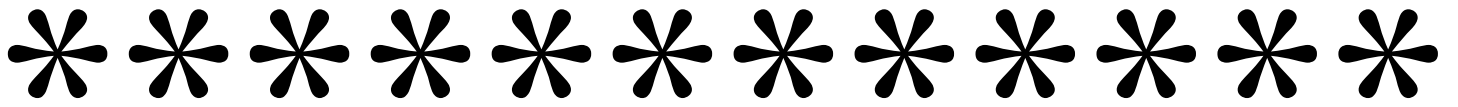


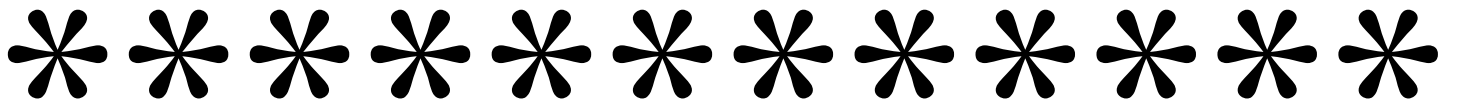


**RAMSEY-WASHINGTON**  
METRO WATERSHED DISTRICT

# **January 2021 Board Packet**



# Agenda





## **Regular Board Meeting Agenda**

Wednesday, January 6, 2021

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 December 2, 2020 (pg. 7)
  - B. Treasurer's Report and Bill List (pg. 15)
  - C. District Liability Insurance Coverage Waiver (pg. 31)
  - D. 2021 BMP Service Agreement – Washington Conservation District (pg. 34)
  - E. 2021 BMP Service Agreement – Ramsey County (pg. 41)
  - F. Permit Program
    - i. 21-01 RWMWD 2021 CIP Maintenance/Repairs (pg. 48)
4. Visitor Comments (limited to 4 minutes each)
5. Permit Program
  - A. Applications – see consent agenda
  - B. Enforcement Action Report (pg. 52)
  - C. Permit Summary 2018-2020 (pg. 54)
6. Stewardship Grant Program
  - A. Applications – NONE
  - B. Budget Status Update (pg. 56)
7. Presentations and/or Action Items
  - A. **2021 CIP Maintenance and Repair Project Bid Review and Award (pg. 58)**
  - B. Internal Load Analysis of Shallow and Deep Lakes Report and Discussion (pg. 59)
  - C. RWMWD Communications Program Presentation (no packet item)

8. Administrator's Report (*pg. 94*)
  - A. Meetings Attended
  - B. Upcoming Meetings and Dates
  - C. Annual Meeting Reminder
  - D. Welcome Kyle Kubitza
  - E. LMCIT Insurance Dividend
9. Project and Program Status Reports (*pg. 99*)
  - A. Ongoing Project and Program Updates
    - i. Owasso Basin Flood Risk Reduction Feasibility Study
    - ii. Willow/Kohlman Creek Flood Risk Reduction Feasibility Study
    - iii. Ames Lake Area Flood Risk Reduction Feasibility Study
    - iv. FEMA Flood Mapping Updates
    - v. Targeted Retrofit Projects
    - vi. Target Store Retrofit Projects
    - vii. Kohlman Permeable Weir Test System
    - viii. Keller Channel Weir and Phalen Outlet Resiliency Modifications
    - ix. Twin Lake Outlet Construction
    - x. CIP Maintenance and Repair 2021 Project
    - xi. Beltline/Battle Creek Tunnel Inspection
    - xii. Ryan Drive and Keller Parkway Conveyance
    - xiii. Tanners Lake Alum Facility Monitoring
    - xiv. Automated Lake Monitoring Systems
    - xv. Internal Load Management Discussions
    - xvi. Wakefield Lake Internal Loading Study
    - xvii. Natural Resources Program Update
    - xviii. Education Program Update
    - xix. Communications Program Update
    - xx. Citizen Advisory Committee Update
10. Report of Managers
  - A. MAWD Annual Meeting Discussion

## **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, January 6, 2021

### 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, January 6, 2021, meeting at 6:30 p.m. CDT, by web conference and conference call. Members of the public wishing to participate in the meeting may do so by accessing the web-based conference, or by phone.

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

[JOIN MEETING](#)

<https://us02web.zoom.us/j/89022297913?pwd=QThDTkNOZGxSNzFTaHBBNFNrRmNIQT09>

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 **890 2229 7913**. The meeting password is **942228**. If you have any questions, please contact Tina Carstens at [tina.carstens@rwmwd.org](mailto:tina.carstens@rwmwd.org).



# Consent Agenda





**Ramsey-Washington Metro Watershed District  
Minutes of Regular Board Meeting  
December 2, 2020**

The Regular Meeting of December 2, 2020, was held at the District Office Board Room, 2665 Noel Drive, Little Canada, Minnesota, at 6:30 p.m.

**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  
Nicole Soderholm, Permit Coordinator  
Dave Vlasin, Project Manager  
Keith Pilgrim, Barr Engineering  
Alison Harwood, WSB  
Burt Johnson, Twin Lake Association  
Bill Dermody, Saint Paul City Staff  
George Hoene, Saint Paul Port Authority

Paige Ahlborg, Project Manager  
Brad Lindaman, Barr Engineering  
Bill Bartodziej, Natural Resource Specialist  
Eric Korte, Water Monitoring Coordinator  
James Soltis, WSB  
Katherine Sarnecki, Saint Paul Port Authority  
Monte Hilleman, Saint Paul Port Authority  
Ellen Stewart, Saint Paul Parks and Recreation Department

**1. CALL TO ORDER**

The meeting was called to order by President Ebensteiner at 6:36 p.m.

**2. APPROVAL OF AGENDA**

A Manager requested to remove Item A from the Consent Agenda for further discussion.

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

Further discussion: A Manager asked if an update from the CAC could be added to the next meeting. Tina Carstens replied that staff was waiting for the CAC to hold a meeting before providing an update but confirmed that an update should be available in January.

A roll call vote was performed:

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

Motion carried unanimously.

A. Approval of Minutes from November 4, 2020

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

Further discussion: A Manager referenced the discussion related to the Minnesota Stormwater Research agenda item. It was noted that the language should be corrected from “the request was not approved” to “there was no immediate reaction”. The Manager clarified that the Board agreed to increase its contribution by \$20,000 without stipulation that others do the same, although they would encourage others to do the same. The Board confirmed consensus with those changes.

A roll call vote was performed:

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

Motion carried unanimously.

**3. CONSENT AGENDA**

~~A. Approval of Minutes from November 4, 2020~~

B. Treasurer’s Report and Bill List

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

A roll call vote was performed:

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

Motion carried unanimously.

**4. VISITOR COMMENTS**

Burt Johnson, President of Twin Lake Association, stated that the organization was formed about one year ago with three intentions: to ensure the reroute West Vadnais Lake overflow to prevent inundation of Twin Lake, restore an outlet for Twin Lake at historic levels, and to improve, preserve and restore water quality. He appreciated the work the Board has done to restore the outlet noting that they are cautiously optimistic as to how the outlet will work. He stated that the Board packet notes that the ten-year trajectory for Twin Lake is not moving in the right direction. He stated that residents have begun to collect samples and will share those with the District in attempt to provide assistance. He stated that he is interested in hearing the discussion of the Board related to water quality later in tonight’s meeting.

**5. PERMIT PROGRAM**

A. Applications - None



## B. Hillcrest Redevelopment Project Applicant Presentation and Discussion

Nicole Soderholm stated that representatives from the Saint Paul Port Authority, the City of Saint Paul, and their consultants from WSB are present tonight to review development options for the Hillcrest site.

Monte Hilleman, Saint Paul Port Authority, reviewed the mission of the Port Authority to create quality job opportunities, expand the tax base and advance sustainable development. He provided background information on the Port Authority, its river connection, and the Saint Paul Harbor and reviewed the benefits of shipping commodities on the river. He provided details on the Midway Stadium redevelopment project the Port Authority completed and highlighted some of the different elements that they were incorporated in partnership with Capital Region Watershed District and the MPCA. He provided similar details on the Beacon Bluff redevelopment project and the different treatment options that were able to be incorporated into that project. He provided background information on the Hillcrest site as well as the contamination on the site.

James Soltis, WSB, provided additional details on the contamination on the site and noted that as far as they know the contamination is contained within the soils and is not moving from the site. He commented that there have been contaminants found within the soils of the wetlands, but the water has not shown that contamination. He highlighted the clean-up standards that would be required for the site. He stated that the contaminated wetlands would need to be cleaned and therefore would be considered as restoration. He stated that the City of Saint Paul is the LGU for the site and any mitigation would require a 2:1 ratio. He recognized the buffer requirements of the District and noted that they would meet or exceed those standards. He stated that they would also look for a 1:1 replacement of disturbed wetlands on the site in order to meet the District's no net loss policy.

Mr. Hilleman reviewed the priorities for this redevelopment of this site including job creation, residential housing, twenty acres of open space, and a neighborhood node.

Mr. Soltis stated that the Port Authority has owned this site since 2019 and completed a market study to determine the best use of the site noting that job creation and housing were both identified as strong uses. He stated that there has been a lot of input throughout this process and recognized that there are a lot of things to fit into this site. He noted that some items would need to be multi-functional in order to fit all of those things and highlighted some of the overlapping spatial relationship between the uses.

Katherine Sarnecki, Saint Paul Port Authority, provided additional details on different lot size requirements. She noted that they have identified 150 acres of programming for the 112 acres. It was recognized that when using typical lot sizes, they would not be able to fit the desired uses within the space and therefore they are thinking towards more innovative redevelopment. She stated that they would love to talk about innovative ideas that they could partner with the District on such as demonstrative and interpretive ideas that the District would like to try, similar to what they did on the Midway Stadium site. She stated that once the master planning is complete by mid-2021, they will present a WCA replacement plan application that would include the sequencing and analysis but wanted to involve the District early on in order to identify and incorporate ideas from the District.

A Manager stated that this is an extremely rolling site, and a lot of excavation would be needed to remove the contaminated soils, so the entire site would most likely be disturbed in order to fit this intense development. Concern was expressed related to the wetlands and how they would be impacted the change in topography. The

Manager agreed that creative and innovative methods and ideas would be needed in order to keep a 1:1 replacement on the site, noting that they would prefer a higher rate.

A Manager asked for clarification on the mercury contamination and whether it is mobile. Mr. Hilleman replied that the mercury binds to the soil. He provided additional details on the MPCA requirements for removal of that contamination. He noted that, as the site is today, they are required to prevent access by the public to the site.

A Manager expressed concern that the contamination could impact the neighboring properties and asked if the soils in those areas has been tested. Ms. Sarnecki stated that there is mercury around that area because of the atmospheric disposition. She stated that they have found the limits of the contamination of the soil on the site and most of the stormwater is contained on the site so that they can address the contamination where it is.

A Manager commented that residents value access to the outdoors and parks and encouraged the project to attempt to keep wetlands and other outdoor amenities that residents desire. It was stated that the District continues to see wetlands impacted in the city but replaced far away from those impacts, which does not benefit the urban communities. It was suggested that perhaps there are some tradeoffs that could be provided to retain additional wetlands on the site. Another Manager agreed, noting that it would be helpful to keep some of the rolling topography rather than all flat spaces.

Tina Carstens summarized that the Board would be looking for 1:1 mitigation onsite and the District would collaborate on innovative solutions.

Ms. Sarnecki asked if there would be benefit to improving the quality of the wetlands that could be retained onsite and whether there are preferences to the different types of wetlands. A Manager commented that given the location and mix of uses, it would be preferred to have type three open wetlands that could be restored with buffers that could absorb water without damage to the ecosystem. It was encouraged to work with District staff on how to design the improved wetland system.

Mr. Hilleman thanked the Board for its input noting that the intent of the discussion tonight was simply to introduce themselves as a public entity that is looking to collaborate and partner with the District on innovative design solutions for the site.

C. Monthly Enforcement Report

During November, seven notices were sent to address: install/maintain perimeter control (2), install/maintain construction entrance (2), sweep streets (1), and stabilize exposed soils (2).

**7. STEWARDSHIP GRANT PROGRAM**

A. Applications - None

B. Budget Status Update

No comments.

C. 2020 Program Overview and 2021 Program Review and Approval

Paige Ahlborg reported that there were 52 projects approved this year, noting that 42 of those were residential projects with a focus on rain gardens and habitat restoration. She reviewed the 2020 project allocation, noting that all of the large projects were completed within priority areas. She provided a highlight of project locations throughout the District. She also provided breakdowns of project information per city and projects per subwatershed. She reviewed the 2020 stewardship grant inspections and provided details on the Snail Lake shoreline restoration project, the BMP maintenance program, and CAC assistance. She provided a summary of the equity outreach activity of the past year. She provided details on the projects on the Eastside Boys and Girls Club

site and Suburban Avenue Target location in Saint Paul. She highlighted some of the proposed 2021 projects which would utilize the stormwater impact fund and opportunity fund.

Paige Ahlborg provided a high-level summary of the potential Cemstone project that would involve reuse. A Manager asked the cost range for the project. Paige Ahlborg estimated about \$350,000 for the project. The Board expressed support for the potential project.

Tina Carstens commented that there are provisions for reuse within the stormwater impact fund and stated that staff is working with Barr to determine the credit and funding that could be used for the Cemstone project.

A Manager commented that it would be helpful to have before and after pictures of the projects that could be used on the website to share with the public. A Manager suggested sharing the information with the member cities.

Paige Ahlborg reviewed the proposed 2021 stewardship grant program details, noting no changes to the priority subwatersheds or coverage.

Motion: Manager Aichinger moved, Manager Swope seconded, to approve the 2021 grant stewardship program as presented.

A roll call vote was performed:

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

Motion carried unanimously.

## **7. PRESENTATIONS AND/OR ACTION ITEMS**

### **A. Capital Improvement Budget Fund Transfer – Resolution 20-02**

Tina Carstens noted that this proposed budget fund transfer would move funds from the opportunity fund to the targeted retrofit fund.

Motion: Manager Ward moved, Manager Swope seconded, to adopt Resolution #20-02.

A roll call vote was performed:

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

Motion carried unanimously.

### **B. 2021 Budget and Levy Final Approval – Resolution 20-03**

Tina Carstens stated that as requested in September there is a levy increase of zero shown and provided additional input on how that was done using carryover amounts from different line items.

Motion: Manager Aichinger moved, Manager Swope seconded, to approve the proposed FY 2021 General Fund and CIP budgets and adopt Resolution #20-03.

A roll call vote was performed:

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

Motion carried unanimously.

C. 2020 RWMWD Water Monitoring Report

Eric Korte presented the water monitoring annual report including some of the conclusions and recommendations that they use when monitoring.

Keith Pilgrim provided more information on chloride monitoring. He stated that perhaps a rotating schedule of BMPs be developed for monitoring different sites. A Manager asked the purpose of monitoring chloride as it was their understanding that nothing can be done to remove that substance. Keith Pilgrim commented that although it cannot be removed there are efforts to mitigate and therefore that information is still helpful.

A Manager commented asked if there are specific programs that could be done in collaboration with cities to address chloride hot spots. The Manager noted that MnDOT has done a lot over the years to reduce its salt application, but it is still an issue. Tina Carstens commented that in discussions with the cities, it has been stated that if there are targeted areas, they could try to address those areas and review alternatives to salting in those locations. She confirmed that District staff would work with the member cities on those targeted chloride areas. Keith Pilgrim recognized that there are limits and challenges but noted that there are some alternatives that could be explored in those areas. A Manager commented that they would support looking into innovative ideas. Tina Carstens noted that the District continues to work with other partners related to salt application.

A Manager commented that they would like the information to be shared on the website and with member cities. The Manager also identified other areas they would like to see included in the report, including items related to West Vadnais Lake, recognizing that body of water is not within the District but that water flows into the District waters. Another Manager commented that perhaps there could be another issues section of the report that includes subjective discussion on those topics.

Tina Carstens noted that this is the first time the formal report will be published on the website and will continue to be shared on the website moving forward.

Eric Korte presented details on the lake water quality, streams, PFAS, chlorides, and BMPs. A Manager asked if the information related to iron enhanced sand is being shared with St. Anthony Falls research lab. Eric Korte confirmed that staff can share its findings with that group.

Keith Pilgrim commented that the main goal of the report was to present the data rather than to analyze it. He stated that there are trends and reviewed some of that data for Twin Lake, noting that it follows the trend of other deep lakes in the District. He noted that Twin Lake had similar patterns to Owasso and Tanners.

Tina Carstens stated that staff will follow up with the Twin Lake Association to organize a meeting to review the information in more detail, as that desire had been previously expressed.

## 8. ADMINISTRATOR'S REPORT

### A. Meetings Attended

A Manager asked for an update on the Phalen Creek daylighting project. Tina Carstens provided background information and provided an update from the discussion at that meeting related to the two segments within the District.

### B. Upcoming Meetings and Dates

No comments.

### C. COVID-19 Update

Tina Carstens commented that things continue as they have been under COVID.

A Manager asked if there is a person that answers calls live during the day. Tina Carstens replied that a staff member is checking the voicemail multiple times per day to answer messages left at the general District number.

## 9. PROJECT AND PROGRAM STATUS REPORTS

### A. Ongoing Project and Program Updates

- i. Owasso Basin Flood Risk Reduction Feasibility Study
- ii. Willow Creek Flood Risk Reduction Feasibility Study
- iii. Ames Lake Area Flood Risk Reduction Feasibility Study
- iv. FEMA Flood Mapping Updates
- v. Hillcrest Golf Course
- vi. Targeted Retrofit Projects
- vii. Kohlman Permeable Weir Test System
- viii. Keller Channel Weir and Phalen Outlet Resiliency Modifications

A Manager asked for an update related to the higher cost for controlling water. Brad Lindaman stated that there was a meeting with the contractor to discuss the control of water item. He noted that after that discussion he believes that the pricing would be right, noting that the contractor believes that method of controlling the water would be much more efficient and successful for controlling the water throughout the duration of the project. He stated that they spoke with the contractor about items smaller in cost to review as well, which could provide a small reduction in cost.

- ix. Twin Lake Outlet Construction
- x. CIP Maintenance and Repair 2021 Project

Brad Lindaman stated that the Board issued approval on the project at its last meeting. He referenced certain aspects of the project which were quite expensive and noted that as staff looked into permitting for the Ryan Drive improvement, they looked into additional modeling downstream. He stated that part of that project included increasing the size of the culvert, which would slightly increase the flood levels along a section of the creek. He stated that staff believes that the Keller Parkway culvert project would need to come first in order to not raise the flood level. He stated that it is the recommendation of staff to pull together both the Keller Parkway and Ryan Drive projects and bid them as separate projects rather than including the Ryan Drive improvements with the CIP Maintenance and Repair project. Tina Carstens confirmed that the District has funds to complete those projects separately.

Motion: Manager Aichinger moved, Manager Swope seconded, to authorize staff to prepare the cost estimates and preliminary plans to include the Keller Parkway improvements with the Ryan Drive improvements and complete those together as a separate capital improvement project.

A roll call vote was performed:

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

Motion carried unanimously.

Brad Lindaman noted that staff will continue discussions with Little Canada about potential funding partnership for the project.

- xi.     Beltline/Battle Creek Tunnel Inspection
- xii.   Internal Load Management Discussions
- xiii.  Project Scored Ranking Study

A Manager asked when the tool would be available on the website. Tina Carstens commented that should be available in the next few weeks.

A Manager asked if the Board would be alerted when the tool is available and the length of time that would be available for Managers to provide comments. Tina Carstens stated that the report would be shared on the website, which the Board has already reviewed. She confirmed that the comments already received from the Board have been incorporated. Tina Carstens confirmed that proposed project reports would include that ranking when staff makes the presentation. The Board expressed support for that approach.

Another Manager commented that this is a tool to identify top priority but there are other factors that will need to be considered as well when making decisions on projects.

- xiv.   Natural Resources Program Update
- xv.    Education Program Update
- xvi.   Communications and Outreach Program Update

A Manager challenged staff to think about how the Water Stewards information can be more visibly shared on the website. Tina Carstens commented that staff will continue to review opportunities to share information like that on the website.

#### **10.     REPORTS OF MANAGERS**

A Manager hoped that the MAWD presentations that occurred earlier today could be summarized at the January meeting. The Manager also requested an update from VLAWMO.

A Manager commented on earlier discussion that occurred at the MAWD virtual meeting earlier today and the proposed resolutions that will go before the group on Friday.

#### **11.     ADJOURN**

Motion: Manager Skinner moved, Manager Aichinger seconded, to adjourn the meeting at 9:08 p.m. Motion carried unanimously.

RWMWD BUDGET STATUS REPORT  
 Administrative & Program Budget  
 Fiscal Year 2020  
 12/31/2020-Unaudited

| 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             | -                   | 3,825.00               | 6,325.00              | \$2,175.00             | 74.41%              |
|  | Manager expenses                                | 4360           | 3,500.00               | -                   | 3,500.00               | 3,500.00              | 0.00                   | 100.00%             |
| Committees                             | Committee/Bd Mtg. Exp.                          | 4365           | 3,500.00               | -                   | 288.43                 | 2,824.97              | 675.03                 | 80.71%              |
| <b>Sub-Total: Managers/Committees:</b> |   |                | <b>\$15,500.00</b>     | <b>\$0.00</b>       | <b>\$7,613.43</b>      | <b>\$12,649.97</b>    | <b>\$2,850.03</b>      | <b>81.61%</b>       |
| Employees                              | Staff salary/taxes/benefits                     | 4010           | 1,450,000.00           | -                   | 119,058.42             | 1,475,253.41          | (25,253.41)            | 101.74%             |
|  | Employee expenses                               | 4020           | 10,000.00              | -                   | 1,799.81               | 26,607.38             | (16,607.38)            | 266.07%             |
|  | District training & education                   | 4350           | 25,000.00              | -                   | 2,858.92               | 6,991.19              | 18,008.81              | 27.96%              |
| <b>Sub-Total: Employees:</b>           |   |                | <b>\$1,485,000.00</b>  | <b>\$0.00</b>       | <b>\$123,717.15</b>    | <b>\$1,508,851.98</b> | <b>(\$23,851.98)</b>   | <b>101.61%</b>      |
| Administration/<br>Office              | GIS system maint. & equip.                      | 4170           | 15,000.00              | -                   | 960.00                 | 2,729.02              | 12,270.98              | 18.19%              |
|  | Data Base/GIS Maintenance                       | 4171           | 5,000.00               | -                   | -                      | 2,600.00              | 2,400.00               | 52.00%              |
|  | Equipment maintenance                           | 4305           | 3,000.00               | -                   | -                      | -                     | 3,000.00               | 0.00%               |
|  | Telephone                                       | 4310           | 8,000.00               | -                   | 57.48                  | 916.92                | 7,083.08               | 11.46%              |
|  | Office supplies                                 | 4320           | 5,000.00               | -                   | 231.54                 | 5,975.72              | (975.72)               | 119.51%             |
|  | IT/Internet/Web Site/Software Lic.              | 4325           | 55,000.00              | -                   | 4,352.02               | 56,580.45             | (1,580.45)             | 102.87%             |
|  | Postage   | 4330           | 5,000.00               | -                   | 143.55                 | 574.20                | 4,425.80               | 11.48%              |
|  | Printing/copying                                | 4335           | 8,000.00               | -                   | 669.40                 | 5,013.55              | 2,986.45               | 62.67%              |
|  | Dues & publications                             | 4338           | 11,000.00              | -                   | -                      | 9,904.88              | 1,095.12               | 90.04%              |
|  | Janitorial/Trash Service                        | 4341           | 15,000.00              | -                   | -                      | -                     | 15,000.00              | 0.00%               |
|  | Utilities/Bldg.Contracts                        | 4342           | 20,000.00              | -                   | 3,248.71               | 29,077.69             | (9,077.69)             | 145.39%             |
|  | Bldg/Site Maintenance                           | 4343           | 200,000.00             | -                   | 410.83                 | 12,181.69             | 187,818.31             | 6.09%               |
|  | Miscellaneous                                   | 4390           | 5,000.00               | -                   | 377.00                 | 4,623.00              | 377.00                 | 7.54%               |
|  | Insurance                                       | 4480           | 40,000.00              | -                   | -                      | 43,749.02             | (3,749.02)             | 109.37%             |
|  | Office equipment                                | 4703           | 150,000.00             | -                   | 135,031.85             | 143,197.61            | 6,802.39               | 95.47%              |
|  | Vehicle lease, maintenance                      | 4810-40        | 43,000.00              | -                   | 932.39                 | 33,874.35             | 9,125.65               | 78.78%              |
|  | <b>Sub-Total: Administration/Office:</b>        |                |                        | <b>\$588,000.00</b> | <b>\$0.00</b>          | <b>\$146,037.77</b>   | <b>\$346,752.10</b>    | <b>\$241,247.90</b> |
| Consultants/<br>Outside Services       | Auditor/Accounting                              | 4110           | 60,000.00              | -                   | 1,856.07               | 54,147.90             | 5,852.10               | 90.25%              |
|  | Engineering-administration                      | 4121           | 93,000.00              | -                   | 5,484.00               | 64,030.40             | 28,969.60              | 68.85%              |
|  | Engineering-permit I&E                          | 4122           | 10,000.00              | -                   | -                      | 2,715.75              | 7,284.25               | 27.16%              |
|  | Engineering-eng. review                         | 4123           | 55,000.00              | -                   | 5,624.00               | 45,214.50             | 9,785.50               | 82.21%              |
|  | Engineering-permit review                       | 4124           | 55,000.00              | -                   | 4,275.00               | 43,241.50             | 11,758.50              | 78.62%              |
|  | Project Feasibility Studies                     | 4129           | 570,000.00             | -                   | 25,648.02              | 345,243.70            | 224,756.30             | 60.57%              |
|  | Attorney-permits                                | 4130           | 10,000.00              | -                   | -                      | -                     | 10,000.00              | 0.00%               |
|  | Attorney-general                                | 4131           | 40,000.00              | -                   | 920.00                 | 25,892.77             | 14,107.23              | 64.73%              |
|  | Outside Consulting Services                     | 4160           | 40,000.00              | -                   | -                      | -                     | 40,000.00              | 0.00%               |
|  | <b>Sub-Total: Consultants/Outside Services:</b> |                |                        | <b>\$933,000.00</b> | <b>\$0.00</b>          | <b>\$43,807.09</b>    | <b>\$580,486.52</b>    | <b>\$352,513.48</b> |
| Programs                               | Educational programming                         | 4370           | 60,000.00              | -                   | 225.00                 | 14,799.97             | 45,200.03              | 24.67%              |
|  | Communications & Marketing                      | 4371           | 25,000.00              | -                   | 244.99                 | 14,444.80             | 10,555.20              | 57.78%              |
|  | Events  | 4372           | 50,000.00              | -                   | -                      | 24,092.03             | 25,907.97              | 48.18%              |
|  | Water QM-Engineering                            | 4520-30        | 185,000.00             | -                   | 22,266.41              | 253,757.02            | (68,757.02)            | 137.17%             |
|  | Project operations                              | 4650           | 160,000.00             | -                   | 1,026.73               | 68,810.46             | 91,189.54              | 43.01%              |
|  | SLMP/TMDL Studies                               | 4661           | 173,000.00             | -                   | 10,575.00              | 76,174.59             | 96,825.41              | 44.03%              |
|  | Natural Resources/Keller Creek                  | 4670-72        | 140,000.00             | -                   | 1,146.75               | 106,175.65            | 33,824.35              | 75.84%              |
|  | Outside Prog.Support/Weed Mgmt.                 | 4683-84        | 67,000.00              | -                   | 3,175.00               | 47,092.33             | 19,907.67              | 70.29%              |
|  | Research Projects                               | 4695           | 95,000.00              | -                   | 58,615.00              | 110,436.77            | (15,436.77)            | 116.25%             |
|  | Health and Safety Program                       | 4697           | 3,000.00               | -                   | -                      | 1,311.73              | 1,688.27               | 43.72%              |
|  | NPDES Phase II                                  | 4698           | 10,000.00              | -                   | -                      | -                     | 10,000.00              | 0.00%               |
|  | <b>Sub-Total: Programs:</b>                     |                |                        | <b>\$968,000.00</b> | <b>\$0.00</b>          | <b>\$97,274.88</b>    | <b>\$717,095.35</b>    | <b>\$250,904.65</b> |
| <b>GENERAL FUND TOTAL</b>              |   |                | <b>\$3,989,500.00</b>  | <b>\$0.00</b>       | <b>\$418,450.32</b>    | <b>\$3,165,835.92</b> | <b>\$823,664.08</b>    | <b>79.35%</b>       |
| CIP's                                  | CIP Project Repair & Maintenance                | 516            | 1,115,000.00           | -                   | 137,159.99             | 1,320,885.65          | (205,885.65)           | 118.47%             |
|  | Targeted Retrofit Projects                      | 518            | 1,012,000.00           | -                   | 237,842.08             | 1,128,046.50          | (116,046.50)           | 111.47%             |
|  | Flood Risk Reduction Fund                       | 520            | 4,000,000.00           | -                   | 22,138.88              | 518,457.17            | 3,481,542.83           | 12.96%              |
|  | Debt Services-96-97 Beltline/MM/Battle Creek    | 526            | 400,074.00             | -                   | -                      | 397,918.26            | 2,155.74               | 99.46%              |
|  | Stewardship Grant Program Fund                  | 528-529        | 1,000,000.00           | -                   | 88,795.62              | 863,254.84            | 136,745.16             | 86.33%              |
|  | Impervious Surface Volume Reduction Opportunity | 531            | 1,600,000.00           | -                   | -                      | 1,600,000.00          | 0.00%                  |                     |
|  | Wakefield Park Project                          | 553            | 100,000.00             | -                   | -                      | 264,099.30            | (164,099.30)           | 264.10%             |
|  | District Office Bond Payment                    | 585            | 194,885.00             | -                   | -                      | 120,358.21            | 74,526.79              | 61.76%              |
| <b>CIP BUDGET TOTAL</b>                |   |                | <b>\$9,421,959.00</b>  | <b>-</b>            | <b>\$485,936.57</b>    | <b>\$4,613,019.93</b> | <b>\$4,808,939.07</b>  | <b>48.96%</b>       |
| <b>TOTAL BUDGET</b>                    |   |                | <b>\$13,411,459.00</b> | <b>\$0.00</b>       | <b>\$904,386.89</b>    | <b>\$7,778,855.85</b> | <b>\$5,632,603.15</b>  | <b>58.00%</b>       |

