silt fence, siltation logs, inlet protection.
- Install silt fence or siltation logs around the perimeter of temporary soil stockpiles.
- Any dewatering of site construction areas that have turbid or sediment laden water must be discharged into a filtering device such as containment bin or filter bag for treatment. Any dewatering discharge cannot adversely affect the receiving waters downstream of the construction site.
- Install rock construction entrances as a vehicle tracking BMP to minimize the track out of sediment from the construction site.
- Monitor adjacent paved surfaces for track out of sediment from construction site and remove sediment via street sweeping if necessary.
- Install all BMPs in accordance with relevant manufacturer specifications and accepted engineering practices.

BMP DESIGN FACTORS

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

PERMANENT STORMWATER MANAGEMENT SYSTEM

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

INSPECTION AND MAINTENANCE ACTIVITIES

Inspection Requirements:

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

Maintenance Requirements:

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

Recordkeeping:

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

RECORD RETENTION

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

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

Upon request make this SWPPP (including all certificates, reports, records, or other information required by the CSW Permit) available to federal, state, and local officials within 72 hours for the duration of the permit and for 3 years following.

POLLUTION PREVENTION MANAGEMENT MEASURES

- Minimize exposure to stormwater of the following products, materials, or wastes: building products that have potential to leach pollutants are not expected to be present on site, but if present exposure to stormwater will be minimized through coverage with plastic sheeting, pesticides, herbicides, insecticides, fertilizers, treatment chemicals, and landscape materials through coverage with plastic sheeting; hazardous materials and toxic waste (including oil, diesel fuel, gasoline, hydraulic fluids, paint solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids) through proper

- storage in sealed containers in restricted access storage areas and in compliance with Minn. R. ch. 7045 including secondary containment as applicable solid waste through proper storage, collection, and disposal in compliance with Minn. R. ch. 7035.
- Position portable toilets so that they are secure and will not be tipped or knocked over.
 - Properly dispose of sanitary waste in accordance with Minn. R. ch. 7041.
 - Spill Prevention and Response: Take reasonable steps to prevent the discharge of spilled or leaked chemicals, ensure adequate supplies of absorbent and other dry clean-up materials are available at all times to clean up discharged materials and that an appropriate disposal method is available for recovered spilled materials, report and clean up spills immediately as required by Minn. Stat. §115.061.
 - Fueling and maintenance of equipment and/or vehicles will not occur on-site.
 - Washing of vehicles and/or equipment will not occur on-site.
 - Washout of concrete and/or other similar wastes (such as stucco, paint, form release oils, curing compounds and other construction materials) must be self contained wash-out and not cleaned on-site.

FINAL STABILIZATION

Ensure final stabilization of the site.

- For final stabilization to be considered complete, the following must occur:
 - Complete all soil disturbing activities at the site.
 - Stabilize all soils with permanent cover, 70% or greater vegetation cover of disturbed areas.
 - Remove all temporary synthetic and structural erosion prevention and sediment control BMPs.
 - Permanent Cover will consist of seeding, erosion control blanket on slopes and disturbed areas, and seeding and mulching in all other disturbed areas.
 - Storm sewer culverts shall have flared sections and riprap to eliminate erosion.
 - Within 30 days after all activities for final stabilization have been completed, submit a Notice of Termination (NOT) form to the MPCA. (This project will disturb less than one acre and not require a MPCA Permit so there will be no need to file a Notice of Termination).

SWPPP AMENDMENTS OR CHANGES

See Contractor's Inspection Log Records.

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| I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. | |
| PRINTED NAME | - |
| SIGNATURE | _____ |
| DATE | _____-_____-_____- LICENSE # _____ |

| CLIENT | BID | CONSTRUCTION | RELEASED TO/FOR | A | B | C | 0 | 1 | 2 | 3 |
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| 4/27/20 | | | | | | | | | | |

Project Office:
BARR ENGINEERING CO.
4300 MARKETPOINTE DRIVE
Suite 200
MINNEAPOLIS, MN 55435

Corporate Headquarters:
Minneapolis, Minnesota
Ph: 1-800-632-2277
Ph: (952) 832-2601
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| Date | 4/23/2020 |
| Drawn | JNB |
| Checked | BJL |
| Designed | JNB |
| Approved | BJB |



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| TWIN LAKE OUTLET PROJECT LITTLE CANADA, MINNESOTA | | BARR PROJECT No. 23/62-1349.00 | |
| | | CLIENT PROJECT No. | |
| STORMWATER POLLUTION PREVENTION PLAN (SWPPP) | | DWG. No. | REV. No. |
| | | G-02 | C |



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

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

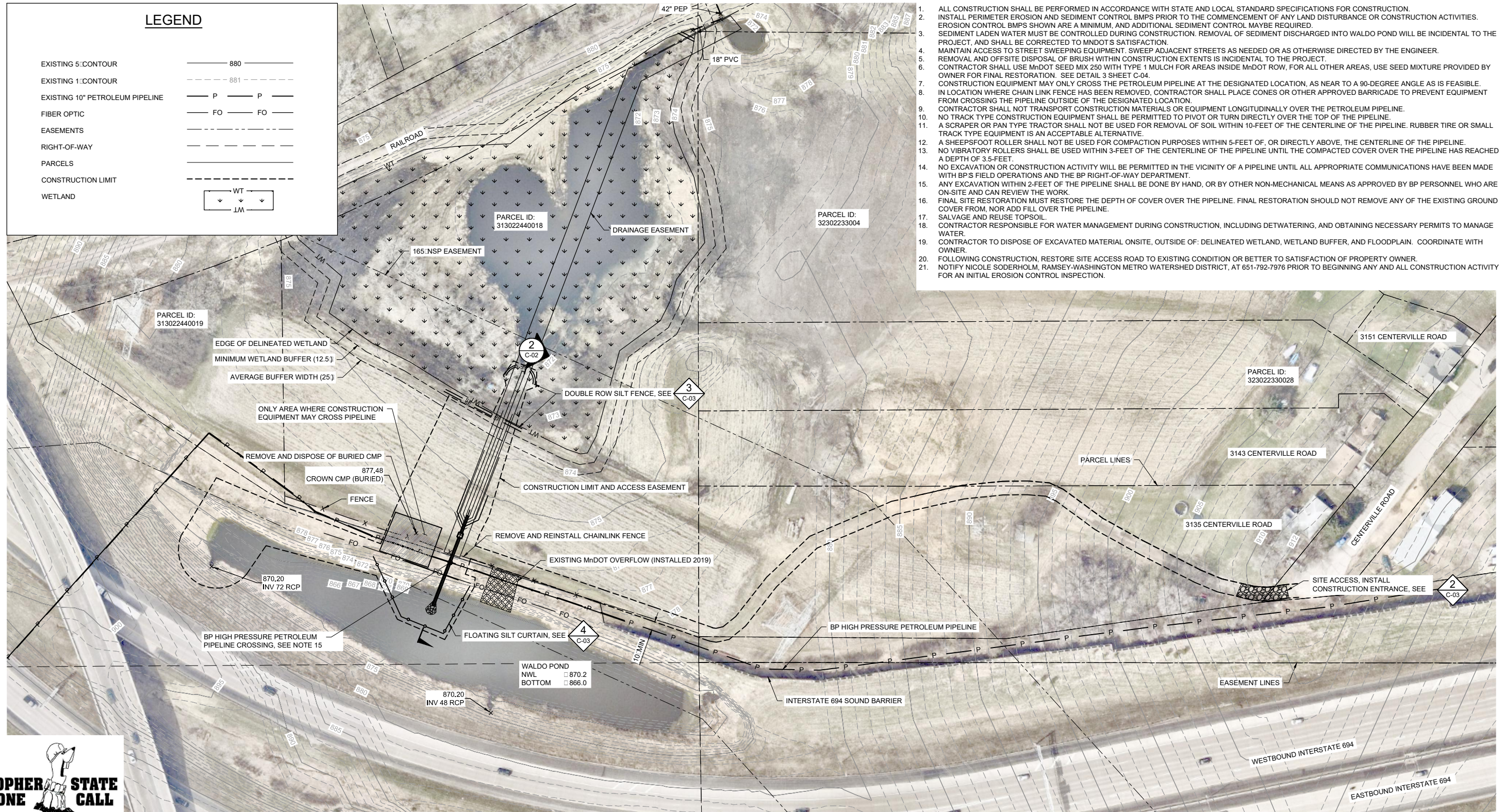
ISSUE FOR
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LEGEND

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| EXISTING 5' CONTOUR | 880 |
| EXISTING 1' CONTOUR | 881 |
| EXISTING 10" PETROLEUM PIPELINE | P P |
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| RIGHT-OF-WAY | --- |
| PARCELS | --- |
| CONSTRUCTION LIMIT | --- |
| WETLAND | WT JM |

NOTES:

- ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH STATE AND LOCAL STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- INSTALL PERIMETER EROSION AND SEDIMENT CONTROL BMPs PRIOR TO THE COMMENCEMENT OF ANY LAND DISTURBANCE OR CONSTRUCTION ACTIVITIES. EROSION CONTROL BMPs SHOWN ARE A MINIMUM, AND ADDITIONAL SEDIMENT CONTROL MAYBE REQUIRED.
- SEDIMENT LADEN WATER MUST BE CONTROLLED DURING CONSTRUCTION. REMOVAL OF SEDIMENT DISCHARGED INTO WALDO POND WILL BE INCIDENTAL TO THE PROJECT, AND SHALL BE CORRECTED TO MNDOT'S SATISFACTION.
- MAINTAIN ACCESS TO STREET SWEEPING EQUIPMENT. SWEEP ADJACENT STREETS AS NEEDED OR AS OTHERWISE DIRECTED BY THE ENGINEER.
- REMOVAL AND OFFSITE DISPOSAL OF BRUSH WITHIN CONSTRUCTION EXTENTS IS INCIDENTAL TO THE PROJECT.
- CONTRACTOR SHALL USE MNDOT SEED MIX 250 WITH TYPE 1 MULCH FOR AREAS INSIDE MNDOT ROW, FOR ALL OTHER AREAS, USE SEED MIXTURE PROVIDED BY OWNER FOR FINAL RESTORATION. SEE DETAIL 3 SHEET C-04.
- CONSTRUCTION EQUIPMENT MAY ONLY CROSS THE PETROLEUM PIPELINE AT THE DESIGNATED LOCATION, AS NEAR TO A 90-DEGREE ANGLE AS IS FEASIBLE.
- IN LOCATION WHERE CHAIN LINK FENCE HAS BEEN REMOVED, CONTRACTOR SHALL PLACE CONES OR OTHER APPROVED BARRICADE TO PREVENT EQUIPMENT FROM CROSSING THE PIPELINE OUTSIDE OF THE DESIGNATED LOCATION.
- CONTRACTOR SHALL NOT TRANSPORT CONSTRUCTION MATERIALS OR EQUIPMENT LONGITUDINALLY OVER THE PETROLEUM PIPELINE.
- NO TRACK TYPE CONSTRUCTION EQUIPMENT SHALL BE PERMITTED TO PIVOT OR TURN DIRECTLY OVER THE TOP OF THE PIPELINE.
- A SCRAPER OR PAN TYPE TRACTOR SHALL NOT BE USED FOR REMOVAL OF SOIL WITHIN 10-FEET OF THE CENTERLINE OF THE PIPELINE. RUBBER TIRE OR SMALL TRACK TYPE EQUIPMENT IS AN ACCEPTABLE ALTERNATIVE.
- A SHEEPSFOOT ROLLER SHALL NOT BE USED FOR COMPACTION PURPOSES WITHIN 5-FEET OF, OR DIRECTLY ABOVE, THE CENTERLINE OF THE PIPELINE.
- NO VIBRATORY ROLLERS SHALL BE USED WITHIN 3-FEET OF THE CENTERLINE OF THE PIPELINE UNTIL THE COMPACTED COVER OVER THE PIPELINE HAS REACHED A DEPTH OF 3.5- FEET.
- NO EXCAVATION OR CONSTRUCTION ACTIVITY WILL BE PERMITTED IN THE VICINITY OF A PIPELINE UNTIL ALL APPROPRIATE COMMUNICATIONS HAVE BEEN MADE WITH BP'S FIELD OPERATIONS AND THE BP RIGHT-OF-WAY DEPARTMENT.
- ANY EXCAVATION WITHIN 2- FEET OF THE PIPELINE SHALL BE DONE BY HAND, OR BY OTHER NON-MECHANICAL MEANS AS APPROVED BY BP PERSONNEL WHO ARE ON-SITE AND CAN REVIEW THE WORK.
- FINAL SITE RESTORATION MUST RESTORE THE DEPTH OF COVER OVER THE PIPELINE. FINAL RESTORATION SHOULD NOT REMOVE ANY OF THE EXISTING GROUND COVER FROM, NOR ADD FILL OVER THE PIPELINE.
- SALVAGE AND REUSE TOPSOIL.
- CONTRACTOR RESPONSIBLE FOR WATER MANAGEMENT DURING CONSTRUCTION, INCLUDING DETWATERING, AND OBTAINING NECESSARY PERMITS TO MANAGE WATER.
- CONTRACTOR TO DISPOSE OF EXCAVATED MATERIAL ONSITE, OUTSIDE OF: DELINEATED WETLAND, WETLAND BUFFER, AND FLOODPLAIN. COORDINATE WITH OWNER.
- FOLLOWING CONSTRUCTION, RESTORE SITE ACCESS ROAD TO EXISTING CONDITION OR BETTER TO SATISFACTION OF PROPERTY OWNER.
- NOTIFY NICOLE SODERHOLM, RAMSEY-WASHINGTON METRO WATERSHED DISTRICT, AT 651-792-7976 PRIOR TO BEGINNING ANY AND ALL CONSTRUCTION ACTIVITY FOR AN INITIAL EROSION CONTROL INSPECTION.

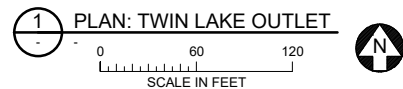


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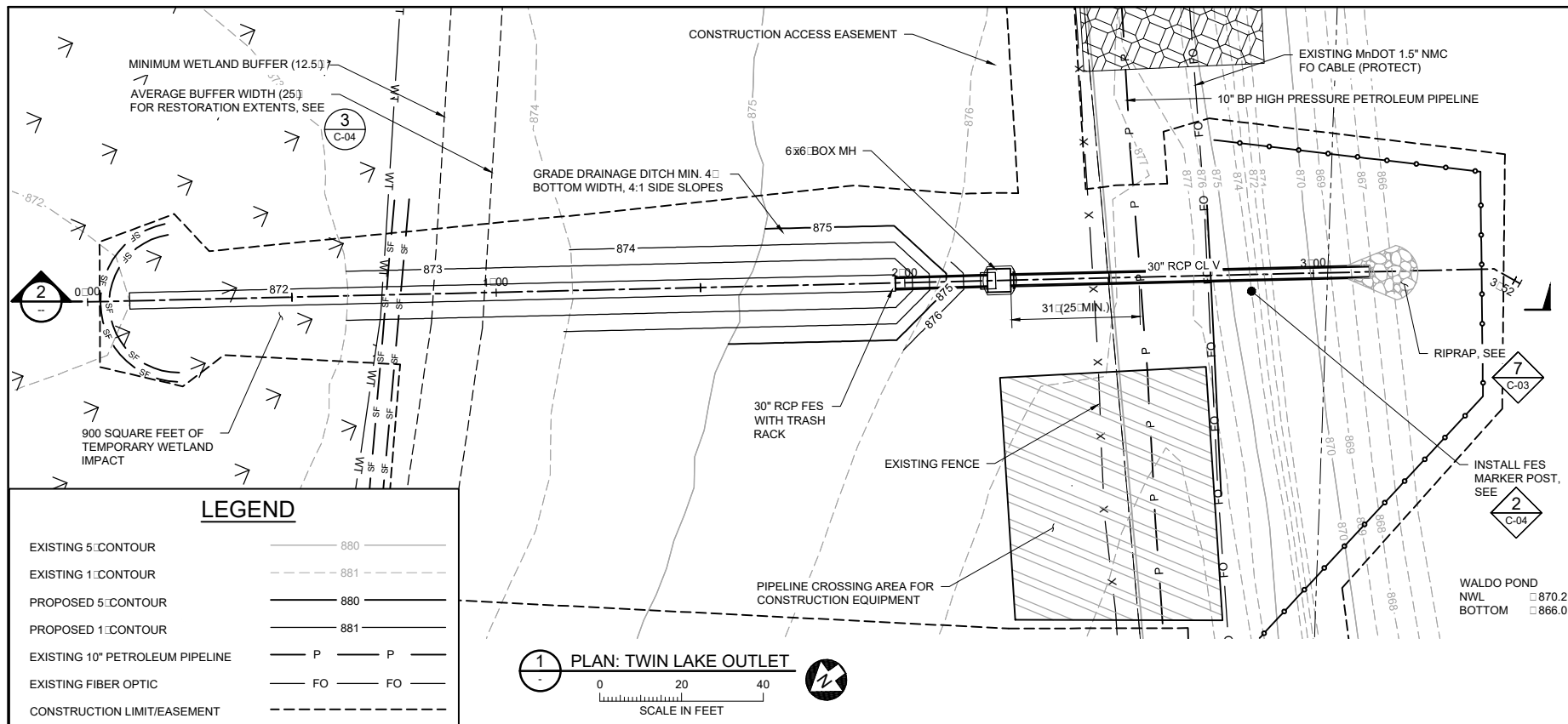
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ISSUE FOR
CLIENT REVIEW

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| I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINTED NAME: _____ SIGNATURE: _____ DATE: _____ LICENSE #: _____ | | | | CLIENT: 3/4/20 3/23/20 4/27/20 BID: _____ CONSTRUCTION: _____ RELEASED TO/FOR: A B C 0 1 2 3 DATE RELEASED: _____ | | | | Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435 Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com | | Scale: AS SHOWN Date: 01/09/2020 Drawn: GWB Checked: BJL Designed: BJB Approved: BJB | | TWIN LAKE OUTLET PROJECT LITTLE CANADA, MINNESOTA SITE LAYOUT AND EROSION CONTROL <input type="checkbox"/> EROSION CONTROL | | BARR PROJECT No. 23/62-1349.00 CLIENT PROJECT No. DWG. No. C-01 REV. No. C | |
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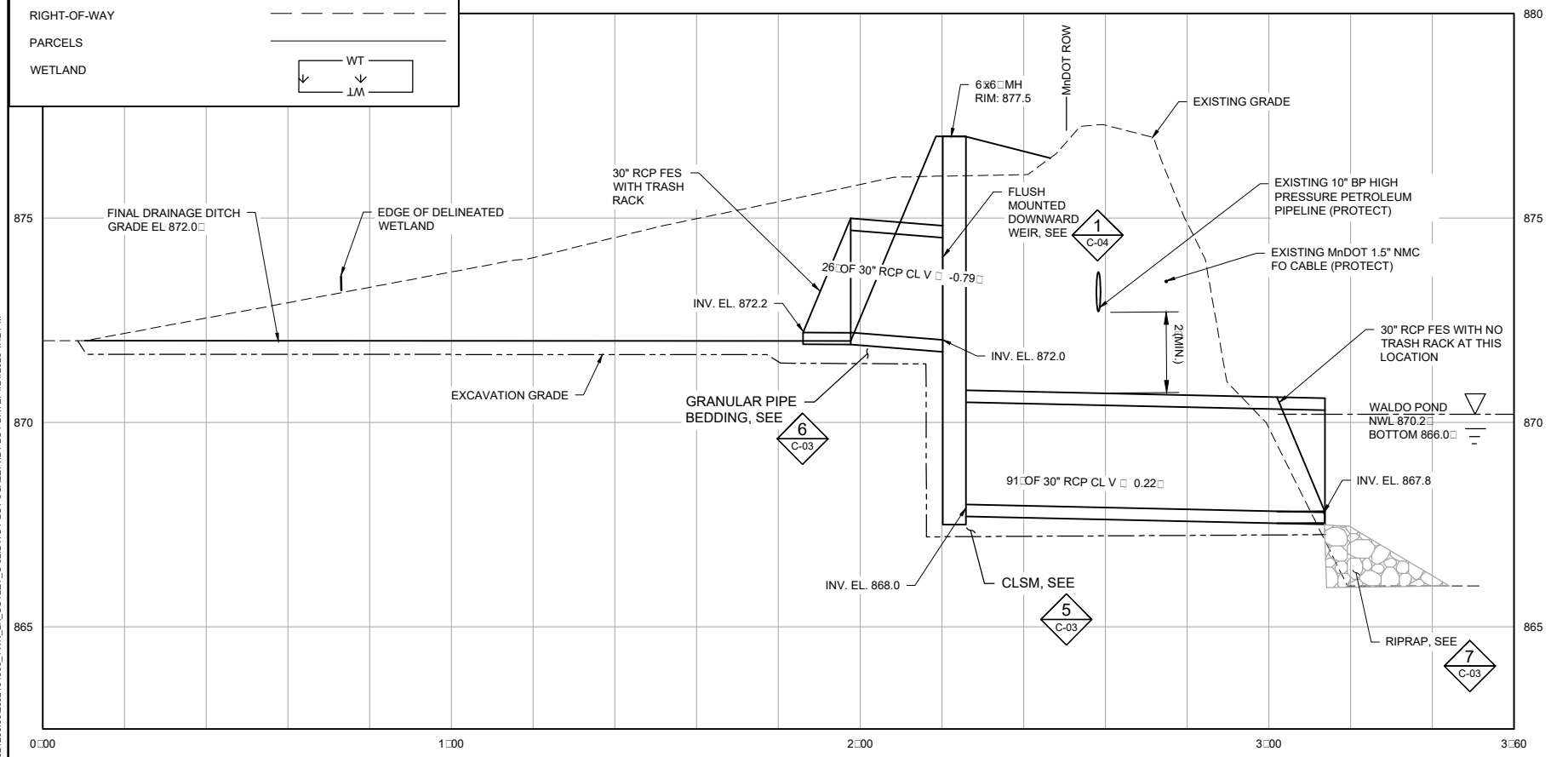




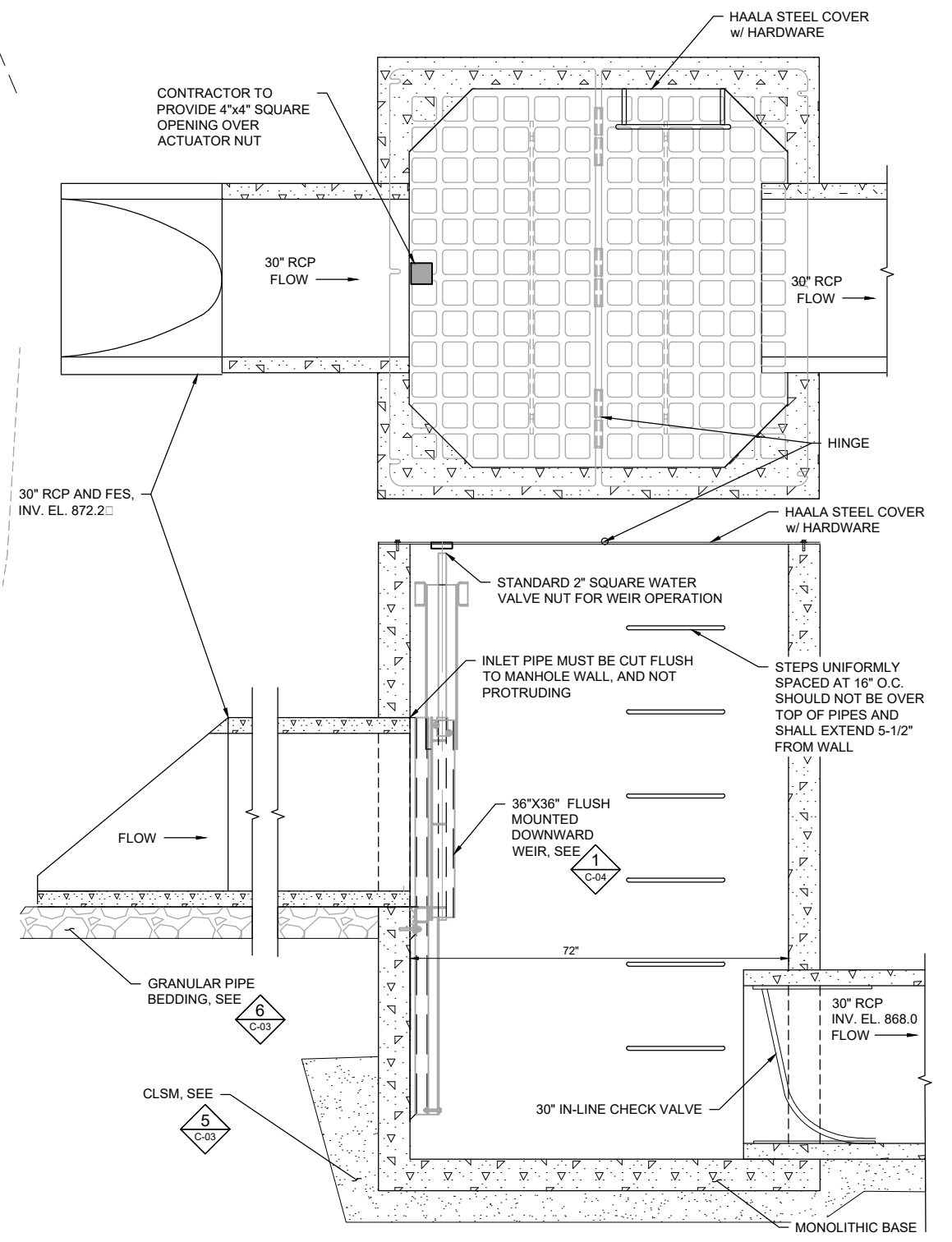
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| EXISTING 1' CONTOUR | 881 |
| PROPOSED 5' CONTOUR | 880 |
| PROPOSED 1' CONTOUR | 881 |
| EXISTING 10" PETROLEUM PIPELINE | P P |
| EXISTING FIBER OPTIC | FO FO |
| CONSTRUCTION LIMIT/EASEMENT | - - - - |
| RIGHT-OF-WAY | - - - - |
| PARCELS | |
| WETLAND | WT JM |

1 PLAN: TWIN LAKE OUTLET
SCALE IN FEET



2 PROFILE: TWIN LAKE OUTLET
SCALE IN FEET 1H:10V



3 6x6 PRECAST STRUCTURE
NOT TO SCALE

- NOTES:**
- SUPPLY JOINT SEALS FOR ALL PRECAST JOINTS CAPABLE OF PROVIDING A WATER TIGHT SEAL FOR WATER PRESSURES UP TO 9- FEET IN HYDROSTATIC HEAD DIFFERENTIAL.
 - ALL STORM SEWER SHALL HAVE JOINT TIES.
 - CONTRACTOR SHALL PROVIDE LOCKING ACCESS HATCH.
 - ALL PICK HOLES SHALL BE FILLED WITH GROUT.

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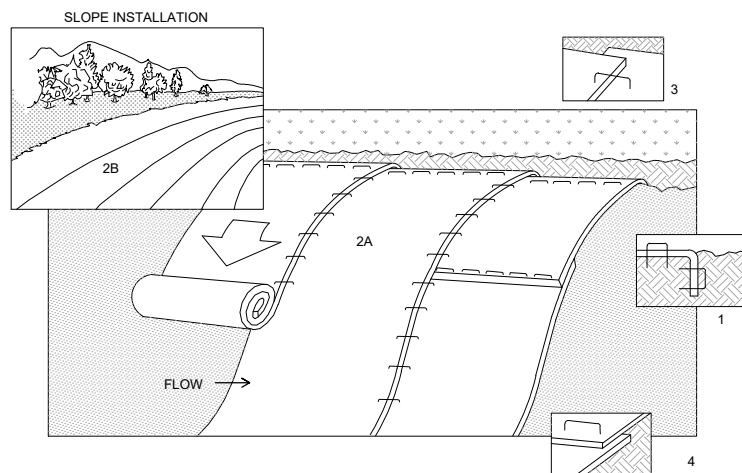
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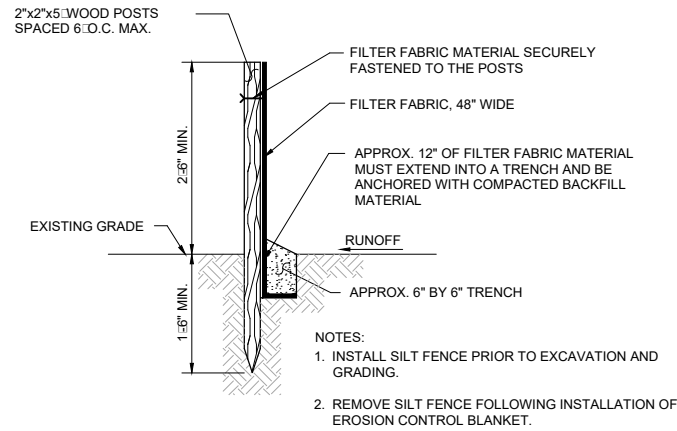
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| TWIN LAKE OUTLET PROJECT LITTLE CANADA, MINNESOTA | |
| GRADING □ PIPE LAYOUT PLAN AND PROFILE | |

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| BARR PROJECT No. | 23/62-1349.00 |
| CLIENT PROJECT No. | |
| DWG. No. | C-02 |
| REV. No. | C |

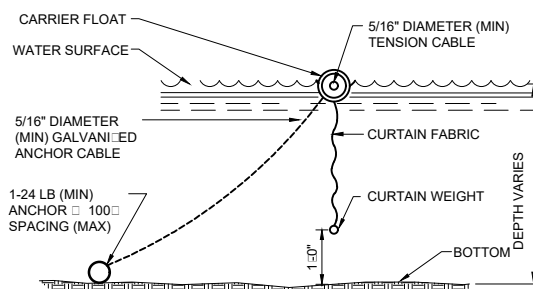


NOTE:

- REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE.
- THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 6" OVERLAP, WITH THE UPHILL BLANKET ON TOP.
- WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 6" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.



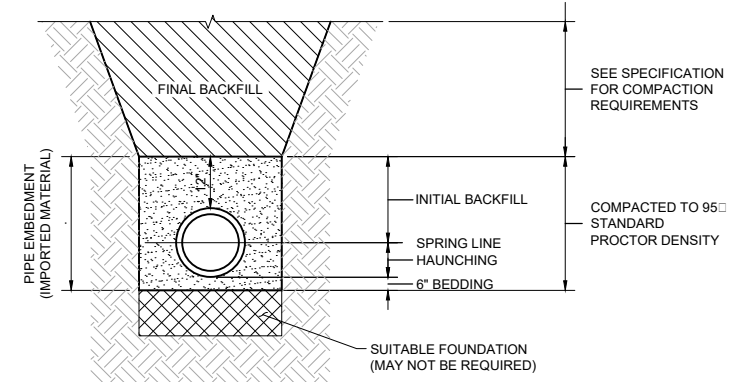
3 DETAIL: SILT FENCE
NOT TO SCALE



4 DETAIL: FLOTATION SILTATION CURTAIN
NOT TO SCALE

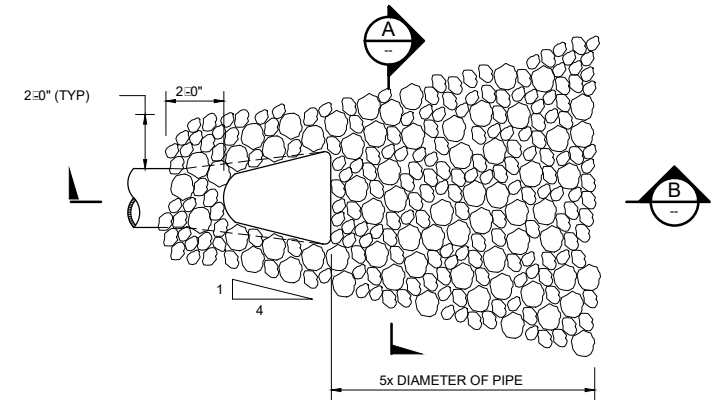
SILT CURTAIN NOTES:

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

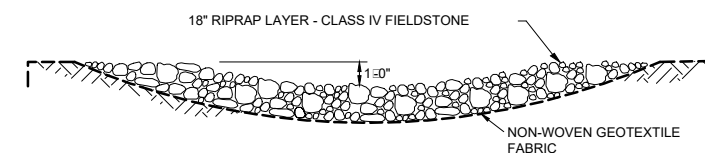


- IMPORTED PIPE EMBEDMENT MATERIAL PER MnDOT SPEC. 3149.2F GRANULAR BEDDING, 100 PASSING THE 1" SIEVE AND NOT MORE THAN 10.5% WILL PASS THE #200 SIEVE.
- IMPORTED PIPE EMBEDMENT MATERIAL SHALL BE COMPACTED IN UNIFORM LIFTS, 8" OR LESS IN DEPTH, LOOSE MEASURE, TO 95% STANDARD PROCTOR DENSITY FROM THE BEDDING TO A MINIMUM DEPTH OF AT LEAST 12" ABOVE THE CROWN OF THE PIPE.