Current Fund Balances:

| Fund:   | Beginning Fund Balance @ 12/31/19 | Fund Transfers | Year to date Revenue   | Current Month Expenses | Year to Date Expense  | Unaudited Fund Balance @ 12/31/20 |
|---|-----------------------------------|----------------|------------------------|------------------------|-----------------------|-----------------------------------|
| 101 - General Fund  | \$4,633,167.33                    | -              | 2,776,929.72           | 418,450.32             | 3,165,835.92          | 4,244,261.13                      |
| 516 - CIP Project Repair & Maintenance                                    | 1,160,359.00                      | -              | 811,032.67             | 137,159.99             | 1,320,885.65          | 650,506.02                        |
| 518 - Targeted Retrofit Projects  | (52,309.00)                       | 1,581,928.59   | 988,861.69             | 237,842.08             | 1,128,046.50          | 1,390,434.78                      |
| 520 - Flood Damage Reduction Fund   | 2,565,820.00                      | -              | 1,474,463.40           | 22,138.88              | 518,457.17            | 3,521,826.23                      |
| 526 - Debt Services-96-97 Beltline/MM/Beltline-Battle Creek Tunnel Repair | 1,252,348.00                      | -              | 90,493.55              | -                      | 397,918.26            | 944,923.29                        |
| 528/529 - Stewardship Grant Program Fund                                  | 711,696.00                        | -              | 781,708.82             | 88,795.62              | 863,254.84            | 630,149.98                        |
| 531 - Impervious Surface Volume Reduction Opportunity                     | 1,484,215.00                      | (1,581,928.59) | 97,713.59              | -                      | -                     | 0.00                              |
| 553 - Wakefield Park Project  | 268,349.00                        | -              | -                      | 0.00                   | 264,099.30            | 4,249.70                          |
| 580 - Contingency Fund  | 891,682.00                        | -              | -                      | -                      | -                     | 891,682.00                        |
| 585 - Certificates of Participation                                       | 130,460.00                        | -              | 190,764.62             | -                      | 120,358.21            | 200,866.41                        |
| <b>Total District Fund Balance</b>  | <b>\$13,045,787.33</b>            | <b>\$0.00</b>  | <b>\$ 7,211,968.06</b> | <b>\$ 904,386.89</b>   | <b>\$7,778,855.85</b> | <b>\$12,478,899.54</b>            |

**Ramsey Washington Metro Watershed Dist.**  
**Check Register**  
**For the Period From Dec 1, 2020 to Dec 31, 2020**

| Check # | Date     | Payee ID | Invoice #            | Payee                                  | Description                     | Amount     |
|---------|----------|----------|----------------------|--|---------------------------------|------------|
| EFT     | 11/30/20 | del002   | Nov 2020             | Deluxe for Business                    | Accounts Payable Checks         | \$588.68   |
| EFT     | 12/01/20 | met008   | Dec 2020             | MetLife-Group Benefits                 | Employee Benefits               | 1,332.46   |
| EFT     | 12/08/20 | hom001   | Dec 2020             | Home Depot Credit Services             | Natural Resources Project       | 20.90      |
| EFT     | 12/08/20 | com004   | Dec 2020             | Comcast                                | Utilities/Bldg. Contracts       | 75.38      |
| EFT     | 12/08/20 | qwe001   | Dec 2020             | CenturyLink                            | Project Operations              | 244.25     |
| EFT     | 12/28/20 | voy001   | Dec 2020             | US Bank Voyager Fleet Sys.             | Vehicle Expense                 | 234.08     |
| EFT     | 12/28/20 | hea002   | Jan 2021             | HealthPartners                         | Employee Benefits               | 12,451.34  |
| 71937   | 12/14/20 | ada002   | 3212112              | Adam's Pest Control, Inc.              | Utilities/Bldg. Contracts       | 79.00      |
| 71938   | 12/14/20 | aws001   | S1335957-120120      | AWS Service Center                     | Utilities/Bldg. Contracts       | 214.47     |
| 71939   | 12/14/20 | dvs001   | 2020 Trinton Trl.    | DVS Renewal                            | Vehicle Expense                 | 23.25      |
| 71940   | 12/14/20 | inn003   | 7969                 | Innovational Water Solutions           | Utilities/Bldg. Contracts       | 221.40     |
| 71941   | 12/14/20 | mid003   | 557472               | Roseville Midway Ford                  | Vehicle Expense                 | 529.08     |
| 71942   | 12/14/20 | nar001   | IN00156371           | Nardini Fire Equipment                 | Bldg./Site Maintenance          | 315.00     |
| 71943   | 12/14/20 | ncp001   | Nov 2020             | NCBERS Group Life Ins.                 | Employee Benefits               | 16.00      |
| 71944   | 12/14/20 | nsp001   | 711311893            | Xcel Energy                            | Utilities/Project Operations    | 1,090.40   |
| 71945   | 12/14/20 | pit001   | 3104380480           | Pitney Bowes Global Financial Serv LLC | Postage                         | 143.55     |
| 71946   | 12/14/20 | pre001   | 686433               | Press Publications                     | Natural Resources Project       | 112.56     |
| 71947   | 12/14/20 | pre003   | 317871615            | Premium Waters, Inc.                   | Utilities/Bldg. Contracts       | 26.00      |
| 71948   | 12/14/20 | tim002   | M26023               | Timesaver Off-Site Secretarial, Inc.   | Committee/Board Meeting Expense | 183.50     |
| 71949   | 12/14/20 | usb005   | 430093641            | US Bank Equipment Finance              | Printing Expense                | 323.40     |
| 71950   | 12/14/20 | van001   | 76023                | Vanguard Cleaning Systems of Minnesota | Utilities/Bldg. Contracts       | 550.00     |
| 71951   | 12/14/20 | voy001   | 869293423048         | US Bank Voyager Fleet Sys.             | Vehicle Expense                 | 145.98     |
| 71952   | 12/28/20 | ahl001   | Dec 2020             | Paige Ahlborg                          | Employee Reimbursement          | 140.00     |
| 71953   | 12/28/20 | app001   | 004843               | Applied Ecological Services, Inc.      | Stewardship Grant Fund          | 2,282.40   |
| 71954   | 12/28/20 | att002   | 28725663401X12252020 | AT & T Mobility - ROC                  | IT/Website/Software/Water QM    | 135.93     |
| 71955   | 12/28/20 | bar001   | 11/14/20-12/18/20    | Barr Engineering                       | November/December Engineering   | 189,681.60 |
| 71956   | 12/28/20 | bar002   | Sep-Dec 2020         | Bill Bartodziej                        | Employee Reimbursement          | 445.67     |
| 71957   | 12/28/20 | bar004   | Dec 2020             | Deborah Barnes                         | Employee Reimbursement          | 305.00     |
| 71958   | 12/28/20 | blo001   | Dec 2020             | Simba Blood                            | Employee Reimbursement          | 280.05     |
| 71959   | 12/28/20 | bre003   | Jan 2021             | Bremer Bank                            | Employee Benefits               | 7,650.00   |
| 71960   | 12/28/20 | bre003   | Jan 2021             | Bremer Bank                            | Employee Benefits               | 450.00     |
| 71961   | 12/28/20 | cad001   | 17238450             | Allstream                              | Water QM Staff                  | 69.45      |
| 71962   | 12/28/20 | can001   | 18-002               | Canabury Pond Condominium Assoc.       | Stewardship Grant Fund          | 1,000.00   |
| 71963   | 12/28/20 | cav001   | 20-14                | Caves Century HOA                      | Stewardship Grant Fund          | 437.50     |
| 71964   | 12/28/20 | che001   | 18-10 MTN            | Cherokee Hills Association No. II      | Stewardship Grant Fund          | 1,000.00   |
| 71965   | 12/28/20 | che002   | 18-10 MTN            | Cherokee Hills Association No. I       | Stewardship Grant Fund          | 1,000.00   |
| 71966   | 12/28/20 | chi003   | 19-06                | Christ United Methodist Church         | Stewardship Grant Fund          | 122.50     |
| 71967   | 12/28/20 | cit006   | 20-14 CS             | City of Woodbury                       | Stewardship Grant Fund          | 57,000.00  |
| 71968   | 12/28/20 | cit011   | 229642               | City of Roseville                      | IT/Website/Software             | 4,163.00   |
| 71969   | 12/28/20 | com004   | Dec 2020             | Comcast                                | Utilities/Bldg. Contracts       | 65.38      |
| 71970   | 12/28/20 | don001   | Dec 2020             | Matthew Doneux                         | Employee Reimbursement          | 199.00     |
| 71971   | 12/28/20 | fin002   | 20-15 MTN            | Hallie Finucane                        | Stewardship Grant Fund          | 75.00      |
| 71972   | 12/28/20 | fit002   | Dec 2020             | Mary Fitzgerald                        | Employee Reimbursement          | 57.25      |
| 71973   | 12/28/20 | gal001   | Dec 2020             | Galowitz Olson, PLLC                   | December Legal Expense          | 1,265.00   |
| 71974   | 12/28/20 | gra003   | 19-03 MTN            | Grace Church Roseville                 | Stewardship Grant Fund          | 675.00     |
| 71975   | 12/28/20 | gra004   | 19-07 MTN            | Granite Trails Apartments, LLC         | Stewardship Grant Fund          | 753.37     |
| 71976   | 12/28/20 | haz001   | Dec 2020             | Lauren Hazenson                        | Employee Reimbursement          | 200.00     |
| 71977   | 12/28/20 | hol004   | 20-19 MTN            | Hollow Pond HOA                        | Stewardship Grant Fund          | 1,000.00   |
| 71978   | 12/28/20 | inn002   | PF-SO-3217076        | Innovative Office Solutions LLC        | Office Equipment                | 116,231.85 |
| 71979   | 12/28/20 | int001   | W20110509            | Office of MN, IT Services              | Telephone Expense               | 57.48      |
| 71980   | 12/28/20 | jav001   | 19-02                | Java Companies                         | Dev Escrow-General              | 7,000.00   |
| 71981   | 12/28/20 | joh006   | 18-09 MTN            | Skip Johnson                           | Stewardship Grant Fund          | 632.85     |
| 71982   | 12/28/20 | kor001   | Dec 2020             | Eric Korte                             | Employee Reimbursement          | 162.17     |
| 71983   | 12/28/20 | kub001   | Nov/Dec 2020         | Kyle W. Kubitza                        | Employee Reimbursement          | 185.32     |
| 71984   | 12/28/20 | mag004   | Jan-Dec 2020         | Carrie Magnuson                        | Employee Reimbursement          | 667.96     |
| 71985   | 12/28/20 | mcm001   | 20-44 CS             | Phillip McMonagle                      | Stewardship Grant Fund          | 446.50     |
| 71986   | 12/28/20 | mel001   | Dec 2020             | Michelle L. Melsner                    | Employee Reimbursement          | 325.22     |
| 71987   | 12/28/20 | mel001   | Dec 2020             | Michelle L. Melsner                    | Employee Reimbursement          | 243.70     |



**Ramsey Washington Metro Watershed Dist.**  
**Check Register**  
**For the Period From Dec 1, 2020 to Dec 31, 2020**

| Check #      | Date     | Payee ID | Invoice #           | Payee                                     | Description                           | Amount                       |
|--------------|----------|----------|---------------------|---|---------------------------------------|------------------------------|
| 71988        | 12/28/20 | met004   | INV1719059          | Metro Sales, Inc.                         | Printing Expense                      | 346.00                       |
| 71989        | 12/28/20 | min010   | Jan 2021            | MN Public Facilities Authority            | Debt Service-Maplewood Mall           | 5,118.90                     |
| 71990        | 12/28/20 | nep001   | Dec 2020            | NCPERS Group Life Ins.                    | Employee Reimbursement                | 16.00                        |
| 71991        | 12/28/20 | nor016   | Jan 2021            | Northland Trust Services, Inc.            | Debt Service-Beltline & Tanners       | 273,731.25                   |
| 71992        | 12/28/20 | nor019   | 19-01 CS            | North Park Condominium Assoc., Inc.       | Stewardship Grant Fund                | 6,632.00                     |
| 71993        | 12/28/20 | nor019   | 20-08 MTN           | North Park Condominium Assoc., Inc.       | Stewardship Grant Fund                | 800.00                       |
| 71994        | 12/28/20 | nsp001   | 713100631           | Xcel Energy                               | Utilities/Bldg. Contracts/Proj. Oper. | 1,509.72                     |
| 71995        | 12/28/20 | pac001   | 2012024395          | Pace Analytical Services, Inc.            | Water QM Staff                        | 189.00                       |
| 71996        | 12/28/20 | pet001   | 38672               | Peterson Companies, Inc.                  | Construction Imp.-Maint. & Rep.       | 77,728.85                    |
| 71997        | 12/28/20 | pro003   | Dec 2020            | Lyndsey R. Provos                         | Employee Reimbursement                | 1,624.82                     |
| 71998        | 12/28/20 | qwe001   | Dec 2020            | CenturyLink                               | Project Operations                    | 266.73                       |
| 71999        | 12/28/20 | ram002   | COR-003443          | Ramsey County                             | Nat.Res./Educational/Stewardship      | 805.00                       |
| 72000        | 12/28/20 | ram014   | PHEH-045273         | Ramsey County                             | Natural Resources Project             | 575.32                       |
| 72001        | 12/28/20 | red002   | 150457687           | Redpath & Company, Ltd                    | November Accounting Services          | 1,856.07                     |
| 72002        | 12/28/20 | red003   | 20201210043025      | Red Wing Business Advantage Account       | Employee Benefits                     | 148.74                       |
| 72003        | 12/28/20 | reg002   | 0340029415          | Regents of the University of Minnesota    | Research Projects                     | 2,915.00                     |
| 72004        | 12/28/20 | rol001   | 20-18 MTN           | Rolling Hills Homeowners Association      | Stewardship Grant Fund                | 1,000.00                     |
| 72005        | 12/28/20 | rou002   | 20-01 MTN           | Round Lake Trail                          | Stewardship Grant Fund                | 457.50                       |
| 72006        | 12/28/20 | san003   | Nov 2020            | Sandstrom Land Management                 | Construction Imp.-Maint. & Rep.       | 355.00                       |
| 72007        | 12/28/20 | sch012   | Mar 2020            | The Schneider Co.                         | Office Equipment                      | 18,800.00                    |
| 72008        | 12/28/20 | sim001   | Nov/Dec 2020        | Emily Simmons                             | Employee Reimbursement                | 59.85                        |
| 72009        | 12/28/20 | sod001   | Dec 2020            | Nicole Soderholm                          | Employee Reimbursement                | 229.18                       |
| 72010        | 12/28/20 | sun001   | Progress Pay #4     | Sunram Construction, Inc                  | BMP Cost Share Program                | 45,779.64                    |
| 72011        | 12/28/20 | sun001   | Progress Pay #3     | Sunram Construction, Inc                  | BMP Cost Share Program                | 161,533.88                   |
| 72012        | 12/28/20 | tow002   | 20-09 MTN           | Townhouses of Pathways                    | Stewardship Grant Fund                | 800.00                       |
| 72013        | 12/28/20 | tro002   | 20-12               | Cathy Troendle                            | Educational Program                   | 75.00                        |
| 72014        | 12/28/20 | twi001   | 47952               | Twin City Seed Co.                        | Natural Resources Project             | 55.00                        |
| 72015        | 12/28/20 | uni008   | Dec 2020            | University of Minnesota                   | Research Projects                     | 55,000.00                    |
| 72016        | 12/28/20 | usb002   | Dec 2020            | U.S. Bank                                 | December Credit Card Expense          | 9,572.97                     |
| 72017        | 12/28/20 | van003   | Dec 2020            | Erika Van Krevelen                        | Employee Reimbursement                | 77.63                        |
| 72018        | 12/28/20 | van004   | 20-36 CS            | Thomas Van Heel                           | Stewardship Grant Fund                | 1,000.00                     |
| 72019        | 12/28/20 | ves001   | 18-05               | Peter Vesterholt                          | Stewardship Grant Fund                | 500.00                       |
| 72020        | 12/28/20 | vla001   | Oct 2020            | Dave Vlasin                               | Employee Reimbursement                | 285.02                       |
| 72021        | 12/28/20 | wal005   | 18-04 MTN           | Heidi Walz                                | Stewardship Grant Fund                | 245.00                       |
| 72022        | 12/28/20 | was002   | 5079                | Washington Conservation District          | Outside Program Support               | 3,175.00                     |
| 72023        | 12/28/20 | win002   | 6255                | Windmill Strategy                         | Communications & Marketing            | 200.00                       |
| 72024        | 12/28/20 | woo001   | 18-06               | Woodland Hills Church                     | Stewardship Grant Fund                | 1,000.00                     |
| <b>Total</b> |          |          |                     |   |                                       | <b><u>1,089,790.90</u></b>   |
| EFT          | 11/13/20 | myp001   | 11/13/20            | November 13th Payroll Fees                | 4110-101-000                          | 73.55                        |
| EFT          | 11/27/20 | myp001   | 11/27/20            | November 27th Payroll Fees                | 4110-101-000                          | 73.55                        |
| Dir.Dep.     | 12/11/20 | ---      | Payroll Expense-Net | December 11th Payroll                     | 4010-101-000                          | 32,112.40                    |
| EFT          | 12/11/20 | int002   | Internal Rev.Serv.  | December 11th Federal Withholding         | 2001-101-000                          | 10,639.13                    |
| EFT          | 12/11/20 | mnd001   | MN Revenue          | December 11th State Withholding           | 2003-101-000                          | 1,940.80                     |
| EFT          | 12/11/20 | per001   | PERA                | December 11th PERA                        | 2011-101-000                          | 6,248.58                     |
| EFT          | 12/11/20 | emp002   | Empower Retirement  | Employee Def.Comp. Contributions          | 2016-101-000                          | 2,454.00                     |
| EFT          | 12/11/20 | emp002   | Empower Retirement  | Employee IRA Contributions                | 2018-101-000                          | 450.00                       |
| Dir.Dep.     | 12/24/20 | ---      | Payroll Expense-Net | December 24th Payroll                     | 4010-101-000                          | 31,646.60                    |
| EFT          | 12/24/20 | int002   | Internal Rev.Serv.  | December 24th Federal Withholding         | 2001-101-000                          | 10,608.05                    |
| EFT          | 12/24/20 | mnd001   | MN Revenue          | December 24th State Withholding           | 2003-101-000                          | 1,943.16                     |
| EFT          | 12/24/20 | per001   | PERA                | December 24th PERA                        | 2011-101-000                          | 6,223.94                     |
| EFT          | 12/24/20 | emp002   | Empower Retirement  | Employee Def.Comp. Contributions          | 2016-101-000                          | 2,474.00                     |
| EFT          | 12/24/20 | emp002   | Empower Retirement  | Employee IRA Contributions                | 2018-101-000                          | 450.00                       |
|              |          |          |                     | <b>Payroll/Benefits</b>                   |                                       | <b><u>\$107,337.76</u></b>   |
| <b>Total</b> |          |          |                     | <b>Accounts Payable/Payroll/Benefits:</b> |                                       | <b><u>\$1,197,128.66</u></b> |

**Ramsey Washington Metro Watershed Dist.**  
**Cash Disbursements Journal**  
**For the Period From December 1, 2020 - December 31, 2020**

| Date     | Check # | Vendor ID | Name                                     | Account ID   | Account Description               | Amount     | Check Detail |
|----------|---------|-----------|--|--------------|-----------------------------------|------------|--------------|
| 11/30/20 | EFT     | del002    | Deluxe for Business                      | 4320-101-000 | Office Supplies                   | \$588.68   |              |
| 12/01/20 | EFT     | met008    | MetLife-Group Benefits                   | 4040-101-000 | Employee Benefits-General         | 1,332.46   |              |
| 12/08/20 | EFT     | hom001    | Home Depot Credit Services               | 4670-101-000 | Natural Resources Project         | 20.90      |              |
| 12/08/20 | EFT     | com004    | Comcast                                  | 4342-101-000 | Utilities/Bldg. Contracts         | 75.38      |              |
| 12/08/20 | EFT     | qwe001    | CenturyLink                              | 4650-101-000 | Project Operations-General        | 244.25     |              |
| 12/28/20 | EFT     | voy001    | US Bank Voyager Fleet Sys.               | 4830-101-000 | Vehicle Fuel-General              | 234.08     |              |
| 12/28/20 | EFT     | hea002    | HealthPartners                           | 4040-101-000 | Employee Benefits-General         | 12,451.34  |              |
| 12/14/20 | 71937   | ada002    | Adam's Pest Control, Inc.                | 4342-101-000 | Utilities/Bldg. Contracts         | 79.00      |              |
| 12/14/20 | 71938   | aws001    | AWS Service Center                       | 4342-101-000 | Utilities/Bldg. Contracts         | 214.47     |              |
| 12/14/20 | 71939   | dvs001    | DVS Renewal                              | 4840-101-000 | Vehicle Misc.-General             | 23.25      |              |
| 12/14/20 | 71940   | inn003    | Innovational Water Solutions             | 4342-101-000 | Utilities/Bldg. Contracts         | 221.40     |              |
| 12/14/20 | 71941   | mid003    | Roseville Midway Ford                    | 4820-101-000 | Vehicle Maintenance-General       | 529.08     |              |
| 12/14/20 | 71942   | nar001    | Nardini Fire Equipment                   | 4343-101-000 | Bldg./Site Maintenance            | 315.00     |              |
| 12/14/20 | 71943   | ncp001    | NCPERS Group Life Ins.                   | 4040-101-000 | Employee Benefits-General         | 16.00      |              |
| 12/14/20 | 71944   | nsp001    | Xcel Energy                              |              |                                   | 1,090.40   |              |
|          |         |           |  | 4342-101-000 | Utilities/Bldg. Contracts         |            | 784.02       |
|          |         |           |  | 4650-520-000 | Project Operations-General        |            | 71.25        |
|          |         |           |  | 4650-101-000 | Project Operations-General        |            | 235.13       |
| 12/14/20 | 71945   | pit001    | Pitney Bowes Global Financial Serv., LLC | 4330-101-000 | Postage-General                   | 143.55     |              |
| 12/14/20 | 71946   | pre001    | Press Publications                       | 4670-101-000 | Natural Resources Project-General | 112.56     |              |
| 12/14/20 | 71947   | pre003    | Premium Waters, Inc.                     | 4342-101-000 | Utilities/Bldg. Contracts         | 26.00      |              |
| 12/14/20 | 71948   | tim002    | Timesaver Off-Site Secretarial, Inc.     | 4365-101-000 | Committee/Board Meeting Expense   | 183.50     |              |
| 12/14/20 | 71949   | usb005    | US Bank Equipment Finance                | 4335-101-000 | Printing-General                  | 323.40     |              |
| 12/14/20 | 71950   | van001    | Vanguard Cleaning Systems of Minnesota   | 4342-101-000 | Utilities/Bldg. Contracts         | 550.00     |              |
| 12/14/20 | 71951   | voy001    | US Bank Voyager Fleet Sys.               | 4830-101-000 | Vehicle Fuel-General              | 145.98     |              |
| 12/28/20 | 71952   | ahl001    | Pagie Ahlborg                            |              |                                   | 140.00     |              |
|          |         |           |  | 4040-101-000 | Employee Benefits-General         |            | 120.00       |
|          |         |           |  | 4350-101-000 | Training & Education-General      |            | 20.00        |
| 12/28/20 | 71953   | app001    | Applied Ecological Services, Inc.        | 4682-529-000 | Stewardship Grant Fund            | 2,282.40   |              |
| 12/28/20 | 71954   | att002    | AT & T Mobility - ROC                    |              |                                   | 135.93     |              |
|          |         |           |  | 4530-101-000 | Water QM Staff-General            |            | 43.22        |
|          |         |           |  | 4325-101-000 | IT/Website/Software               |            | 92.71        |
| 12/28/20 | 71955   | bar001    | Barr Engineering                         |              |                                   | 189,681.60 |              |
|          |         |           |  | 4121-101-000 | Engineering Admin-General Fund    |            | 5,484.00     |
|          |         |           |  | 4123-101-000 | Engineering-Review                |            | 5,624.00     |
|          |         |           |  | 4129-101-000 | Project Feasability-General       |            | 612.50       |
|          |         |           |  | 4129-101-000 | Project Feasability-General       |            | 1,759.00     |
|          |         |           |  | 4129-101-000 | Project Feasability-General       |            | 2,477.50     |
|          |         |           |  | 4129-101-000 | Project Feasability-General       |            | 879.50       |
|          |         |           |  | 4129-101-000 | Project Feasability-General       |            | 7,446.50     |
|          |         |           |  | 4129-101-000 | Project Feasability-General       |            | 582.00       |
|          |         |           |  | 4129-101-000 | Project Feasability-General       |            | 11,868.02    |
|          |         |           |  | 4129-101-000 | Project Feasability-General       |            | 23.00        |
|          |         |           |  | 4170-101-000 | GIS System Maint. & Equipment     |            | 660.00       |
|          |         |           |  | 4520-101-000 | Water QM-Engineering              |            | 9,233.50     |
|          |         |           |  | 4520-101-000 | Water QM-Engineering              |            | 858.00       |

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| Date     | Check # | Vendor ID | Name                              | Account ID   | Account Description                | Amount    | Check Detail |
|----------|---------|-----------|-----------------------------------|--------------|------------------------------------|-----------|--------------|
|          |         |           |                                   | 4520-101-000 | Water QM-Engineering               |           | 2,925.00     |
|          |         |           |                                   | 4520-101-000 | Water QM-Engineering               |           | 3,696.95     |
|          |         |           |                                   | 4520-101-000 | Water QM-Engineering               |           | 2,795.00     |
|          |         |           |                                   | 4520-101-000 | Water QM-Engineering               |           | 2,381.00     |
|          |         |           |                                   | 4124-101-000 | Engineering-Permit Review          |           | 4,275.00     |
|          |         |           |                                   | 4661-101-000 | SLMP/TMDL Studies                  |           | 6,101.50     |
|          |         |           |                                   | 4661-101-000 | SLMP/TMDL Studies                  |           | 4,407.00     |
|          |         |           |                                   | 4661-101-000 | SLMP/TMDL Studies                  |           | 66.50        |
|          |         |           |                                   | 4695-101-000 | Research Projects-General          |           | 700.00       |
|          |         |           |                                   | 4128-518-000 | Engineering-School/Commer Retrofit |           | 26,740.00    |
|          |         |           |                                   | 4128-518-000 | Engineering-School/Commer Retrofit |           | 3,628.56     |
|          |         |           |                                   | 4128-518-000 | Engineering-School/Commer Retrofit |           | 80.00        |
|          |         |           |                                   | 4128-518-000 | Engineering-School/Commer Retrofit |           | 80.00        |
|          |         |           |                                   | 4682-529-000 | Stewardship Grant Fund             |           | 9,581.00     |
|          |         |           |                                   | 4128-520-000 | Engineering-Flood Damage           |           | 13,950.21    |
|          |         |           |                                   | 4128-520-000 | Engineering-Flood Damage           |           | 7,702.00     |
|          |         |           |                                   | 4128-520-000 | Engineering-Flood Damage           |           | 344.00       |
|          |         |           |                                   | 4128-516-000 | Engineering-Maint. & Repair        |           | 5,878.36     |
|          |         |           |                                   | 4128-516-000 | Engineering-Maint. & Repair        |           | 793.50       |
|          |         |           |                                   | 4128-516-000 | Engineering-Maint. & Repair        |           | 705.00       |
|          |         |           |                                   | 4128-516-000 | Engineering-Maint. & Repair        |           | 45,343.50    |
| 12/28/20 | 71956   | bar002    | Bill Bartodziej                   |              |                                    | 445.67    |              |
|          |         |           |                                   | 4020-101-000 | Employee Expenses-General          |           | 89.70        |
|          |         |           |                                   | 4670-101-000 | Natural Resources Project-General  |           | 82.97        |
|          |         |           |                                   | 4040-101-000 | Employee Benefits-General          |           | 273.00       |
| 12/28/20 | 71957   | bar004    | Deborah Barnes                    |              |                                    | 305.00    |              |
|          |         |           |                                   | 4320-101-000 | Office Supplies-General            |           | 110.00       |
|          |         |           |                                   | 4040-101-000 | Employee Benefits-General          |           | 195.00       |
| 12/28/20 | 71958   | blo001    | Simba Blood                       |              |                                    | 280.05    |              |
| 12/28/20 | 71959   | bre003    | Bremer Bank                       |              |                                    | 7,650.00  | 2021         |
| 12/28/20 | 71960   | bre003    | Bremer Bank                       |              |                                    | 450.00    | 2021         |
| 12/28/20 | 71961   | cad001    | Allstream                         |              |                                    | 69.45     |              |
| 12/28/20 | 71962   | can001    | Canabury Pond Condominium Asso.c  |              |                                    | 1,000.00  |              |
| 12/28/20 | 71963   | cav001    | Caves Century HOA                 |              |                                    | 437.50    |              |
| 12/28/20 | 71964   | che001    | Cherokee Hills Association No. II |              |                                    | 1,000.00  |              |
| 12/28/20 | 71965   | che001    | Cherokee Hills Association No. I  |              |                                    | 1,000.00  |              |
| 12/28/20 | 71966   | chi003    | Christ United Methodist Church    |              |                                    | 122.50    |              |
| 12/28/20 | 71967   | cit006    | City of Woodbury                  |              |                                    | 57,000.00 |              |
| 12/28/20 | 71968   | cit011    | City of Roseville                 |              |                                    | 4,163.00  |              |
| 12/28/20 | 71969   | com004    | Comcast                           |              |                                    | 65.38     |              |
| 12/28/20 | 71970   | don001    | Matthew Doneux                    |              |                                    | 199.00    |              |
| 12/28/20 | 71971   | fin002    | Hallie Finucane                   |              |                                    | 75.00     |              |
| 12/28/20 | 71972   | fit002    | Mary Fitzgerald                   |              |                                    | 57.25     |              |
|          |         |           |                                   | 4040-101-000 | Employee Benefits-General          |           | 40.00        |
|          |         |           |                                   | 4020-101-000 | Employee Expenses-General          |           | 17.25        |
| 12/28/20 | 71973   | gal001    | Galawitz Olson, PLLC              |              |                                    | 1,265.00  |              |
|          |         |           |                                   | 4131-101-000 | Attorney General-General           |           | 920.00       |
|          |         |           |                                   | 4131-516-000 | Attorney General-Maint. & Repair   |           | 345.00       |

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|----------|---------|-----------|--|--------------|-----------------------------------|------------|--------------|
| 12/28/20 | 71974   | gra003    | Grace Church Roseville                 | 4682-529-000 | Stewardship Grant Fund            | 675.00     |              |
| 12/28/20 | 71975   | gra004    | Granite Trails Apartments, LLC         | 4682-529-000 | Stewardship Grant Fund            | 753.37     |              |
| 12/28/20 | 71976   | haz001    | Lauren Hazenson                        | 4040-101-000 | Employee Benefits-General         | 200.00     |              |
| 12/28/20 | 71977   | hol004    | Hollow Pond HOA                        | 4682-529-000 | Stewardship Grant Fund            | 1,000.00   |              |
| 12/28/20 | 71978   | inn002    | Innovative Office Solutions, LLC       | 4703-101-000 | Office Equipment-General          | 116,231.85 |              |
| 12/28/20 | 71979   | int001    | Office of MN, IT Services              | 4320-101-000 | Telephone-General                 | 57.48      |              |
| 12/28/20 | 71980   | jav001    | Java Companies                         | 2024-101-000 | Dev Escrow-General                | 7,000.00   |              |
| 12/28/20 | 71981   | joh006    | Skip Johnson                           | 4682-529-000 | Stewardship Grant Fund            | 632.85     |              |
| 12/28/20 | 71982   | kor001    | Eric Korte                             | 4040-101-000 | Employee Benefits-General         | 162.17     |              |
| 12/28/20 | 71983   | kub001    | Kyle W. Kubitza                        |              |                                   | 185.32     |              |
|          |         |           |  | 4530-101-000 | Water QM Staff-General            |            | 5.34         |
|          |         |           |  | 4020-101-000 | Employee Expenses-General         |            | 179.98       |
| 12/28/20 | 71984   | mag004    | Carrie Magnuson                        |              |                                   | 667.96     |              |
|          |         |           |  | 4020-101-000 | Employee Expenses-General         |            | 55.49        |
|          |         |           |  | 4040-101-000 | Employee Benefits-General         |            | 507.54       |
|          |         |           |  | 4365-101-000 | Committee/Board Meeting Expense   |            | 104.93       |
| 12/28/20 | 71985   | mcm001    | Phillip McMonagle                      | 4682-529-000 | Stewardship Grant Fund            | 446.50     |              |
| 12/28/20 | 71986   | mel001    | Michelle L. Melser                     |              |                                   | 325.22     |              |
|          |         |           |  | 4020-101-000 | Employee Expenses-General         |            | 120.18       |
|          |         |           |  | 4040-101-000 | Employee Benefits-General         |            | 205.04       |
| 12/28/20 | 71987   | mel001    | Michelle L. Melser                     |              |                                   | 243.70     |              |
|          |         |           |  | 4020-101-000 | Employee Expenses-General         |            | 43.70        |
|          |         |           |  | 4040-101-000 | Employee Benefits-General         |            | 200.00       |
| 12/28/20 | 71988   | met004    | Metro Sales, Inc.                      | 4335-101-000 | Printing-General                  | 346.00     |              |
| 12/28/20 | 71989   | min010    | MN Public Facilities Authority         | 4702-526-000 | Debt Service-Maplewood Mall       | 5,118.90   | 2021         |
| 12/28/20 | 71990   | nep001    | NCPERS Group Life Ins.                 | 4040-101-000 | Employee Benefits-General         | 16.00      |              |
| 12/28/20 | 71991   | nor016    | Northland Trust Services, Inc.         | 4708-526-000 | Debt Services-Beltline Tunnel     | 273,731.25 | 2021         |
| 12/28/20 | 71992   | nor019    | North Park Condominium Assoc., Inc.    | 4682-529-000 | Stewardship Grant Fund            | 6,632.00   |              |
| 12/28/20 | 71993   | nor019    | North Park Condominium Assoc., Inc.    | 4682-529-000 | Stewardship Grant Fund            | 800.00     |              |
| 12/28/20 | 71994   | nsp001    | Xcel Energy                            |              |                                   | 1,509.72   |              |
|          |         |           |  | 4342-101-000 | Utilities/Bldg. Contracts         |            | 1,157.68     |
|          |         |           |  | 4650-101-000 | Project Operations-General        |            | 280.62       |
|          |         |           |  | 4650-520-000 | Project Operations-Flood          |            | 71.42        |
| 12/28/20 | 71995   | pac001    | Pace Analytical Services, Inc.         | 4530-101-000 | Water QM Staff-General            | 189.00     |              |
| 12/28/20 | 71996   | pet001    | Peterson Companies, Inc.               | 4630-516-000 | Construction Imp.-Maint. & Repair | 77,728.85  |              |
| 12/28/20 | 71997   | pro003    | Lyndsey Provos                         |              |                                   | 1,624.82   |              |
|          |         |           |  | 4020-101-000 | Employee Expenses-General         |            | 930.93       |
|          |         |           |  | 4530-101-000 | Water QM Staff-General            |            | 69.95        |
|          |         |           |  | 4040-101-000 | Employee Benefits-General         |            | 623.94       |
| 12/28/20 | 71998   | qwe001    | CenturyLink                            | 4650-101-000 | Project Operations-General        | 266.73     |              |
| 12/28/20 | 71999   | ram002    | Ramsey County                          |              |                                   | 805.00     |              |
|          |         |           |  | 4682-529-000 | Stewardship Grant Fund            |            | 355.00       |
|          |         |           |  | 4670-101-000 | Natural Resources Project-General |            | 300.00       |
|          |         |           |  | 4370-101-000 | Educational Program-General       |            | 150.00       |
| 12/28/20 | 72000   | ram014    | Ramsey County                          | 4670-101-000 | Natural Resources Project-General | 575.32     |              |
| 12/28/20 | 72001   | red002    | Redpath & Company, Ltd.                | 4110-101-000 | Auditor/Accounting                | 1,856.07   |              |
| 12/28/20 | 72002   | red003    | Red Wing Business Advantage Account    | 4040-101-000 | Employee Benefits-General         | 148.74     |              |
| 12/28/20 | 72003   | reg002    | Regents of the University of Minnesota | 4695-101-000 | Research Projects-General         | 2,915.00   |              |
| 12/28/20 | 72004   | rol001    | Rolling Hills Homeowners Association   | 4682-529-000 | Stewardship Grant Fund            | 1,000.00   |              |
| 12/28/20 | 72005   | rou002    | Round Lake Trail                       | 4682-529-000 | Stewardship Grant Fund            | 457.50     |              |

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|--------------------------------|---------|-----------|----------------------------------|--------------|-----------------------------------|-----------------------|--------------|
| 12/28/20                       | 72006   | san003    | Sandstrom Land Management        | 4630-516-000 | Construction Imp.-Maint. & Repair | 355.00                |              |
| 12/28/20                       | 72007   | sch012    | The Schneider Co.                | 4703-101-000 | Office Equipment-General          | 18,800.00             |              |
| 12/28/20                       | 72008   | sim001    | Emily Simmons                    | 4020-101-000 | Employee Expenses-General         | 59.85                 |              |
| 12/28/20                       | 72009   | sod001    | Nicole Soderholm                 | 4040-101-000 | Employee Benefits-General         | 229.18                |              |
| 12/28/20                       | 72010   | sum001    | Sunram Construction, Inc.        | 4682-518-000 | BMP Cost Share Program            | 45,779.64             |              |
| 12/28/20                       | 72011   | sum001    | Sunram Construction, Inc.        | 4682-518-000 | BMP Cost Share Program            | 161,533.88            |              |
| 12/28/20                       | 72012   | tow002    | Townhouses of Pathways           | 4682-529-000 | Stewardship Grant Fund            | 800.00                |              |
| 12/28/20                       | 72013   | tro002    | Cathy Troendle                   | 4370-101-000 | Educational Program-General       | 75.00                 |              |
| 12/28/20                       | 72014   | twi001    | Twin City Seed Co.               | 4670-101-000 | Natural Resources Project-General | 55.00                 |              |
| 12/28/20                       | 72015   | uni008    | University of Minnesota          | 4695-101-000 | Research Projects-General         | 55,000.00             |              |
| 12/28/20                       | 72016   | usb002    | U.S. Bank                        |              |                                   | 9,572.97              |              |
|                                |         |           |                                  | 4343-101-000 | Bldg./Site Maintenance            |                       | 43.88        |
|                                |         |           |                                  | 4325-101-000 | IT/Website/Software               |                       | 96.31        |
|                                |         |           |                                  | 4343-101-000 | Bldg./Site Maintenance            |                       | 51.95        |
|                                |         |           |                                  | 4320-101-000 | Office Supplies                   |                       | 75.50        |
|                                |         |           |                                  | 4342-101-000 | Utilities/Bldg. Contracts         |                       | 75.38        |
|                                |         |           |                                  | 4320-101-000 | Office Supplies                   |                       | 46.04        |
|                                |         |           |                                  | 4350-101-000 | Training & Education-General      |                       | 202.78       |
|                                |         |           |                                  | 4350-101-000 | Training & Education-General      |                       | 202.78       |
|                                |         |           |                                  | 4350-101-000 | Training & Education-General      |                       | 202.78       |
|                                |         |           |                                  | 4350-101-000 | Training & Education-General      |                       | 202.78       |
|                                |         |           |                                  | 4350-101-000 | Training & Education-General      |                       | 202.78       |
|                                |         |           |                                  | 4630-516-000 | Construction Imp.-Maint. & Repair |                       | 3,000.00     |
|                                |         |           |                                  | 4350-101-000 | Training & Education-General      |                       | 202.78       |
|                                |         |           |                                  | 4350-101-000 | Training & Education-General      |                       | 202.78       |
|                                |         |           |                                  | 4350-101-000 | Training & Education-General      |                       | 202.78       |
|                                |         |           |                                  | 4350-101-000 | Training & Education-General      |                       | 202.78       |
|                                |         |           |                                  | 4350-101-000 | Training & Education-General      |                       | 202.78       |
|                                |         |           |                                  | 4350-101-000 | Training & Education-General      |                       | 202.78       |
|                                |         |           |                                  | 4350-101-000 | Training & Education-General      |                       | 202.78       |
|                                |         |           |                                  | 4350-101-000 | Training & Education-General      |                       | 202.78       |
|                                |         |           |                                  | 4350-101-000 | Training & Education-General      |                       | 202.78       |
|                                |         |           |                                  | 4350-101-000 | Training & Education-General      |                       | 202.78       |
|                                |         |           |                                  | 4630-516-000 | Construction Imp.-Maint. & Repair |                       | 3,000.00     |
|                                |         |           |                                  | 4170-101-000 | GIS System Maint. & Equipment     |                       | 300.00       |
|                                |         |           |                                  | 4371-101-000 | Communications & Marketing        |                       | 44.99        |
| 12/28/20                       | 72017   | van003    | Erika Van Krevelen               | 4020-101-000 | Employee Expenses-General         | 77.63                 |              |
| 12/28/20                       | 72018   | van004    | Thomas Van Heel                  | 4682-529-000 | Stewardship Grant Fund            | 1,000.00              |              |
| 12/28/20                       | 72019   | ves001    | Pete Vesterholt                  | 4682-529-000 | Stewardship Grant Fund            | 500.00                |              |
| 12/28/20                       | 72020   | vla001    | David Vlasin                     |              |                                   | 285.02                |              |
|                                |         |           |                                  | 4020-101-000 | Employee Expenses-General         |                       | 26.10        |
|                                |         |           |                                  | 4650-516-000 | Project Operations-General        |                       | 10.78        |
|                                |         |           |                                  | 4040-101-000 | Employee Benefits-General         |                       | 248.14       |
| 12/28/20                       | 72021   | wal005    | Heidi Walz                       | 4682-529-000 | Stewardship Grant Fund            | 245.00                |              |
| 12/28/20                       | 72022   | was002    | Washington Conservation District | 4683-101-000 | Outside Program Support           | 3,175.00              |              |
| 12/28/20                       | 72023   | win002    | Windmill Strategy                | 4371-101-000 | Communications & Marketing        | 200.00                |              |
| 12/28/20                       | 72024   | woo001    | Woodland Hills Church            | 4682-529-000 | Stewardship Grant Fund            | 1,000.00              |              |
| <b>Accounts Payable Total:</b> |         |           |                                  |              |                                   | <b>\$1,089,790.90</b> |              |

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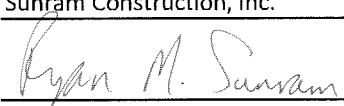
| Date                    | Check #  | Vendor ID | Name                     | Account ID   | Account Description               | Amount                       | Check Detail |
|-------------------------|----------|-----------|--------------------------|--------------|-----------------------------------|------------------------------|--------------|
| EFT                     | 11/13/20 | myp001    | Payroll Fees             | 4110-101-000 | November 13th Payroll Fees        | 73.55                        |              |
| EFT                     | 11/27/20 | myp001    | Payroll Fees             | 4110-101-000 | November 27th Payroll Fees        | 73.55                        |              |
| Dir.Dep.                |          |           |                          |              |                                   |                              |              |
| EFT                     | 12/11/20 | ---       | Payroll Expense-Net      | 4010-101-000 | December 11th Payroll             | 32,112.40                    |              |
| EFT                     | 12/11/20 | int002    | Internal Revenue Service | 2001-101-000 | December 11th Federal Withholding | 10,639.13                    |              |
| EFT                     | 12/11/20 | mnd001    | MN Revenue               | 2003-101-000 | December 11th State Withholding   | 1,940.80                     |              |
| EFT                     | 12/11/20 | per001    | PERA                     | 2011-101-000 | December 11th PERA                | 6,248.58                     |              |
| EFT                     | 12/11/20 | emp002    | Empower Retirement       | 2016-101-000 | Employee Def.Comp. Contributions  | 2,454.00                     |              |
|                         | 12/11/20 | emp002    | Empower Retirement       | 2018-101-000 | Employee IRA Contributions        | 450.00                       |              |
| Dir.Dep.                |          |           |                          |              |                                   |                              |              |
| EFT                     | 12/24/20 | ---       | Payroll Expense-Net      | 4010-101-000 | December 24th Payroll             | 31,646.60                    |              |
| EFT                     | 12/24/20 | int002    | Internal Revenue Service | 2001-101-000 | December 24th Federal Withholding | 10,608.05                    |              |
| EFT                     | 12/24/20 | mnd001    | MN Revenue               | 2003-101-000 | December 24th State Withholding   | 1,943.16                     |              |
| EFT                     | 12/24/20 | per001    | PERA                     | 2011-101-000 | December 24th PERA                | 6,223.94                     |              |
| EFT                     | 12/24/20 | emp002    | Empower Retirement       | 2016-101-000 | Employee Def.Comp. Contributions  | 2,474.00                     |              |
|                         | 12/24/20 | emp002    | Empower Retirement       | 2018-101-000 | Employee IRA Contributions        | 450.00                       |              |
|                         |          |           |                          |              |                                   | <b><u>\$107,337.76</u></b>   |              |
| <b>Payroll/Benefits</b> |          |           |                          |              |                                   |                              |              |
| <b>TOTAL:</b>           |          |           |                          |              |                                   | <b><u>\$1,197,128.66</u></b> |              |

**Target East St. Paul Retail Store Stormwater Retrofits  
Progress Payment Number 3**

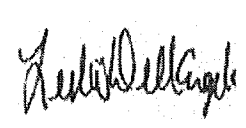
|      |   |                     |                            |
|------|---|---------------------|----------------------------|
| 1.0  | Total Completed Through This Period:      | <u>\$527,180.31</u> |                            |
| 2.0  | Total Completed Previously:               |                     | <u>\$357,144.65</u>        |
| 3.0  | Total Completed This Period:              |                     | <u>\$170,035.66</u>        |
| 4.0  | Amount Previously Retained:               | <u>\$17,857.23</u>  |                            |
| 5.0  | Amount Retained This Period (See Note 1): |                     | <u>\$8,501.78</u>          |
| 6.0  | Total Amount Retained (See Note 1):       | <u>\$26,359.01</u>  |                            |
| 7.0  | Retainage Released Through This Period:   |                     | <u>\$0.00</u>              |
| 8.0  | Total Retainage Remaining:                | <u>\$26,359.01</u>  |                            |
| 9.0  | Amounts Previously Paid:                  | <u>\$339,287.43</u> |                            |
| 10.0 | Amount Due This Estimate:                 |                     | <u><u>\$161,533.88</u></u> |

Note 1: At rate of 5%.

SUBMITTED BY:

Name: Ryan Sunram Date: 11/18/20  
 Title: Project Manager  
 Contractor: Sunram Construction, Inc.  
 Signature: 

RECOMMENDED BY:

Name: Leslie DellAngelo Date: 11/18/2020  
 Title: Project Engineer  
 Engineer: Barr Engineering Company  
 Signature: 

APPROVED BY:

Name: Marj Ebensteiner Date: \_\_\_\_\_  
 Title: President  
 Owner: Ramsey-Washington Metro Watershed District  
 Signature: \_\_\_\_\_

**Target East St. Paul Retail Store Stormwater Retrofits  
Ramsey-Washington Metro Watershed District  
Summary of Work Completed Through November 17, 2020 for Progress Payment Number 3**

|      |  |      |                    |            |           | (1) Total Completed Through This Period |             | (2) Total Completed Through Previous Period |             | (3) Total Completed This Period |             |
|------|--|------|--------------------|------------|-----------|---|-------------|---|-------------|---------------------------------|-------------|
| Item | Description  | Unit | Estimated Quantity | Unit Price | Extension | Quantity                                | Amount      | Quantity                                    | Amount      | Quantity                        | Amount      |
| A    | Mobilization/Demobilization  | LS   | 1                  | 39,750.70  | 39,750.70 | 0.75                                    | \$29,813.03 | 0.50  | \$19,875.35 | 0.25                            | \$9,937.68  |
| B    | Traffic and Pedestrian Safety Control Measures                       | LS   | 1                  | 10,500.00  | 10,500.00 | 0.75                                    | \$7,875.00  | 0.50  | \$5,250.00  | 0.25                            | \$2,625.00  |
| C    | Remove and Re-set Two Light Poles                                    | LS   | 1                  | 10,000.00  | 10,000.00 | 0.75                                    | \$7,500.00  | 0.50  | \$5,000.00  | 0.25                            | \$2,500.00  |
| D    | Inlet Protection (P)   | EA   | 15                 | 150.00     | 2,250.00  | 12                                      | \$1,800.00  | 12  | \$1,800.00  | 0                               | \$0.00      |
| E    | Mulch/Rock Filter Biolog   | LF   | 741                | 4.00       | 2,964.00  | 741                                     | \$2,964.00  | 741   | \$2,964.00  | 0                               | \$0.00      |
| F    | Silt Fence   | LF   | 68                 | 5.00       | 340.00    | 0                                       | \$0.00      | 0   | \$0.00      | 0                               | \$0.00      |
| G    | Street Sweeping  | HR   | 32                 | 125.00     | 4,000.00  | 10                                      | \$1,250.00  | 5   | \$625.00    | 5                               | \$625.00    |
| H    | Removal and Disposal of Tree < 7 inch Diameter                       | EA   | 20                 | 365.00     | 7,300.00  | 20                                      | \$7,300.00  | 20  | \$7,300.00  | 0                               | \$0.00      |
| I    | Removal and Disposal of Tree 7 inch to 12 inch Diameter              | EA   | 1                  | 750.00     | 750.00    | 1                                       | \$750.00    | 1   | \$750.00    | 0                               | \$0.00      |
| J    | Removal and Disposal of Tree 12 inch to 28 inch Diameter             | EA   | 1                  | 1,100.00   | 1,100.00  | 1                                       | \$1,100.00  | 1   | \$1,100.00  | 0                               | \$0.00      |
| K    | Sawcut Bituminous Pavement (Full Depth) (P)                          | LF   | 2,275              | 4.13       | 9,395.75  | 2275                                    | \$9,395.75  | 1810  | \$7,475.30  | 465                             | \$1,920.45  |
| L    | Remove and Dispose of Concrete Curb & Gutter                         | LF   | 559                | 8.00       | 4,472.00  | 559                                     | \$4,472.00  | 450   | \$3,600.00  | 109                             | \$872.00    |
| M    | Remove and Dispose of 8 inch Bituminous Pavement (P)                 | SY   | 2,976              | 5.70       | 16,963.20 | 2976                                    | \$16,963.20 | 1900  | \$10,830.00 | 1076                            | \$6,133.20  |
| N    | Remove and Salvage Class 5 Aggregate (P)                             | CY   | 407                | 6.75       | 2,747.25  | 407                                     | \$2,747.25  | 300   | \$2,025.00  | 107                             | \$722.25    |
| O    | Remove and Dispose of Existing RC Storm Sewer Pipe (12 inch-18 inch) | LF   | 54                 | 26.00      | 1,404.00  | 54                                      | \$1,404.00  | 54  | \$1,404.00  | 0                               | \$0.00      |
| P    | Bulkhead Manhole (at 12 inch RCP Removal)                            | LS   | 1                  | 200.00     | 200.00    | 1                                       | \$200.00    | 1   | \$200.00    | 0                               | \$0.00      |
| Q    | Remove and Dispose of Existing Catch Basin                           | EA   | 2                  | 575.00     | 1,150.00  | 2                                       | \$1,150.00  | 2   | \$1,150.00  | 0                               | \$0.00      |
| R    | Remove and Salvage Existing Top Soil (P)                             | CY   | 39                 | 11.50      | 448.50    | 39                                      | \$448.50    | 10  | \$115.00    | 29                              | \$333.50    |
| S    | Common Excavation (P)  | CY   | 1,521              | 14.65      | 22,282.65 | 1521                                    | \$22,282.65 | 1000  | \$14,650.00 | 521                             | \$7,632.65  |
| T    | Dispose Excavated Material Offsite (P)                               | CY   | 1,229              | 14.65      | 18,004.85 | 1229                                    | \$18,004.85 | 700   | \$10,255.00 | 529                             | \$7,749.85  |
| U    | Soil Loosening - 18 inch Depth (P)                                   | SY   | 860                | 0.85       | 731.00    | 860                                     | \$731.00    | 100   | \$85.00     | 760                             | \$646.00    |
| V    | Replace Salvaged Class 5 Aggregate Base (P)                          | CY   | 318                | 21.75      | 6,916.50  | 318                                     | \$6,916.50  | 240   | \$5,220.00  | 78                              | \$1,696.50  |
| W    | Replace Salvaged Topsoil (P)   | CY   | 39                 | 20.00      | 780.00    | 39                                      | \$780.00    | 0   | \$0.00      | 39                              | \$780.00    |
| X    | Furnish and Install Class 5 Aggregate Base                           | TON  | 2                  | 245.00     | 490.00    | 2                                       | \$490.00    | 2   | \$490.00    | 0                               | \$0.00      |
| Y    | Furnish and Install Topsoil  | TON  | 274                | 41.75      | 11,439.50 | 198                                     | \$8,266.50  | 0   | \$0.00      | 198                             | \$8,266.50  |
| Z    | Bituminous Base Course 2.5 inch thick (P)                            | SY   | 1,901              | 16.80      | 31,936.80 | 1349                                    | \$22,663.20 | 1000  | \$16,800.00 | 349                             | \$5,863.20  |
| AA   | Bituminous Wearing Course 1.5 inch thick (P)                         | SY   | 1,901              | 12.60      | 23,952.60 | 1349                                    | \$16,997.40 | 1000  | \$12,600.00 | 349                             | \$4,397.40  |
| BB   | Tack Coat (P)  | SY   | 1,901              | 0.22       | 418.22    | 1349                                    | \$296.78    | 1000  | \$220.00    | 349                             | \$76.78     |
| CC   | B6-12 Concrete Curb & Gutter   | LF   | 993                | 29.85      | 29,641.05 | 327                                     | \$9,760.95  | 250   | \$7,462.50  | 77                              | \$2,298.45  |
| DD   | Curb cut   | EA   | 2                  | 315.00     | 630.00    | 2                                       | \$630.00    | 1   | \$315.00    | 1                               | \$315.00    |
| EE   | Concrete Swale   | LF   | 120                | 57.60      | 6,912.00  | 120                                     | \$6,912.00  | 0   | \$0.00      | 120                             | \$6,912.00  |
| FF   | Concrete Edge at Swale   | LF   | 240                | 24.40      | 5,856.00  | 240                                     | \$5,856.00  | 0   | \$0.00      | 240                             | \$5,856.00  |
| GG   | Painted Pavement Marking   | LS   | 1                  | 2,500.00   | 2,500.00  | 0                                       | \$0.00      | 0   | \$0.00      | 0                               | \$0.00      |
| HH   | 48 inch-Dia. Pre-cast Storm Sewer Manhole, Complete                  | EA   | 8                  | 4,475.00   | 35,800.00 | 8                                       | \$35,800.00 | 8   | \$35,800.00 | 0                               | \$0.00      |
| II   | 72 inch-Dia. Pre-cast Storm Sewer Manhole w/ Weir, Complete          | EA   | 2                  | 11,437.50  | 22,875.00 | 2                                       | \$22,875.00 | 2   | \$22,875.00 | 0                               | \$0.00      |
| JJ   | 3 foot x 2 foot Catch Basin with Sump, Complete                      | EA   | 5                  | 3,375.00   | 16,875.00 | 5                                       | \$16,875.00 | 1   | \$3,375.00  | 4                               | \$13,500.00 |
| KK   | Agri drain & Stop Logs, Complete                                     | EA   | 3                  | 1,935.00   | 5,805.00  | 3                                       | \$5,805.00  | 0   | \$0.00      | 3                               | \$5,805.00  |
| LL   | Connect to Existing Storm Structure                                  | EA   | 6                  | 1,130.00   | 6,780.00  | 6                                       | \$6,780.00  | 6   | \$6,780.00  | 0                               | \$0.00      |
| MM   | 12 inch RC Storm Sewer Pipe  | LF   | 17                 | 52.50      | 892.50    | 17                                      | \$892.50    | 17  | \$892.50    | 0                               | \$0.00      |
| NN   | 10 inch DI Storm Sewer Pipe  | LF   | 59                 | 74.00      | 4,366.00  | 59                                      | \$4,366.00  | 0   | \$0.00      | 59                              | \$4,366.00  |
| OO   | 12 inch Perforated CPE Drintile Pipe and Fittings, no sock (P)       | LF   | 550                | 37.15      | 20,432.50 | 550                                     | \$20,432.50 | 550   | \$20,432.50 | 0                               | \$0.00      |
| PP   | 10 inch PVC Sewer Pipe and Fittings (P)                              | LF   | 60                 | 50.50      | 3,030.00  | 60                                      | \$3,030.00  | 60  | \$3,030.00  | 0                               | \$0.00      |



**Target East St. Paul Retail Store Stormwater Retrofits  
 Ramsey-Washington Metro Watershed District  
 Summary of Work Completed Through November 17, 2020 for Progress Payment Number 3**

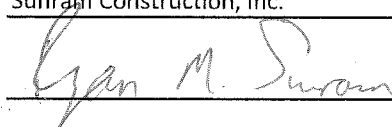
|                         |  |      |                    |            |           | (1) Total Completed Through This Period |                     | (2) Total Completed Through Previous Period |                     | (3) Total Completed This Period |             |
|-------------------------|--|------|--------------------|------------|-----------|---|---------------------|---|---------------------|---------------------------------|-------------|
| Item                    | Description  | Unit | Estimated Quantity | Unit Price | Extension | Quantity                                | Amount              | Quantity                                    | Amount              | Quantity                        | Amount      |
| QQ                      | 6 inch Perforated Dual Wall HDPE Drintile Pipe and Fittings (no sock) (P)    | LF   | 200                | 17.30      | 3,460.00  | 200                                     | \$3,460.00          | 0   | \$0.00              | 200                             | \$3,460.00  |
| RR                      | 6 inch PVC Storm Sewer Pipe and Fittings (P)                                 | LF   | 90                 | 33.50      | 3,015.00  | 90                                      | \$3,015.00          | 65  | \$2,177.50          | 25                              | \$837.50    |
| SS                      | 6 inch Drintile Cleanout and Cover Unit                                      | EA   | 12                 | 475.00     | 5,700.00  | 6                                       | \$2,850.00          | 0   | \$0.00              | 6                               | \$2,850.00  |
| TT                      | 6 inch Drintile Connection to Structure                                      | EA   | 5                  | 815.00     | 4,075.00  | 4                                       | \$3,260.00          | 0   | \$0.00              | 4                               | \$3,260.00  |
| UU                      | Clean Washed Sand with 5 percent iron aggregate (P)                          | CY   | 46                 | 245.00     | 11,270.00 | 57                                      | \$13,965.00         | 13  | \$3,185.00          | 44                              | \$10,780.00 |
| VV                      | Small Splash Block Assembly (Pipe Discharge)                                 | EA   | 5                  | 800.00     | 4,000.00  | 5                                       | \$4,000.00          | 0   | \$0.00              | 5                               | \$4,000.00  |
| WW                      | Large Splash Block Assembly (Curb cut)                                       | EA   | 2                  | 1,885.00   | 3,770.00  | 1                                       | \$1,885.00          | 1   | \$1,885.00          | 0                               | \$0.00      |
| XX                      | Limestone Block Retaining Wall   | SFF  | 432                | 53.25      | 23,004.00 | 445                                     | \$23,696.25         | 110   | \$5,857.50          | 335                             | \$17,838.75 |
| YY                      | Twice Shredded Hardwood Mulch (P)  | CY   | 110                | 63.00      | 6,930.00  | 0                                       | \$0.00              | 0   | \$0.00              | 0                               | \$0.00      |
| ZZ                      | Planting Soil (75% sand, 25% leaf compost - MnDOT Grade II) (P)              | CY   | 203                | 47.00      | 9,541.00  | 203                                     | \$9,541.00          | 25  | \$1,175.00          | 178                             | \$8,366.00  |
| AAA                     | 2 inch-4 inch Clean Washed Angular Rock (Granite)                            | TON  | 300                | 73.75      | 22,125.00 | 302                                     | \$22,272.50         | 302   | \$22,272.50         | 0                               | \$0.00      |
| BBB                     | Filtration Soil Washed into 2 inch-4 inch Rock (P)                           | CY   | 45                 | 96.00      | 4,320.00  | 45                                      | \$4,320.00          | 45  | \$4,320.00          | 0                               | \$0.00      |
| CCC                     | 1/4 inch Clean Washed Chip (Granite)   | TON  | 80                 | 87.00      | 6,960.00  | 80                                      | \$6,960.00          | 50  | \$4,350.00          | 30                              | \$2,610.00  |
| DDD                     | 3/4 inch Clean Washed Chip (Granite)   | TON  | 80                 | 87.00      | 6,960.00  | 83                                      | \$7,221.00          | 83  | \$7,221.00          | 0                               | \$0.00      |
| EEE                     | MnDOT Type V Geotextile Filter Fabric (P)                                    | SY   | 570                | 3.00       | 1,710.00  | 570                                     | \$1,710.00          | 570   | \$1,710.00          | 0                               | \$0.00      |
| FFF                     | Pre-cast Concrete Tree Box with Concrete Frame                               | EA   | 3                  | 4,675.00   | 14,025.00 | 3                                       | \$14,025.00         | 3   | \$14,025.00         | 0                               | \$0.00      |
| GGG                     | Tree Guard   | EA   | 3                  | 1,625.00   | 4,875.00  | 0                                       | \$0.00              | 0   | \$0.00              | 0                               | \$0.00      |
| HHH                     | Tree Grate   | EA   | 3                  | 2,052.00   | 6,156.00  | 3                                       | \$6,156.00          | 0   | \$0.00              | 3                               | \$6,156.00  |
| III                     | Snout Separator  | EA   | 2                  | 1,165.00   | 2,330.00  | 2                                       | \$2,330.00          | 0   | \$0.00              | 2                               | \$2,330.00  |
| JJJ                     | 4 inch Trench Drain with Concrete Encasement and Herringbone Grate, Complete | LF   | 210                | 237.00     | 49,770.00 | 210                                     | \$49,770.00         | 210   | \$49,770.00         | 0                               | \$0.00      |
| KKK                     | Perennials - 4 inch pot (P)  | EA   | 303                | 16.80      | 5,090.40  | 0                                       | \$0.00              | 0   | \$0.00              | 0                               | \$0.00      |
| LLL                     | Perennials - 1 gallon pot (P)  | EA   | 1,701              | 20.00      | 34,020.00 | 0                                       | \$0.00              | 0   | \$0.00              | 0                               | \$0.00      |
| MMM                     | Shrub (#2 Gallon Container) (P)  | EA   | 277                | 45.15      | 12,506.55 | 0                                       | \$0.00              | 0   | \$0.00              | 0                               | \$0.00      |
| NNN                     | Deciduous Tree (#20, Cont.) (P)  | EA   | 17                 | 305.00     | 5,185.00  | 15                                      | \$4,575.00          | 0   | \$0.00              | 15                              | \$4,575.00  |
| OOO                     | Sodding (Salt Tolerant)  | SY   | 62                 | 15.00      | 930.00    | 0                                       | \$0.00              | 0   | \$0.00              | 0                               | \$0.00      |
| C.O.1                   | 6" Solid Dual Wall HDPE Storm Sewer Pipe and Fittings (P)                    | LF   | 290                | 17.30      | 5,017.00  | 290                                     | \$5,017.00          | 0   | \$0.00              | 290                             | \$5,017.00  |
| C.O.2.a                 | Drintile connections and irrigation line repairs in the tree trench          | LS   | 1                  | 1,675.00   | 1,675.00  | 1                                       | \$1,675.00          | 1   | \$5,550.00          | 0                               | -\$3,875.00 |
| C.O.2.b                 | Repairs to top of existing storm structure                                   | LS   | 1                  | 900.00     | 900.00    | 1                                       | \$900.00            | 1   | \$900.00            | 0                               | \$0.00      |
| <b>TOTAL BASE BID =</b> |  |      |                    |            |           | <b>654,402.52</b>                       | <b>TOTAL EXT. =</b> | <b>\$527,180.31</b>                         | <b>\$357,144.65</b> | <b>\$170,035.66</b>             |             |

**Target East St. Paul Retail Store Stormwater Retrofits  
Progress Payment Number 4**

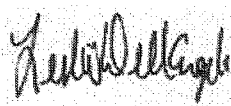
|      |   |                     |                           |
|------|---|---------------------|---------------------------|
| 1.0  | Total Completed Through This Period:      | <u>\$575,369.41</u> |                           |
| 2.0  | Total Completed Previously:               |                     | <u>\$527,180.31</u>       |
| 3.0  | Total Completed This Period:              |                     | <u>\$48,189.10</u>        |
| 4.0  | Amount Previously Retained:               | <u>\$26,359.01</u>  |                           |
| 5.0  | Amount Retained This Period (See Note 1): |                     | <u>\$2,409.46</u>         |
| 6.0  | Total Amount Retained (See Note 1):       | <u>\$28,768.47</u>  |                           |
| 7.0  | Retainage Released Through This Period:   |                     | <u>\$0.00</u>             |
| 8.0  | Total Retainage Remaining:                | <u>\$28,768.47</u>  |                           |
| 9.0  | Amounts Previously Paid:                  | <u>\$500,821.31</u> |                           |
| 10.0 | Amount Due This Estimate:                 |                     | <u><u>\$45,779.64</u></u> |

Note 1: At rate of 5%.