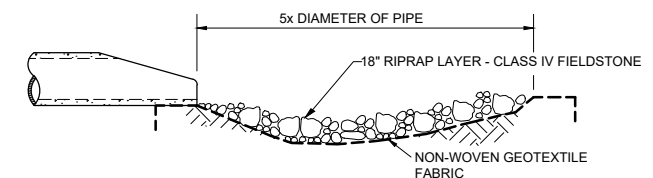
6 DETAIL: RIGID STORM SEWER TRENCH STA. 1+85 TO STA. 2+18
NOT TO SCALE



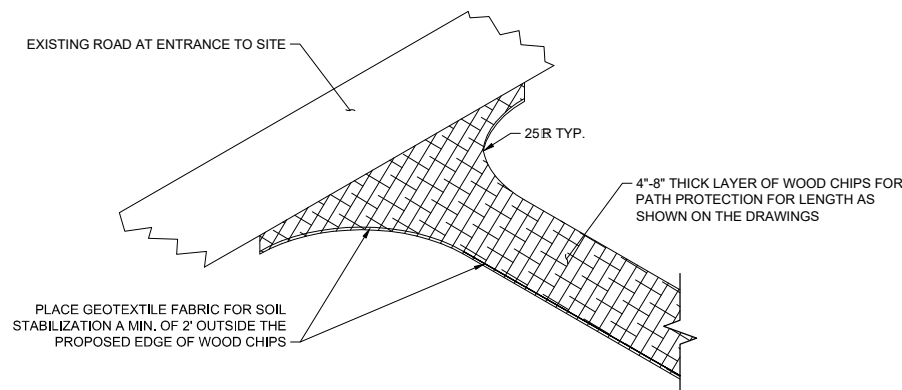
7 DETAIL: RIPRAP INSTALLATION
NOT TO SCALE



A SECTION: RIPRAP AND FILTER
NOT TO SCALE



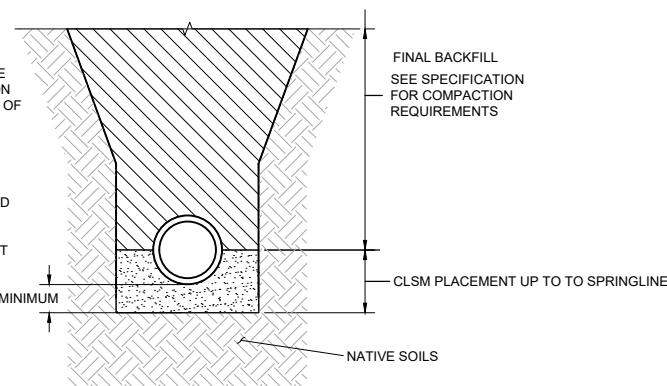
B SECTION: RCP AND RIPRAP
NOT TO SCALE



2 DETAIL: WOOD CHIP CONSTRUCTION ENTRANCE
NOT TO SCALE

NOTES:

- CLSM (CONTROLLED LOW STRENGTH MATERIAL) TO BE USED FOR BEDDING ONLY ON WALDO POND (SOUTH) SIDE OF STRUCTURE.
- CLSM SHALL BE PLACED IN LIFTS OF EQUAL DEPTH ON EACH SIDE OF THE RCP TO PREVENT OVERLOADING AND SHIFTING OF THE PIPE.
- CONTROL LIFTS TO PREVENT FLOTATION OF THE PIPE DURING PLACEMENT.



5 DETAIL: DOWNSTREAM PIPE BEDDING STA. 2+18 TO STA. 3+15
NOT TO SCALE

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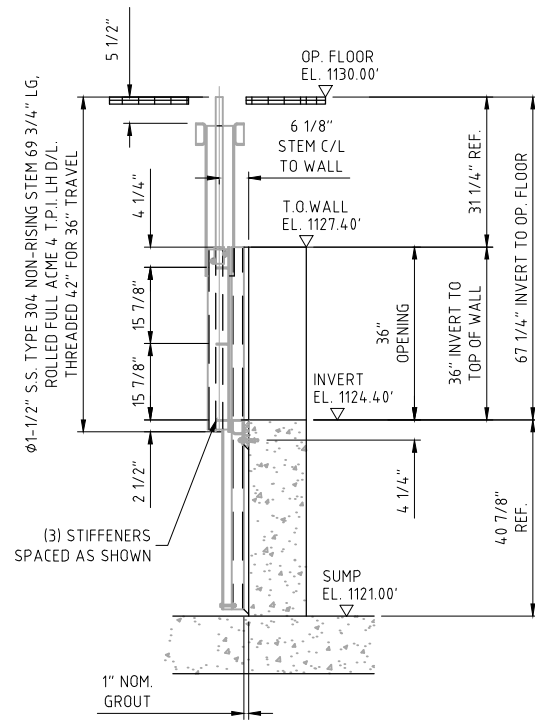
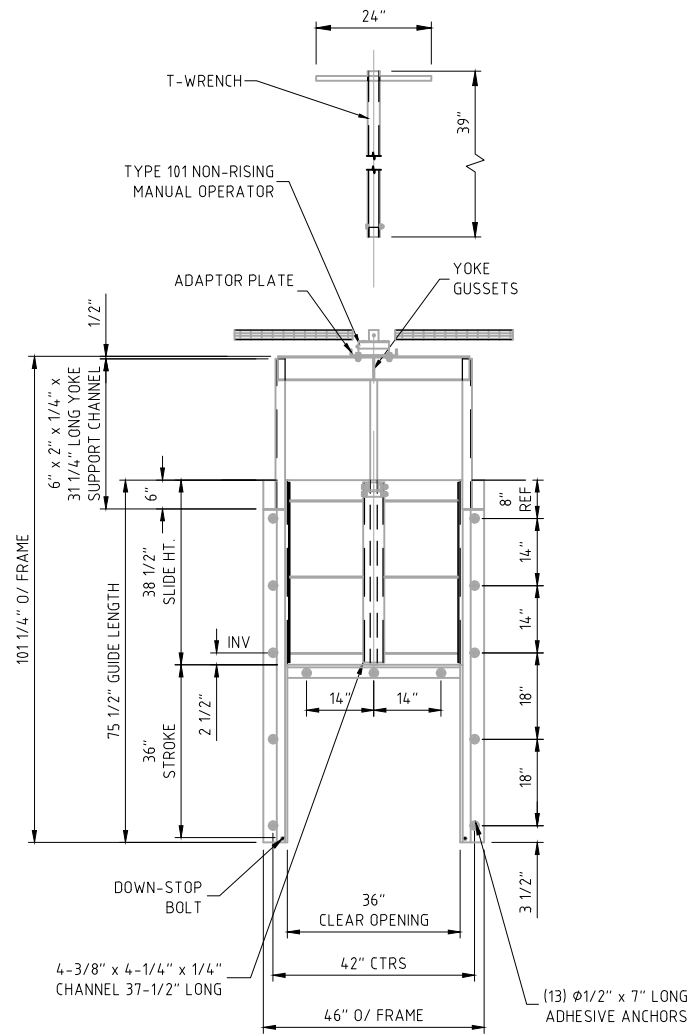
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| Scale | NOT TO SCALE |
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| Approved | BJB |

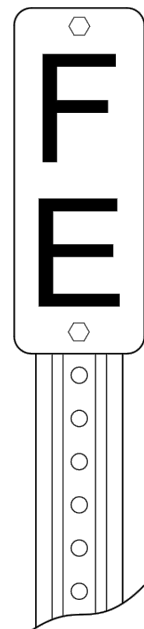
RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT

TWIN LAKE OUTLET PROJECT
LITTLE CANADA, MINNESOTA
CONSTRUCTION
DETAILS

| | |
|--------------------|---------------|
| BARR PROJECT No. | 23/62-1349.00 |
| CLIENT PROJECT No. | |
| DWG. No. | C-03 |
| REV. No. | C |



1 - DETAIL: WHIPPS FLUSH MOUNTED DOWNWARD WEIR GATE
NOT TO SCALE



- Notes:**
- 1) 0.063" Thick aluminum sign. Black letters on white high intensity reflectorized background.
 - 2) U-Channel post, Minimum 3 LB./FT. 6'-6" long, painted green.
 - 3) Place as directed by City Engineering Dept.
 - 4) Required for any structure not located in a paved surface.

2 - DETAIL: STRUCTURE MARKER SIGN
NOT TO SCALE

| | | | |
|---|-------------------|----------------|------|
| Quantity: | 1 | Scale: | 1:25 |
| Tag No's: | Seating Unseating | Design Head | 15' |
| Leakage Rate | 0.1 | GPM/ft of seal | 0.1 |
| Title: SERIES 923 WEIR GATE INSTALL: 36" x 36" | | | |
| Project: Whipps, Inc. | | | |
| Location: BC-923-2154 | | | |
| Date: 01/26/18 | | | |
| Original Issue: RAR | | | |
| Rev. Record: Eng. Chk. Date | | | |
| 370 SOUTH ATHERTON DRIVE ATHERTON, MA 01831 | | | |



3 - PLAN: TWIN LAKE OUTLET RESTORATION

ISSUE FOR
CLIENT REVIEW

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

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

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

| | |
|-----------|--------------|
| Scale: | NOT TO SCALE |
| Date: | 4/24/2020 |
| Drawn: | GWB |
| Checked: | BJL |
| Designed: | BJB |
| Approved: | BJB |



| | | |
|--|---------------|-----------------------------------|
| TWIN LAKE OUTLET PROJECT LITTLE CANADA, MINNESOTA | | BARR PROJECT No. 23/62-1349.00 |
| CONSTRUCTION DETAILS | | CLIENT PROJECT No. |
| DWG. No. C-04 | REV. No. C | |

Request for Board Action

Board Meeting Date: May 6, 2020

Agenda Item No.: 7B

Preparer: Tina Carstens, Administrator

Item Description: Beltline Resiliency Study Response to Comment and Finalize Report

Background:

At a December 17, 2019 workshop, staff presented the draft Beltline Resiliency Study to the board. The Beltline Resiliency Study evaluates potential system modifications that could be implemented in the Beltline watershed to reduce flood risk to habitable structures without purchasing structures. System modifications included in the draft study provide one option for mitigating flood-risk, and in many locations additional feasibility studies would be required to optimize system modifications and further evaluate the feasibility of the proposed modifications. Much of the study is centered on evaluating ways to optimize the use of the Beltline to lower flood levels upstream.

At that workshop, the board directed staff to determine a process for soliciting input from various stakeholders. In January 2020, staff held a meeting with city, county and agency stakeholders and also solicited comments from other interested stakeholders like our residents.

Staff have now reviewed all of the comments received on the Beltline Resiliency Study. 64 different comments were received from 8 individuals representing the cities of St. Paul, North St. Paul, and Shoreview, Ramsey County Public Works, one RWMWD Board manager and residents of Shoreview and St. Paul. Comments have been compiled into a spreadsheet, and answered, one by one. Responses included clarifications on parts of the Beltline Resiliency Study report, or an indication that something specific would be changed in the report as a result of the comment. Comments varied widely in terms of topic and geographic location across the District. A pdf of the comments and responses are included in this month's Board packet for the managers to review and consider.

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 the board accept the staff prepared response to comments to be sent to those that commented. The response to comments could also be appended to the study document and then called final.

Financial Implications:

The response to comments does not include any financial implications.

Board Action Requested:

Accept the Beltline Resiliency Study response to comments and direct staff to append the response to comments to finalize the study report.

| Comment # | Commenter | Report Reference | Comment | Response to Comment |
|-----------|--------------|--|---|---|
| 1 | Bruce Copley | General | Overall we believe that the Beltline study is important to provide RWMWD with an initial roadmap for addressing the many potential flooding problems in the district and support this effort. | Thank you for your comment. |
| 2 | Bruce Copley | Atlas 14 Precipitation Assumptions | The inundation maps utilize Atlas 14 data. Are Atlas 14 estimates for the Twin Cities already outdated? How frequently is Atlas 14 updated? Six years of above normal precipitation suggests the norms used to publish Atlas 14 may be under predicting the rainfall resulting in under design of water management. How is the most recent rainfall data taken into account when suggesting system changes? Is it still reasonable to use a model 100-year storm event predicated on historical data given climate change observed thus far? Given the "new" high water level of Grass Lake, will there be a new 100-year flood elevation determined? If no, please comment on why it is reasonable to use old elevations in modeling. What safety factor have you incorporated in the event that Atlas 14 underestimates the precipitation amounts? Can you comment? | <p>Before the Atlas 14 precipitation record was published in 2013, the last time the precipitation record was updated was 1961. There are currently no planned updates to Atlas 14. Atlas 14 is the current industry standard for defining design rainfall depths for a given return frequency and duration. The District currently and historically designed flood-risk reduction projects to provide a 100-year level of protection. However, the District has also been evaluating incorporating resiliency into the design of flood-risk reduction systems by using the 500-year storm event for emergency planning (keeping emergency evacuation routes open, considering pathways to hospitals, grocery stores, etc. and not necessarily protecting homes from flooding). The first step in this process was to develop inundation maps for the 500-year event, which have been created and will soon be distributed to member cities for review. For flood-risk mitigation project design in the Grass Lake area in recent years, staff have been using a starting elevation of 884.1 for water bodies in the Grass Lake area (this is the elevation of Grass Lake's emergency overflow) with a 100-year storm event on top of it. The City of Shoreview's recent planning and design efforts have incorporated this assumption as well. This assumption does incorporate a safety factor implicitly, as there is currently significant storage available below 884.1 north of Grass Lake.</p> <p>Please note that this work has been done, and continues to be done outside of the scope of the Beltline Resiliency Study work and its associated feasibility studies.</p> |
| 3 | Bruce Copley | Page 7: Starting Water Level Assumption for Grass Lake | On page 7 it is stated that recent high water levels are not used as the starting point for identifying impacted structures and modeled inundation. Residents in our area are very concerned about a large storm hitting when the area water bodies are much above normal as they have been for several years. We believe the extended periods these water bodies have been above normal significantly increases the probability of an adverse event. Can you comment? We believe inundation maps in the area around Grass, Snail, Wetland A and W. Vadnais should use the higher lakes levels as a starting point for the inundation maps. Would restoring surrounding water bodies to historical norms provide protection from inundation? The inundation maps of Crestview addition on the Barr website show properties touched by projected surface water, well away from Suzanne Pond, yet these properties are not shown as at-risk. Why not? | <p>While the inundation maps and Beltline Resiliency study reflect a starting water level for Grass Lake at the outlet elevation, modeling for specific flood control projects in the Grass Lake area that inform flood management actions and projects assumes a starting elevation of Grass Lake of 884.1 (as described above). With recent flood management projects undertaken by the RWMWD and now the City of Shoreview, no homes would be at risk of flooding during the 100-year storm event even when the water level in Grass Lake begins at 884.1.</p> <p>Please note that this work has been done, and continues to be done outside of the scope of the Beltline Resiliency Study work and its associated feasibility studies.</p> |
| 4 | Bruce Copley | Conditional Probability Analysis | It has been acknowledged by Barr that the area north of I694 is very slow draining and as a result goes high and stays high after several concurrent small rain events. The area seems to be in a permanently flooded state. The decision to not use "conditional probability" analysis for this area should be reconsidered. The study seems to acknowledge that the area is unique within the water district. This suggests to us that a unique analysis and set of solutions is appropriate for this area. Can you comment? | <p>For the Beltline Resiliency study, a conditional probability was not considered for use in inundation mapping as a part of the Atlas 14 work for reasons described in the study. However, as stated above, modeling for specific flood control projects in the Grass Lake area has assumed that the lake has been at its emergency overflow elevation (884.1) when the 100-year storm happens.</p> <p>Please note that this work has been done, and continues to be done outside of the scope of the Beltline Resiliency Study work and its associated feasibility studies.</p> |
| 5 | Bruce Copley | 48-hour Drawdown Question for Grass Lake Area | Also, how does the District square the "48-hour drawdown requirement" for temporary floodwater storage against using the Grass Lake parkland for additional storage, knowing that the drawdown is months or years under current conditions? Why does this requirement apply some places and not others? | <p>The District's rules require 48-hour drawdown for infiltration areas (District Rule C: Stormwater Management 3.c.1.vi). As described in the Minnesota Stormwater manual the 48-hour drawdown requirement was established to provide wet-dry cycling between rainfall events, unsuitable mosquito breeding habitat, suitable habitat for vegetation establishment, aerobic conditions, and storage for back-to-back precipitation events. Many of these considerations do not apply for naturally occurring wetlands, ponds, and lakes. In locations where water levels take more time to draw down, the District evaluates water levels using other methods such as continuous simulations, back-to-back events, or higher starting water levels. For the Grass Lake area, a starting water level of 884.1 has been used to identify whether there are flood-prone habitable structures. The Beltline Resiliency study used the outlet elevation such that the evaluation was applied consistently throughout the study area.</p> |
| 6 | Bruce Copley | Snail Lake and Wetland A | We would like to see more included in the study about the ability to control Snail Lake and Wetland A once Grass and W. Vadnais are adjusted to a lower level. This is a significant advantage of any system modification designed to maintain a lower level of Grass and W. Vadnais lakes. The dynamics of interconnectivity for Snail, Wetland A, Wabasso, Owasso, Grass, West Vadnais and Twin Lake are not clearly defined in the study. | <p>Noted. As stated in Section 1 of the Beltline Resiliency Study, this study evaluates potential system modifications that could be implemented in the Beltline watershed to reduce flood risk to habitable structures. As shown in Figure 2-2, there are no flood-prone structures identified as District within the Grass Lake or Wetland A subwatersheds. The Board of Managers may consider additional studies to evaluate the costs and benefits for providing additional connectivity as suggested. However, the Beltline Resiliency study focused on mitigating risk to flood-prone structures, and the additional evaluation in this area is outside the current scope of the study.</p> <p>The first four feasibility studies have already been identified for 2020 (Owasso Basin Bypass Pipeline Feasibility Study, Ames Lake Area Flood Damage Reduction Feasibility Study, Willow Creek Area Flood Damage Reduction Study and West Vadnais Lake to South of I-694 Conveyance Feasibility Study).</p> |
| 7 | Bruce Copley | Owasso Basin Bypass Option | It would seem that the most critical bottleneck once the Keller lake and Lake Phalen outlet are modified is flooding around Owasso Basin. Most of the modifications upstream are blocked by this issue, a problem that is mostly solved by adding a large pipe along the west side of I35. This opens numerous possibilities for controlling Owasso, Wabasso, Grass, Snail, Wetland A and W. Vadnais Lakes. We strongly support the addition of a pipe along 35E or alternative that allows for high throughput to Gervais Lake. Are there other options (short of purchasing Owasso Basin) being considered in light of the high cost of the 35E pipe? Given the expected long timeline to study, permit and install a pipe, are there temporary options that can be executed? | <p>The RWMWD is currently working on a feasibility study that further evaluates the potential for a piped "bypass" of high flows around Owasso Basin to protect it from flooding (Owasso Basin Bypass Pipeline Feasibility Study). In the interim, RWMWD staff will be working on an emergency response plan that would protect the homes around Owasso Basin under existing conditions, as well as the feasibility of other options that would affect the water level in West Vadnais Lake over and above lowering the 15' outlet to an elevation of 881.0 (West Vadnais Lake to South of I-694 Conveyance Feasibility Study).</p> <p>Please note that this work has been done, and continues to be done outside of the scope of the Beltline Resiliency Study work and its associated feasibility studies.</p> |