SUBMITTED BY:

Name: Ryan Sunram Date: 12/21/20  
 Title: Project Manager  
 Contractor: Sunram Construction, Inc.  
 Signature: 

RECOMMENDED BY:

Name: Leslie DellAngelo Date: 12/21/2020  
 Title: Project Engineer  
 Engineer: Barr Engineering Company  
 Signature: 

APPROVED BY:

Name: Marj Ebensteiner Date: \_\_\_\_\_  
 Title: President  
 Owner: Ramsey-Washington Metro Watershed District  
 Signature: \_\_\_\_\_

**Target East St. Paul Retail Store Stormwater Retrofits  
Ramsey-Washington Metro Watershed District  
Summary of Work Completed Through December 22, 2020 for Progress Payment Number 4**

| Item | Description  | Unit | Estimated Quantity | Unit Price | Extension | (1) Total Completed Through This Period |             | (2) Total Completed Through Previous Period |             | (3) Total Completed This Period |             |
|------|--|------|--------------------|------------|-----------|---|-------------|---|-------------|---------------------------------|-------------|
|      |  |      |                    |            |           | Quantity                                | Amount      | Quantity                                    | Amount      | Quantity                        | Amount      |
| A    | Mobilization/Demobilization  | LS   | 1                  | 39,750.70  | 39,750.70 | 0.75                                    | \$29,813.03 | 0.75  | \$29,813.03 | 0                               | \$0.00      |
| B    | Traffic and Pedestrian Safety Control Measures                       | LS   | 1                  | 10,500.00  | 10,500.00 | 1.00                                    | \$10,500.00 | 0.75  | \$7,875.00  | 0.25                            | \$2,625.00  |
| C    | Remove and Re-set Two Light Poles                                    | LS   | 1                  | 10,000.00  | 10,000.00 | 1.00                                    | \$10,000.00 | 0.75  | \$7,500.00  | 0.25                            | \$2,500.00  |
| D    | Inlet Protection (P)   | EA   | 15                 | 150.00     | 2,250.00  | 12                                      | \$1,800.00  | 12  | \$1,800.00  | 0                               | \$0.00      |
| E    | Mulch/Rock Filter Biolog   | LF   | 741                | 4.00       | 2,964.00  | 741                                     | \$2,964.00  | 741   | \$2,964.00  | 0                               | \$0.00      |
| F    | Silt Fence   | LF   | 68                 | 5.00       | 340.00    | 0                                       | \$0.00      | 0   | \$0.00      | 0                               | \$0.00      |
| G    | Street Sweeping  | HR   | 32                 | 125.00     | 4,000.00  | 15                                      | \$1,875.00  | 10  | \$1,250.00  | 5                               | \$625.00    |
| H    | Removal and Disposal of Tree < 7 inch Diameter                       | EA   | 20                 | 365.00     | 7,300.00  | 20                                      | \$7,300.00  | 20  | \$7,300.00  | 0                               | \$0.00      |
| I    | Removal and Disposal of Tree 7 inch to 12 inch Diameter              | EA   | 1                  | 750.00     | 750.00    | 1                                       | \$750.00    | 1   | \$750.00    | 0                               | \$0.00      |
| J    | Removal and Disposal of Tree 12 inch to 28 inch Diameter             | EA   | 1                  | 1,100.00   | 1,100.00  | 1                                       | \$1,100.00  | 1   | \$1,100.00  | 0                               | \$0.00      |
| K    | Sawcut Bituminous Pavement (Full Depth) (P)                          | LF   | 2,275              | 4.13       | 9,395.75  | 2275                                    | \$9,395.75  | 2275  | \$9,395.75  | 0                               | \$0.00      |
| L    | Remove and Dispose of Concrete Curb & Gutter                         | LF   | 559                | 8.00       | 4,472.00  | 559                                     | \$4,472.00  | 559   | \$4,472.00  | 0                               | \$0.00      |
| M    | Remove and Dispose of 8 inch Bituminous Pavement (P)                 | SY   | 2,976              | 5.70       | 16,963.20 | 2976                                    | \$16,963.20 | 2976  | \$16,963.20 | 0                               | \$0.00      |
| N    | Remove and Salvage Class 5 Aggregate (P)                             | CY   | 407                | 6.75       | 2,747.25  | 407                                     | \$2,747.25  | 407   | \$2,747.25  | 0                               | \$0.00      |
| O    | Remove and Dispose of Existing RC Storm Sewer Pipe (12 inch-18 inch) | LF   | 54                 | 26.00      | 1,404.00  | 54                                      | \$1,404.00  | 54  | \$1,404.00  | 0                               | \$0.00      |
| P    | Bulkhead Manhole (at 12 inch RCP Removal)                            | LS   | 1                  | 200.00     | 200.00    | 1                                       | \$200.00    | 1   | \$200.00    | 0                               | \$0.00      |
| Q    | Remove and Dispose of Existing Catch Basin                           | EA   | 2                  | 575.00     | 1,150.00  | 2                                       | \$1,150.00  | 2   | \$1,150.00  | 0                               | \$0.00      |
| R    | Remove and Salvage Existing Top Soil (P)                             | CY   | 39                 | 11.50      | 448.50    | 39                                      | \$448.50    | 39  | \$448.50    | 0                               | \$0.00      |
| S    | Common Excavation (P)  | CY   | 1,521              | 14.65      | 22,282.65 | 1521                                    | \$22,282.65 | 1521  | \$22,282.65 | 0                               | \$0.00      |
| T    | Dispose Excavated Material Offsite (P)                               | CY   | 1,229              | 14.65      | 18,004.85 | 1229                                    | \$18,004.85 | 1229  | \$18,004.85 | 0                               | \$0.00      |
| U    | Soil Loosening - 18 inch Depth (P)                                   | SY   | 860                | 0.85       | 731.00    | 860                                     | \$731.00    | 860   | \$731.00    | 0                               | \$0.00      |
| V    | Replace Salvaged Class 5 Aggregate Base (P)                          | CY   | 318                | 21.75      | 6,916.50  | 318                                     | \$6,916.50  | 318   | \$6,916.50  | 0                               | \$0.00      |
| W    | Replace Salvaged Topsoil (P)   | CY   | 39                 | 20.00      | 780.00    | 39                                      | \$780.00    | 39  | \$780.00    | 0                               | \$0.00      |
| X    | Furnish and Install Class 5 Aggregate Base                           | TON  | 2                  | 245.00     | 490.00    | 2                                       | \$490.00    | 2   | \$490.00    | 0                               | \$0.00      |
| Y    | Furnish and Install Topsoil  | TON  | 274                | 41.75      | 11,439.50 | 198                                     | \$8,266.50  | 198   | \$8,266.50  | 0                               | \$0.00      |
| Z    | Bituminous Base Course 2.5 inch thick (P)                            | SY   | 1,901              | 16.80      | 31,936.80 | 1804                                    | \$30,307.20 | 1349  | \$22,663.20 | 455                             | \$7,644.00  |
| AA   | Bituminous Wearing Course 1.5 inch thick (P)                         | SY   | 1,901              | 12.60      | 23,952.60 | 1349                                    | \$16,997.40 | 1349  | \$16,997.40 | 0                               | \$0.00      |
| BB   | Tack Coat (P)  | SY   | 1,901              | 0.22       | 418.22    | 1349                                    | \$296.78    | 1349  | \$296.78    | 0                               | \$0.00      |
| CC   | B6-12 Concrete Curb & Gutter   | LF   | 993                | 29.85      | 29,641.05 | 993                                     | \$29,641.05 | 327   | \$9,760.95  | 666                             | \$19,880.10 |
| DD   | Curb cut   | EA   | 2                  | 315.00     | 630.00    | 2                                       | \$630.00    | 2   | \$630.00    | 0                               | \$0.00      |
| EE   | Concrete Swale   | LF   | 120                | 57.60      | 6,912.00  | 120                                     | \$6,912.00  | 120   | \$6,912.00  | 0                               | \$0.00      |
| FF   | Concrete Edge at Swale   | LF   | 240                | 24.40      | 5,856.00  | 240                                     | \$5,856.00  | 240   | \$5,856.00  | 0                               | \$0.00      |
| GG   | Painted Pavement Marking   | LS   | 1                  | 2,500.00   | 2,500.00  | 1                                       | \$2,500.00  | 0   | \$0.00      | 1                               | \$2,500.00  |
| HH   | 48 inch-Dia. Pre-cast Storm Sewer Manhole, Complete                  | EA   | 8                  | 4,475.00   | 35,800.00 | 8                                       | \$35,800.00 | 8   | \$35,800.00 | 0                               | \$0.00      |
| II   | 72 inch-Dia. Pre-cast Storm Sewer Manhole w/ Weir, Complete          | EA   | 2                  | 11,437.50  | 22,875.00 | 2                                       | \$22,875.00 | 2   | \$22,875.00 | 0                               | \$0.00      |
| JJ   | 3 foot x 2 foot Catch Basin with Sump, Complete                      | EA   | 5                  | 3,375.00   | 16,875.00 | 5                                       | \$16,875.00 | 5   | \$16,875.00 | 0                               | \$0.00      |
| KK   | Agri drain & Stop Logs, Complete                                     | EA   | 3                  | 1,935.00   | 5,805.00  | 3                                       | \$5,805.00  | 3   | \$5,805.00  | 0                               | \$0.00      |
| LL   | Connect to Existing Storm Structure                                  | EA   | 6                  | 1,130.00   | 6,780.00  | 6                                       | \$6,780.00  | 6   | \$6,780.00  | 0                               | \$0.00      |
| MM   | 12 inch RC Storm Sewer Pipe  | LF   | 17                 | 52.50      | 892.50    | 17                                      | \$892.50    | 17  | \$892.50    | 0                               | \$0.00      |
| NN   | 10 inch DI Storm Sewer Pipe  | LF   | 59                 | 74.00      | 4,366.00  | 59                                      | \$4,366.00  | 59  | \$4,366.00  | 0                               | \$0.00      |
| OO   | 12 inch Perforated CPE Drintile Pipe and Fittings, no sock (P)       | LF   | 550                | 37.15      | 20,432.50 | 550                                     | \$20,432.50 | 550   | \$20,432.50 | 0                               | \$0.00      |
| PP   | 10 inch PVC Sewer Pipe and Fittings (P)                              | LF   | 60                 | 50.50      | 3,030.00  | 60                                      | \$3,030.00  | 60  | \$3,030.00  | 0                               | \$0.00      |

**Target East St. Paul Retail Store Stormwater Retrofits  
Ramsey-Washington Metro Watershed District  
Summary of Work Completed Through December 22, 2020 for Progress Payment Number 4**

| Item                    | Description  | Unit | Estimated Quantity | Unit Price | Extension         | (1) Total Completed Through This Period |                     | (2) Total Completed Through Previous Period |                    | (3) Total Completed This Period |            |
|-------------------------|--|------|--------------------|------------|-------------------|---|---------------------|---|--------------------|---------------------------------|------------|
|                         |  |      |                    |            |                   | Quantity                                | Amount              | Quantity                                    | Amount             | Quantity                        | Amount     |
| QQ                      | 6 inch Perforated Dual Wall HDPE Drintile Pipe and Fittings (no sock) (P)    | LF   | 200                | 17.30      | 3,460.00          | 200                                     | \$3,460.00          | 200   | \$3,460.00         | 0                               | \$0.00     |
| RR                      | 6 inch PVC Storm Sewer Pipe and Fittings (P)                                 | LF   | 90                 | 33.50      | 3,015.00          | 90                                      | \$3,015.00          | 90  | \$3,015.00         | 0                               | \$0.00     |
| SS                      | 6 inch Drintile Cleanout and Cover Unit                                      | EA   | 12                 | 475.00     | 5,700.00          | 6                                       | \$2,850.00          | 6   | \$2,850.00         | 0                               | \$0.00     |
| TT                      | 6 inch Drintile Connection to Structure                                      | EA   | 5                  | 815.00     | 4,075.00          | 4                                       | \$3,260.00          | 4   | \$3,260.00         | 0                               | \$0.00     |
| UU                      | Clean Washed Sand with 5 percent iron aggregate (P)                          | CY   | 46                 | 245.00     | 11,270.00         | 57                                      | \$13,965.00         | 57  | \$13,965.00        | 0                               | \$0.00     |
| VV                      | Small Splash Block Assembly (Pipe Discharge)                                 | EA   | 5                  | 800.00     | 4,000.00          | 5                                       | \$4,000.00          | 5   | \$4,000.00         | 0                               | \$0.00     |
| WW                      | Large Splash Block Assembly (Curb cut)                                       | EA   | 2                  | 1,885.00   | 3,770.00          | 1                                       | \$1,885.00          | 1   | \$1,885.00         | 0                               | \$0.00     |
| XX                      | Limestone Block Retaining Wall   | SFF  | 432                | 53.25      | 23,004.00         | 445                                     | \$23,696.25         | 445   | \$23,696.25        | 0                               | \$0.00     |
| YY                      | Twice Shredded Hardwood Mulch (P)  | CY   | 110                | 63.00      | 6,930.00          | 110                                     | \$6,930.00          | 0   | \$0.00             | 110                             | \$6,930.00 |
| ZZ                      | Planting Soil (75% sand, 25% leaf compost - MnDOT Grade II) (P)              | CY   | 203                | 47.00      | 9,541.00          | 203                                     | \$9,541.00          | 203   | \$9,541.00         | 0                               | \$0.00     |
| AAA                     | 2 inch-4 inch Clean Washed Angular Rock (Granite)                            | TON  | 300                | 73.75      | 22,125.00         | 302                                     | \$22,272.50         | 302   | \$22,272.50        | 0                               | \$0.00     |
| BBB                     | Filtration Soil Washed into 2 inch-4 inch Rock (P)                           | CY   | 45                 | 96.00      | 4,320.00          | 45                                      | \$4,320.00          | 45  | \$4,320.00         | 0                               | \$0.00     |
| CCC                     | 1/4 inch Clean Washed Chip (Granite)   | TON  | 80                 | 87.00      | 6,960.00          | 80                                      | \$6,960.00          | 80  | \$6,960.00         | 0                               | \$0.00     |
| DDD                     | 3/4 inch Clean Washed Chip (Granite)   | TON  | 80                 | 87.00      | 6,960.00          | 83                                      | \$7,221.00          | 83  | \$7,221.00         | 0                               | \$0.00     |
| EEE                     | MnDOT Type V Geotextile Filter Fabric (P)                                    | SY   | 570                | 3.00       | 1,710.00          | 570                                     | \$1,710.00          | 570   | \$1,710.00         | 0                               | \$0.00     |
| FFF                     | Pre-cast Concrete Tree Box with Concrete Frame                               | EA   | 3                  | 4,675.00   | 14,025.00         | 3                                       | \$14,025.00         | 3   | \$14,025.00        | 0                               | \$0.00     |
| GGG                     | Tree Guard   | EA   | 3                  | 1,625.00   | 4,875.00          | 3                                       | \$4,875.00          | 0   | \$0.00             | 3                               | \$4,875.00 |
| HHH                     | Tree Grate   | EA   | 3                  | 2,052.00   | 6,156.00          | 3                                       | \$6,156.00          | 3   | \$6,156.00         | 0                               | \$0.00     |
| III                     | Snout Separator  | EA   | 2                  | 1,165.00   | 2,330.00          | 2                                       | \$2,330.00          | 2   | \$2,330.00         | 0                               | \$0.00     |
| JJJ                     | 4 inch Trench Drain with Concrete Encasement and Herringbone Grate, Complete | LF   | 210                | 237.00     | 49,770.00         | 210                                     | \$49,770.00         | 210   | \$49,770.00        | 0                               | \$0.00     |
| KKK                     | Perennials - 4 inch pot (P)  | EA   | 303                | 16.80      | 5,090.40          | 0                                       | \$0.00              | 0   | \$0.00             | 0                               | \$0.00     |
| LLL                     | Perennials - 1 gallon pot (P)  | EA   | 1,701              | 20.00      | 34,020.00         | 0                                       | \$0.00              | 0   | \$0.00             | 0                               | \$0.00     |
| MMM                     | Shrub (#2 Gallon Container) (P)  | EA   | 277                | 45.15      | 12,506.55         | 0                                       | \$0.00              | 0   | \$0.00             | 0                               | \$0.00     |
| NNN                     | Deciduous Tree (#20, Cont.) (P)  | EA   | 17                 | 305.00     | 5,185.00          | 17                                      | \$5,185.00          | 15  | \$4,575.00         | 2                               | \$610.00   |
| OOO                     | Sodding (Salt Tolerant)  | SY   | 62                 | 15.00      | 930.00            | 0                                       | \$0.00              | 0   | \$0.00             | 0                               | \$0.00     |
| C.O.1                   | 6" Solid Dual Wall HDPE Storm Sewer Pipe and Fittings (P)                    | LF   | 290                | 17.30      | 5,017.00          | 290                                     | \$5,017.00          | 290   | \$5,017.00         | 0                               | \$0.00     |
| C.O.2.a                 | Drintile connections and irrigation line repairs in the tree trench          | LS   | 1                  | 1,675.00   | 1,675.00          | 1                                       | \$1,675.00          | 1   | \$1,675.00         | 0                               | \$0.00     |
| C.O.2.b                 | Repairs to top of existing storm structure                                   | LS   | 1                  | 900.00     | 900.00            | 1                                       | \$900.00            | 1   | \$900.00           | 0                               | \$0.00     |
| <b>TOTAL BASE BID =</b> |  |      |                    |            | <b>654,402.52</b> | <b>TOTAL EXT. =</b>                     | <b>\$575,369.41</b> | <b>\$527,180.31</b>                         | <b>\$48,189.10</b> |                                 |            |



**Summary of Professional Engineering Services During the Period  
November 14, 2020 through December 18, 2020**

|  | Total Engineering Budget (2020) | Total Fees to Date (2020) | Budget Balance (2020) | Fees During Period | District Accounting Code | Plan Implementation Task Number                        |
|--|---------------------------------|---------------------------|-----------------------|--------------------|--------------------------|--|
| <b>Engineering Administration</b>  |                                 |                           |                       |                    |                          |  |
| General Engineering Administration   | \$76,000.00                     | \$64,030.40               | \$11,969.60           | \$5,484.00         | 4121-101                 | DW-13  |
| RWMWD Health and Safety/ERTK Program   | \$2,000.00                      | \$850.00                  | \$1,150.00            |                    | 4697-101                 | DW-13  |
| Educational Program/Educational Forum Assistance   | \$20,000.00                     | \$1,722.00                | \$18,278.00           | \$612.50           | 4129-101                 | DW-11  |
| <b>Engineering Review</b>  |                                 |                           |                       |                    |                          |  |
| Engineering Review   | \$55,000.00                     | \$45,214.50               | \$9,785.50            | \$5,624.00         | 4123-101                 | DW-13  |
| <b>Project Feasibility Studies</b>   |                                 |                           |                       |                    |                          |  |
| Interim emergency response plan funds for top priority District flooding areas   | \$45,000.00                     | \$154.00                  | \$44,846.00           |                    | 4129-101                 | DW-19  |
| Beltline Resiliency and Phalen Chain Water Level Management Study  | \$217,000.00                    | \$173,492.50              | \$43,507.50           | \$1,759.00         | 4129-101                 | BELT-3   |
| FEMA Flood Mapping Update  | \$109,720.00                    | \$71,359.50               | \$38,360.50           | \$2,477.50         | 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                     | \$47,285.50               | \$22,714.50           |                    | 4129-101                 | DW-9   |
| Hillcrest Golf Course (multi-use)  | \$25,000.00                     | \$17,104.00               | \$7,896.00            | \$879.50           | 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                    | \$164,363.04              | -\$39,363.04          | \$7,446.50         | 4129-101                 | GC-3, BELT-3   |
| Willow Creek flood damage reduction feasibility study (Atlas 14 - #2 priority flooding area)   | \$50,000.00                     | \$27,086.96               | \$22,913.04           | \$582.00           | 4129-101                 | DW-9, BELT-3   |
| Ames Lake area flood damage reduction feasibility study (Atlas 14 #3 priority area)  | \$50,000.00                     | \$18,984.02               | \$31,015.98           | \$11,868.02        | 4129-101                 | DW-9, BELT-3   |
| West Vadnais Lake to South of I-694 Conveyance Feasibility Study   | \$35,000.00                     | \$56,403.73               | -\$21,403.73          | \$23.00            | 4129-101                 | DW-9, BELT-3   |
| Battle Creek PFAS (monitoring, source ID, meetings, communications)  | \$25,000.00                     | \$1,150.00                | \$23,850.00           |                    | 4129-101                 | DW-10  |
| 694/494/94 WQ treatment feasibility study  | \$30,000.00                     | \$122.50                  | \$29,877.50           |                    | 4129-101                 | BCL-3  |
| Subwatershed feasibility studies for At-Risk creeks (Fish Creek and Gervais Creek)   | \$40,000.00                     | \$19,462.95               | \$20,537.05           |                    | 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                 |  |
| <b>GIS Maintenance</b>   |                                 |                           |                       |                    |                          |  |
| GIS Maintenance  | \$5,000.00                      | \$735.00                  | \$4,265.00            | \$660.00           | 4170-101                 | DW-13  |
| <b>Monitoring Water Quality/Project Monitoring</b>   |                                 |                           |                       |                    |                          |  |
| Lake Water Quality Monitoring (Misc QA/QC)   | \$10,000.00                     | \$98.00                   | \$9,902.00            |                    | 4520-101                 | DW-2   |
| Special Project BMP Monitoring and annual report development   | \$25,000.00                     | \$41,734.15               | -\$16,734.15          | \$9,233.50         | 4520-101                 | DW-12  |
| Auto lake monitoring system for Grass Lake   | \$20,000.00                     | \$20,796.11               | -\$796.11             |                    | 4520-101                 | DW-18  |
| Auto lake monitoring system for Owasso Lake  | \$20,000.00                     | \$23,598.75               | -\$3,598.75           |                    | 4520-101                 | DW-18  |
| Auto lake monitoring system for Phalen Lake  | \$20,000.00                     | \$18,891.28               | \$1,108.72            |                    | 4520-101                 | DW-18  |
| Auto lake monitoring system for Snail Lake   | \$20,000.00                     | \$29,828.49               | -\$9,828.49           | \$858.00           | 4520-101                 | DW-18  |
| Auto lake monitoring system for Wabasso Lake   | \$20,000.00                     | \$22,072.60               | -\$2,072.60           |                    | 4520-101                 | DW-18  |
| Auto lake monitoring system for Spoon Lake   | \$20,000.00                     | \$17,075.69               | \$2,924.31            | \$2,925.00         | 4520-101                 | DW-18  |
| Auto lake monitoring system for Tanners Lake   | \$20,000.00                     | \$25,735.77               | -\$5,735.77           |                    | 4520-101                 | DW-18  |
| Auto lake monitoring system for Battle Creek Lake  | \$20,000.00                     | \$15,243.21               | \$4,756.79            | \$3,696.95         | 4520-101                 | DW-18  |
| Auto lake monitoring system for Twin Lake  | \$20,000.00                     | \$15,536.58               | \$4,463.42            | \$2,795.00         | 4520-101                 | DW-18  |
| Auto lake monitoring system Data Webpage   | \$20,000.00                     | \$8,898.50                | \$11,101.50           | \$2,381.00         | 4520-101                 | DW-18  |
| <b>Permit Processing, Inspection and Enforcement</b>   |                                 |                           |                       |                    |                          |  |
| Permit Application Inspection and Enforcement  | \$10,000.00                     | \$2,715.75                | \$7,284.25            |                    | 4122-101                 | DW-7   |
| Permit Application Review  | \$55,000.00                     | \$43,241.50               | \$11,758.50           | \$4,275.00         | 4124-101                 | DW-7   |
| <b>Lake Studies/WRPPs/TMDL Reports</b>   |                                 |                           |                       |                    |                          |  |
| 2020 Grant Applications  | \$20,000.00                     | \$555.50                  | \$19,444.50           |                    | 4661-101                 | DW-13  |
| Tanners Flood Response Tool Model Update   | \$3,000.00                      | \$1,609.00                | \$1,391.00            |                    | 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                     | \$47,717.74               | \$2,282.26            | \$6,101.50         | 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                     | \$13,684.50               | \$16,315.50           | \$4,407.00         | 4661-101                 | WL-3, WL-4   |
| WMP Updates - Including Implementation Plan Updates  | \$10,000.00                     | \$1,440.00                | \$8,560.00            |                    | 4661-101                 | DW-13  |
| Prioritization of water quality projects from subwatershed feasibility studies   | \$15,000.00                     | \$11,167.85               | \$3,832.15            | \$66.50            | 4661-101                 | DW-13  |
| Contingency for Lake Studies   | \$25,000.00                     | \$0.00                    | \$25,000.00           |                    | 4661-101                 |  |
| <b>Research Projects</b>   |                                 |                           |                       |                    |                          |  |
| New Technology Mini Case Studies (average 6 per year)  | \$12,000.00                     | \$437.00                  | \$11,563.00           |                    | 4695-101                 | DW-12  |
| Kohlman Permeable Weir Test System - Implement Monitoring Plan   | \$15,000.00                     | \$6,693.77                | \$8,306.23            | \$700.00           | 4695-101                 | DW-12  |
| Phalen Chain of Lakes Changes in Water Quality   | \$5,000.00                      | \$4,080.00                | \$920.00              |                    | 4695-101                 | DW-12  |
| <b>Project Operations</b>  |                                 |                           |                       |                    |                          |  |
| 2020 Tanners Alum Facility Monitoring  | \$15,000.00                     | \$15,519.64               | -\$519.64             |                    | 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   |
| <b>Capital Improvements</b>  |                                 |                           |                       |                    |                          |  |
| Target and Motel 6 (Final Design, Plans and Specification Phase)   | \$289,400.00                    | \$323,527.51              | -\$34,127.51          | \$26,740.00        | 4128-518                 | DW-6   |
| East St. Paul Target (Construction Phase)  | \$124,000.00                    | \$37,913.77               | \$86,086.23           | \$3,628.56         | 4128-518                 | DW-6   |
| Owasso County Park Stormwater Master Plan and Detailed Design: Phase 1 and Phase 2   | \$20,000.00                     | \$5,423.00                | \$14,577.00           | \$80.00            | 4128-518                 | DW-6   |
| Aldrich Arena (soils and plantings)  | \$25,000.00                     | \$20,583.39               | \$4,416.61            | \$80.00            | 4128-518                 | DW-6, WL-1   |
| Wakefield Park/Frost Avenue Stormwater Project   | \$17,500.00                     | \$18,653.77               | -\$1,153.77           |                    | 4128-553                 | DW-6, WL-1   |
| Commercial Sites Retrofit Projects 2020 (Targeted Retrofits) - Target/Motel 6/Boys club  | \$45,000.00                     | \$9,400.00                | \$35,600.00           |                    | 4128-518                 | DW-6   |
| School Sites Retrofit Projects 2020 (Targeted Retrofits)   | \$45,000.00                     | \$11,308.36               | \$33,691.64           |                    | 4128-518                 | DW-6   |
| Church Sites Retrofit Projects 2020 (Targeted Retrofit)  | \$45,000.00                     | \$11,220.96               | \$33,779.04           |                    | 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                     | \$59,042.40               | \$15,957.60           | \$9,581.00         | 4682-529                 | DW-6   |
| Lowering West Vadnais Lake Outlet  | \$50,000.00                     | \$48,499.75               | \$1,500.25            |                    | 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                    | \$162,096.12              | \$87,903.88           | \$13,950.21        | 4128-520                 | DW-9, BELT-3   |
| Ryan Drive - Keller Parkway Conveyance   | \$168,850.00                    | \$7,702.00                | \$161,148.00          | \$7,702.00         | 4128-520                 | DW-9, BELT-3   |
| Twin Lake Outlet Easement Acquisition, Permitting, Construction Plans  | \$90,000.00                     | \$70,805.87               | \$19,194.13           | \$344.00           | 4128-520                 | DW-9   |
| <b>CIP Project Repair &amp; Maintenance</b>  |                                 |                           |                       |                    |                          |  |
| Routine CIP Inspection and Unplanned Maintenance Identification  | \$75,000.00                     | \$57,977.66               | \$17,022.34           | \$5,878.36         | 4128-516                 | DW-5   |
| Beltline 5-year Inspection   | \$100,000.00                    | \$53,478.95               | \$46,521.05           | \$793.50           | 4128-516                 | BELT-2   |
| 2020 CIP Maintenance and Repairs   | \$150,000.00                    | \$80,510.38               | \$69,489.62           | \$705.00           | 4128-516                 | DW-5   |
| 2021 CIP Maintenance and Repairs (planning, bidding, and project setup)  | \$76,500.00                     | \$56,013.00               | \$20,487.00           | \$45,343.50        | 4128-516                 | DW-5   |

TOTAL PAYABLE FOR PERIOD 11/14/20 - 12/18/20

\$189,681.60

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

|                     | Balance           |
|---------------------|-------------------|
| General Account     | \$920.00          |
| Keller Channel Weir | \$345.00          |
|                     | <u>\$1,265.00</u> |

# Consent Agenda Item

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**Board Meeting Date:** January 6, 2021

**Agenda Item No:** 3C

**Preparer:** Tina Carstens, Administrator

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**Item Description:** District Liability Insurance Coverage Waiver

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**Background:**

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

---

**Applicable District Goal and Action Item:**

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

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

---

**Staff Recommendation:**

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

---

**Financial Implications:**

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

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**Board Action Requested:**

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

## LIABILITY COVERAGE – WAIVER FORM

**Members who obtain liability coverage through the League of Minnesota Cities Insurance Trust (LMCIT) must complete and return this form to LMCIT before the member's effective date of coverage. Return completed form to your underwriter or email to [pstech@lmc.org](mailto:pstech@lmc.org).**

*The decision to waive or not waive the statutory tort limits must be made annually by the member's governing body, in consultation with its attorney if necessary.*

Members who obtain liability coverage from LMCIT must decide whether to waive the statutory tort liability limits to the extent of the coverage purchased. The decision has the following effects:

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

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



---

LMCIT Member Name: Ramsey-Washington Metro Watershed District

---

*Check one:*

The member **DOES NOT WAIVE** the monetary limits on municipal tort liability established by [Minn. Stat. § 466.04](#).

The member **WAIVES** the monetary limits on municipal tort liability established by [Minn. Stat. § 466.04](#), to the extent of the limits of the liability coverage obtained from LMCIT.

Date of member's governing body meeting: January 6, 2021

Signature: Tina Carstens Position: Administrator

# Consent Agenda Item

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**Board Meeting Date:** January 6, 2021 **Consent Agenda Item No:** 3D  
**Preparer:** Tina Carstens, Administrator

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**Item Description:** Approval of the 2021 Service Agreement with Washington Conservation District (WCD) for BMP Incentive Program and Water Quality Monitoring.

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**Background:**

This is a yearly agreement with WCD to provide technical services for the BMP Incentive Program and a small amount of water quality monitoring support in Washington County. The quality of support we receive from WCD in these two areas is economical and we have been happy with the work done by the staff. The staff meets with landowners in Washington County, provide education and potentially design BMPs for their properties. The total 2021 agreement is \$20,000 for BMP work and \$489 for water monitoring services. This is the same amount as previous years for the BMP work and \$30 increase for the water monitoring services.

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**Applicable District Goal and Action Item:**

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

**Action Items:** Encourage and provide technical assistance to individuals to implement water quality improvement practices at their homes and businesses and in public places.

---

**Staff Recommendation:**

Approve the service agreement.

---

**Financial Implications:**

The costs incurred under this agreement are budgeted for through the Stewardship Grant Program Fund.

---

**Board Action Requested:**

Approve the 2021 Service Agreement with Washington Conservation District.

**2021 SERVICE AGREEMENT  
BETWEEN  
WASHINGTON CONSERVATION DISTRICT  
AND RAMSEY WASHINGTON METRO WATERSHED DISTRICT**

**A. PARTIES**

This Agreement is made and entered into by Washington Conservation District, (WCD), and the Ramsey Washington Metro Watershed District (Watershed District).

**B. PURPOSE**

WHEREAS, the Watershed District has requested assistance from the WCD to implement the policies specified in MINN. STAT. §§ 103A.206 and 103D.201; and

WHEREAS, the WCD is authorized to enter agreements to provide such assistance pursuant to MINN. STAT. §§ 103C.331, SUBD. 3 and 7 and 103D.335, subd. 21.

NOW, THEREFORE, the parties agree as follows:

**C. TERM OF AGREEMENT**

The term of this agreement shall be from January 1, 2021 to December 31, 2021 unless extended or terminated earlier as provided herein.

**D. SCOPE OF SERVICES**

The WCD will perform all services and furnish and deliver work products generally described in the attached Exhibits.

**E. COST**

In full consideration for services under this agreement, the WCD shall charge the RWMWD for its services at the rate set forth in Section F. Costs for services for activities detailed in the attached Exhibits include:

Exhibit A: Technical Services for BMP Coast Share Program - \$20,000

Exhibit B: Water Monitoring Services - \$489

**Total 2021 Agreement: \$20,489**

Any additional costs for special studies or capital projects must be set forth in a written amendment to this Agreement.

**F. BILLING RATE AND PAYMENTS**

1. Services in Exhibit A are billed on an hourly basis at the rate of \$40.00 - \$87.00 per hour, based on personnel and task.

|                                |      |
|--------------------------------|------|
| Seasonal                       | \$40 |
| Technician                     | \$61 |
| Senior Technician/Specialist   | \$66 |
| Senior Tech II/Specialist II   | \$72 |
| Senior Specialist              | \$78 |
| Manager/Administrator/Engineer | \$87 |

Services in Exhibit B are billed on a lump sum basis, and on an actual cost basis for lab and project expenses.

Invoices for Exhibit A will be sent on a monthly basis, invoices for Exhibit B will be sent on a quarterly basis and both will list specifically the work performed.

2. Project expenses will be billed as they are accrued.
3. Invoices are payable by the RWMWD within 60 days.
4. Office supplies, normal office reproduction expenses, and transportation are included in the hourly rate. Other expenses are to be reimbursed at actual cost.

**G. EQUAL EMPLOYMENT OPPORTUNITY- CIVIL RIGHTS**

During the performance of this Agreement, the WCD agrees to the following:

No person shall, on the grounds of race, color, religion, age, sex, disability, marital status, public assistance, criminal record, creed or national origin, be excluded from full employment rights in, be denied the benefits of, or be otherwise subjected to discrimination under any program, service, or activity under the provisions of and all applicable federal and state laws against discrimination including the Civil Rights Act of 1964.

**H. STANDARDS**

The WCD shall comply with all applicable Federal and State statutes and regulations as well as local ordinances now in effect or hereafter adopted. Failure to meet the requirements of the above may be cause for cancellation of this contract effective the date of receipt of the Notice of Cancellation.

**I. DATA PRIVACY**

All data collected, created, received, maintained, or disseminated, or used for any purpose in the course of the WCD's performance of the Agreement is governed by the Minnesota Government Data Practices Act, Minnesota 1984, Section 13.01, et seq. Or any other applicable state statutes and state rules adopted to implement the Act, as well as state statutes and federal regulations on data privacy. The WCD agrees to abide by these statutes, rules and regulations and as they may be amended.

**J. AUDITS, REPORTS, AND MONITORING PROCEDURES**

The WCD will:

1. Maintain records that reflect all revenues, cost incurred and services provided in the performance of the Agreement.
2. Agree that the County, the State Auditor, or legislative authority, or any of their duly authorized representatives at any time during normal business hours, and as often as they may deem reasonably necessary, shall have access to the rights to examine audit, excerpt, and transcribe any books, documents, papers, records, etc., and accounting procedures and practices of the WCD which are relevant to the contract.

**K. INDEMNITY**

The WCD and the Watershed District mutually agree, to the fullest extent permitted by law, to indemnify and hold each other harmless for any and all damages, liability or cost (including reasonable attorneys' fees and costs of defense) arising from their own negligent acts, errors or omissions in the performance of their services under this agreement, to the extent each party is responsible for such damages and losses on a comparative basis of fault. Parties agree to provide proof of contractual liability insurance upon request. This paragraph does not diminish, with respect to any third party, any defense, immunity or liability limit that the WCD or the Watershed District may enjoy under law.

**L. INDEPENDENT CONTRACTOR**

It is agreed that nothing herein contained is intended or should be construed in any manner as creating or establishing the relationship of co-partners between the parties hereto or as constituting the WCD as the agent, representative, or employee of Watershed District for any purpose or in any manner whatsoever. The WCD is to be and shall remain an independent contractor with respect to all services performed under this Agreement.

The WCD represents that it has, or will secure at its own expense, all personnel required in performing services under this Agreement. Any and all personnel of the WCD or other person, while engaged in the performance of any work or services required by the WCD under this Agreement, shall have no contractual relationship with the Watershed District and shall not be considered employees of the Watershed District.

**M. MODIFICATIONS**

Any material alteration or variation shall be reduced to writing as an amendment and signed by the parties. Any alteration, modification, or variation deemed not to be material by written agreement of the WCD and the Watershed District shall not require written approval.

**N. MERGER**

It is understood and agreed that the entire agreement of the parties is contained here, except as modified during the term of the Agreement by a writing under Paragraph M above concerning a non-material change, and that this contract supersedes oral agreements and negotiations between the parties relating to this subject matter. All items referred to in this contract are incorporated or attached and deemed to be part of the contract.

**O. TERMINATION**

Either the WCD or the Watershed District may terminate this Agreement with or without cause by giving the other party ninety (90) days written notice prior to the effective date of such termination. If the Watershed District terminates this Agreement, it may specify work to be performed by the WCD before termination is effective and shall pay the WCD for services performed by the WCD up to the time specified for termination. If the WCD terminates the Agreement, it will not be compensated for part completion of a task except to the extent part completion has value to the Watershed District.

**P. OWNERSHIP OF DOCUMENTS AND INTELLECTUAL PROPERTY**

All property of the Watershed District used, acquired or created in the performance of work under this Agreement, including documents and records of any kind, shall remain the property of the Watershed District. The Watershed District shall have the sole right to use, sell, license, publish, or otherwise disseminate any product developed in whole or in part during the performance of work under this Agreement.

**2021 SERVICE AGREEMENT  
BETWEEN  
WASHINGTON CONSERVATION DISTRICT  
AND RAMSEY WASHINGTON METRO WATERSHED DISTRICT  
RWMWD BMP COST-SHARE PROGRAM**

IN TESTIMONY WHEREOF the parties have duly executed this agreement by their duly authorized officers.

APPROVED:

Watershed District

WCD

BY: \_\_\_\_\_  
Board President Date

BY: \_\_\_\_\_  
Board Chair Date

BY: \_\_\_\_\_  
District Administrator Date

BY: \_\_\_\_\_  
WCD Manager Date

Approval as to form and execution:

\_\_\_\_\_  
Date

## EXHIBIT A

### 2021 RWMWD BMP COST-SHARE PROGRAM

#### TASKS

**1. Project Oversight**

All work performed by the WCD will be at the direction of the RWMWD staff.

**2. Landowner Outreach**

Targeted and broad-based outreach techniques will be implemented through a coordinated effort of the RWMWD and WCD. Outreach will be coordinated with educational efforts by the RWMWD.

**3. Project Database**

Project information will be maintained by the RWMWD. Information on assistance provided by the WCD will be regularly communicated to the RWMWD staff Coordinator.

**4. Respond to inquiries from the public**

The RWMWD will act as the primary and first responder to inquiries from the public regarding the BMP Program. The WCD and the RWMWD will jointly provide responses to the public regarding general program information, program eligibility, best management practice information, and general watershed information.

**5. Site Reviews and Project Evaluation**

Initial site visits will be provided by the WCD County-wide and are part of the standard WCD programs and not charged under this contract. Follow-up reviews and subsequent site visits of potential BMP implementation sites will be conducted under this contract. Other activities will include: assessing BMP options which will adequately address the problem, discussing BMP alternatives with landowners, and promoting implementation of BMPs. WCD will assist program applicants with identification of supplemental funding sources if needed. Educational materials will be distributed during the site visit.

**6. BMP Design and Contractor Assistance**

The WCD will coordinate BMP design assistance. Design support will be provided by WCD technical resources and/or obtaining assistance from an appropriate technical agency, organization, or the Watershed District. WCD will assist landowners with obtaining qualified contractors to install BMPs if requested.

**7. Construction Monitoring (Site inspections)**

The WCD will monitor construction activities to verify proper implementation of BMPs.

**8. Miscellaneous Services**

Other services may be provided as requested by the Watershed District to implement and carry out the Program.

**EXHIBIT B**

**2021 WATER MONITORING SERVICES**

| <b>Lake Gage Monitoring</b> | <b>Labor</b> | <b>Lab</b> | <b>Total</b> |
|-----------------------------|--------------|------------|--------------|
| Battle Creek                | \$163        | \$0        | \$163        |
| Carver                      | \$163        | \$0        | \$163        |
| Tanners                     | \$163        | \$0        | \$163        |
|                             |              |            |              |
| <b>Total Cost</b>           | <b>\$489</b> | <b>\$0</b> | <b>\$489</b> |



# Consent Agenda Item

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**Board Meeting Date:** January 6, 2021

**Consent Agenda Item No:** 3E

**Preparer:** Tina Carstens, Administrator

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**Item Description:** Approval of the 2021 Service Agreement with Ramsey County – Parks and Recreation Department – Soil & Water Conservation division (SWCD) for the BMP Incentive Program.

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**Background:**

This is a yearly agreement with the Ramsey SWCD to provide technical services for the BMP Incentive Program in Ramsey County. The quality of support we receive from SWCD in this area is economical and we have been happy with the work done by the staff. The staff meets with landowners in Ramsey County, provide education and potentially design BMPs for their properties. The total 2021 agreement is a not to exceed of \$65,000 for BMP work. This is the same amount as 2020.

---

**Applicable District Goal and Action Item:**

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

**Action Items:** Encourage and provide technical assistance to individuals to implement water quality improvement practices at their homes and businesses and in public places.

---

**Staff Recommendation:**

Approve the service agreement.

---

**Financial Implications:**

The costs incurred under this agreement are budgeted for through the Stewardship Grant Program Fund.

---

**Board Action Requested:**

Approve the 2021 Service Agreement with Ramsey County – Parks and Recreation Department – Soil & Water Conservation division (SWCD) for the BMP Incentive Program.

**2021 SERVICE AGREEMENT  
BETWEEN  
RAMSEY COUNTY  
AND RAMSEY- WASHINGTON METRO WATERSHED DISTRICT  
RWMWD BMP COST-SHARE PROGRAM**

**A. PARTIES**

This is an Agreement between Ramsey County, a political subdivision of the State of Minnesota, on behalf of its Parks & Recreation department – Soil & Water Conservation division (SWCD), 2015 Van Dyke Street, Maplewood, MN 55109, and the Ramsey-Washington Metro Watershed District (Watershed District), 2665 Noel Drive, Little Canada, MN 55117.

**B. PURPOSE**

The Watershed District has requested assistance from the SWCD to implement the policies specified in Minnesota Statutes §§ 103A.206 and 103D.201; and the SWCD is authorized to enter agreements to provide such assistance pursuant to Minnesota Statutes §§ 103C.331, subds. 3, 7 and 103D.335, subd. 21. NOW, THEREFORE, the parties agree as follows:

**C. TERM OF AGREEMENT**

The term of this agreement shall be from January 1, 2021 to December 31, 2021 unless extended or terminated earlier as provided herein.

**D. SCOPE OF SERVICES**

The SWCD will perform all services and furnish and deliver work products generally described in the attached Exhibits.

**E. COST**

In full consideration for services under this agreement, the Watershed District will compensate the SWCD for providing the services listed in Exhibit A, on an hourly basis, not to exceed \$65,000 during the term of this agreement.

Any additional costs must be approved by the Watershed District.

**F. BILLING RATE AND PAYMENTS**

The Watershed District will pay the SWCD the amount of the cost for services invoiced by the SWCD, within 35 days after receipt, based on the fee schedule listed in Exhibit B of this agreement. Project expenses will be billed as they are accrued. Office supplies, normal office reproduction expenses, and transportation are included in the hourly rate. Other expenses are to be reimbursed at actual cost.

## **G. EQUAL EMPLOYMENT OPPORTUNITY- CIVIL RIGHTS**

During the performance of this Agreement, the SWCD agrees to the following:

No person shall, on the grounds of race, color, religion, age, sex, disability, marital status, public assistance, criminal record, creed or national origin, be excluded from full employment rights in, be denied the benefits of, or be otherwise subjected to discrimination under any program, service, or activity under the provisions of and all applicable federal and state laws against discrimination including the Civil Rights Act of 1964.

## **H. STANDARDS**

The SWCD shall comply with all applicable Federal and State statutes and regulations as well as local ordinances now in effect or hereafter adopted. Failure to meet the requirements of the above may be cause for cancellation of this contract effective the date of receipt of the Notice of Cancellation.

## **I. DATA PRIVACY**

All data collected, created, received, maintained, or disseminated, or used for any purpose in the course of the SWCD's performance of the Agreement is governed by the Minnesota Government Data Practices Act, Minnesota Statutes, Chapter 13 (the Act), or any other applicable state statutes and state rules adopted to implement the Act, as well as state statutes and federal regulations on data privacy. The SWCD agrees to abide by these statutes, rules and regulations and as they may be amended.

## **J. AUDITS, REPORTS, AND MONITORING PROCEDURES**

The SWCD will:

1. Maintain records that reflect all revenues, cost incurred, and services provided in the performance of the Agreement.
2. Agree that the SWCD, the State Auditor, or legislative authority, or any of their duly authorized representatives at any time during normal business hours, and as often as they may deem reasonably necessary, shall have access to the rights to examine audit, excerpt, and transcribe any books, documents, papers, records, etc., and accounting procedures and practices of the SWCD which are relevant to the contract.

## **K. INDEMNITY**

The SWCD and the Watershed District mutually agree, to the fullest extent permitted by law, to indemnify and hold each other harmless for any and all damages, liability or cost (including reasonable attorneys' fees and costs of defense) arising from their own negligent acts, errors or omissions in the performance of their services under this agreement, to the extent each party is responsible for such damages and losses on a comparative basis of fault. Parties agree to provide proof of contractual liability insurance upon request. This paragraph does not diminish, with respect to any third party, any defense, immunity or liability limit that the SWCD or the Watershed District may enjoy under law.

## **L. INDEPENDENT CONTRACTOR**

It is agreed that nothing herein contained is intended or should be construed in any manner as creating or establishing the relationship of co-partners between the parties hereto or as constituting the SWCD as the agent, representative, or employee of Watershed District for any purpose or in any manner whatsoever. The SWCD is to be and shall remain an independent contractor with respect to all services performed under this Agreement.

The SWCD represents that it has, or will secure at its own expense, all personnel required in performing services under this Agreement. Any and all personnel of the SWCD or other person, while engaged in the performance of any work or services required by the SWCD under this Agreement, shall have no contractual relationship with the Watershed District and shall not be considered employees of the Watershed District.

#### **M. MODIFICATIONS**

Any material alteration or variation shall be reduced to writing as an amendment and signed by the parties. Any alteration, modification, or variation deemed not to be material by written agreement of the SWCD and the Watershed District shall not require written approval.

#### **N. MERGER**

It is understood and agreed that the entire agreement of the parties is contained here, except as modified during the term of the Agreement by a writing under Paragraph M above concerning a non-material change, and that this contract supersedes oral agreements and negotiations between the parties relating to this subject matter. All items referred to in this contract are incorporated or attached and deemed to be part of the contract.

#### **O. TERMINATION**

Either the SWCD or the Watershed District may terminate this Agreement with or without cause by giving the other party ninety (90) days written notice prior to the effective date of such termination. If the Watershed District terminates this Agreement, it may specify work to be performed by the SWCD before termination is effective and shall pay the SWCD for services performed by the SWCD up to the time specified for termination. If the SWCD terminates the Agreement, it will not be compensated for part completion of a task except to the extent part completion has value to the Watershed District.

#### **P. OWNERSHIP OF DOCUMENTS AND INTELLECTUAL PROPERTY**

All property of the Watershed District used, acquired or created in the performance of work under this Agreement, including documents and records of any kind, shall remain the property of the Watershed District. The Watershed District shall have the sole right to use, sell, license, publish, or otherwise disseminate any product developed in whole or in part during the performance of work under this Agreement.

**2021 SERVICE AGREEMENT  
BETWEEN  
RAMSEY COUNTY  
AND RAMSEY- WASHINGTON METRO WATERSHED DISTRICT  
RWMWD BMP COST-SHARE PROGRAM**

IN TESTIMONY WHEREOF the parties have duly executed this agreement by their duly authorized officers.

APPROVED:

Watershed District

Ramsey County

BY: \_\_\_\_\_  
Board President                      Date

BY: \_\_\_\_\_  
County Manager                      Date

BY: \_\_\_\_\_  
RWMWD Administrator              Date

BY: \_\_\_\_\_  
Parks and Recreation Director    Date

Approved as to form:

BY: \_\_\_\_\_  
County Attorney                      Date

## EXHIBIT A

### 2021 RWMWD BMP COST-SHARE PROGRAM

#### TASKS

**1. Project Oversight**

All work performed by the SWCD will be at the direction of the RWMWD staff.

**2. Landowner Outreach**

Targeted and broad-based outreach techniques will be implemented through a coordinated effort of the RWMWD and SWCD. Outreach will be coordinated with educational efforts by the RWMWD.

**3. Project Database**

Project information will be maintained by the RWMWD. Information on assistance provided by the SWCD will be regularly communicated to the RWMWD staff Coordinator.

**4. Respond to inquiries from the public**

The RWMWD will act as the primary and first responder to inquiries from the public regarding the BMP Program. The SWCD and the RWMWD will jointly provide responses to the public regarding general program information, program eligibility, best management practice information, and general watershed information.

**5. Site Reviews and Project Evaluation**

Initial site visits, follow-up reviews and subsequent site visits of potential BMP implementation sites will be conducted under this contract. Other activities will include: assessing BMP options which will adequately address the problem, discussing BMP alternatives with landowners, and promoting implementation of BMPs. SWCD will assist program applicants with identification of supplemental funding sources if needed. Educational materials will be distributed during the site visit.

**6. BMP Design and Contractor Assistance**

The SWCD will coordinate BMP design assistance. Design support will be provided by SWCD technical resources and/or obtaining assistance from an appropriate technical agency, organization, or the Watershed District. SWCD will assist landowners with obtaining qualified contractors to install BMPs if requested.

**7. Construction Monitoring (Site inspections)**

The SWCD will monitor construction activities to verify proper implementation of BMPs.

**8. Miscellaneous Services**

Other services may be provided as requested by the Watershed District to implement and carry out the Program.

**EXHIBIT B**

**FEE SCHEDULE**

Services in Exhibit A are billed on an hourly basis at the rate of \$72.00 per hour, for all SWCD staff.

# Permit Application Coversheet

Date January 06, 2021

Project Name RWMWD 2021 CIP Maintenance/Repairs

Project Number 21-01

Applicant Name Tina Carstens, RWMWD

Type of Development Maintenance

## Property Description

This project is led by Ramsey-Washington Metro Watershed District (RWMWD) and is located at various locations throughout the District. See map included for site locations and descriptions. The project includes maintenance activities related to sediment removal and general maintenance/replacement of existing storm sewer infrastructure. Wetland Conservation Act (WCA) approval was granted on 12/23/20 (#20-21 WCA) for Sites #6, 7, 8, and 12 where proposed activities may temporarily disturb wetland areas. Site #10 may require a separate DNR permit for work in Public Waters. All other required permits and access agreements must be obtained prior to start of construction. Disturbed areas will be restored with native seed.

## 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 net cut/fill is sufficient to prevent adverse impacts to the floodplain.

## Water Quality Considerations

### *Short Term*

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

### *Long Term*

There are no long term water quality considerations.

## Staff Recommendation

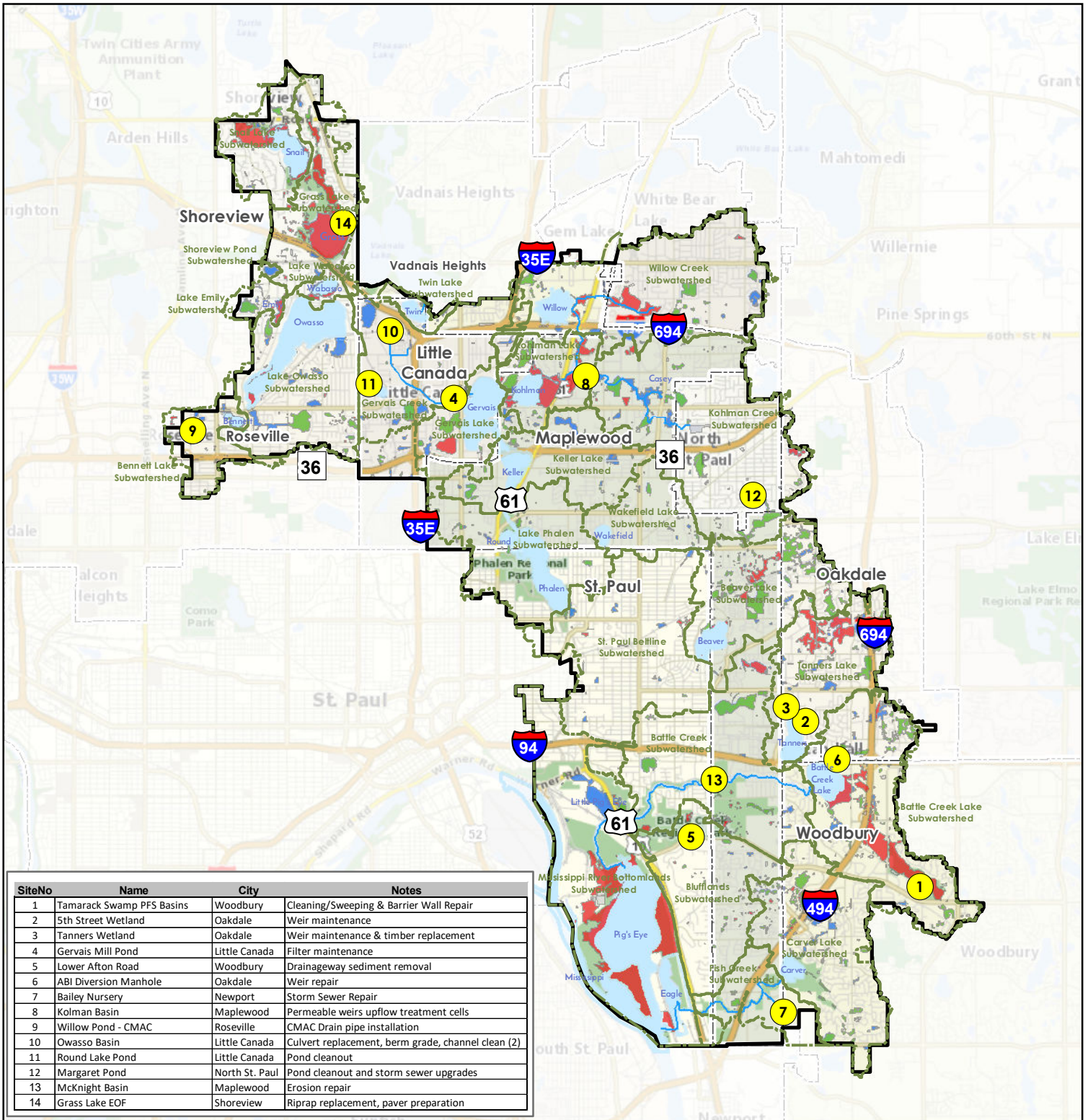
Staff recommends approval of this permit with the special provision.

## Attachments:

- Project Location Map
- Project Grading Plan



# #21-01 RWMWD 2021 CIP Maintenance/Repairs



Note: Shaded area is outside RWMWD

**Wetlands**

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

- Maintenance Sites
- Subwatersheds
- RWMWD Boundary
- Creeks
- City Boundaries

Highlighted Areas Represent Active Permit

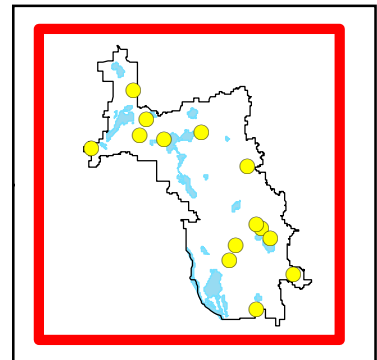
0      7,000      14,000

Feet

0      1.5      3

Miles

N



21-01

### Special Provisions

1. The applicant shall revise the figure on Sheet C-17 to show no placement of riprap within delineated wetland boundary.
2. The applicant shall revise the note on Sheet C-17 to specify that redistribution of riprap shall remain outside (up-gradient) of delineated wetland boundary.
3. The applicant shall submit the final, signed plans set.

\* \* \* \* \*

# Permit Program

\* \* \* \* \*



# RAMSEY-WASHINGTON

## METRO WATERSHED DISTRICT

### MEMORANDUM

**Date:** January 6, 2021

**To:** Board of Managers and Staff

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

**Subject:** December Enforcement Action Report

During December 2020:

|  |          |
|--|----------|
| <b>Number of Violations:</b>           | <b>2</b> |
| Install/Maintain Inlet Protection      | 1        |
| Install/Maintain Construction Entrance | 1        |

#### Activities:

Permitting assistance to private developers and public entities, miscellaneous inquiries, ongoing ESC site inspections and reporting, WCA administration and procedures, new permit review with Barr Engineering, MAWD Annual Conference (virtual), permit pre-submittal meetings, inspection team winter check-in, Metro Watershed District Regulatory meeting, Grass Lake Berm wetland mitigation discussion

#### Project Updates:

#20-05 Frost Lake Elementary Improvements (St. Paul)

Staff conducted an inspection on December 3<sup>rd</sup> and found the site to be in compliance with only a few minor maintenance items. These items included cleaning out inlet protection along the roadway and adding secondary containment underneath a masonry mixer. Staff will continue to inspect the site for erosion and sediment control items through the winter months. Stormwater systems will not be installed at this project until Spring of 2021.