| Comment # | Commenter | Report Reference | Comment | Response to Comment |
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| 8 | Bruce Copley | Owasso Shunt Option | <p>The Owasso shunt operation needs to be considered at "opportunistic" pumping times not just seasonal pumping. By opportunistic pumping we mean that the narrow winter operation window could be expanded to include any time, year round, when flood risk downstream is minimal. Same comments apply for pumping of W. Vadnais. There is minimal detail in the study regarding the "shunt". Can more detail be provided? We would be interested in the impact of the Owasso Shunt on Grass and W. Vadnais. This is not shown as the option and is rejected with minimal discussion.</p> | <p>The Beltline Resiliency study presents one set of system modifications to mitigate risks for habitable structures. In general, the study does not include discussion for other potential modifications. The Study does not "reject" the shunt option. This option is not presented because it is less effective at mitigating flood-risk for habitable structures on Lake Owasso. Similar to any other modification not presented in detail in the study, future evaluation could be included in a feasibility study to identify optimize system modifications at the direction of the Managers.</p> <p>The Resiliency Study does not discuss impacts of the second outlet from Lake Owasso on Grass Lake and West Vadnais Lake because there are no flood-prone habitable structures adjacent to those water bodies.</p> |
| 9 | Bruce Copley | Seasonal Pumping of West Vadnais Lake | <p>The analysis of seasonal pumping of W. Vadnais does show three important results. First, the time that Grass/W. Vadnais are at peak levels is minimized, thus the risk of severe flooding from a 100 year storm is proportionately minimized. Second, the peak is below the overflow level for Grass and W. Vadnais lakes. Third, the average level is lower and therefore storage capacity increased. All three results appear to be advantageous to minimize flooding in the Grass/W. Vadnais area. All might look even better if the analysis was coupled with the lowering of the 15" pipe outlet from W. Vadnais. We would like to see the analysis considered with the "opportunistic" vs. seasonal pumping. Please comment on these three issues and a more detailed analysis of inundation for the area if opportunistic pumping were to be implemented and the 15" culvert lowered.</p> | <p>Regarding comment 1, seasonal pumping does reduce the duration of when water levels are above the outlet from West Vadnais. Within the context of the Resiliency Study, system modifications were evaluated to reduce flood-risk to habitable structures. No habitable structures were identified as being flood-prone around Grass Lake or Wetland A. Additional modifications could be evaluated to further reduce water levels in this area, but since they would not address flood-risk to habitable structures they are outside the scope of the Resiliency Study.</p> <p>Regarding comment 2, the benefits of seasonal pumping are highly dependent on the amount of rainfall within a given year. As shown in Figure 3-15, the peak water levels in West Vadnais are very similar whether seasonal pumping was completed or not.</p> <p>Regarding comment 3, the average water level is lower. This is a function of reducing the duration of time the water level is above the outlet. However, as noted in other comments, there are not flood-prone habitable structures within the watershed. Other studies have evaluated a starting water level in Grass Lake at 884.1, and also did not identify flood-prone structures. The Managers may decide to evaluate additional modifications in this area. However, since the Beltline Resiliency Study focused on reducing flood-risk for habitable structures those modifications are outside the scope of this study.</p> <p>Resulting opportunistic pumping, this appears to imply that discharge from West Vadnais should be allowed any time during the year. While the Resiliency study evaluates reducing flood-risk for habitable structures, it does include a general discussion on sequencing of system modifications. In general, the sequencing presented in the Resiliency study notes that downstream improvements should be implemented prior to conveying additional flow into flood-prone areas. If the Managers decide to further evaluate opportunistic pumping, the same sequencing guidelines should apply to pumping as any other system modification to prevent adverse downstream impacts for habitable structures.</p> <p>Other options that could lower the level of West Vadnais Lake are being further evaluated in a RWMWD feasibility study this year- one of the four that came out of the Beltline Feasibility Study (West Vadnais Lake to South of I-694 Conveyance Feasibility Study)</p> |
| 10 | Bruce Copley | Seasonal Pumping of West Vadnais Lake | <p>In the Barr presentation there is a set of charts on the seasonal pumping of W. Vadnais Lake. It covers the period from 1/1/15 to 12/31/18. When pumping is modeled, W. Vadnais never exceeds the level of the berm at 5 Star Estates and may not have affected Rice Street. Please include these data for 2019. Would a similar level of reduction have been predicted for the 2 periods when W. Vadnais overtopped the berm and closed Rice Street? Would this have eliminated the pumping of Twin Lake and the sandbagging of the low home?</p> | <p>The model results indicate that the water level in West Vadnais did not overtop the crest elevation of the berm. However, the berm had eroded and in 2019, allowing West Vadnais Lake to discharge towards Twin Lake. Based on the period evaluated, pumping did not prevent West Vadnais Lake elevations from reaching the point in the berm that was eroded. The Beltline Resiliency Study included modeling using available information at the time of the analysis. Additional evaluation outside the scope of the Beltline Resiliency Study is ongoing.</p> <p>The low point of Rice Street was raised to 884.7 by Ramsey County in 2019. The eroded portion of the berm between the "triangle wetland" south of West Vadnais Lake and Five Star Estates had eroded, and was restored by RWMWD this past winter. RWMWD also constructed a bypass system to collect overflow from West Vadnais Lake and divert it around Twin Lake. As such, reducing the potential for impacts to habitable structures.</p> <p>Please note that this work has been done, and continues to be done outside of the scope of the Beltline Resiliency Study work and its associated feasibility studies.</p> |
| 11 | Bruce Copley | General Grass Lake question | <p>Would much longer periods with W. Vadnais below the maximum have prevented long spells of Grass Lake overflow and water moving north of Gramsie Rd?</p> | <p>When water is below 884.1 in Grass Lake, it can not flow north of Gramsie Road through the culvert in the road. When water is lower in Grass Lake and West Vadnais Lake, it is less likely that water will flow north of Gramsie Road through the culvert in the road due to storm events.</p> <p>Please, note that since no flood-prone habitable structures are identified north of Gramsie Road, the Resiliency Study did not evaluate system modifications to reduce water conveyed into Wetland A.</p> |
| 12 | Bruce Copley | Pumping of West Vadnais Lake | <p>As we have seen from the Twin Lake pumping, opportunistic pumping in periods throughout the year are possible. The cost to do this pumping is tiny compared to the desired installation of a pipe along 35E and may well provide a significant margin of protection from flooding by the Grass/W. Vadnais lake until the 35E pipe could be installed.</p> | <p>This comment implies that the capital cost of pumping is less than the capital cost for installing a pipe along I-35E. However, there are two things that this comment does not consider. First is that if we evaluate the lifecycle cost of a project, then the cost for pumping (maintenance, fuel, staff time, permitting, etc...) over an operational lifespan may be closer to installing a pipe.... Second, is that if the 15-inch pipe out of WWL is flowing full, then there is nowhere to pump the water, so at a minimum pumping would also mean constructing a pipe from WWL to some location south of the highway - which significantly increases the costs.</p> <p>It is important to note that the Twin Lake system is much smaller than the system that drains through Grass and West Vadnais Lakes. As such, Twin Lake could be pumped (opportunisticly) down over a relatively short period of time to protect a home that was at imminent risk of flooding, during a summer when we were fortunate to not experience any extreme storm events that would have caused flooding downstream. With the other flood management actions undertaken over the past 2 years and already planned for 2020, as well as the future Suzanne/ Gramsie Road Stormwater Improvements project that will be implemented by the City of Shoreview in 2020 in Grass Lake area, no homes will be imminent risk of flooding in the Grass Lake area up to the 100-year event. The decision to pursue options that would lower the level of West Vadnais Lake further will be weighed as a part of the West Vadnais Lake to South of I-694 Conveyance feasibility study planned for 2020.</p> |

| Comment # | Commenter | Report Reference | Comment | Response to Comment |
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| 13 | Bruce Copley | Pumping of West Vadnais Lake | We think that RWMWD should commence pumping from W. Vadnais into Waldo Pond immediately, before we get any further into the best time of year to discharge water into Gervais Creek. | <p>Waldo Pond is located south of Twin Lake. It is not feasible to pump West Vadnais Lake into Waldo pond. When discussing pumping from West Vadnais Lake, there are two options:</p> <ol style="list-style-type: none"> 1. Pump from West Vadnais Lake into Stymie Pond. Stymie Pond is a MnDOT stormwater pond, which outlets below I-694. On the south side of I-694, water flows through an open ditch, and then eventually discharges into Jiggs Pond and eventually into Owasso Basin. There are flood-risk concerns near Owasso Basin. In addition, there are concerns with erosion south of the interstate system that must be mitigated following completion of pumping. Pumping from Stymie Pond requires a permit from MnDOT. This is the route that is planned for any bypass pumping to avert overflows from West Vadnais Lake to Twin Lake. 2. Pump from West Vadnais Lake into a new pipe below the highway. RWMWD is evaluating the feasibility of constructing a new pipe below the highway. However, for this option pumping could not start immediately. <p>See comment #12 for additional discussion regarding concerns related to downstream impacts associated with pumping.</p> |
| 14 | Bruce Copley | Lowering water levels in West Vadnais Lake, Snail and Wetland A | The addition of a large output pipe from W. Vadnais to Waldo Pond appears to be very effective and should provide excellent control of high water levels in Grass, W. Vadnais, Owasso, and Wetland A. It seems to be adequate to allow a connection between Snail and Grass as a cost effective route to control Snail. We strongly support this addition and also understand the the new pipe along 35E would be required to fully utilize the added outflow capacity. | <p>The Resiliency Study did not evaluate or recommend a piped connection to Waldo Pond. A piped connection to Waldo Pond would have adverse impacts on the MnDOT drainage system and Twin Lake. The Resiliency Study evaluated a piped connection to Porky Pond.</p> <p>The Resiliency Study did not evaluate a piped connection to lower the outlet elevations of Wetland A or Snail Lake, and does not make any assumptions or conclusions regarding the adequacy of the proposed pipe to convey water from these locations. The area around Wetland A was not evaluated because there are no flood-prone habitable structures in this area. The area around Snail Lak was not considered, because there is only one flood-prone structure, and the District completed a detailed feasibility study to identify system modifications, and identified an emergency response plan as the most feasible alternative in this location (see comment #44).</p> |
| 15 | Cliff Aichinger, RWMWD Board Manager | Page 18 | I find the wording in the bullets may be a bit confusing to readers. The phrase "at the invert of the existing pipe" may be clearer if it read "at the same level as the invert of the existing pipe." | This change will be made to the final draft of the report. |
| 16 | Cliff Aichinger, RWMWD Board Manager | Page 18, second bullet | My question is whether this covered section of the creek is needed or whether it could be made into an open channel to add capacity and avoid adding new pipes. A bridge could be added for the trails. | The second bullet includes a note "or equivalent". This implies that a modification to the system that provides equivalent capacity would be sufficient. The suggestion to replace the culverts with a bridge or open channel could be a way to provide additional capacity. The Resiliency Study provides one method for mitigating flood-risk for habitable structures, and further optimization of each modification will be required. In this location, using a bridge could be a way to optimize the modification. |
| 17 | Cliff Aichinger, RWMWD Board Manager | Page 26, End of first paragraph under section 3.2.1. | My concern is that we somehow address the potential problem of cities solving "local" flooding issues by adding capacity to their system, which would then add new volume to "District" projects. | This concern will be addressed during the feasibility study phase of each area that is explored further, in close coordination with member cities. |
| 18 | Cliff Aichinger, RWMWD Board Manager | Page 31, second to last bullet | I don't see this modification reflected on the figure. | The modification is shown on Figure 3-12. The call out box is pointing to the pipe from the triangle wetland south of West Vadnais Lake and connecting to Porky Pond. |
| 19 | Molly Churchich, Ramsey County Public Works Department | Page 18, Increasing culvert capacity on Edgerton Street and Keller Parkway | Edgerton Street was resurfaced in 2019 and Keller Parkway was resurfaced in 2017. Depending on pavement rating conditions, resurfacing is generally on a 10-20 year cycle factoring in Average Daily Traffic and depth of road base, etc. As I understand it, you will be implementing at the south first and then moving north for possibly a 10-year plan. We should discuss as this phase is in the queue and there is potential to coincide with our resurfacing or reconstruction projects. | Thank you for your comment. RWMWD will be sure to coordinate future efforts with Ramsey County Public Works. |
| 20 | Molly Churchich, Ramsey County Public Works Department | Page 30, Culvert improvements at County Road C and Victoria | RCPW is planning a pipe lining, apron repair, and slope stabilization in this location in 2020. The catch basin to the east and manhole to the west has deteriorating pipes which will be lined. The large roadway culvert was originally replaced under S.A.P. 62-623-10 in 1972. Between 2008-2012, our crews completed a construction joint throughout the tunnel, as best guessed by our foreman. | Thank you for your comment. RWMWD will be sure to coordinate future efforts with Ramsey County Public Works. |
| 21 | Molly Churchich, Ramsey County Public Works Department | Page 30, Lake Owasso outlet | Our lake outlet records say Shoreview holds the JPA for this outlet, as owner and operator. | Thank you for your comment. RWMWD will be sure to coordinate future efforts with Ramsey County Public Works. |
| 22 | Molly Churchich, Ramsey County Public Works Department | Page 31, Lake Wabasso outlet modifications | As owners of the outlet, we have been monitoring some slight degradation in the structure. We planned to have it repaired with a structural joint epoxy in 2019, but scheduling and water levels did not cooperate. We plan to have this repair completed in 2020. We could coordinate dredging, if required. | Thank you for your comment. RWMWD will be sure to coordinate future efforts with Ramsey County Public Works. |
| 23 | Molly Churchich, Ramsey County Public Works Department | Page 31, Grass Lake outlet pipes and Rice Street pipes | Parks can comment on the impacts to the trail for Grass Lake's outlet. In 2022, RCPW was planning to reconstruct this section of Rice, but the extents seemed to have shifted. Let's keep the conversation going to sync as much as we can. The storm sewer south of the railroad bridge has been on my "wish list" for some years now. No one is brave enough to tackle. | Thank you for your comment. RWMWD will be sure to coordinate future efforts with Ramsey County Public Works and Ramsey County Parks. |

| Comment # | Commenter | Report Reference | Comment | Response to Comment |
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| 24 | Molly Churchich, Ramsey County Public Works Department | Page 31, West Vadnais Lake Vadnais Boulevard pipes | Resurfacing of Vadnais Boulevard between Rice Street and Twin Lake Boulevard was on the schedule for this year, but has since been shifted. It is expected it will land on 2023-2024. We should coordinate projects on this one. Public Works' desire is that pipes be installed at least one year prior to allowing for settling. | Thank you for your comment. RWMWD will be sure to coordinate future efforts with Ramsey County Public Works. |
| 25 | Molly Churchich, Ramsey County Public Works Department | Page 42, Seasonal drawdown of West Vadnais | The county is supportive of this, provided dewatering practices don't interfere with traffic on our systems. Depending on the pump setup location, we may require a county ROW permit for hoses and traffic control signs. | Thank you for your comment. RWMWD will be sure to coordinate future efforts with Ramsey County Public Works. |
| 26 | Molly Churchich, Ramsey County Public Works Department | Page 44, Casey Lake Outlet, White Bear road control, and Kohlman Basin pipeline | I have been searching for record plans for the Casey Outlet project for a year. We seem to have everything related to the road portion, but as I understand it, RWMWD added on work to the Casey Outlet as an addendum. Is that correct? Does RWMWD consider themselves owners of the outlet? What is the White Bear road control? Has the District considered any improvements to the Kohlman Wetland Treatment System constructed by the county in 1984? Our field staff have inquired if this is something the District wants to pursue but I wasn't confident that it was evaluated to have a positive impact to the watershed. | <p>The District has original plans for the Casey Lake outlet. Following construction of the outlet modifications were made which included a trashrack and weir with a sluice gate. The outlet is identified as a District managed facility in the District's 2017 Management Plan.</p> <p>The White Bear Ave control is a sheet pile weir with a v-notch. The District constructed this structure in 1994 to provide some water quality treatment in the wetland upstream of White Bear Ave.</p> <p>The District hasn't considered improvements to the 7th Street weirs at Horseshoe Park, but the District cleans the timber weirs on a regular basis. RWMWD will be sure to coordinate future maintenance efforts and coordination potential opportunities for system improvements.</p> |
| 27 | Molly Churchich, Ramsey County Public Works Department | Page 48, Willow Lake Outlet | We would need adequate time to engage with HB Fuller and Parks. | Noted. Thank you for your comment. |
| 28 | Molly Churchich, Ramsey County Public Works Department | Page 51, County Road C culvert capacity | I don't believe this segment is in the current resurfacing plan. We have a new engineer taking over our resurfacing program. We should schedule a meeting with the District to discuss upcoming projects. | Thank you- RWMWD would welcome this discussion to help in planning future efforts. |
| 29 | Molly Churchich, Ramsey County Public Works Department | Page 51, County Road D outlet | I don't think this is scheduled for resurfacing. | Noted. Thank you for your comment. |
| 30 | Molly Churchich, Ramsey County Public Works Department | Figure 3-21, Storm sewer at 5th Street | This segment is planned for a full width resurfacing as part of the Xcel gas main project in 2020. The resurfacing will be negotiated for Xcel to lead or the county will lead. The storm sewer to the north coming from McKnight discharges into the Urban Ecology Center. Ramsey County holds the easement that runs east-west and North Saint Paul holds the easement that intersects with ours running north-south. There is a sizeable sediment delta at this intersection point blocking flow. It has been too wet in the area for us to access. We've tried to coordinate with North Saint Paul with no success. | Thank you for your comment. RWMWD will be sure to coordinate future efforts with Ramsey County Public Works. |
| 31 | Molly Churchich, Ramsey County Public Works Department | Figure 3-23, Modifying storm sewer to Casey Lake | This segment is not in our scheduled resurfacing plan. There is one resident at 2210 17 th Ave, Mr. Terry Noonan, who was open to having a rain garden in his yard, if we ever reconstruct the road. I told him I would keep it in mind. He has already done the pre-calculations, as expected. | Thank you for your comment. RWMWD will be sure to coordinate future efforts with Ramsey County Public Works. |
| 32 | Molly Churchich, Ramsey County Public Works Department | Figure 3-24, Additional culverts under White Bear Avenue | The condition of these existing culverts is not known. Water levels are too high to inspect properly. This segment of White Bear Avenue is getting resurfaced this year. | Thank you for your comment. RWMWD will be sure to coordinate future efforts with Ramsey County Public Works. |
| 33 | Molly Churchich, Ramsey County Public Works Department | Figure 3-26, County Road C culverts | This segment is not slated for resurfacing. | Noted. Thank you for your comment. |
| 34 | Molly Churchich, Ramsey County Public Works Department | Figure 3-42, Stormwater along White Bear Avenue. | Currently, there is no project identified in this location. If this involves substantial storm sewer replacement, we may evaluate adding it to a larger project. | Thank you for your comment. RWMWD will be sure to coordinate future efforts with Ramsey County Public Works. |
| 35 | Molly Churchich, Ramsey County Public Works Department | Figure 3-44, Stormwater pond at Phalen Boulevard and Johnson Parkway | According to our Land Survey records, this pond is on county ROW. https://ramseygis.maps.arcgis.com/apps/webappviewer/index.html?id=b78c7d82f13149758bfaf6bbdf77c582 I do not have good records of plans or ownership, though. | Thank you for your comment. RWMWD will be sure to coordinate future efforts with Ramsey County Public Works. |
| 36 | Molly Churchich, Ramsey County Public Works Department | General | Let's continue to discuss partnerships as these projects move forward because it could be a good way to optimize our resources, collectively. | Thank you for your comment. We agree, and will keep in touch on these projects going forward. |
| 37 | William Zajicek St. Paul Resident | Presentation | That presentation wasn't easy to follow. For one thing I don't understand what the sinks and buckets are supposed to represent. | The sinks and buckets slides were meant to show why lowering the level of water in West Vadnais Lake doesn't necessarily produce a significant effect in lowering the frequency of overflows from Grass Lake, given the large volume of water that is effectively constantly entering the area. Even if lake levels are lowered in the "off season", spring snowmelt and subsequent storm events fill the area right back up under existing outflow conditions. |

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| 38 | William Zajicek St. Paul Resident | Cost of mitigation projects | Regarding the draft study, given the estimated costs of mitigation projects, the option of purchasing properties at risk didn't seem to be there. One could purchase quite a few homes for 50 million dollars. | As noted in Section 1, one of the assumptions for the Beltline Resiliency study was to present system modifications that would be required if purchasing of flood-prone structures was not an option. Further evaluation of purchasing flood-prone structures should be included in future feasibility studies and optimization of each system modification. However, Appendix B includes a high-level estimate of the cost to purchase flood-prone property. |
| 39 | Stuart Knappmiller St. Paul Resident | Partnerships | We wondered if this was the kind of project that Payne Phalen Community Council would be interested in. We both serve on that board. Of course the sewer runs through other groups geography as well. | Thank you for your comment. Gathering input from a diverse group of stakeholders will be a critical component for identifying and evaluating optimizations for system modifications discussed in the study. |
| 40 | Stuart Knappmiller St. Paul Resident | Request for presentation | Is there a way to have knowledgeable staff explain this project? We would be happy to facilitate a meeting on the Eastside. | Thank you for your comment. Providing information and gathering input from stakeholders is an important part of this work and could be accomplished as projects are identified and pursued. |
| 41 | Stuart Knappmiller St. Paul Resident | Project purpose | Is a significant part of this project the result of contractors and home buyers who apparently didn't walk/run/ride a horse through the Stumptown Creek valley 7 days a week bringing the cows in for the evening milking? Tossing a heavy rock into a raging creek, which washes its a significant part of this project the result of contractors and home buyers who apparently didn't walk/run/ride a horse through the Stumptown Creek valley 7 days a week bringing the downstream before it sinks, knowing the creek was on this side of the valley last year, that the frog pond is now the creek bed, let's one think about what water does. There were 4 foundations of miners cabins from the European expansion of native lead diggings on our 228 acre farm. One had a well and was on the high ground. 2 were on a platform above flood stage. Only one was (possibly)on the flood stage level. So people in the 1800's knew to not build houses (or roads) where they would flood. Are our taxes subsidizing these lakeshore homes? | Homes throughout the RWMWD were built over a wide range of years and are occupied by a wide range of homeowners who have experienced a wide range of hydrologic conditions on their properties. In addition, our climate in recent years has experienced increasing levels of precipitation that stress this infrastructure. It is the RWMWD's goal to assess flood risk to the built environment across the District, assess why the risk exists and to work with partners to figure out what can happen to decrease that risk. We have inherited this built environment, and we strive to decrease the risk to it, balancing both upstream and downstream properties. |
| 42 | Mark Maloney, City of Shoreview | Page 1, Concerning Flood Risk to Habitable Structures | The City understands the emphasis of the Study to evaluate potential system modifications to reduce flood risk to habitable structures adjacent to Watershed managed facilities. While higher than normal water levels in Shoreview have had significant impact on public infrastructure (e.g. Gramsie Road) and on Ramsey County Regional Park Property, protecting habitable structures should obviously be the highest priority. It is my understanding that carefully sequenced modifications that serve to reduce flood risk to habitable structures in the District will eventually benefit other lower priority impacts. | Thank you for your comment. |
| 43 | Mark Maloney, City of Shoreview | Page 7, Statement "RWMWD is currently evaluating flood risk reduction options for Twin Lake (and Grass Lake) outside of the scope of this Beltline Resiliency Study" | My question would be if the flood risk reduction options being studied here and those outside the scope of the study were interdependent, and if so, how does that impact the proposed sequencing or priority of storm modifications? | The goal of the Resiliency Study was to present one set of system modifications, which if implemented, would mitigate flood-risk to habitable structures. A detailed evaluation of interdependence of each modification was not completed as part of the study. The evaluation was limited to general guidance for project sequencing (i.e., do not increase discharge from one area before making downstream improvements to be able to safely convey the additional discharge) |
| 44 | Mark Maloney, City of Shoreview | Page 8 and Figure 2-2, Observation regarding structures classified as "District" | There is only one structure in the City of Shoreview estimated to be at risk due to a 100-year flood from a District-managed water body: the Snail Lake property at 4380 Reiland Lane. The City and RWMWD previously agreed in principle to an emergency response plan for that property (assuming property owner coordination) that would include the City delivering and possibly assisting in the placement of sand bags to protect the habitable structure. | Thank you for your comment. |
| 45 | Mark Maloney, City of Shoreview | Page 26, Statement "Increasing this flow rate, without other system modifications, results in increases to downstream water levels" | I understand this to be the biggest barrier to the simple approach of just moving water out of the Grass Lake subwatershed at a faster rate. This limiting factor has been discussed at every public meeting on the topic that I've been involved with and it's safe to assume that the Shoreview City Council understands it as well. It is for that reason that the City expects the RWMWD will adequately study and ultimately implement modifications that do not result in increased flood risk for downstream habitable structures. | Thank you for your comment. |
| 46 | Mark Maloney, City of Shoreview | Page 28, Suzanne Pond | I believe that the language in the Study could be updated to reflect that the Suzanne Pond Area Improvements are currently under design and on-schedule for constructing beginning May, 2020. The proposed improvements include pump and control replacements, reconfigured inlets and outlets, and the ability to accommodate the drainage from Gramsie Road to reduce the likelihood of nuisance flooding from smaller rain events. A segment of Gramsie Road itself is being raised to provide an increased level of protection for the Crestview Neighborhood in the event that Grass Lake overtops. The cost of these City of Shoreview improvements is currently estimated at \$850,000. | Thank you for your comment. This change will be made to the final draft of the report. |
| 47 | Mark Maloney, City of Shoreview | Page 28, Snail Lake | The City concurs with the statement concerning the most effective flood management strategy for the home at 4380 Reiland Lane. | Thank you for your comment. |

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| 48 | Mark Maloney, City of Shoreview | Page 36, Sequencing | The Study states an assumption that improvements downstream of the Grass Lake subwatershed are made before any proposed outlet modifications for Lake Wabasso, Grass Lake and West Vadnais Lake. If there is a high degree of confidence associated with that position, then the City would urge RWMWD to place the highest priority on those downstream improvements. | Thank you for your comment. |
| 49 | Mark Maloney, City of Shoreview | Page 42, Seasonal Drawdown for West Vadnais Lake | Given that higher levels of West Vadnais Lake act as a constraint for the draining of the Grass Lake subwatershed, the City would strongly encourage and support RWMWD efforts to implement improvements that would permit the drawdown of West Vadnais Lake during the fall and winter months. | The decision to pursue options that would lower the level of West Vadnais Lake further will be weighed as a part of the West Vadnais Lake to South of I-694 Conveyance Feasibility Study planned for 2020. |
| 50 | Mark Maloney, City of Shoreview | General | Thank you for the opportunity to participate in this process. From my perspective, the City and the District are working well together to better understand and hopefully mitigate impacts from unprecedented weather of the past decade. | Thank you for your comment. RWMWD looks forward to working with the City of Shoreview on these efforts in the future. |
| 51 | Morgan Dawley and Heather Nelson, City of North St. Paul | Coordination of Flood Risk Modeling | The city of North St. Paul completed a flood study in 2017. The result of the city's study identified 7 focus areas. Only 2 of the 7 focus areas identified in the NSP study correspond to flood issues in the RWMWD study. Would the watershed district consider including the additional detail of the City's study into their study to help identify upstream storage areas? Partnering on the modeling could help resolve some differences and show a shared benefit between the district and local flooding concerns. See the example below showing the subwatershed inputs between the two models. | The District continuously updates their model based on best available information, and is open to working with member Cities to incorporate better definition of the storm sewer system, add detail, and if appropriate address differences. |
| 52 | Morgan Dawley and Heather Nelson, City of North St. Paul | Coordination of Flood Risk Modeling | Was additional storage in Southwood Nature Preserve by Cowern Elementary in North St. Paul through dredging the ponds downstream from Southwood considered? This area has been previously studied. | In general, dredging of stormwater ponds was not a system modification that was considered. Dredging increases the permanent pool volume, which does not change the peak water surface elevations in the basin. Future modifications to the ponds to increase the live storage volume could be considered. |
| 53 | Morgan Dawley and Heather Nelson, City of North St. Paul | PCU Pond | Was providing more storage in PCU Pond considered? | Increasing the storage volume of the permanent pool was not considered. PCU pond currently takes up most of the parcel, so change to the pond footprint were not considered as part of this study, but should be considered as an option for future optimization as part of a detailed feasibility study for modifications in this area. |
| 54 | Morgan Dawley and Heather Nelson, City of North St. Paul | Coordination of Flood Risk Modeling | The focus of the study was on Potential District Flood-Risk Areas near district managed water bodies, facilities, or previous projects. Local flooding issues were not targeted as part of the study which limits opportunities for collaboration with the Cities. The use of a 100-year, 4-day Atlas 14 rainfall event (8.3 inches) as the critical event is disconnected from existing FEMA FIRM mapping assumptions and building code use of the 100-year, 24-hr rainfall event as the basis of establishing flood plain elevations. Initial review of the results in some cases show inundation areas that exceed existing mapped 500-year flood plains. The implications of public release of these inundation maps is concerning see example below (figures provided). | <p>Potentially flood-prone areas designated as "Local" are typically representative of flooding Cities typically address. Mitigation in these areas may not change downstream peak flow rates and water elevations in other municipalities. The Resiliency study notes that Cities typically lead the evaluation of this type of flooding, but that the District may choose to support the City's efforts in a collaborative role.</p> <p>The use of the 4-day duration event is not disconnected from FEMA guidance. FEMA Guidelines and Specification for Flood Hazard Mapping Appendix C indicates that rainfall duration, at a minimum, must exceed the time of concentration for the watershed and must be large enough to capture all excess rainfall as well as provide reasonable runoff and sediment volumes when performing storage analysis. The Mapping Partner may use the critical storm concept to determine the storm duration, or use the duration specified in guidelines developed by state agencies responsible for flood control or flood regulation.</p> <p>RWMWD selected the 4-day event because it is the critical duration event for the District. The stormwater model is run using a nested rainfall distribution. The distribution was developed such that depths from shorter durations (i.e., 24-hours) are nested within the longer 4-day distribution. The hyetograph was developed so that the peak of the storm occurs at the center with decreasing intensities on either end. Following this methodology, critical storm events of lesser duration are nested in the overall 4-day event distribution. Consequently, only one design event is required to obtain critical flows and water surface elevations throughout the watershed (i.e., the drainage area of any subwatershed is irrelevant because the critical duration storm event for each subwatershed is nested within the 4-day event). This is similar to why the 24-hour duration event is used for small sites or individual parcels. The time of concentration for an individual parcel is much less than 24-hours, but because the nested distribution is used, only a single event must be evaluated. In areas where there are more storage, such as large ponds, wetlands, or lakes, the 24-hour duration event may not be sufficient to calculate the critical water surface elevations or flows.</p> <p>Finally, this comment references an example from the FEMA FIRM. The figure showed the area west of McKnight Road from approximately County Road B to 13th Avenue. The comment implied that because the District's model has a larger inundation area than the FEMA maps there is some concern related to the results. First, the FEMA map in the example area shown does not accurately characterize the drainage in this area. The FEMA map simulates an open ditch that drains south to north within the example area - this is an inaccurate representation of the drainage system in this location. Actually, the City storm sewer drains the area east of McKnight south towards the Highway, where it either flows east under McKnight or to the inlet to the large arch pipe connected to the MnDOT system and then into PCU pond. The summary, is that the current FEMA maps do not accurately represent the drainage system.</p> <p>In addition the FEMA FIS indicates that the analysis for this area was not updated when the FIRM was updated. The Engineering analysis for the inundation shown on the FEMA maps are based on drainage areas delineated using 1970s aerial photos, and 1975 City storm sewer.</p> |
| 55 | Morgan Dawley and Heather Nelson, City of North St. Paul | Prioritization and Funding | Cost estimates for all the improvements outlined in the study range from \$142M (-50%) to \$568M (+100%) for mitigation of 227 potentially flood-prone structures. No priority or value was assigned to structures protected and it does not appear that critical infrastructure (e.g. utilities, major access routes) were considered in the analysis for protection. It also is not clear the frequency at which the identified structures would be impacted (e.g. 2, 10, 50 year events). Has a funding mechanism been identified? | <p>The Resiliency Study does not include guidance on prioritization of system modifications. As discussed in Section 3, the Resiliency Study includes general guidance for sequencing to avoid adverse downstream impacts. The intent of the Resiliency Study was to provide one set of modifications to remove habitable structures from the floodplain. Prioritization of individual locations will be considered by the Managers.</p> <p>The Resiliency Study also does not present optimized system modifications. Additional feasibility studies will be completed prior to implementation to identify the optimized modification for each area.</p> <p>The study focused on removing habitable structures from the floodplain. Habitable structures are those that are referenced by the District's rules. The District does not set freeboard for roadways or site other infrastructure referenced. The District is open to collaboration with and support of roadway authorities Cities within the District to mitigate flood-risk in these areas.</p> |