#19-51 Margaret Street Downtown Improvements (North St. Paul)

Staff received a SWPPP report from a consultant hired to complete weekly inspections of the site. Staff saw that the site had quite a bit of sediment tracking throughout the project's

roadways. Staff emailed site contacts to ensure that these items were repaired within permit timeframes. Staff then conducted an inspection on December 8<sup>th</sup> to ensure these items were completed. Overall the site looked much improved, with only a few maintenance items still needed. Staff spoke with site contacts to ensure these maintenance items are continuously completed.

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

Staff completed a routine SWPPP inspection on December 8<sup>th</sup> and found the site to be non-compliant. Several items were failing including: 1) curbside BMPs had been driven over and damaged 2) paved surfaces were covered in sediment 3) inlet protection was missing in several catch basins 4) observed improper disposal of masonry waste. Staff sent a non-compliant report to site contacts and communicated the need for repairs within permit timeframes. Staff received a SWPPP report on December 9<sup>th</sup> from the site that showed items were completed. Staff will continue to inspect the site on a regular basis to ensure the site follows all permit requirements.

#### #20-28 Anchor Block Storage Facility (North St. Paul)

Staff conducted an inspection on December 8<sup>th</sup> and found the site to be compliant. All inactive exposed soil had been temporarily stabilized with hydroseed, perimeter control was properly installed, and paved surfaces were clean of sediment. Staff did observe damaged inlet protection along 3<sup>rd</sup> St. This inlet protection was installed from a previous project, but staff asked onsite contractors to replace the inlet protection as it is adjacent to their project, and the location is called out in their SWPPP narrative. Staff will continue to inspect the site through the winter.

#### #20-01 Carver Elementary School Addition (Maplewood)

An inspection on December 9<sup>th</sup> found the site to be in compliance, and all maintenance work was completed. Staff spoke with contractors onsite about winter construction and installation of stormwater systems. The site's winter work will primarily be inside the building. Staff will continue to inspect the site occasionally through the winter to ensure all BMPs are in working order. Stormwater systems will not be installed until Spring of 2021.

#### **Permits Closed:**

19-02 Valley Creek Retail (Woodbury)

#### **Permits Approved by Staff:**

None



## Permit Program Summary 2018-2020

|                                    | 2018         | 2019         | 2020    |
|------------------------------------|--------------|--------------|---------|
| Open Permits                       | 97           | 122          | 129     |
| Board-Approved Applications        | 30           | 52           | 40      |
| ESC Inspections                    | 316          | 472          | 492     |
| Violations                         | 160          | 108          | 84      |
| Verbal Warnings                    | 1            | 10           | 4       |
| Surety Deductions                  | \$1,560      | \$6,045      | \$4,650 |
| Non-Compliant Inspection Reports   | 26           | 39           | 30      |
| % Inspections Found Non-Compliant  | Not reported | Not reported | 6       |
| Permits Closed                     | 27           | 25           | 29      |
| Active Sites                       | 52           | 65           | 64      |
| % Active Sites Received Violations | Not reported | Not reported | 53      |
| WCA Applications                   | 23           | 25           | 22      |

### 4 most common ESC violations observed in 2020

- Install/Maintain Perimeter Control (22 violations)
- Stabilize Exposed Soils (10 violations)
- Install/Maintain Construction Entrance (9 violations)
- Install/Maintain Inlet Protection (8 violations)

### Trends/Observations

1. Permit applications still relatively high but not compared to “record-setting” 2019
2. Many active sites again this year– busy season!
3. Increase in inspections despite Covid-19 pauses
4. New safety protocols due to pandemic
5. Less violations overall —about half of active sites account for all violations for the year

### Permit Program Updates in 2020:

- Effective 1/1/20, Stormwater Impact Fund (SIF) increased to \$100,000 per acre of impervious and linear cost cap increased to \$75,000 per acre of impervious. 1 applicant requested to pay into SIF in 2020 compared to 5 in 2019 (unusually high but could speak to a future trend).
- Permit program processing updates for single-lot residential projects went into effect Aug 2020. 1 application was staff-approved; 2 applications board-approved. **Request to continue into 2021.**

\* \* \* \* \*

# Stewardship Grant Program

\* \* \* \* \*

## Stewardship Grant Program Budget Status Update

January 6, 2021

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

| Commercial, School, Government, Church, Associations, etc.                      | Coverage                                  | Number of Projects: 13 | Funds Allocated    |
|---|---|------------------------|--------------------|
| Habitat Restoration   | 50% Cost Share<br>\$15,000 Max            | 0                      | \$0                |
| Shoreland Restoration (below 100-year flood elevation w/actively eroding banks) | 100% Cost Share<br>\$100,000 Max          | 0                      | \$0                |
| Priority Area Projects  | 100% Cost Share<br>\$100,000 Max          | 0                      | \$0                |
| Non-Priority Area Projects  | 75% Cost Share<br>\$50,000 Max            | 0                      | \$0                |
| Public Art  | 50% Cost Share                            | 0                      | \$0                |
| Aquatic Veg Harvest/LVMP Development  | 50% Cost Share<br>\$15,000 Max            | 0                      | \$0                |
| Maintenance   | 50% Cost Share<br>\$5,000 Max for 5 Years | 0                      | \$0                |
| Consultant Fees   |   |                        | \$0                |
| <b>Total Allocated</b>  |   |                        | <b>\$1,000,000</b> |

| 2021 Stewardship Grant Program Budget |                    |
|---------------------------------------|--------------------|
| Budget                                | \$1,000,000        |
| Total Funds Allocated                 | \$0                |
| <b>Total Available Funds</b>          | <b>\$1,000,000</b> |



\* \* \* \* \*

# Action Items

\* \* \* \* \*

# Request for Board Action

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**Board Meeting Date:** January 6, 2021

**Agenda Item No:** 7A

**Preparer:** Tina Carstens, Administrator

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**Item Description:** 2021 CIP Maintenance and Repair Project Bid Award

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## **Background:**

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

At the November meeting, staff presented the plans and cost estimate. The board directed Barr to finalize design, prepare the bidding package, and advertise the project for bid. The project was advertised, and the bids are scheduled to be received on January 5th. We will review the bids shortly thereafter and present them to the board for consideration at the January 6th meeting. If awarded, the contracting process will occur and construction will begin soon thereafter.

---

## **Applicable District Goal and Action Item:**

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

**Action Item:** Maintain District projects and consider opportunities to support the maintenance activities of others.

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

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

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## **Staff Recommendation:**

Staff recommends that the Board award the project to the responsive bidder whose bid was the lowest and whose involvement would be in the best interest of the District. Staff also recommends the Board direct staff to prepare and mail the Notice of Award, prepare the draft agreement and request and review the required submittals.

---

## **Financial Implications:**

The CIP Maintenance and Repair project is included in the 2021 budget.

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## **Board Action Requested:**

Accept the bids and award the 2021 CIP Maintenance and Repair Project to \_\_\_\_\_. Direct staff to prepare and mail the notice of award, prepare the draft agreements and review the required submittals.

## Memorandum

**To:** Board of Managers and Staff  
**From:** Tina Carstens, Erin Anderson Wenz, and Keith Pilgrim  
**Subject:** Internal Load Analysis of Shallow and Deep Lakes Report and Discussion  
**Date:** December 30, 2020

After this cover memo, included in this board packet, is a report completed by Barr Engineering regarding the work done to analyze the internal load in our district lakes. The full report is quite technical and includes data used by district and Barr staff to decide the future regarding the management of our lakes. I would encourage the Board to review the executive summary and consider the following questions for board discussion at the January 6th meeting following a presentation on the results.

The district has aggressively addressed external phosphorus loads by implementing projects throughout the subwatersheds of impaired waters. We know from our study of impaired waters and the development of TMDL studies for those lakes that to meet our goals, both external and internal loads will need to be addressed. The Board has typically directed staff to first pursue the external load before proposing internal load management. Alum application in a lake is an industry-standard for treatment of internal load and has been used in the district most recently in Kohlman Lake. To determine the best course of treatment for our lakes in the future, Barr completed a study to evaluate our lakes and the various management options available to us.

For the Board's consideration:

- How quickly would the Board like to pursue the management of internal phosphorus load for its impaired lakes? For instance, we suggest waiting on Wakefield and Bennett until the external watershed load reduction goal prescribed in the TMDL is met, which would likely be within a couple of years, but should we start experimentation and planning sooner?
- What about "at-risk" lakes? What level of attention should we give to at-risk lakes to prevent their movement onto the impaired waters list?
- How "experimental" would the Board like to manage internal load in shallow lakes (aeration vs. alum)? Alum is a known commodity, aeration less so in this context.
- Aeration would likely be more costly than alum. How does that factor into decisions about managing internal load of phosphorus?



# 2020 Internal Load Analysis of Shallow and Deep Lakes

Prepared for  
Ramsey Washington Metro Watershed District

**Draft**

December 30, 2020

# 2020 Internal Load Analysis of Shallow and Deep Lakes

December 30, 2020

**DRAFT**

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## Certifications

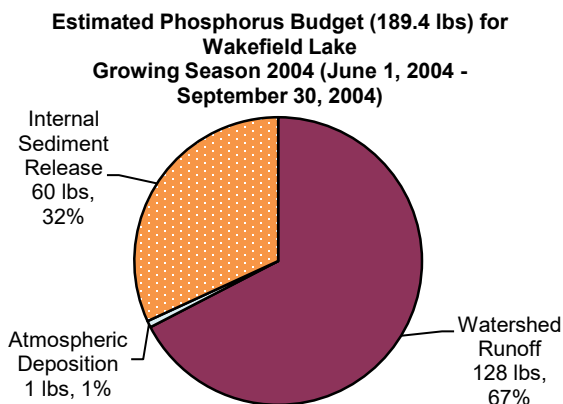
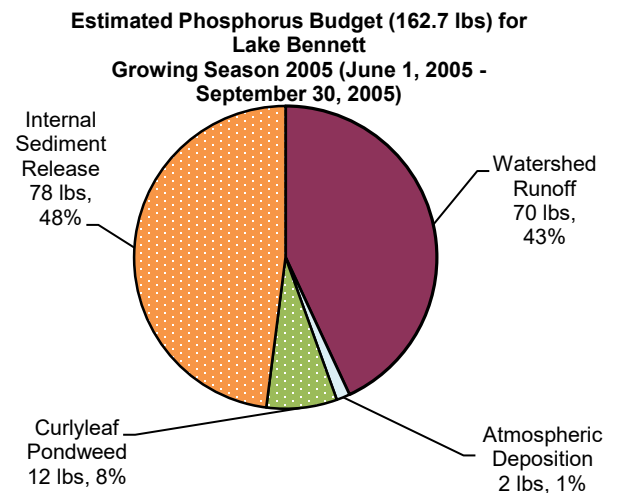
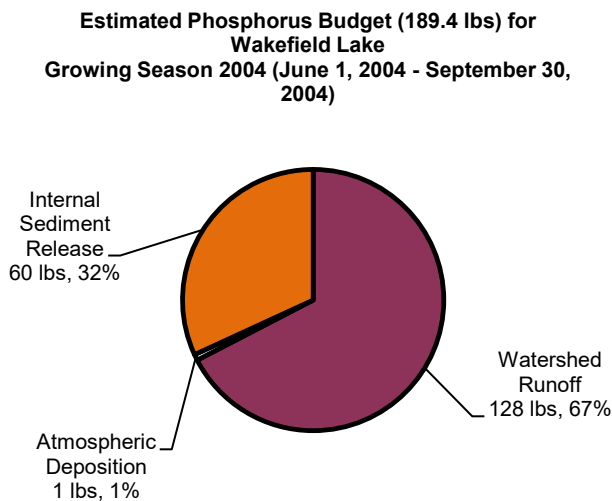
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| Name                | date  |
| PE #: add PE number | Date  |



## Executive Summary

For many shallow lakes in the Ramsey-Washington Metro Watershed District (RWMWD), water quality goals such as those laid forth in Total Maximum Daily Load (TMDL) reports, will not be met if only watershed loading reductions of phosphorus are pursued. The three shallow lakes currently listed on the Minnesota's 303(d) Impaired Waters List include Kohlman, Bennett and Wakefield Lakes. The relative proportion of external (watershed) and internal phosphorus loads creating the impaired conditions in these lakes are shown in the pie charts below.



Phosphorus reduction activities prescribed in TMDL implementation have been underway for several years in the watersheds of all three of these impaired lakes. In Kohlman Lake over 100% of the watershed phosphorus reduction goal has been met as of 2019 (according to modeling) and an alum treatment in 2010 met the goal for reduction of internal phosphorus load.

In both the Bennett and Wakefield Lake watersheds, over 75% of the watershed phosphorus reduction load has been met as of 2019. No internal phosphorus load reduction has been pursued to date

in these lakes.

Several other lakes are considered to be "at-risk" of nutrient impairment in RWMWD- they are not listed on the state's impaired waters list, but could be sometime in the near future, based on recent water quality monitoring data.

This study evaluated the current status of internal phosphorus loading in seven lakes that are either impaired or considered to be “at risk” of impairment in RWMWD in order to determine a range of internal phosphorus load management options. Most of the lakes evaluated are shallow (Bennett, Battle Creek, Emily, Wakefield, Kohlman and Round in Little Canada) but Lake Owasso, a deep lake, was also evaluated. The internal load assessment approach included a combination of sediment sampling and sediment analysis, modeling, and examination of existing lake water quality data (such as phosphorus concentrations, oxygen and temperature) to identify lake-specific options for reducing internal phosphorus load of each lake in the future.

As shown in the table below, this analysis found that both alum and aeration could be effective tools in managing the internal phosphorus loads of many RWMWD lakes, although aeration is most often done in deep (and not shallow) lakes, and therefore has less precedent for judging efficacy. RWMWD does have recent experience in aerating both Markham Pond and Casey Lakes- going forward, that experience may (or may not) be translated to aerating shallow lakes in the name of internal load control.

**Table ES-1: Summary of Internal Load Study Conclusions**

| Options for Control of Internal Phosphorus Load | Round (Little Canada) | Bennett<br><b>IMPAIRED LAKE</b> | Emily | Owasso         | Wakefield <sup>1</sup><br><b>IMPAIRED LAKE</b> | Kohlman<br><b>IMPAIRED LAKE</b> | Battle Creek (Lake) | Beaver         |
|---|-----------------------|---------------------------------|-------|----------------|--|---------------------------------|---------------------|----------------|
| Single Dose of Alum (Either Low or Full Dose)   |                       |                                 |       | X <sup>2</sup> |  | X <sup>3</sup>                  | X <sup>4</sup>      | X <sup>4</sup> |
| Repeated Dose of Alum (Low Dose)                | X                     | X                               |       |                |  |                                 |                     |                |
| Iron Addition (with Aeration)                   | X                     | X                               | X     | X <sup>5</sup> |  |                                 |                     |                |
| Aeration  |                       |                                 |       |                | X <sup>5</sup>                                 | X <sup>5</sup>                  | X <sup>5</sup>      | X <sup>5</sup> |

**Footnotes:**

- <sup>1</sup> Currently being studied and modeled in more detail, including the effect of macrophytes
- <sup>2</sup> Low dose in shallow areas
- <sup>3</sup> Low dose
- <sup>4</sup> Full dose
- <sup>5</sup> More investigation needed to determine whether this option would be effective.

---

# 1 Introduction

Lakes have a capacity, or it can be described as a tendency, to accumulate phosphorus in their bottom sediments. Phosphorus delivered to lakes by stormwater, stream inflows, rain, or dry atmospheric deposition is often sequestered in lake bottom sediments either by direct settling of particles with phosphorus attached or by the uptake of phosphorus by phytoplankton, bacteria, or plants and the subsequent deposition in lake bottom sediments after these biota die and decompose. The lake bottom sediment act as a wastewater treatment plant of sorts, decomposing dead biological organic matter and releasing its incorporated phosphorus or chemically altering the inorganic particles that adsorbed phosphorus to the extent that it loses its grip. Ultimately, some fraction of the phosphorus that is deposited in the lake bottom sediments is released back into the lake water column. This is often described as “internal phosphorus loading.” The amount of internal phosphorus loading for a particular lake is often a function of the size of the tributary watershed, the lake morphometry (lake shape or dimensions, more on this in the next paragraph), and the oxygen-demanding nature of the lake sediments.

A lake’s morphometry and surrounding adjacent topography determine how a lake mixes and how oxygen is delivered to the lake bottom. If oxygen demand is high in the lake bottom sediment (which can happen because of decomposing organic matter), there is a tendency for the lake bottom to have low oxygen. However, the surrounding topography and lake morphometry can affect how much oxygen reaches the lake bottom sediments. This is important since a lack of oxygen tends to promote internal loading because under anoxic (without oxygen) conditions, iron in lake sediment cannot bind with phosphorus, which would otherwise be held in place. Chemically speaking, this happens because the iron phosphate is “reduced” under anoxic conditions. Shallow lakes, which were a focus of this study, have a tendency to mix more and hence the bottom sediments receive more oxygen and the traditional low-oxygen induced internal loading due to the reduction of iron-phosphates is less prevalent. Organically bound phosphorus decay and release can be assumed to be an important mechanism of internal phosphorus loading in these shallow lakes. It is also important to note that shallow lakes have an overall lower rate of internal load compared to deep lakes, but the internal load is just as important given the much reduced volume of the shallow lake that is available to dilute the phosphorus provided by internal loading. Also, sediments in shallow lakes are closer to surface waters that are exposed to sunlight, making algae able to utilize the phosphorus that reaches the surface waters, as opposed to deep lakes, where released phosphorus can remain further down in a deep water column, rendering it unavailable to algae.

This current study evaluated seven lakes within the Ramsey Washington Metro Watershed District (RWMWD) to estimate the current status of internal loading in these lakes. Most of the lakes evaluated are shallow (Bennett, Battle Creek, Emily, Wakefield, Kohlman and Round) but Lake Owasso, a deep lake, was also evaluated. The internal load assessment approach included a combination of sediment sampling and sediment analysis, modeling, and examination of existing lake water quality data.

---

## 2 Methods and Models

A minimum of two sediment cores were collected in each lake. Each core was sectioned on site to a maximum depth of 20 centimeters into the sediment. The sediment was analyzed for several different phosphorus (P) fractions:

- (1) mobile-P (loosely sorbed and iron bound-P, which is the fraction of sediment P subject to release under anoxic conditions),
- (2) aluminum bound-P (Al-P),
- (3) organically bound-P (Org-P), and
- (4) calcium bound-P (Ca-P)

Extractable iron was also measured in each sediment core. This fraction is the iron in sediment that is released during anaerobic conditions and it is also the fraction that binds phosphorus. For Kohlman Lake, extractable aluminum was also analyzed to evaluate the fate of aluminum in sediments resulting from the alum treatment in 2010. The extractable iron fraction in the lake sediment is an estimate of the available and reactive iron that may have the capacity to bind phosphorus. This iron fraction is composed of iron hydroxides and iron minerals. Similarly, the extractable aluminum provides an indication of aluminum introduced from alum treatment. Total aluminum, which has been traditionally analyzed in studies that evaluate aluminum fate post-alum treatment may not give as clean an indication as this method will quantify all aluminum compounds in the sediment, including for example aluminum in clays and silts. Aluminum is found abundantly in the natural world, so this distinction is important when drawing conclusions about the fate of alum treatments.

Knowing the mass of mobile-P and Org-P in lake bottom sediments provides an estimate of the internal loading potential for a given lake. However, phosphorus in the mobile-P fraction is not released until dissolved oxygen becomes significantly reduced near the sediment-water interface. Similarly, phosphorus is released from the Org-P fraction with decomposition and the decomposition rate is a function of lake water temperature. A simple Python-coded internal loading model was developed to estimate that rate of phosphorus release from lake bottom sediment during the summer months in the studied lakes using the following key inputs:

- (1) Average mobile-P concentration in the top 6 centimeters of lake bottom sediment
- (2) Average Org-P concentration in the top 6 centimeters of the lake bottom sediment
- (3) Dissolved oxygen and lake water temperature by lake depth
- (4) Lake bottom area by lake depth

The maximum potential internal loading rate from mobile-P was calculated using the regression developed by [Pilgrim et al., 2007](#). The equation is:

$$\text{Max Potential Internal Loading Rate (mg m}^{-2} \text{ d}^{-1}) = 14.7 * \text{Mobile-P} - 1.0.$$

Where mobile-P is measured as  $\text{g m}^{-2} * \text{cm}^{-1}$ . In the model the Max Potential Internal Loading Rate is modified depending on the dissolved oxygen concentration using the equation

$$\text{Internal Loading Rate} = \text{Rate}_{\text{max}} * (1 - (\text{DO} / (\text{DO} + \text{DO}_{\text{critical}}))).$$

Where:

$\text{Rate}_{\text{max}}$  = Max Potential Internal Loading Rate ( $\text{mg m}^{-2} \text{ d}^{-1}$ )

DO = Dissolved oxygen concentration (mg/L) by lake depth.

$\text{DO}_{\text{critical}}$  = The dissolved oxygen concentration where phosphorus releases from lake bottom sediments at one-half  $\text{Rate}_{\text{max}}$ .

Hence, the model extrapolates dissolved oxygen and temperature by lake depth and day using monitoring data, and calculates the estimated lake bottom area that is experiencing the dissolved oxygen and temperature conditions. The release rate is then estimated based upon the mobile-P concentration in the sediment and the dissolved oxygen concentration by lake depth. The second part of the model is Org-P decay and phosphorus release. The Org-P decay and release rate is calculated as:

$$\text{Org-P decay and release} = \text{Org-P} * \text{OrgRate}_{\text{Max}} * 1.15^{(\text{Tw} - \text{Top})}$$

Where:

Org-P = Org-P concentration ( $\text{g m}^{-2} * \text{cm}^{-1}$ )

$\text{OrgRate}_{\text{max}}$  =  $1.25 * \text{Org-P}$  ( $\text{mg m}^{-2} \text{ d}^{-1}$ )

Tw = water temperature ( $^{\circ}\text{C}$ ) at lake depth

Top = lake water temperature ( $^{\circ}\text{C}$ ) where Org-P decay and release =  $\text{Org Rate}_{\text{max}}$

The model output combines the two release rates into one rate by lake depth and a lake-wide weighted average by lake bottom area.

## 3 Internal Loading Assessment

A summary of the sediment chemistry and the modeling results is provided in Section 3.1 below. Details for each lake are provided in Section 3.2 to Section 3.9.

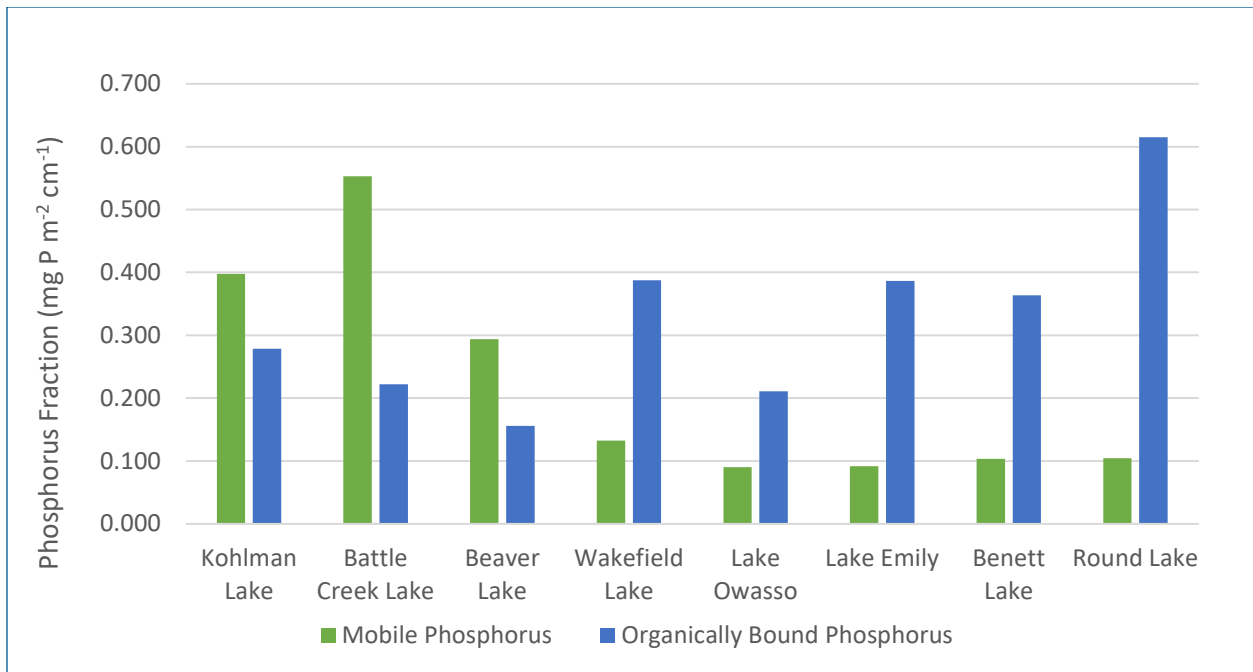
### 3.1 All Lakes Summary

A summary of phosphorus fractions for each lake is provided in Table 3-1. This summary is an average of the cores collected in each lake and an average of the top 6 centimeters of lake bottom sediment. The fractions are provided as dry weight “mg P g<sup>-1</sup> DW” in the table below) and volumetrically (e.g., mass of P per volume of lake sediment, indicated as “g P cm<sup>-1</sup> m<sup>-2</sup> WW” in the table below). The volumetric fraction is used in the model. As shown in the table the highest phosphorus concentrations were found in Kohlman and Battle Creek Lake. Total phosphorus (a summation of all the phosphorus fractions) was highest in Kohlman Lake but it is also notable that Al-P was significantly higher in Kohlman Lake, clearly due to the alum treatment the lake received in 2010. Mobile-P was highest in Battle Creek Lake. It can also be seen that the lake with low mobile-P had a tendency to have higher Org-P.

**Table 3-1 Average sediment chemistry for the top 6 centimeters of lake sediment for lakes included in the current study. Phosphorus fractions used to estimate internal loading are highlighted.**

| Lake                          | Phosphorus Fraction (mg P g <sup>-1</sup> DW) |       |       |       |         | Phosphorus Fraction (g P cm <sup>-1</sup> m <sup>-2</sup> WW) |       |       |       |         |
|-------------------------------|---|-------|-------|-------|---------|---|-------|-------|-------|---------|
|                               | Mobile-P                                      | Al-P  | Org-P | Ca-P  | Total P | Mobile-P  | Al-P  | Org-P | Ca-P  | Total P |
| Kohlman                       | 0.565   | 0.283 | 0.334 | 0.284 | 1.466   | 0.398   | 0.227 | 0.278 | 0.248 | 1.152   |
| Battle Creek                  | 1.023   | 0.061 | 0.395 | 0.250 | 1.729   | 0.553   | 0.034 | 0.222 | 0.148 | 0.957   |
| Beaver                        | 0.900   | 0.015 | 0.453 | 0.155 | 1.523   | 0.294   | 0.005 | 0.156 | 0.055 | 0.510   |
| Wakefield                     | 0.139   | 0.029 | 0.404 | 0.238 | 0.811   | 0.132   | 0.029 | 0.387 | 0.233 | 0.753   |
| Owasso                        | 0.239   | 0.025 | 0.551 | 0.126 | 0.941   | 0.090   | 0.009 | 0.211 | 0.048 | 0.358   |
| Emily                         | 0.081   | 0.030 | 0.343 | 0.110 | 0.564   | 0.092   | 0.035 | 0.387 | 0.125 | 0.639   |
| Bennett                       | 0.204   | 0.062 | 0.593 | 0.178 | 1.037   | 0.104   | 0.040 | 0.363 | 0.132 | 0.639   |
| Round Lake<br>(Little Canada) | 0.145   | 0.060 | 0.822 | 0.242 | 1.269   | 0.104   | 0.049 | 0.615 | 0.204 | 0.973   |

The Org-P and mobile-P in Table 3-1 are also plotted in Figure 3-1 for those fractions expressed volumetrically (g m<sup>-2</sup> \* cm<sup>-1</sup>). This figure provides a visual indication of internal loading potential.



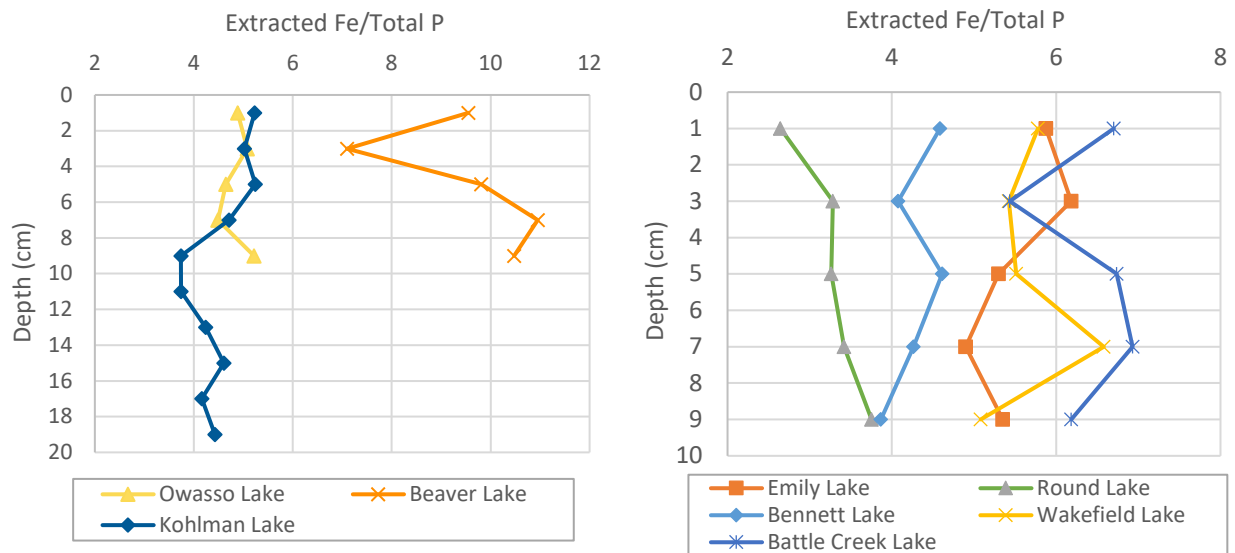
**Figure 3-1 Comparison of Average Mobile-P and Org-P Concentrations in the Top 6 centimeters of Lake Bottom Sediment**

The results of the model runs for each lake are provided in Table 3-2. The average summer internal loading rates are sorted from lowest (Lake Owasso) to the highest (Round Lake). It can be seen on Figure 3-1 that the high internal loading rate of Round Lake is a result of the high Org-P concentration in that lake's bottom sediments.