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| 56 | Morgan Dawley and Heather Nelson, City of North St. Paul | Verification of Flood Prone Structures | Has there been any verification that structures identified as "flood prone" have actually had flooding issues in the past? Has there been any categorizing of the "flood prone" structures to identified critical infrastructure such as schools, public buildings, emergency responders, etc.? | <p>The flood risk of structures identified in the Atlas 14 modeling effort was based on the 100-year, 96-hour storm event peak water surface elevations relative to structural elevations estimated from LIDAR data. The feasibility studies stemming from the Beltline Resiliency Study that are planned for 2020 involve surveying the structures that may be at risk of flooding to verify low elevations and flood risk. Also, RWMWD has developed District-wide flood inundation maps that show estimated inundation footprints for a range of flood frequency events (2, 10, 50 year events, for example). These maps will be distributed to member cities in 2020 for discussion and planning.</p> <p>Past flooding has been documented in many areas shown as flood-prone including North Star Estates, Gervais Lake, Lake Owasso. After the model was updated to Atlas 14 inundation areas were shared with municipalities within the District, and in the summer of 2015 District staff met individually with each City. Comments provided by the Cities indicated that the inundation areas shown generally aligned with areas of known flooding and frequent calls.</p> |
| 57 | Morgan Dawley and Heather Nelson, City of North St. Paul | Phasing | Are any of the phases of project stand alone or do they all have to be sequenced in order to observe the identified benefit. What is the risk to the resiliency study if feasibility or permitting road blocks are encountered? | <p>Projects that provide additional floodplain storage or reduce downstream discharge rates could be implemented immediately. The recommendation in the study, is that projects that increase downstream discharge are dependent on first implementing downstream improvements.</p> <p>Future feasibility studies to optimize modifications and verify feasibility when considering additional information such as utilities, permitting, land acquisition, etc. will be required. As part of future feasibility studies additional options that were not considered as part of the Resiliency study should also be considered, including acquisition of flood-prone property and emergency response plans. It is possible that upon further review, some modifications may not be feasible. If this occurs, re-evaluation of modifications will be required to mitigate flood-risk for habitable structures.</p> |
| 58 | Morgan Dawley and Heather Nelson, City of North St. Paul | Coordination of Work | Local and county infrastructure improvements are planned in the near future for areas in North St. Paul including McKnight Road and 17th Ave. It should be noted that this work should be coordinated as much as possible with any potential flood improvements. | RWMWD will be sure to involve the City in these efforts, working collaboratively to find solutions. |
| 59 | Morgan Dawley and Heather Nelson, City of North St. Paul | Coordination of Work | How will stakeholders be engaged in this process moving forward? | RWMWD encourages Cities to reach out to the District if there are project planned near areas identified as part of the Resiliency Study. As part of a separate effort, the District identified areas of flood-risk within each City, and plans to share those maps with member cities. Finally, when the District completes feasibility studies for specific sites, we plan to work collaboratively with the Cities to find solutions. |
| 60 | Morgan Dawley and Heather Nelson, City of North St. Paul | DNR Floodplain Mapping | How was the DNR floodplain remapping that is currently underway (scheduled through April 2020) considered in this process? | <p>The floodplain remapping effort that is lead by the MnDNR is based on Existing conditions. None of the system modifications presented in this document are applicable to the DNR's remapping effort.</p> <p>However, the DNR has requested to use the District's stormwater model for remapping areas shown on the floodmaps. Survey information collected by the DNR has been incorporated into the District's model. As-built plans for water bodies shown on the FEMA floodplain have been incorporated in to the District's model. The District submitted the model, supporting documentation regarding model hydrologic parameters, hydraulic parameters, and model calibration and validation results to the MnDNR. The MnDNR is currently reviewing the submittal and anticipates providing comments later this year. (The DNR extended the anticipated schedule for the remapping effort through the spring of 2021)</p> |
| 61 | Wes Saunders-Pierce, City of St. Paul | General | Thank you for seeking stakeholder input on the Beltline Resiliency study. The review meeting on January 17, 2020 was very informative. The breadth of the 2019 draft study is considerable and reflects the importance and complexity involved to increase system resiliency against flooding. | Thank you. |
| 62 | Wes Saunders-Pierce, City of St. Paul | Coordination of Work | The City developed a Climate Action & Resilience Plan which was adopted by the City Council in December 2019. We look forward to conversations with how RWMWD activities towards advancing the Beltline Resiliency study over the coming years can mutually support our respective goals. | Thank you for your comment. RWMWD looks forward to working with the City of St. Paul on these efforts in the future. |
| 63 | Wes Saunders-Pierce, City of St. Paul | Coordination of Work | In particular we are optimistic about the District' Ames Lake, Hayden Heights Recreation Center, and Prosperity Park/Prosperity Heights Park. Staff proposal for active management of Lake Phalen water levels. Additionally, we recommend engaging with city staff before initiating feasibility studies for strategies involving flood storage on city-managed lands. Key areas in the study include near may have local insight regarding constraints or opportunities that could inform further work. | RWMWD will be sure to involve the City in these efforts, working collaboratively to find solutions. |
| 64 | Wes Saunders-Pierce, City of St. Paul | Coordination of Work/Partnering | We appreciate our relationship with your agency and the opportunity to express support for the Beltline Resiliency study. We look forward to partnering with the RWMWD on a variety of initiatives and welcome additional dialogue on potential further work. | Thank you for your comment. RWMWD looks forward to working with the City of St. Paul on these efforts in the future. |

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Administrator's Report

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MEMO

TO: Board of Managers and Staff
FROM: Tina Carstens, Administrator
SUBJECT: May Administrator's Report
DATE: April 30, 2020

A. Meetings Attended

| | | |
|---------------------|----------|---------------------------------|
| Tuesday, April 7 | 2:00 PM | Audit Exit Meeting |
| Wednesday, April 8 | VARIOUS | Communications Interviews |
| Thursday, April 9 | VARIOUS | Communications Interviews |
| Friday, April 10 | VARIOUS | Communications Interviews |
| Tuesday, April 14 | 9:00 AM | WaterFest Discussion |
| | 5:00 PM | Twin Lake Shoreline Restoration |
| Friday, April 17 | 10:00 AM | Administrator Meeting |
| Wednesday, April 22 | 2:00 PM | MAWA Executive Committee |
| Thursday, April 23 | 10:00 AM | Water Resources Conference |
| Thursday, April 30 | 9:30 AM | Water Based Funding Meeting |
| | 1:00 PM | Battle Creek PFAS Sampling |

B. Upcoming Meetings and Dates

| | |
|--------------------|--------------|
| June Board Meeting | June 3, 2020 |
| July Board Meeting | July 1, 2020 |

C. COVID-19 District Update

We continue to have an office that is closed to the public and are conducting most of our business from home and through email and phone. That being said, as spring arrived, our field staff have been out doing permit inspections, construction observation, natural resources maintenance, and water level monitoring tasks. We continue to maintain the procedures implemented for social distancing and monitor the situation as directed by the state agencies. At the time of this writing, the state at home order is set to expire on May 4th. I continue to monitor the situation and will adjust our approach as needed. Prior to the stay at home order, the district office was closed and I was encouraging staff to work from home as much as possible and when in the office to maintain social distancing protocols. It is possible we would revert back to those measures if the order is lifted. I will just continue

to evaluate and make decision on a week to week basis. I am proud of our staff as they continually adapt to these times and work conditions. We are learning to connect in different ways amongst ourselves as well as with our partners and residents. And we continue to provide information and services as best we can in these situations. I will keep the board informed as I make decisions in the future. I would take some guidance from you as a board on how you would like to approach the next board meeting as well.

D. Ramsey County Property Tax Extension

I received notification from Ramsey County that the board of commissioners extended the payable 2020 first half tax deadline from May 15th to July 15th. This will apply only to those that do not escrow their tax payments. We will still receive our first tax settlement on July 3rd and then will received a second settlement in early August. It is anticipated that the deferred amount would be between 3-8% of our expected settlement. Because of our healthy fund reserves, this will not impact our cash flow or cause any problems in our budget or accounts. I also would anticipate that we will see a higher percentage of non-payment in 2020. That is still to be seen. Again, we have a healthy reserve that can handle a larger percentage of non-payment. This is something I will keep an eye on as we plan for our 2021 budget and levy request as well.

E. Introducing Lauren Hazenson – Communications and Outreach Coordinator

Over the last month, a small staff team conducted interviews over Zoom for the open communications and outreach coordinator position. Nine candidates were interviewed in this manner. We were very fortunate to have nine highly qualified candidates that impressed us with their experiences and qualities they could bring to this position. It was clear though that one candidate was a top choice. I offered the position to Lauren Hazenson and she has accepted. She will be officially starting on May 11th.

Lauren comes to us from the Nokomis East Neighborhood Association (NENA) in Minneapolis. Prior to that she worked for the Be the Match national marrow donor program. Lauren has extensive experience in strategic communications planning, organization communications in various platforms, event planning, and community outreach.

Lauren has found herself immersed in water quality, flooding, and natural resources management programs within her job at NENA as the one managing the green initiatives committee and communications around these topics. I really look forward to Lauren starting at the District and working with our staff.

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Project and Program Status Reports

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Memorandum

To: Board of Managers and Staff
From: Tina Carstens and Brad Lindaman
Subject: Project and Program Status Report – May 2020
Date: April 30, 2020

Project feasibility studies

Beltline resiliency and Phalen chain water level management study (Barr project manager: Brandon Barnes; RWMWD project manager: Tina Carstens)

The purpose of this study is to evaluate system-level flood damage reduction options, including real-time mechanical alteration of Lake Phalen and Keller Lake channel outlet structures, as well as other critical system infrastructure, to actively manage stormwater runoff from flood-prone areas tributary to the Beltline storm sewer in an effort to reduce flood levels that would otherwise impact homes. The evaluation will use the RWMWD stormwater model to simulate system-level modifications to evaluate how adjustments to outlet structures during a flood event may be able to optimize the existing system's performance to reduce flooding impacts to homes adjacent to RWMWD-managed water bodies.

Several months ago, stakeholders represented by both public and private interests provided the RWMWD with comments on the Beltline resiliency study. Based on managers' feedback at the December workshop, RWMWD staff have compiled comments and formulated responses, clarifying information and indicating areas where the report should be modified. The comments and responses are included in this month's board packet for the managers' review and consideration.

As mentioned in past status reports, feasibility studies are underway for the Owasso Basin bypass concept, Willow Creek flood reduction concept, and Ames Lake area concept; each were highlighted in the resiliency study report and approved last month. In addition, the Keller channel control structure and the Phalen outlet modifications design have begun.

2020 feasibility studies stemming from the Beltline resiliency study

- **Owasso Basin bypass pipeline feasibility study (Barr project manager: Matt Metzger; RWMWD project manager: Tina Carstens)**
- **Willow Creek flood-damage-reduction feasibility study (Barr project managers: Leslie DellAngelo; RWMWD project manager: Tina Carstens)**
- **Ames Lake flood-damage-reduction feasibility study (Barr project managers: Leslie DellAngelo; RWMWD project manager: Tina Carstens)**
- **West Vadnais to South I-694 conveyance feasibility study (Barr project manager: Sam Redinger, RWMWD project manager: Tina Carstens)**

To: Board of Managers and Staff
From: Tina Carstens and Brad Lindaman
Subject: Project and Program Status Report May 2020
Date: April 30, 2020

Page 2

This period, Barr formulated how the information-gathering phase of each study (surveys of structures and topography, utilities, as-builts, property ownership, etc.) could be completed simultaneously to increase efficiency. In the coming weeks, Barr will approach the cities in each study area about contacting homeowners in the survey areas, as well as to request information needed for each feasibility study. The surveys were initially delayed as a result of the COVID-19 pandemic, but we are exploring ways to complete the surveys safely. The West Vadnais to South I-694 conveyance feasibility study work this period is described in greater detail, below.

West Vadnais to South I-694 conveyance feasibility study (Barr project manager: Sam Redinger; RWMWD project manager: Tina Carstens) ***

The purpose of this study is to evaluate the feasibility of constructing a larger discharge pipeline that could be used to draw down West Vadnais Lake when conditions allow and/or when downstream improvements are implemented. The goal is to establish the normal water level of the system at elevation 881.0 and the 100-year flood level at elevation 884.0 without increasing flood levels downstream.

This period, Barr created an existing-conditions base map along the project corridor, consolidating available survey data, LiDAR information, aerial imagery, and utilities. A Gopher State One Call request was submitted to identify utility conflicts along the proposed pipe alignment. Once complete, the utility information will be imported to the base map. The existing-conditions base map will inform the development of feasible pipe configurations.

Historical soil borings around the proposed pipe alignment, obtained from MnDOT, were utilized to evaluate existing soil conditions and guide a high-level evaluation of constructability constraints.

During the next period, Barr intends to evaluate major utility conflicts, begin coordinating with stakeholders regarding respective permitting requirements, and evaluate pipe configuration concepts to develop preliminary design drawings and outline a construction cost estimate. Minor delays to the study schedule occurred during the past period due to the COVID-19 pandemic; however, the feasibility study is now progressing smoothly.

Pumping considerations

In advance of changes to the Phalen Chain of Lakes' control structures and other potential piped changes evaluated as described in the West Vadnais Lake conveyance south of Highway 694 feasibility study scope, the RWMWD board members asked staff to consider opportunistic pumping as a way to help lower West Vadnais Lake and Grass Lake levels in order to better prepare for large runoff events. In response to this request, and as a part of the feasibility study, we could attempt to characterize and quantify what that opportunistic pumping might look like. This additional work is not currently included in the scope of work; however, we offer the following scope expansion for board consideration.

The expanded scope of the work could include planning-level opinions of cost (capital and operation and maintenance), a discussion of permitting needs for each option, upstream benefits (reduction of flooding in West Vadnais Lake, Grass Lake, and the Vadnais Snail Lake Regional Park), and corresponding downstream flood level changes.

Barr will need clear direction on boundaries before progressing. Below are a few discussion points and questions for the May meeting as board members consider opportunistic pumping.

1. **Should staff evaluate potential opportunistic pumping options for West Vadnais Lake as a part of the West Vadnais Lake conveyance under Highway 694 feasibility study?** “Opportunistic pumping” means pumping West Vadnais Lake downstream at certain times (not continuously) and under certain conditions.
2. We anticipate that any pumping scenario would still result in the following.
 - a. Peak elevations where water flows north over the Grass Lake emergency spillway will still occur from time to time.
 - b. Duration of overflow to areas north of Gramsie Road will be reduced to varying degrees, depending on the scenario.
 - c. Downstream changes in flood levels could range from hundredths to a few tenths of a foot and depend on how the Twin Lake outlet is operated during the West Vadnais Lake opportunistic pumping.

With these points in mind, we propose to run a four-year simulation (2015 through 2018 rainfall) comparing flooding both with and without pumping to demonstrate what pumping might achieve in terms of benefits. This is the same time interval evaluated for the seasonal drawdown analysis of West Vadnais Lake that was done as a part the Beltline resiliency study.
Does the board concur with this timeframe and duration of modeling?

3. What additional information do the managers need to decide when to initiate opportunistic pumping of West Vadnais Lake, if downstream conditions allow? **In other words, at what West Vadnais Lake level would pumping start?**
4. **What downstream changes in Gervais Lake water levels during any pumping from West Vadnais Lake are acceptable/not acceptable?**

For any pumping scenario, we believe that the following key assumptions are appropriate:

1. Pumping below a West Vadnais Lake elevation of 881.0 is unlikely to gain support from regulators and the Vadnais Lake Area Watershed Management Organization (VLAWMO); another environmental assessment worksheet would likely be needed to target a lower elevation. Based on past experience, VLAWMO and the DNR both seem unlikely to support or approve.
2. Pumping should stop before an anticipated 2-inch storm event (same as in the Twin Lake operations plan) to protect Northstar Estates, regardless of the level in West Vadnais Lake.
3. MnDOT permits may be necessary, depending on the scenario, and additional hydrologic modeling, application preparation, and response efforts may require more budget than the original scope assumed.

To: Board of Managers and Staff
From: Tina Carstens and Brad Lindaman
Subject: Project and Program Status Report May 2020
Date: April 30, 2020

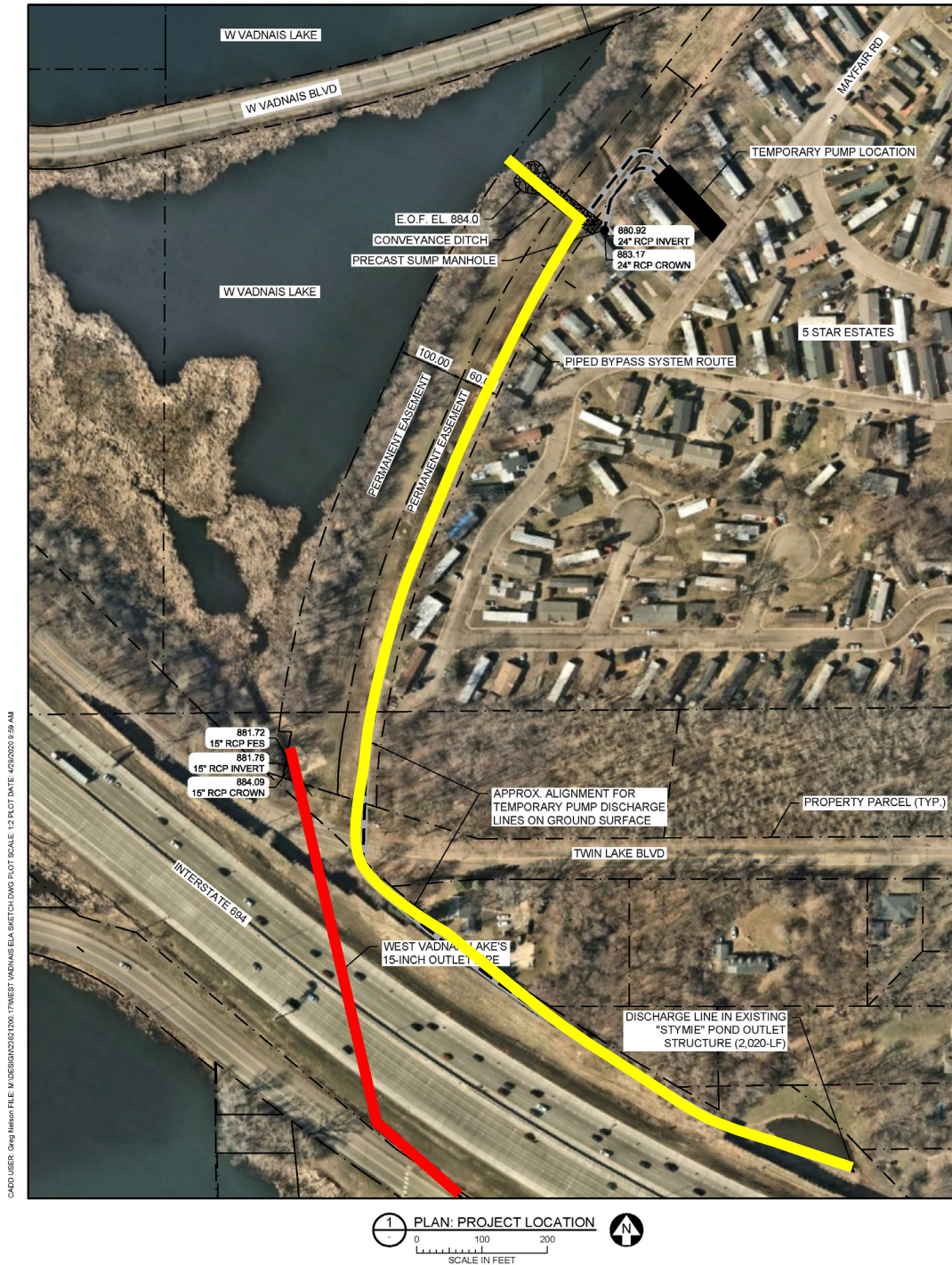
Page 4

Characterization of potential pumping options

Bypass system route (shown in yellow on the map below): Pump into the bypass system (12-inch HPDE pipe to Stymie Pond) when West Vadnais Lake levels are below the overflow to Twin Lake (884.0) and are above 881.0. This path sends water through MnDOT's Stymie Pond. The pumped flow rate would be dictated by the outlet size from Stymie Pond and would be subject to approval from MnDOT and the DNR. This option could allow 5 to 10 cubic feet per second to be pumped from West Vadnais Lake, when conditions allow and in addition to the flow leaving the existing 15-inch outlet. (Note: MnDOT previously approved 5 cubic feet per second for the temporary bypass when there was imminent risk to the homes on Twin Lake; 10 cubic feet per second may be a reasonable upper limit to pipe capacity leaving Stymie Pond).

Leverage West Vadnais Lake's lowered outlet (shown in red on the map below): Through construction of an inline check valve or other manipulation of the 15-inch and downstream manholes, the RWMWD could pump to enable the 15-inch pipe to flow full until the lake reaches 881.0. This option sends water along the same path as it does now, but allows for the 15-inch to flow full under lower lake levels; it may or may not require MnDOT and DNR approvals, and would not leverage the bypass system described above in #1. This option could maintain a total, consistent 4 cubic feet per second to leave West Vadnais Lake's 15-inch outlet (pipe full flow).

Based on board discussion and associated direction to Barr and RWMWD staff, a scope of work will be prepared for consideration, and, if approved, the added study will begin.



This map shows two different potential paths for water pumped from West Vadnais Lake- the bypass pumping system route (yellow) and the lake's existing 15-inch outlet (red).

Federal Emergency Management Agency (FEMA) flood mapping updates (Barr project manager: Brandon Barnes; RWMWD project manager: Tina Carstens)

The purpose of this project is to apply Minnesota Department of Natural Resources (DNR) grant funding to use the RWMWD's updated stormwater model in order to develop information required to update the FEMA floodplain maps.

We are still waiting for comments from the Minnesota DNR on the hydraulic model inputs. Barr provided responses to DNR comments and updated models on August 29. The resubmittal included updates to supporting documentation to address DNR comments, minor updates to the models, and plans or survey information for inundation areas shown on the FEMA floodplain maps. In addition, we submitted preliminary floodway models for Kohlman Creek and the Lake Wabasso outlet.

We are also still waiting for final DNR approval on hydraulic model input parameters. Because of the extended DNR comment period, the process for providing information to update the floodplain maps was extended and will now continue into 2021. The DNR anticipates providing comments in spring or summer 2020, after which work will continue on the updated models.

Water quality monitoring and other district project monitoring

Automated lake-monitoring systems (Barr project manager: Chris Bonick; RWMWD project manager: Eric Korte)

The purpose of this project is to install an automated system to monitor lake levels throughout the RWMWD and allow real-time transfer of data to the RWMWD's website for public consumption.

Xcel Energy has finished installing power lines and electrical meters at the stations on Wabasso, West Vadnais, Snail, and Phalen lakes, and has approved installation of power and an electric meter at Owasso Lake, which should occur in the coming weeks.

Barr and RWMWD staff have installed monitoring equipment at Wabasso, West Vadnais, Snail, and Phalen lakes. The stations are currently operating and recording water levels. Barr is setting up an online web page through which real-time and past data can be viewed. Additionally, alarms are being programmed into the system, which will send messages to the RWMWD and Barr to warn when a lake reaches a critical level. The alarms are currently in the development stage and only available to Barr, but will soon be available to RWMWD staff as well.

Capital improvements

Wakefield Park/Frost Avenue stormwater project (Barr project manager: Michelle Kimble; RWMWD project manager: Paige Ahlborg)

The purpose of this project is to work with the City of Maplewood and its consultants to implement a site plan that integrates stormwater management features with associated educational elements for the northern portion of Wakefield Park.

Final restoration of the basins, including all plantings, is taking place in April and May 2020. A weir modification is required in the grit chamber upstream of Wakefield Lake. The City of Maplewood will clean out the grit chamber in April or May, and Veit will install the weir modification immediately after.

To: Board of Managers and Staff
From: Tina Carstens and Brad Lindaman
Subject: Project and Program Status Report May 2020
Date: April 30, 2020

Targeted retrofit projects (Barr project manager: Matt Kumka; RWMWD project manager: Paige Ahlborg)

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

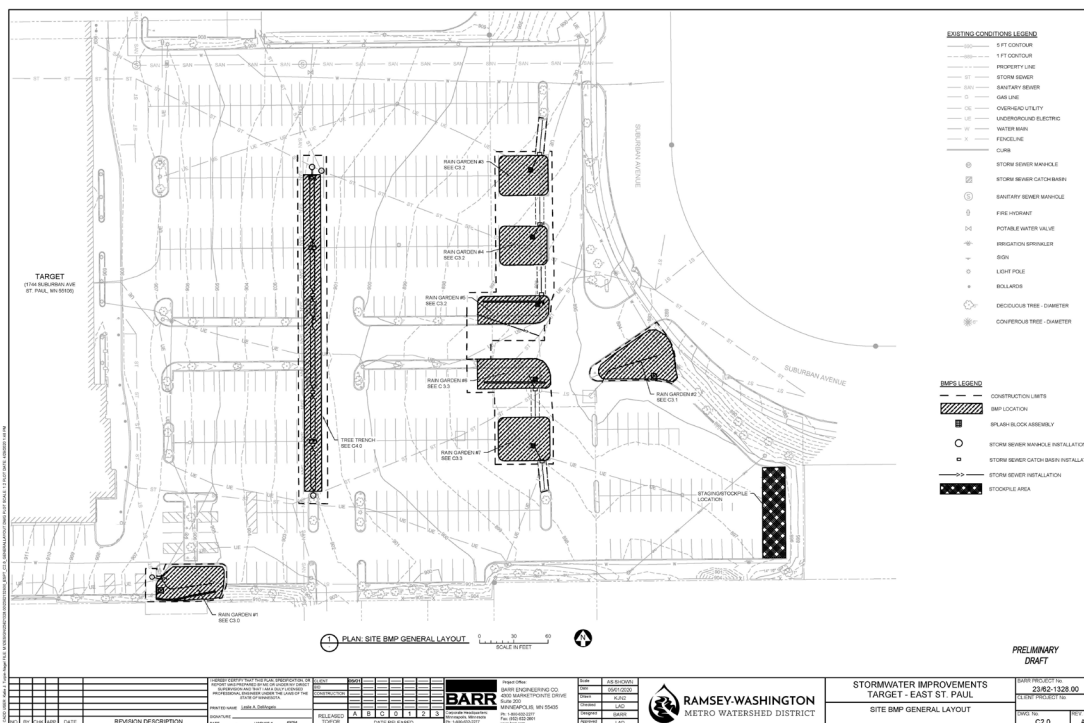
Follow-up inspections for the 2019 BMPs constructed at Redeemer Lutheran Church in White Bear Lake and Cornerstone Montessori School in Saint Paul noted some winter damage and small design updates that need to occur this spring. Contracting for the Boys and Girls Club Eastside is concluding, and Outdoor Lab Landscape will begin construction on the permeable pavement system later this spring.

Target stores stormwater retrofit projects (Barr project manager: Leslie DellAngelo; RWMWD project manager: Paige Ahlborg) ***

The purpose of this project is to design, provide bid assistance for, and oversee construction of BMP retrofits at two Target retail stores.

Final design has been delayed for the North Saint Paul sites due to past groundwater contamination. Barr and the RWMWD will develop a plan to proceed with Target after the East Saint Paul 90-percent construction plans are submitted and review comments are received. At this time, Target does not want to conduct a subsurface investigation to better characterize the contamination.

Preliminary design and related construction plans are nearly complete for the East Saint Paul site and will be provided to Target and RWMWD staff for review. The design consists of five to seven surface rain gardens and a tree trench feature (see site plan, below).

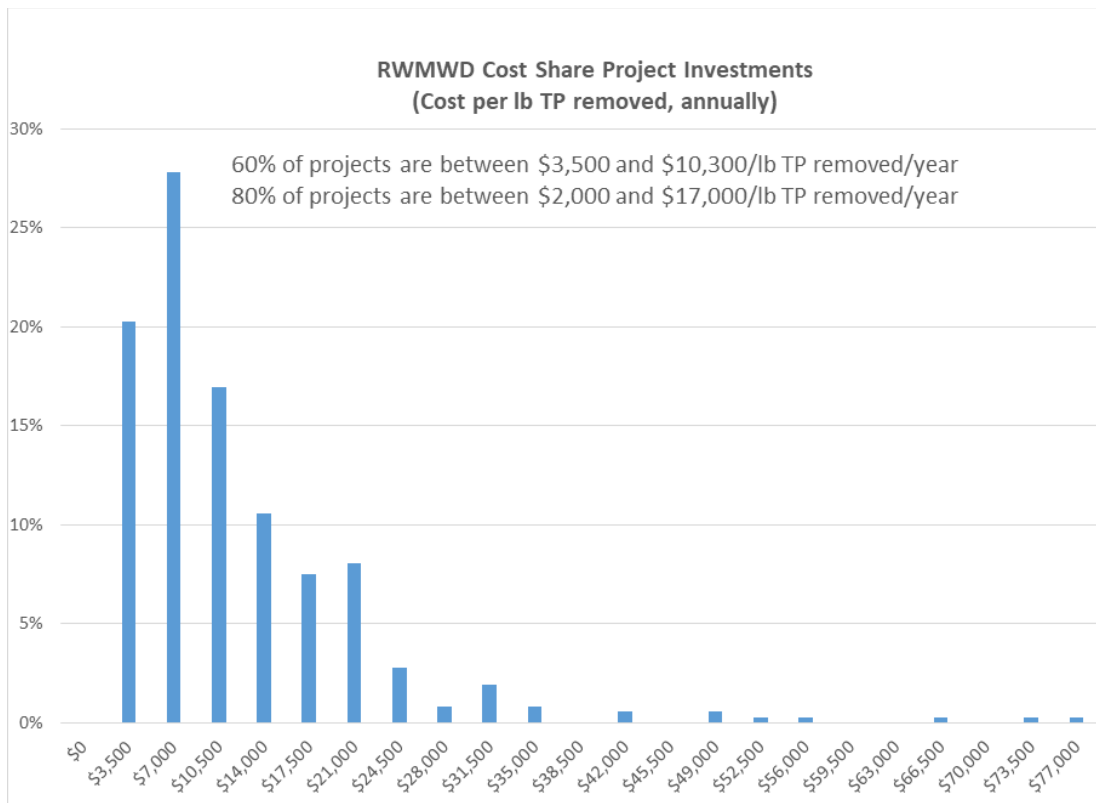


This plan sheet shows the preliminary (90%) site plan for the East St. Paul Target site. Rain gardens #6 and #7 may be excluded from the final plan set, pending additional feedback from Target.

The BMP designs are such that that 57 percent of the parking lot will be tributary to a BMP (rain garden or tree trench) and that 0.74 inches of treatment depth will be achieved on average. Pending feedback from Target, we hope to present the plans at the June board meeting for approval of solicitation of bids. The current engineer’s opinion of cost for the project ranges from \$710,000 to \$820,000 (if five rain gardens are included in the final design) or \$830,000 to \$960,000 (if seven rain gardens are included in the final design). These opinions of cost assume a 20% contingency and reflect a 90% design level of accuracy.

Based off of the most likely cost in each range, this results in an annual cost per pound of phosphorus removed to be approximately \$14,000 per lb total phosphorus (TP) removed per year. To put these annual cost per lb TP removed values in context, we have included a brief discussion of values from past RWMWD projects, below.

In the past, the range for **RWMWD larger-scale CIP projects** has been \$400 to \$14,000 per pound of total phosphorus removed per year. These projects tend to be less expensive (and more cost effective) due to their regional nature. See the chart below for the distribution of **RWMWD cost-share program projects**. These projects are often more expensive because they are at a site-level, rather than regional, scale. In the past, we have favored simpler surficial features (like rain gardens) for their cost effectiveness. Where tree trenches or other features with more underground components are needed due to lack of space, projects tend to cost more and be less cost effective.



Aldrich Arena (soils and plantings) (Barr project manager: Matt Metzger; RWMWD project manager: Paige Ahlborg)

The purpose of this project is to incorporate green-infrastructure stormwater management into the Aldrich Arena campus renovations. The parking lot will be full-depth reclaimed by Ramsey County, which itself would not trigger the need for a RWMWD permit. The partnership between the RWMWD and Ramsey County will achieve treatment of runoff from the parking lots where none currently exists. A formalized joint-powers agreement outlining the partnership cost sharing, roles, and responsibilities was crafted between the RWMWD and Ramsey County.

As described in March, rain-garden grading, repair, and reconstruction are complete. Plantings will be installed in 2020. The RWMWD's portion of the project is expected to be complete by early summer 2020.

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

This project includes the design, bid document development, bidding, permitting, and project procurement of the modifications to the Keller channel structure and the Phalen outlet structure. The purpose is to implement a design that would allow the RWMWD to remotely adjust the weir heights on the Keller channel structure and the Phalen outlet structure in accordance with an approved operating plan. The operation of the structures under certain conditions will help reduce upstream flood levels where homes exist in the floodplain.

This period, Barr staff continued to analyze the hydraulic parameters that will inform the modification of the existing outlet structures now that preliminary design objectives have been identified by the project team. Barr has teamed with the local sales representative for Whipps, Inc., a gate manufacturer to provide options on gate style, size, operating requirements and automated functionality needed to determine product selection. Barr's structural engineering staff have also been engaged to provide input on modifications to the existing structures in the project areas.

West Vadnais Lake outlet lowering (Barr project manager: Erin Anderson Wenz; RWMWD project manager: Tina Carstens) ***

The purpose of this project is to provide final plans and specifications and permitting required to lower the 15-inch outlet of West Vadnais Lake to an inlet elevation of 881.0.

Several permits are required for the project. The status of each is described below.

- MnDOT access permit: submitted and waiting for response
- Little Canada right-of-way permit: submitted and granted
- West Vadnais Lake outlet joint permit application (Wetland Conservation Act/U.S. Army Corps of Engineers): submitted and granted
- Minnesota DNR work in public waters permit: submitted and granted
- Saint Paul Regional Water Services access agreement: granted

The RWMWD is incorporating electronic carp control features into the design that would both discourage carp in West Vadnais Lake from entering the outlet and traveling downstream, as well as

provide a space to corral carp gathering near the outlet for removal from the lake. This addition should not delay the work.

The work will be completed as part of the RWMWD's 2020 CIP by the district's contractor, Fitzgerald Excavating and Trucking, Inc. A change order is being prepared in anticipation of the work. The contractor is prepared to begin soon after receipt of the MnDOT permit.