**Table 3-2 Model-Estimated Average Summer Lake-Wide Internal Loading Rate and Total P Mass Release from June Through September**

| Lake                          | Summer Internal Loading Rate<br>mg m <sup>-2</sup> d <sup>-1</sup> | Summer Whole Lake June through September Internal Load (kg) |
|-------------------------------|--|---|
| Lake Owasso                   | 0.46   | 104   |
| Kohlman Lake                  | 1.2  | 47  |
| Wakefield Lake                | 1.2  | 12  |
| Lake Emily                    | 1.3  | 15  |
| Bennett Lake                  | 1.3  | 15  |
| Battle Creek Lake             | 1.4  | 82  |
| Beaver Lake                   | 2.1  | 57  |
| Round Lake<br>(Little Canada) | 2.2  | 15  |

A new procedure that was conducted for this study entailed quantifying the concentration of extractable iron in the bottom sediment samples. This “extractable iron” fraction is the iron in sediment that is released during anaerobic conditions and it is also the fraction that binds phosphorus. Hence, if the amount of extractable iron is low in lake sediments, then phosphorus will less likely be bound to it under aerobic conditions. If iron is low, decay of Org-P will lead to immediate release of phosphorus into the water column rather than adsorption to iron and subsequent immobilization.



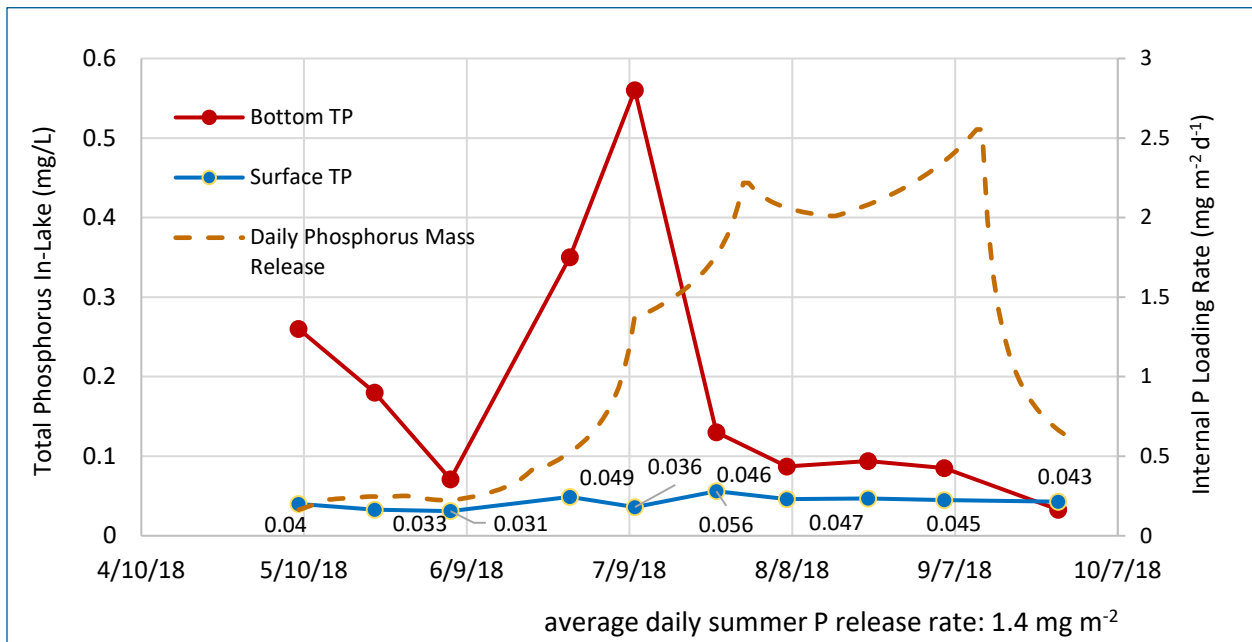
**Figure 3-2 Comparison of Extracted Iron (Fe) to Total Phosphorus Ratios in the Top Layers of Lake Bottom Sediment**

It can be seen on Figure 3-2 that iron is low compared to total phosphorus (calculated as the sum of all the phosphorus fractions) for Round Lake and Bennett Lake. The internal loading pattern for these two lakes is unique when compared to the other lakes in this study (see Section 3.4 and Section 3.9). These two lakes also have very high Org-P compared to mobile-P. The iron to total phosphorus ratio in lake bottom sediments was highest for Beaver Lake. Ratios for Owasso and Kohlman Lake were similar to Bennett Lake. Its notable that Beaver displayed a classic internal loading signal with increased surface total phosphorus during mid-summer months (see Section 3.3). Surface total phosphorus in Owasso Lake provided no indication of internal loading while for Kohlman Lake there was a clear indication with a spike in total phosphorus in mid-summer which is indicative of mobile-P release but elevated phosphorus during other periods could be more indicative of Org-P decay. Overall, the iron content of each lake may provide some indication of how internal loading may be managed most effectively. This is discussed in greater detail in the sections below.



### 3.2 Battle Creek Lake

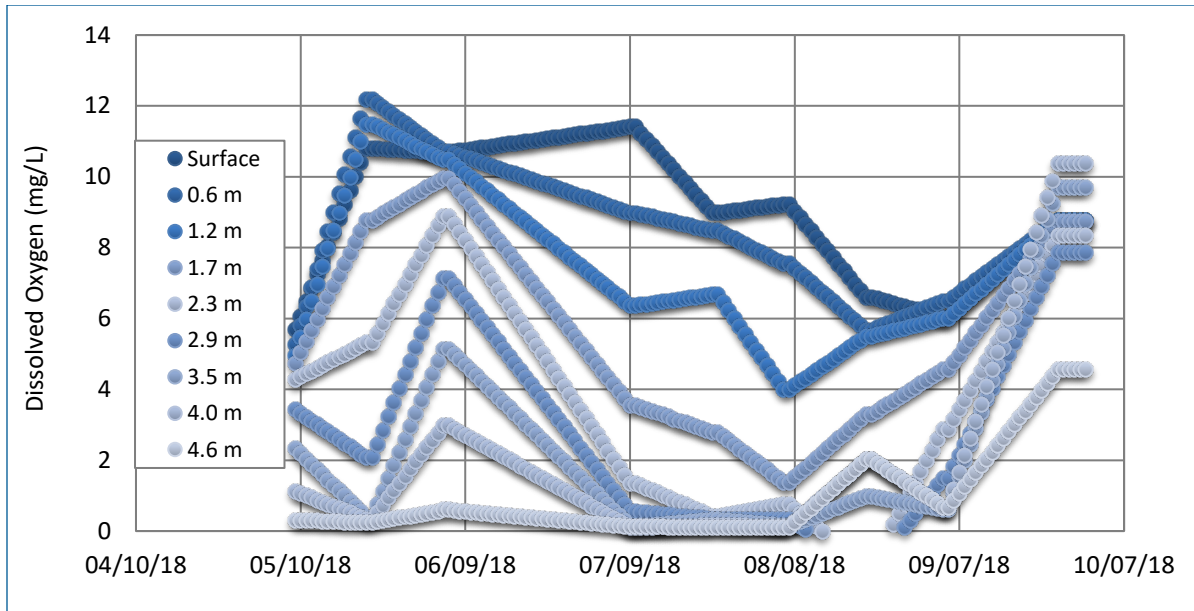
To judge the model results for Battle Creek Lake, it is important to look for signals of internal loading magnitude and timing. Model-estimated internal loading accelerated in July and decelerated in September (see Figure 3-3). The highest phosphorus concentrations in the surface of Battle Creek Lake (looking at the bottom concentrations may be a bit deceiving) largely corresponded to the model-estimate timing of internal loading.



**Figure 3-3 Phosphorus Measurements in Battle Creek Lake Compared to the Model-Estimated Lake-Wide Daily Phosphorus Release Rate**

The bottom TP line on Figure 3-3 provides a clear indication of internal loading in Battle Creek Lake. However, this is likely focused on the deepest part of the lake with the lowest oxygen and also the smallest lake bottom area (meaning, it's not necessarily a good indication of the lake-wide internal loading extent). Mixing likely occurred at this deep location causing phosphorus to increase in the surface waters at the end of June to early July. Higher phosphorus was likely sustained in July through September by internal loading in shallower areas of the lake.

The model-extrapolated dissolved oxygen by lake depth and by day is shown on Figure 3-4. It can be seen that bottom waters were anaerobic (e.g., low in dissolved oxygen) from May through early September. It is likely that the high phosphorus concentrations in May through July in bottom waters were due to release from the mobile-P fraction in the deeper part of the lake. However, shallower depths did not experience anaerobic conditions until July and hence overall internal loading did not accelerate until mid-July. It can be seen in the graph that surface total phosphorus increased by approximately 10 ug/L when internal loading accelerated. Overall, the model-estimated average summer internal phosphorus release rate was 1.4 mg m<sup>-2</sup> d<sup>-1</sup>. Estimated total summer internal loading was 82 kg during the modeling year (2018).

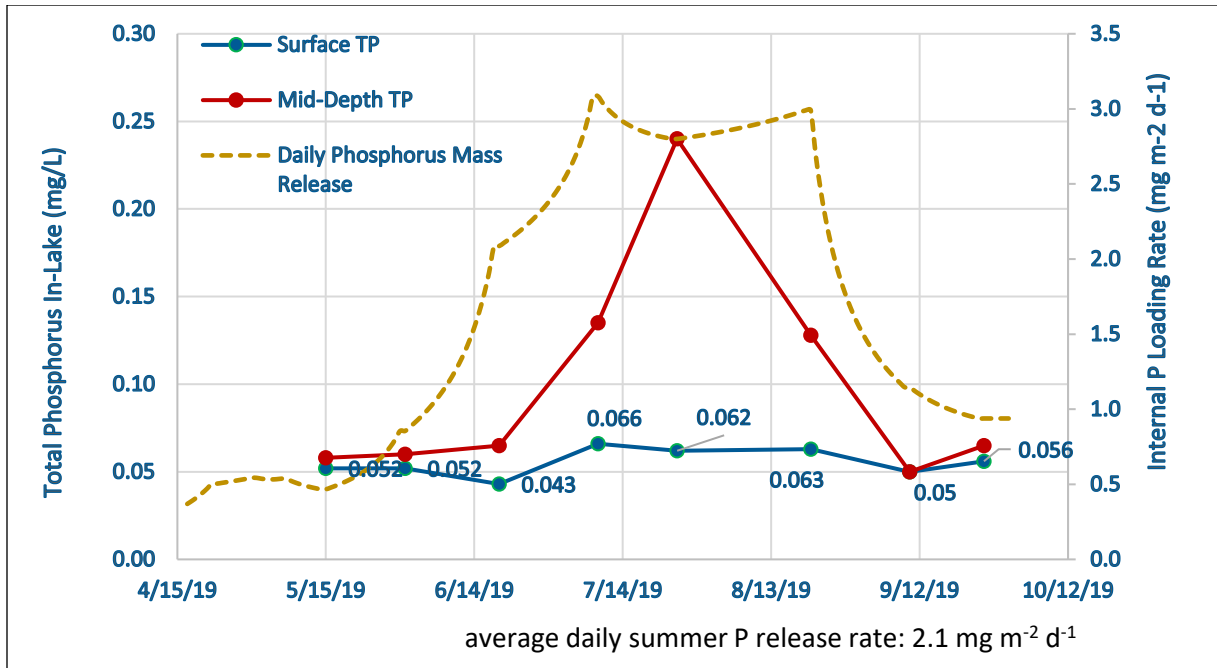


**Figure 3-4 Model-Extrapolated Dissolved Oxygen by Lake Depth in Battle Creek Lake**

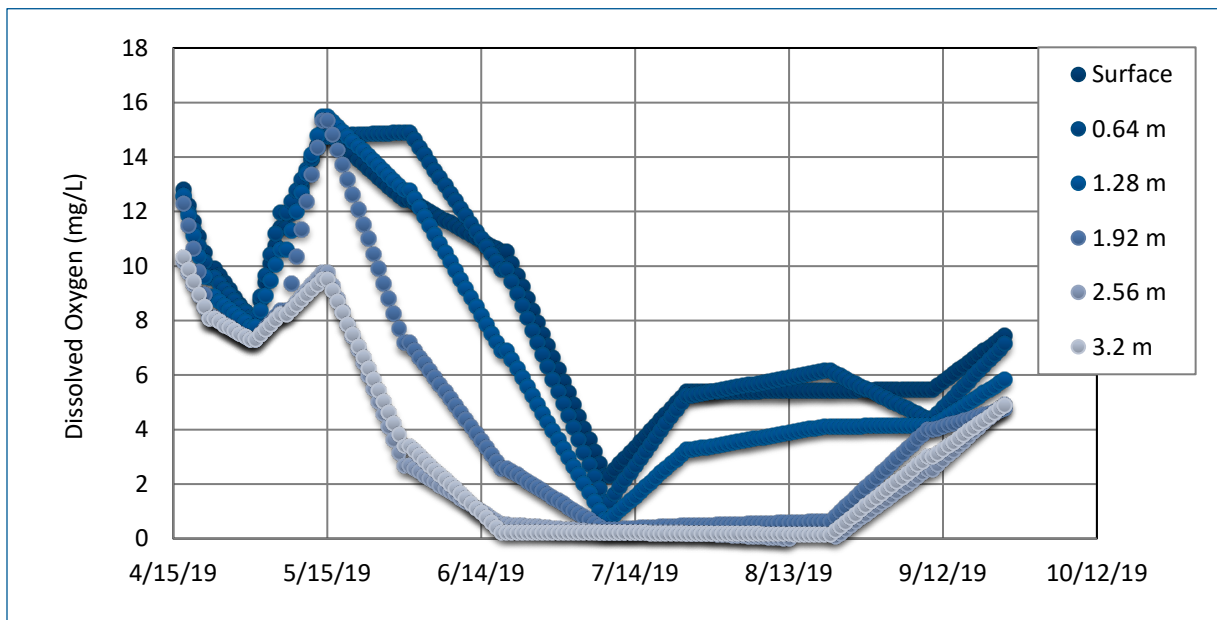
### 3.3 Beaver Lake

To judge the model results for Beaver Lake, it is important to compare changes in measured phosphorus to changes in model-estimated internal loading. The model-estimated Beaver Lake internal loading rate accelerated beginning in June, peaked in July-August, and began to decline during the latter half of August (see Figure 3-5). Changes in phosphorus concentrations in the bottom samples at Beaver Lake largely corresponded to the model-estimated timing of internal loading. However, the model-predicted increase in internal loading in early June may have been a week or two early. This was simply a function of when monitoring was conducted. The model extrapolates and estimates dissolved oxygen between monitoring events and the extrapolation may not have accurately captured the rapidly changing conditions of the lake (see Figure 3-6). If a more accurate estimate is necessary, a continuous dissolved oxygen probe would need to be installed.

There is clear evidence of internal loading in Beaver Lake. Looking at the surface total phosphorus, concentrations increased from the June 19 to July 9 sample. Although watershed loading was not considered in this analysis and this can have an effect on how in-lake phosphorus changes are interpreted, several factors indicate that internal loading was largely responsible for observed changes in total phosphorus during the summer months: (1) a decline in dissolved oxygen from June 19 and July 9, (2) a corresponding increase in model-predicted internal loading, and (3) a corresponding increase in surface total phosphorus. When model-predicted internal loading decreased in late August, so too did surface total phosphorus concentrations. Overall, the model-estimated average summer internal phosphorus release rate was  $2.1 \text{ mg m}^{-2} \text{ d}^{-1}$ . Estimated total summer internal loading was 57 kg during the modeling year (2019).



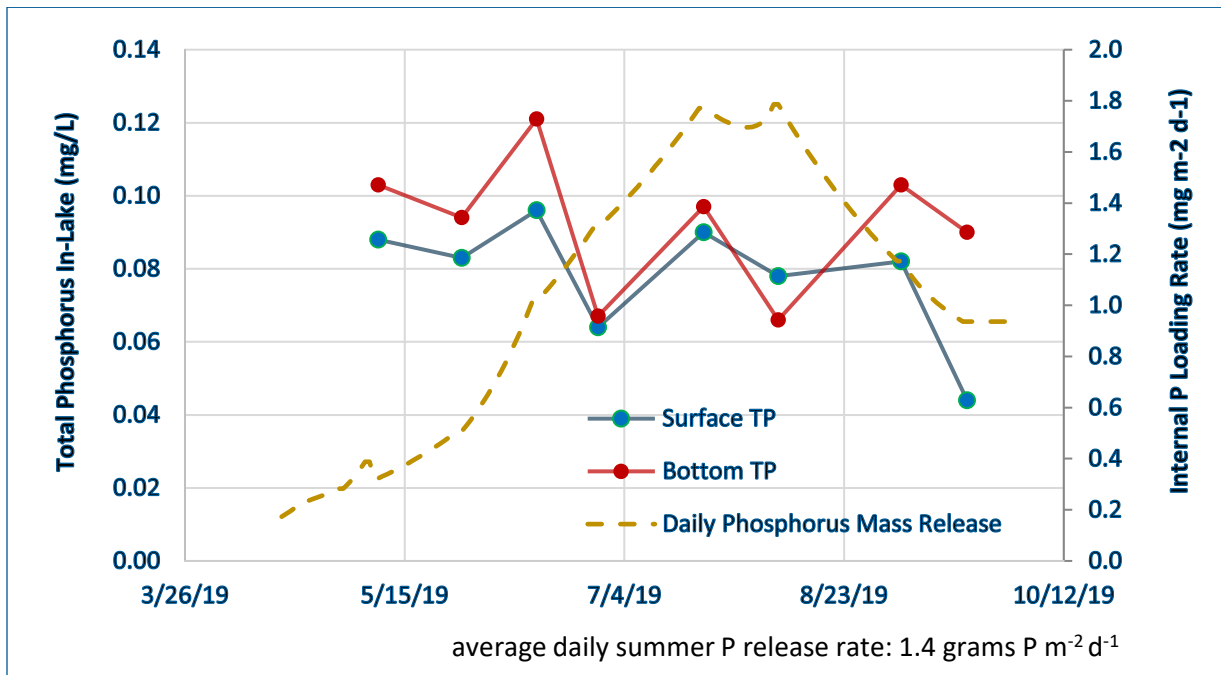
**Figure 3-5 Phosphorus Measurements in Beaver Lake Compared to the Model-Estimated Lake-Wide Daily Phosphorus Release Rate**



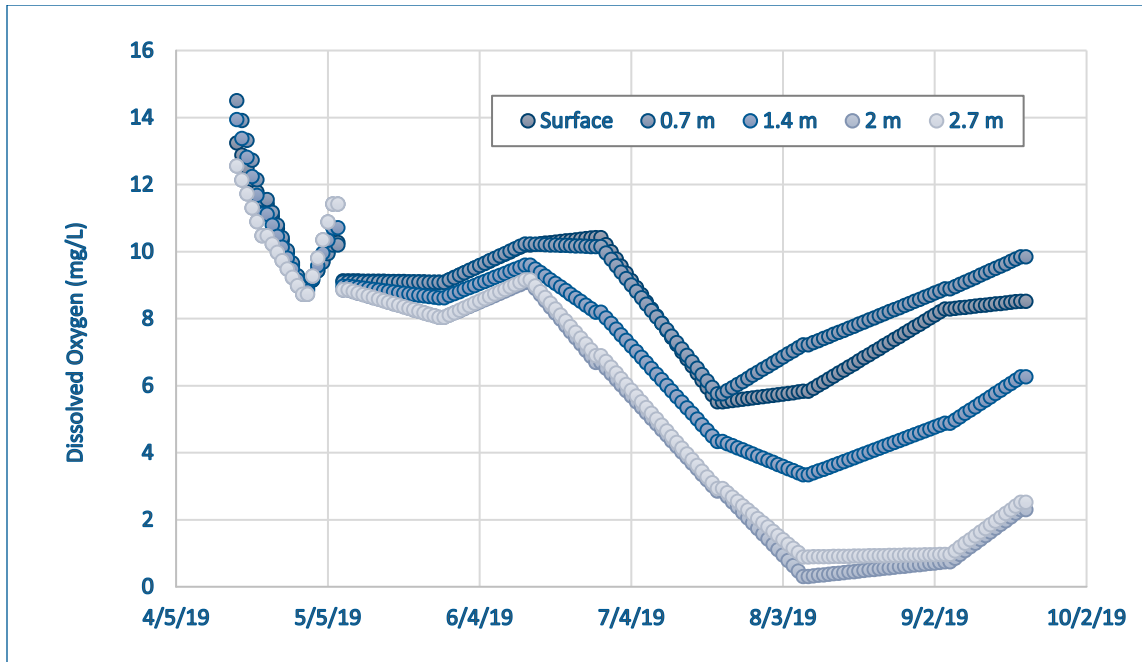
**Figure 3-6 Model-Extrapolated Dissolved Oxygen by Lake Depth in Beaver Lake**

### 3.4 Bennett Lake

Interpretation of the effect of internal loading on Bennett Lake is more challenging as total phosphorus measured on the lake bottom and surface tended to bounce around during the year and there was no clear pattern of phosphorus build up during the summer. Regardless, phosphorus was persistently high throughout the summer months and bottom total phosphorus was greater than the surface for most samples collected (Figure 3-7). The bottom sediments of Bennett Lake are dominated by the Org-P fraction and hence internal loading can be expected to be more gradual with the rate of phosphorus release of the Org-P fraction being much lower than the maximum potential release rate of the mobile-P fraction. It is also notable that anaerobic conditions did not become established until August (Figure 3-8) and there was a corresponding increase in total phosphorus in bottom waters from 0.066 to 0.103 mg/L. This is likely due to the release of phosphorus from the mobile-P fraction. The erratic but persistently high nature of phosphorus also suggests that fish (e.g., potentially carp) may also have an effect by resuspending sediment.



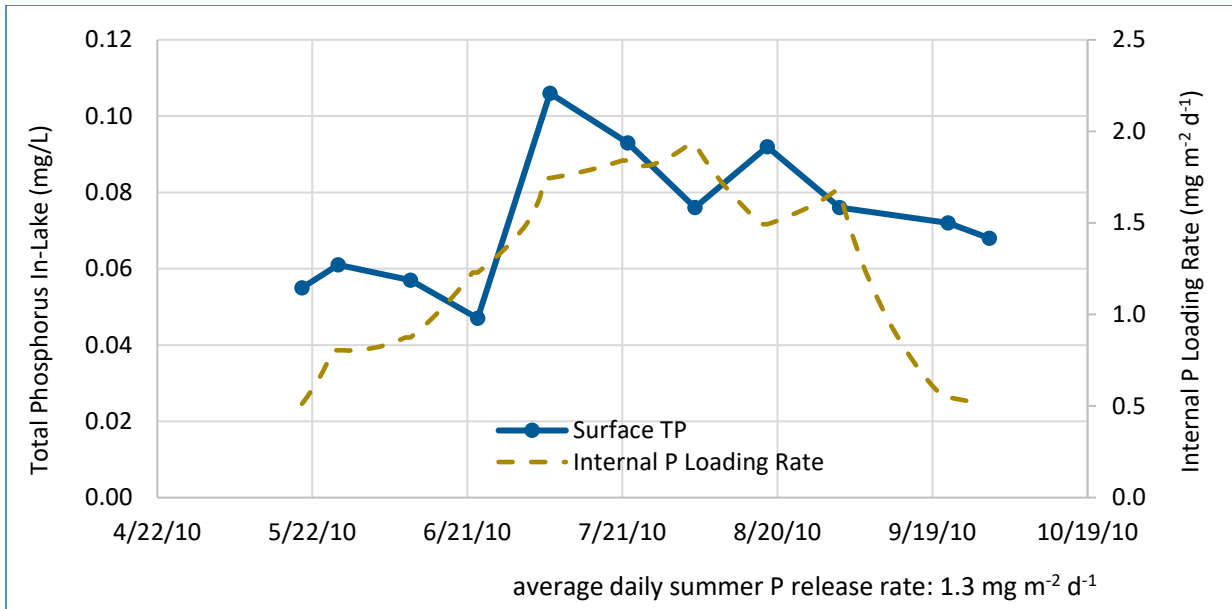
**Figure 3-7 Phosphorus Measurements in Bennett Lake Compared to the Model-Estimated Lake-Wide Daily Phosphorus Release Rate**



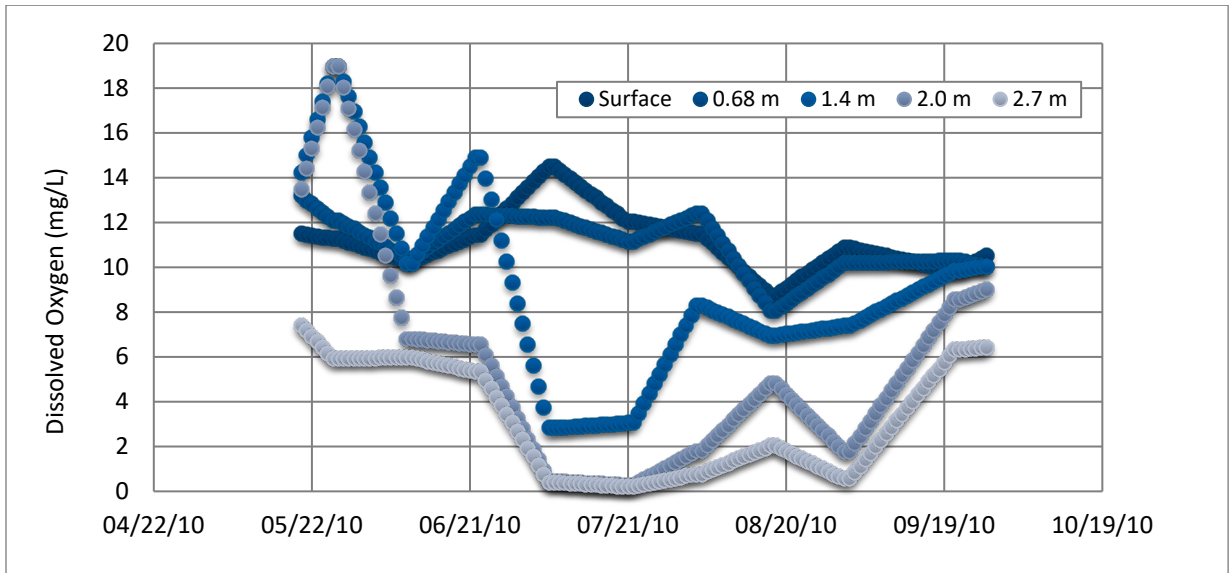
**Figure 3-8 Model-Extrapolated Dissolved Oxygen by Lake Depth in Bennett Lake**

### 3.5 Emily Lake

Even though the sediment chemistry of Emily Lake is similar to Bennett Lake, the lake becomes anaerobic much earlier in the year (mid-June) and surface total phosphorus clearly jumped in late June to early July in response to low oxygen. Model-estimated internal loading also increased during that period (see Figure 3-9 and Figure 3-10). Clearly, stormwater inputs may have also been involved, but any stormwater inputs of phosphorus were augmented by internal loading. Phosphorus during the remainder of the summer of the study year (2010) remained high but gradually declined as model-estimated internal loading declined. The average summer model-estimated internal loading rate of  $1.3 \text{ mg m}^{-2} \text{ d}^{-1}$  was similar to the other lakes in this study except for Lake Owasso at the low end and Beaver and Round Lake at the high end.



**Figure 3-9 Phosphorus Measurements in Emily Lake Compared to the Model-Estimated Lake-Wide Daily Phosphorus Release Rate**



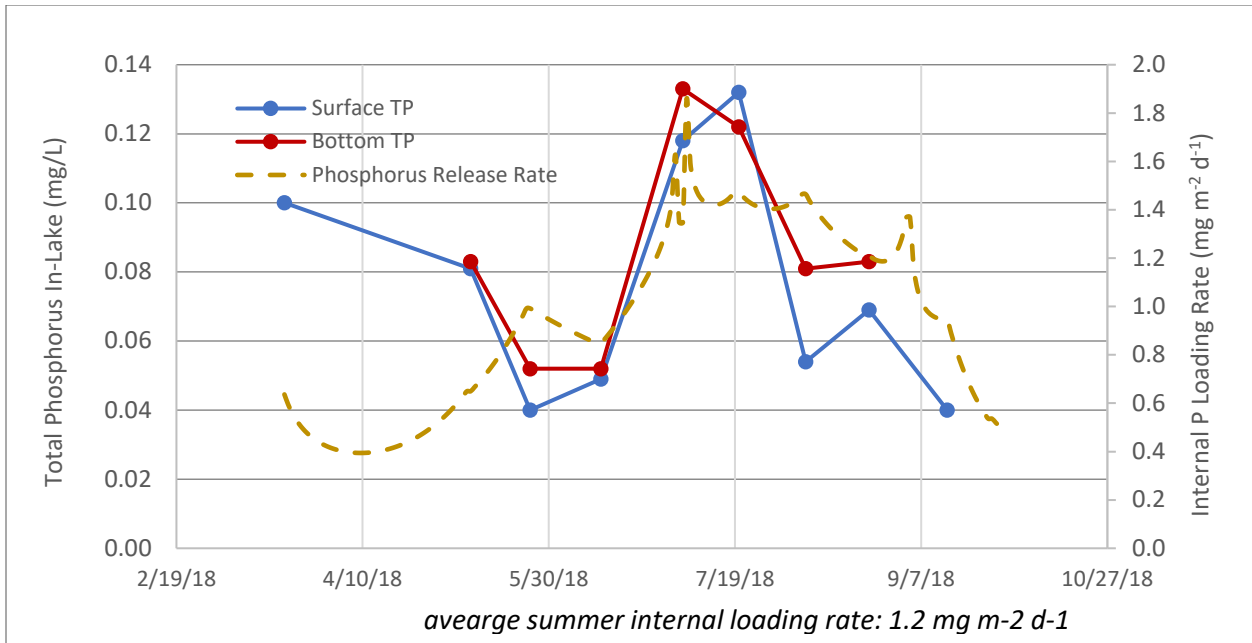
**Figure 3-10 Model-Extrapolated Dissolved Oxygen by Lake Depth in Emily Lake**

### 3.6 Kohlman Lake

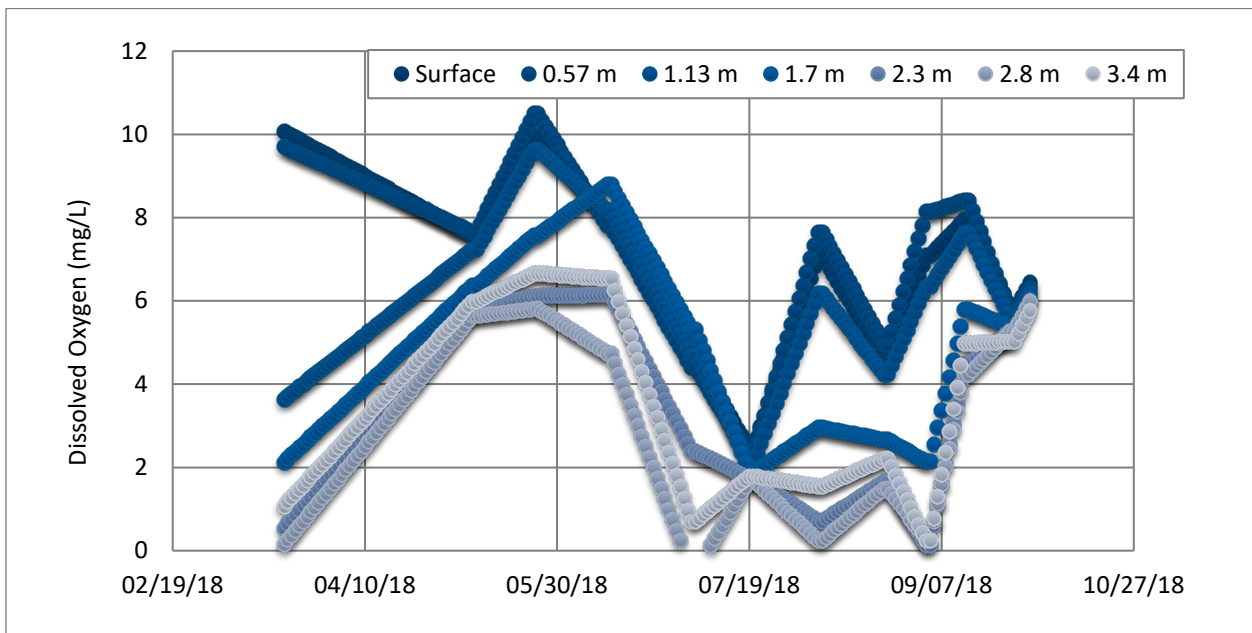
Kohlman Lake has been well studied, however, there has been some question whether recent increases in total phosphorus in the lake indicate that the 2010 alum treatment is no longer effective. Sediment cores were collected in Kohlman Lake similar to the other lakes in this study, however, extractable aluminum was also analyzed to determine the fate of aluminum added as part of the 2010 alum treatment. This sediment was also analyzed for phosphorus fractions to better understand whether the alum treatment has been exhausted.