CIP project repair and maintenance

CIP maintenance/repairs 2020 project (Barr project manager: Greg Nelson; RWMWD project manager: Dave Vlasin)

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

Fitzgerald Excavating & Trucking, Inc. has made substantial progress on the overall project. All sites are substantially complete and on track for final completion well before the deadline. Change order 2 is being prepared for extra work near the outlet of West Vadnais Lake. Three items are included: 1) the Twin Lake bypass system, 2) the West Vadnais Lake overflow swale, and 3) lowering of the West Vadnais Lake outlet. Items 1 and 2 are complete, and we are waiting for additional information from the contractor before finalizing. Item 3 is awaiting a MnDOT permit and, once received, will likely be completed in May.

Beltline/Battle Creek tunnel five-year inspection (Barr project manager: Sam Redinger; RWMWD project manager: Dave Vlasin)

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

In-pipe inspection of the Beltline tunnel system has been completed, with the exception of the Mississippi River Branch. As noted previously, this segment was not fully inspected due to in-pipe conditions; water levels were too high and too fast to safely complete the work. Inspection of this segment has been deferred until base flows provide safer conditions, which is unlikely until winter 2020-2021.

The ice columns that were present in the Battle Creek overflow structures have melted away, offering safe conditions to perform the in-pipe work (inspection and survey). However, this fieldwork has been delayed due to COVID-19 concerns and government recommendations. The in-pipe work for the Battle Creek system is unlikely to occur until later this year, or possibly even next year.

Barr conducted a Battle Creek site visit to identify and locate the access points for a CCTV inspection of RWMWD-owned small-diameter storm sewers that are part of the Battle Creek system. We will begin coordinating with a CCTV subcontractor to safely complete this work.

The unexpected schedule delays have resulted in a large portion of field data being unattainable until later in 2020 and/or 2021. In the interim, Barr will continue to compile and analyze the field data obtained to provide a summary memorandum of initial findings. The purpose of this new deliverable will

be to summarize the inspection(s) performed and their preliminary findings to identify any concerns within the Beltline system that should be addressed as part of a near-term CIP. The RWMWD can expect a draft of this memorandum in June 2020 to inform the 2021 budget planning process. A comprehensive report will be provided as soon as feasible and is contingent on safely collecting the remaining field data.

Natural Resources Program Update – Bill Bartodziej and Simba Blood

Lake and Reservoir Management - Manuscript

Over the last several months, we have had the opportunity to write a technical paper that reports on the Phalen Chain of Lakes Water Quality in relation to carp management, alum treatment, and watershed BMPs. This was a pretty massive undertaking that includes 20 years of lake and creek water quality data and a summary of 10 years of carp management data. This was a joint effort that included NR and Water Quality staff, past and present U of MN researchers, and Keith Pilgrim, Barr. It's great to have an opportunity to get these data out for other agencies to use, and we believe the findings are new and interesting, and will definitely contribute to the discipline. We plan to submit the paper over the summer/fall, once we get comments back from a few colleagues. Below is the title, introduction, and a few key findings:

Water Quality in the Phalen Chain of Lakes after Carp Control, Alum Treatment, and Stormwater Management

William Bartodziej, Przemek Bajer, Justine Dauphinais, Eric Korte, Keith Pilgrim, Simba Blood, and Peter Sorensen

Introduction

The Ramsey-Washington Metro Watershed District (RWMWD) manages surface waters in a 65-square-mile area, covering the eastern portion of the Twin Cities. The most prominent water feature in the RWMWD jurisdiction is the Phalen Chain of Lakes. In Minnesota, watershed districts are tasked with managing surface water quality with much of the focus being nutrients, and in particular, reducing total phosphorus (TP) loading to lakes and streams as directed by Clean Water Act and Minnesota eutrophication standards. Lake Kohlman, the upstream and northernmost lake in the Phalen Chain, was placed on the Minnesota Pollution Control Agency's (MPCA) 303 (d) Impaired Waters List in 2008 due to excessive TP levels (growing season ten-year average of 98 µg/L). For shallow systems like Kohlman, the state TP standard in this ecoregion is 60 µg/L (Minnesota Pollution Control Agency 2018).

Once a lake is placed on the Impaired Waters List, a Total Maximum Daily Load (TMDL) study is performed to quantify required pollutant loading reductions and determine management steps

necessary to achieve specific water quality standards. For Kohlman Lake, mass balance modeling resulted in annual TP reduction goals of 95 kg (22 percent) for watershed loading and 116 kg (88 percent) for internal loading. Beginning in 2008, several stormwater treatment and volume reduction projects (henceforth Best Management Practices or BMPs) were implemented in the watershed (Aichinger and Anderson-Wentz 2012) to satisfy TMDL requirements. To address internal TP loading in Kohlman Lake, an alum treatment was conducted in the fall of 2009 and spring of 2010 (Bartodziej et al. 2017).

Numerous field observations indicated a substantial common carp (*Cyprinus carpio*, hereafter 'carp') population in the Chain. This particular carp species is a highly invasive benthivorous fish native to the Ponto-Caspian region of Eurasia (Kohlmann and Kersten 2013). As a result of human introductions and subsequent successful colonizations, the common carp now has a global distribution and is recognized as one of the world's most pervasive and damaging invasive species (Balon 1995; Lowe et al. 2000; Weber and Brown 2009). Carp densities over 100kg/ha can cause tremendous damage to aquatic ecosystems due to its benthivorous feeding behavior (Crivelli 1983; Drenner et al. 1997; Bajer et al. 2009). Specifically, the foraging behavior of carp has been associated with declines in rooted macrophyte cover and richness (Bajer et al. 2016), increased turbidity, and increased TP loading (see review in Weber and Brown 2009). Carp can influence internal TP loading rates through both resuspension of sediments and excretion of soluble nutrients (Lamarra 1975; Parkos et al. 2003; Chumchal et al. 2005). It was also thought that carp could compromise the effectiveness and longevity of alum treatments through bottom feeding activity.

Beginning in 2009, as part of an applied research effort between the University of Minnesota and the RWMWD, carp biology, population dynamics, and control strategies were studied in the Chain. Our approach was to first conduct a series of research projects to identify any specific vulnerabilities in the resident carp population. This base of research and the need to substantially reduce in-lake TP loading provided the impetus for one of the first long-term, comprehensive carp management efforts on a major chain of lakes in the United States (Sorensen et al., in review). Management activities employed a strategy of: (1) suppressing recruitment in source habitats (e.g., upstream ponds and wetlands) and thereby cutting off the migration of new individuals to the population, and (2) reducing the existing adult carp biomass in sink habitats via the removal of adult carp from the main lakes (Dauphinais et al. 2018).

With aggressive in-lake management and numerous stormwater BMPs implemented for over a decade, it is important to determine if Lake Kohlman met eutrophication standards and if other lakes in the Chain were affected by this management. The main purpose of this paper is to (1) determine if there were significant changes in key water quality parameters in the main chain of lakes, (2) compare results for shallow versus deep lakes and discuss management implications, (3) evaluate the effectiveness of in-lake versus stormwater management practices using standard water quality monitoring protocols, (4) assess water quality in two connected storm water ponds after carp elimination, and (5) discuss how carp control can be a cost-effective and practical in-lake management tool for managers seeking to improve water quality to meet state and federal water quality standards.

Key Findings

1) Kohlman Lake - Responded soon after rigorous management was initiated. The year following the alum treatment, TP significantly declined to a mean growing season average of 54 µg/L, putting it below the 60 µg/L standard for shallow lakes in the Twin Cities area of Minnesota. However, growing season TP means increased over the last two years of sampling, suggesting that the efficacy of this in-lake management tool may be substantially diminished. This possible upward trend in TP will be watched closely over the next few years, and the results will certainly play into whether it can be concluded that Kohlman Lake's water quality has improved over the long-term and then can be considered for MPCA's "delisting."

2) Deep versus Shallow Lakes - There were marked differences in how deep versus shallow lakes responded to management in the Phalen Chain of Lakes. Generally, carp biomass reductions showed a positive influence on TP, Chl-*a*, and SD in ponds and shallow lakes, while standard water quality monitoring did not detect improvements in the deeper lakes, specifically Lakes Gervais and Phalen. On a positive note, these deeper lake systems are not considered "impaired" by state eutrophication standards. In addition, from a practical view, shallow pond and lake management decreased TP loading to downstream systems. However, our standard water quality sampling was not able to detect these changes.

3) Carp Management in Casey Lake and Markham Pond (nursery areas) - In addition to safeguarding the Phalen Chain from new carp infestations, the elimination of carp in these systems significantly improved water quality. As TP declined, Chl-*a* and SD responded in a way that put these systems in a clear water state. Similar to Kohlman Lake's response, these ponds supported lush macrophyte growth with mat forming filamentous algae colonizing the surfaced stands (Bartodziej et al. 2017). Recently, there has been a good deal of discussion and effort put towards the management of internal P loading and TP export from stormwater ponds. This study suggests that bottom feeding fish in stormwater ponds should be considered in the management of TP. In a tangential way, the results of source management of carp in the Phalen Chain may help to address TP export from stormwater ponds that have high densities of bottom feeding fish species.

4) Kohlman Creek TP Loading - It appears that average annual TP concentrations at Kohlman Creek have notably declined since 2009. Average monthly TP loads for Kohlman Creek, beginning in August 2008 and extending until December 2019, were highly variable but there does not appear to be a clear downward trend. Given that higher flows can reduce BMP performance as a consequence of reduced settling or contact time, additional monitoring will be necessary to identify actual load reductions in the Kohlman Creek watershed that may occur for hydrologic conditions in-line with those used to develop the TMDL. Regardless, this analysis provides an indication of the relative effectiveness of in-lake management efforts for shallow lakes with stable external TP loads.

Public Involvement and Education Program – Sage Passi

Public Workshops Switch to On-line Zoom Webinars



Free webinar series every tuesday and thursday in April with interesting speakers and relevant topics for a healthy environment.

POLLINATOR FRIENDLY

We intended to co-sponsor several in-person workshops, Planting for Pollinators/Resilient Yards with Blue Thumb and Washington Conservation District (East Metro Water Resource Education Program) in North St. Paul and Woodbury this spring, but because of the Covid 19 pandemic, these workshops were switched to online events. Participation has been quite good for these and presentation slides/recordings have been made available afterwards for anyone interested in reviewing the programs or seeing them for the first time. WCD featured six of these workshops around the county and made them available for no charge. We've been busy promoting these and other online courses and mini-talks sponsored by Maplewood Nature Center and the Pollinator Friendly Alliance (PFA) through social media and emails to targeted groups and individuals.

The PFA Earth Chapters presentations have been popular and were offered twice a week on these topics: groundwater conservation, monarch conservation, ecological regenerative lawns, how to save endangered pollinators, early spring bees, the geologic history of the St. Croix watershed, Unsung Heroes/Beneficial Insects, Bat Conservation, backyard biodiversity for Pollinators, Sheet Composting Soil Preparations, Unsung Heroes: Beneficial Insects; Buckthorn Removal, Attracting Hummingbirds, How to Help Injured Spring Wildlife, Woodland Understory Diversity, Backyard Shrubs for Wildlife. They will be available online after the series is completed.

Master Water Stewards Capstones Move Forward



Three Master Water Stewards from last year's 2019 team, Ann Hagerman, Vince Tilley and Stuart Knappmiller are in the process of implementing their capstone projects this spring and summer. Contractors ran out of time to give bids and get these projects in the ground last fall. Ann and Vince's Gervais Lake shoreline restoration project was approved by the Board in April and will be installed this spring/summer. For community outreach related to her project, Ann has discussed building a stand on her shorefront next to the road that she can supply with written handouts about her project. Many people walk along the road adjacent to the shoreline and could stop to pick up updates on the progress and reasons for her project. Stuart has been working



through the process of finalizing the design for his project with Michael Schumann and submitted a stewardship grant application for his capstone in April which involves removal of much of the turf grass in his yard and boulevard and replacing it with pollinator plantings and a rain garden. Knappmiller's home is located south of Lake Phalen. He is very active in multiple community organizations including the District 5 Community Council and has a lot of networks that will help him draw attention to his sustainable project in his neighborhood. Stuart and another Master Water



Steward, Bobbie Scott assisted in a clean-up around Ames Lake in mid-April, a project originally planned with L'Etoile du Nord students.

The Roseville Master Water Stewards (2020 team) Lee Bauer, Phil Gelbach, Adam Wilke and Sam Raderbacher have been meeting virtually every other week on Saturdays in April to develop strategies for engaging the community around Willow Pond and the adjacent neighborhood in water friendly practices and the use of native plants. Phil is in the process of turning a part of his front yard into a bee lawn. Sam adopted several drains on her street and is putting her creative graphical skills to use in developing some initial design ideas for yard signs to promote some of these sustainable themes. Here is a start of one of her sign ideas that is under further development. This group is on a roll!



Lee has been taking the lead in terms of outreach by sending out emails to her neighbors encouraging them to adopt a storm drain. Several of these residents on her street have begun to do this and have formally signed up online. She asked two of her neighbors who are photographers who have documented life around the pond over the years to take pictures of the plants, wildlife and animals they see in the area this spring. She also sent out an email including a number of websites that offer resources for making yards more sustainable. The group had originally scheduled a workshop in late April for residents who live on the pond to share information with them about creating native buffers,

To: Board of Managers and Staff
From: Tina Carstens and Brad Lindaman
Subject: Project and Program Status Report May 2020
Date: April 30, 2020

Page 16

adding pollinator plants, our stewardship grant program and implementing other water quality tips. For now this information will have to be shared digitally and by example!

Lee and her husband Paul are moving forward on implementing a shoreline buffer on Willow Pond that has been on the docket for about five years. They originally were targeted for a curb cut rain garden in their front yard by Master Water Stewards, Linda Neilson and Hallie Finucane, but a gas line across their boulevard precluded this project. Adam has reached out to Michael Schumann to do a site evaluation and offer some ideas for integrating native plantings in his yard. He has offered to assist the watershed with transplanting seedlings that were started by schools this winter.



Promotion of the Adopt-A-Drain program at the metro level this year coincided with the 50th anniversary of Earth Day in April. Kristin Seaman from the City of Woodbury provided us with 15 Adopt-A-Drain signs for homeowners who currently have adopted storm drains in the Carver Lake and Battle Creek subwatersheds in Woodbury. Once the stay at home orders are lifted, Hamline University students will be able to resume delivering signs to the Lake Phalen, Battle Creek, Beaver Lake and Beltline subwatershed adopters, who have not yet received them.

At last count on April 26 2020, there were 371 households that have adopted 610 stormdrains throughout our watershed district. The Beltline and the Lake Phalen sub-watersheds hold the lead with 83 and 74 residents respectively. This year, in an effort to increase visibility for the program, RWMWD will be ordering customized yard signs for residents who adopt storm drains in several other sub-watersheds where we are seeing an increase in the numbers of Adopt-A-Drain participants. These signs will indicate the nearest lake/subwatershed to which the storm drains flow and transport stormwater. We are planning to engage in email/phone communication with adopters in those communities to thank them for their participation and determine if they would like a sign.

An animated video promoting the program has just been completed in a partnership between TPT (Twin Cities PBS) and Hamline University's Center for Global and Environmental Education. You can see it here: <https://www.tpt.org/clean-water-begins-curb/>

Sage joined a working group, *Developing Culturally Relevant Outreach Materials and Approaches* in a virtual meeting on April 16. Participants in this group include Tammy Schmitz, Abby Moore and Nancy Stowe, (MWMO), Angie Hong (Washington Conservation District/EMWREP), Kris Meyer and Alex VanLoh (Freshwater), Gael Zembal (NMCWD), Maya Swope (RPBCWD) and Rebecca Haug (City of Blaine). The group emerged from the February Watershed Partners meeting when a discussion about the need for translation service was initiated.

To: Board of Managers and Staff
From: Tina Carstens and Brad Lindaman
Subject: Project and Program Status Report May 2020
Date: April 30, 2020

Page 17

The purpose of the working group is to develop a toolkit for engaging with different cultural/racial groups on water and environmental topics. This toolkit could include translated materials, talking points, engagement strategies, relationship building ideas, etc. A survey at the February Watershed Partners meeting resulted in the prioritization of these main topics and audiences:

- Stormwater/stormdrain basics (Residents, Businesses, Community Organizations)
- Lawn care practices (Residents, Businesses, Community Orgs-Churches, Community Organizations)
- Salt use/chlorides (Residents, Businesses, Businesses-Small businesses, Community Orgs)
- Maintenance of Best Practices (BMPs)
- Stormwater ponds (subtopics to cover: drainage easement, flood risk/mitigation)
- Pet Waste
- Flooding

We intend to start by focusing on stormwater basics with three main language/cultural groups identified in survey (Hmong, Somali, Spanish). Over the summer we will also be working toward developing a panel discussion at the October Watershed Partners meeting with representation from different cultural groups.

There were many take-aways from our discussion. Here are several:

- For the panel and as we develop our contacts, we should be looking for leadership at different levels in each community—not just the most well-known leaders, but other age-groups and sub groups.
- Many studies and resources for working with different cultural groups in the Twin Cities have been done/developed over the years. It's important to recognize these and pull together some of these resources instead of re-inventing the wheel.
- Training for outreach and communication folks on how to build relationships, facilitate meaningful experiences/conversations should be a priority of this project as that is what is currently missing from our watershed education community.
- It's also important to figure out how to communicate the importance of this work and the importance of equity in the work of water resources organizations across the cities to leadership/boards/elected officials.
- Work in collaboration with different groups instead of trying to develop things FOR them, think WITH them.