Similar to the other modeling efforts, internal loading was model-estimated (modeled year was 2018). It appears that changes in total phosphorus in bottom waters corresponded very closely to model-estimated changes (both increases and decreases) in internal loading (Figure 3-11 and Figure 3-12). The timing of internal loading was directly a function of the timing of reduced conditions (low oxygen) onset. Mobile-P concentrations in the sediment were second highest of all the lakes in this study, and hence the correspondence of internal loading with dissolved oxygen decline and increased total phosphorus in surface water suggests that mobile-P is the primary contributor to the current internal loading observed in Kohlman Lake.

Despite having the second highest mobile-P in lake bottom sediments, Kohlman Lake also has the highest Al-P (aluminum bound phosphorus) in the top 6 centimeters of lake bottom sediments sampled (Table 3-1). However, Figure 3-13 also shows that most of the Al-P formed and the aluminum from the 2010 alum treatment are below 6 centimeters depth. The high Al-P below 6 centimeters in Kohlman Lake sediments is a strong indication of historically high mobile-P that was on the lake surficial sediment (e.g., aluminum converts mobile-P to Al-P). Since aluminum is a flocculent, any disturbance of lake bottom sediments tends to lead to aluminum-bound particles settling first. New sediment deposition also can have the effect of burying aluminum from an alum treatment and this appears to be the case for the core samples taken in the north near the inlet and the east side of the lake. Although there seems to be some extractable aluminum in the top 6 cm of the deep hole and near the south end of Kohlman Lake, there probably is not much phosphorus binding capacity remaining in the lake. It can be expected that mobile-P will increase over time in the surficial sediments and internal loading will also likely increase gradually. However, it is possible that with watershed BMPs and reduced phosphorus loading to Kohlman Lake, internal loading rates will not return to the high rates observed pre-alum treatment. Overall, the model-estimated internal loading rate in Kohlman Lake is not very high (e.g.,  $1.2 \text{ mg m}^{-2} \text{ d}^{-1}$ ).

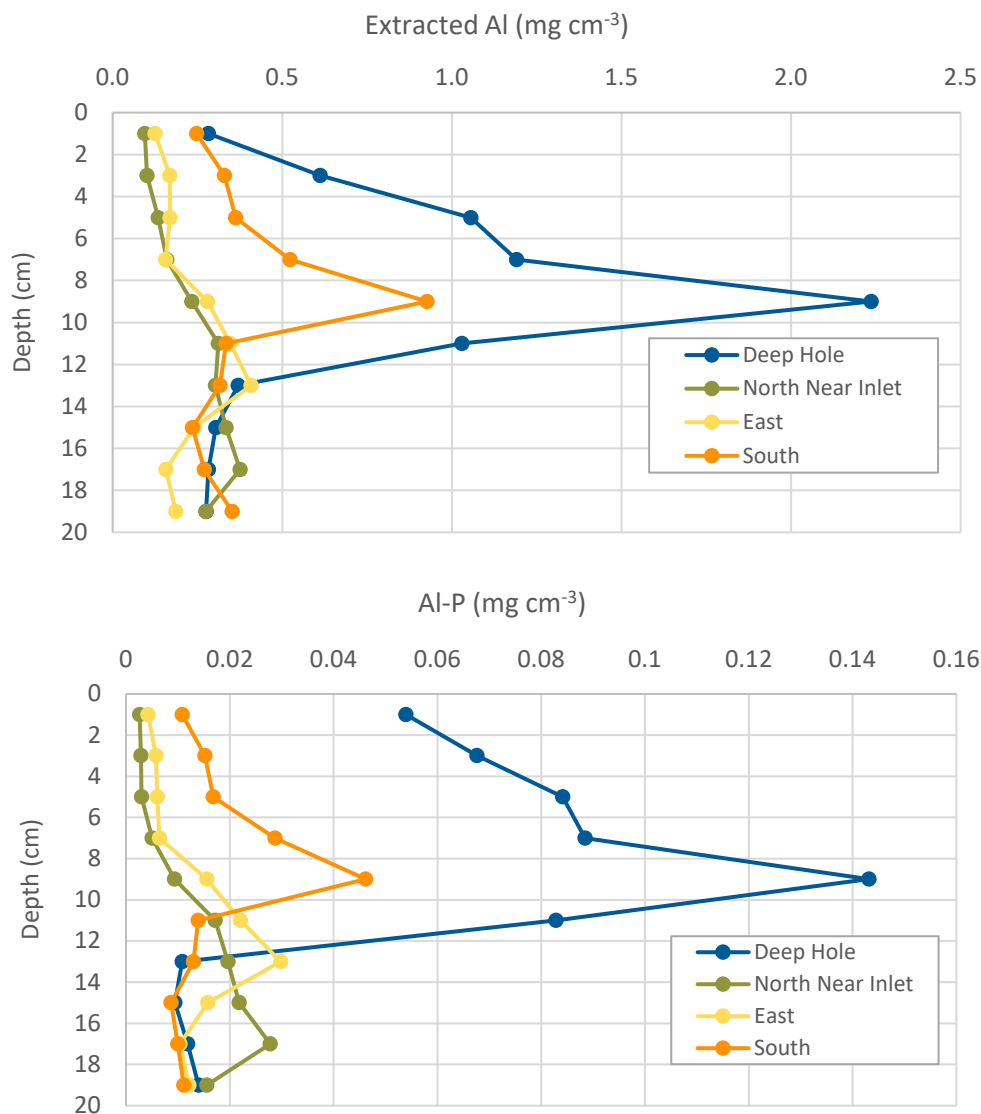


**Figure 3-11 Phosphorus Measurements in Kohlman Lake Compared to the Model-Estimated Lake-Wide Daily Phosphorus Release Rate**



**Figure 3-12 Model-Extrapolated Dissolved Oxygen by Lake Depth in Kohlman Lake**

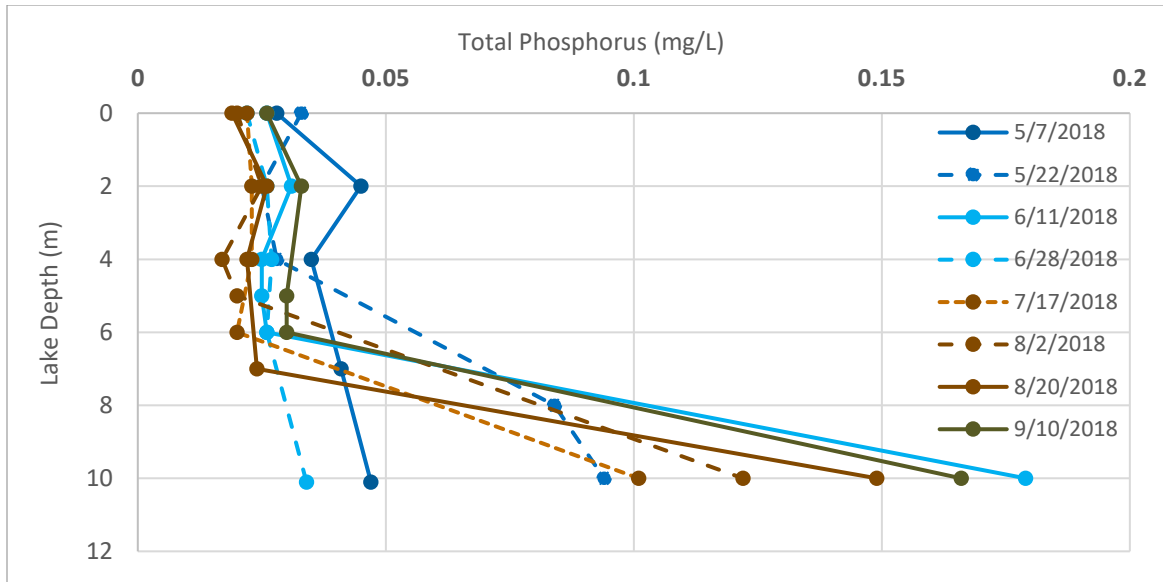




**Figure 3-13 Aluminum and Aluminum-Bound Phosphorus in Kohlman Lake**

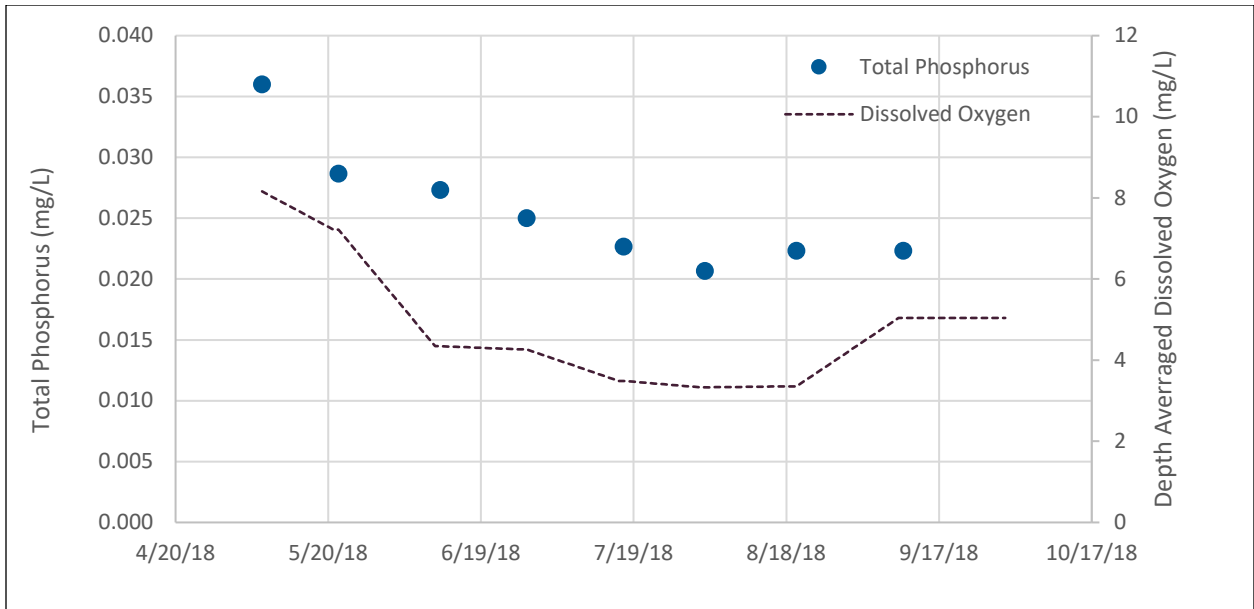
### 3.7 Owasso Lake

Lake Owasso is distinct from the other lakes in this study in that it is deep (e.g., approximately 10 meters depth), stratifies strongly during the summer months, and behaves more like a “traditional” lake with low oxygen in the bottom waters and high oxygen at the surface. It can be seen on Figure 3-14 that phosphorus accumulates in the bottom waters and although these concentrations seem high compared to the surface, they are not indicative of extensive internal loading in the bottom waters. Many lakes with extensive internal loads can have total phosphorus concentrations as high as 1.0 mg/L. It is notable that surface total phosphorus (see Figure 3-15) declined from the spring through the summer and this decline also corresponded to depth-averaged decline in dissolved oxygen. This is in contrast to most of the shallow lakes in this study in that the onset of anaerobic conditions led to increases in total phosphorus in surface waters.

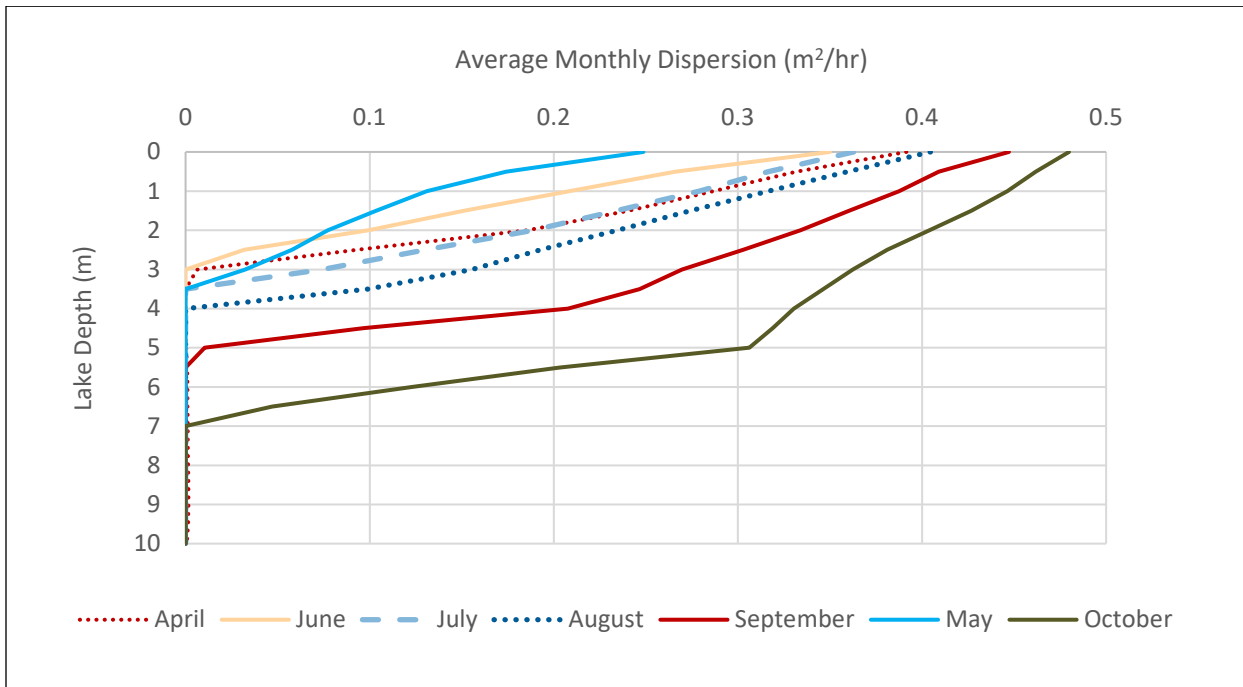


**Figure 3-14 Phosphorus Measurements in Lake Owasso by Lake Depth**

Even though the temperature data collected for Lake Owasso indicates that Owasso is strongly stratified, a one-dimensional thermodynamic model was run to estimate the potential for phosphorus from bottom waters to mix with surface waters. Figure 3-16 shows the average monthly dispersion by depth in Lake Owasso. High dispersion numbers mean mixing. Where the numbers approach zero, there is very little mixing. From May to August, it can be seen that dispersion approached zero at a lake depth of 3 to 4 meters. This indicates that there was little exchange of bottom waters with waters shallower than 3 to 4 meters during these months. The shallow waters are where most of the phytoplankton grow. Hence, unless there is a very large storm event or an extremely warm year pushes the thermocline to deeper depths, it can be expected that internal phosphorus loads that accumulate in the bottom waters will not mix with surface waters until late September or October.

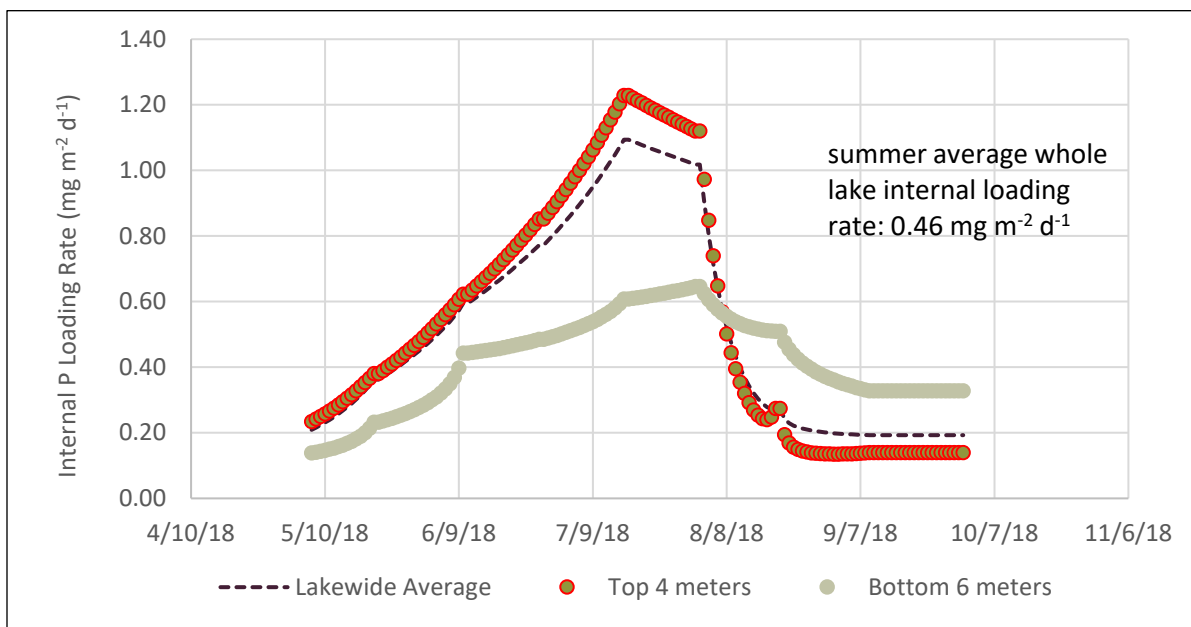


**Figure 3-15 Total Phosphorus in the Surface of Lake Owasso Compared to Depth-Averaged Dissolved Oxygen**

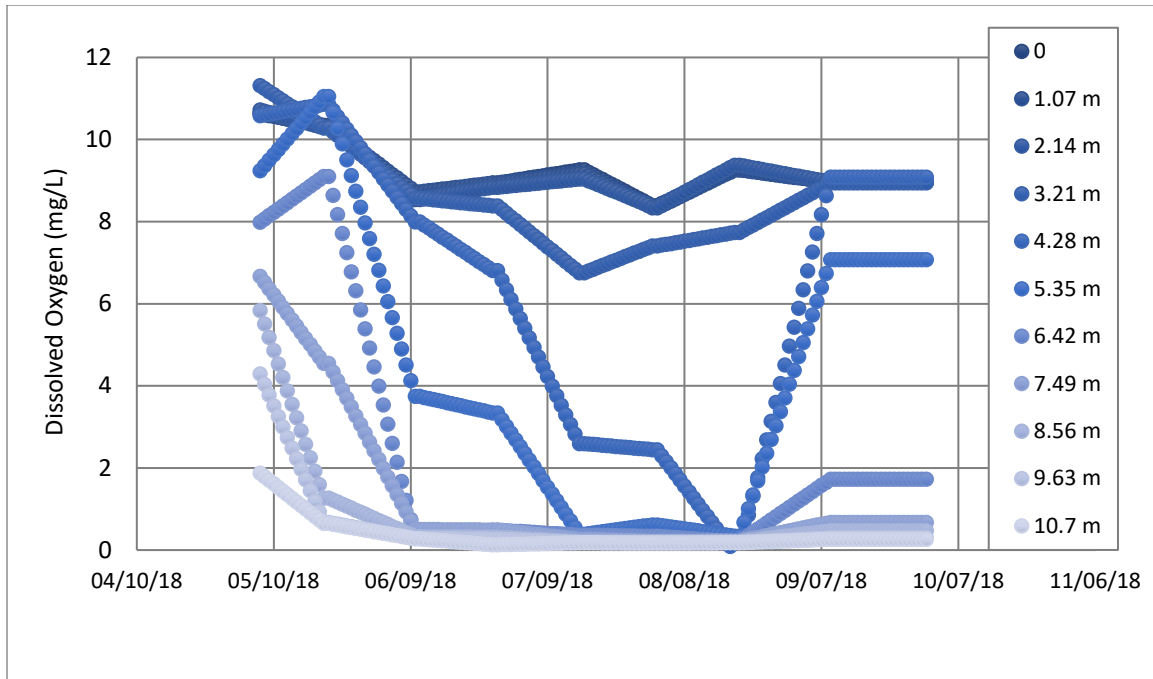


**Figure 3-16 Average Monthly Lake Dispersion Providing an Indication of Lake Mixing**

The internal load estimation model was also used to estimate internal loading by depth in Lake Owasso in 2018. The results were averaged for the top 4 meters and bottom 6 meters of Lake Owasso to compare the estimated internal loading rate for the bottom waters and the surface waters. The model estimated that internal loading would be much greater for the top 4 meters for the lake (see Figure 3-17). Since the top 4 meters of the lake had high oxygen for the summer months (Figure 3-18), it can be assumed that Org-P decay was the primary mechanism of internal loading from the lake's shallow areas. On Figure 3-1, it can be seen that Org-P is higher than mobile-P in the lake sediments. Because Lake Owasso is very strongly stratified, it's as if Owasso was behaving like a shallow lake for the top 4 meters of the lake. Decay of Org-P is likely the major source of internal loading, however, unlike a shallow lake, much of the phosphorus in the lake bottom sediments is trapped in the deeper and colder areas of the lake. The overall model-estimated internal loading rate of  $0.46 \text{ mg m}^{-2} \text{ d}^{-1}$  is quite low.



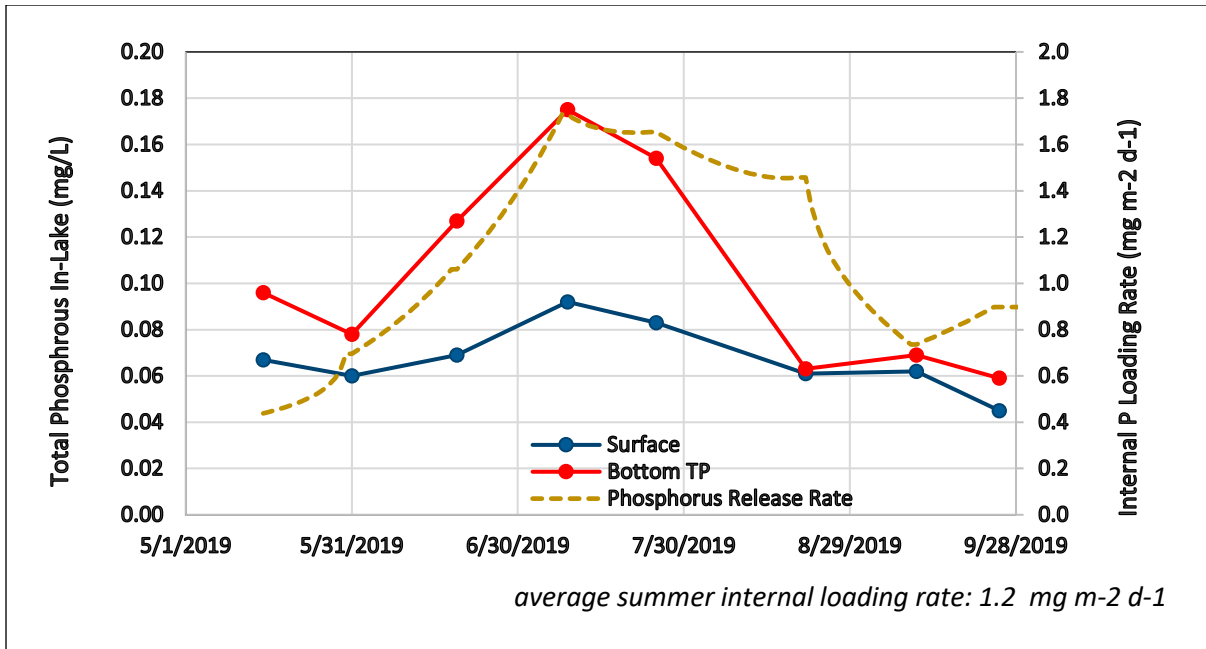
**Figure 3-17** Estimated Phosphorus Release Rate by Depth Region in Lake Owasso



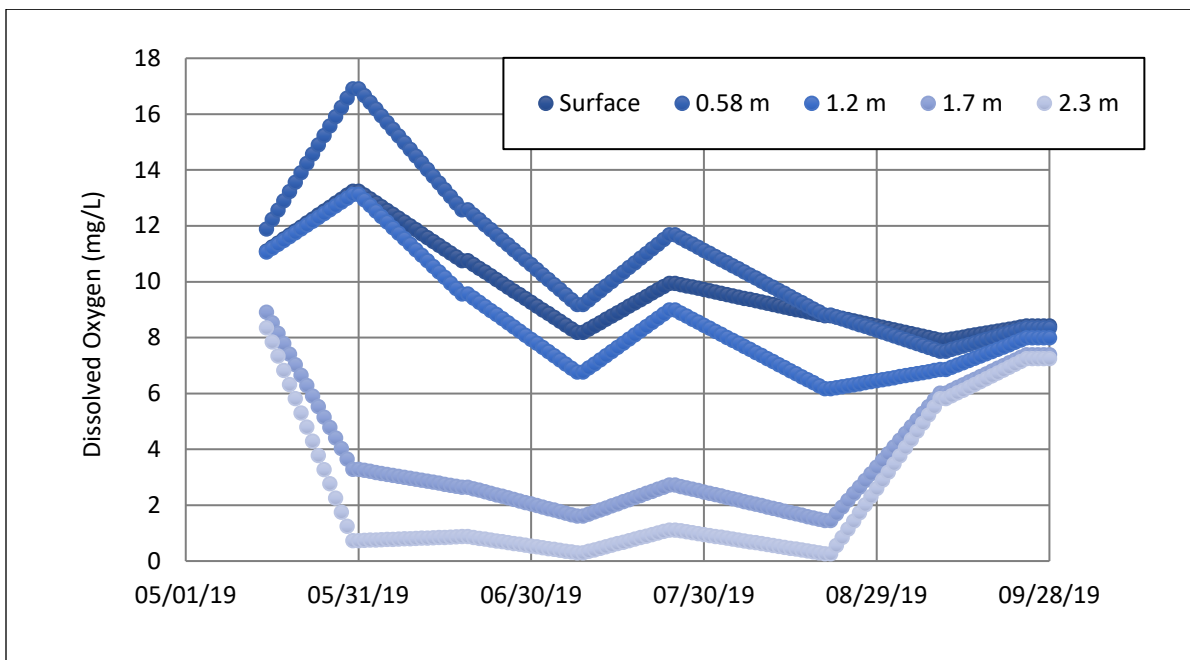
**Figure 3-18 Model-Estimated Dissolved Oxygen Concentration by Depth in Lake Owasso**

### 3.8 Wakefield Lake

Wakefield Lake has much higher Org-P compared to mobile-P in the lake bottom sediments, this is similar to Emily, Bennett, and Round Lake. However, the monitoring data clearly indicate that increases in total phosphorus in Wakefield (Figure 3-19) correspond to the period with low dissolved oxygen (Figure 3-20). This suggests that mobile-P is the primary cause of internal loading in Wakefield Lake during the summer. It is also notable that changes in the model-predicted internal loading rate corresponded to changes in bottom and surface total phosphorus (Figure 3-19). Although the summer average internal loading rate of  $1.2 \text{ mg m}^{-2} \text{ d}^{-1}$  is not high, it is high enough to measurably increase summer total phosphorus in surface waters in July.



**Figure 3-19** Phosphorus Measurements in Wakefield Lake Compared to the Model-Estimated Lake-Wide Daily Phosphorus Release Rate



**Figure 3-20** Model-Extrapolated Dissolved Oxygen by Lake Depth in Wakefield Lake

### 3.9 Round Lake (Little Canada)

It is challenging to develop an unequivocal connection between changes in total phosphorus measured in Round Lake and the model-predicted internal phosphorus release rate. Phosphorus is very high in Round Lake and phosphorus remains high throughout the year (e.g., approximately 0.2 mg/L) during the year (Figure 3-21). Lake bottom sediments in Round Lake had by far the highest Org-P concentration of the lakes studied, and perhaps the more steady, gradual, and consistent release from the Org-P fraction explains, in part, why phosphorus is sustained at a very high concentration in the lake. It also seems likely that biotic disturbance of the sediments is also contributing to the sustained high phosphorus concentrations. Despite the lack of a clear signal of internal loading in Round Lake, the model-estimated release rate of  $2.2 \text{ mg m}^{-2} \text{ d}^{-1}$  was the highest estimated internal release rate of all the lakes in this study. It is also notable that the iron to total phosphorus ratio for Round Lake was quite low at 2-3. This suggests that perhaps the sediment does not have enough iron (or aluminum for that matter) to bind phosphorus that is released from decay of the Org-P fractions. Perhaps Org-P decay leads to rapid phosphorus release into the lake water column, whereas within the presence of iron, the available phosphorus would be adsorbed to iron until oxygen reaches anaerobic conditions.

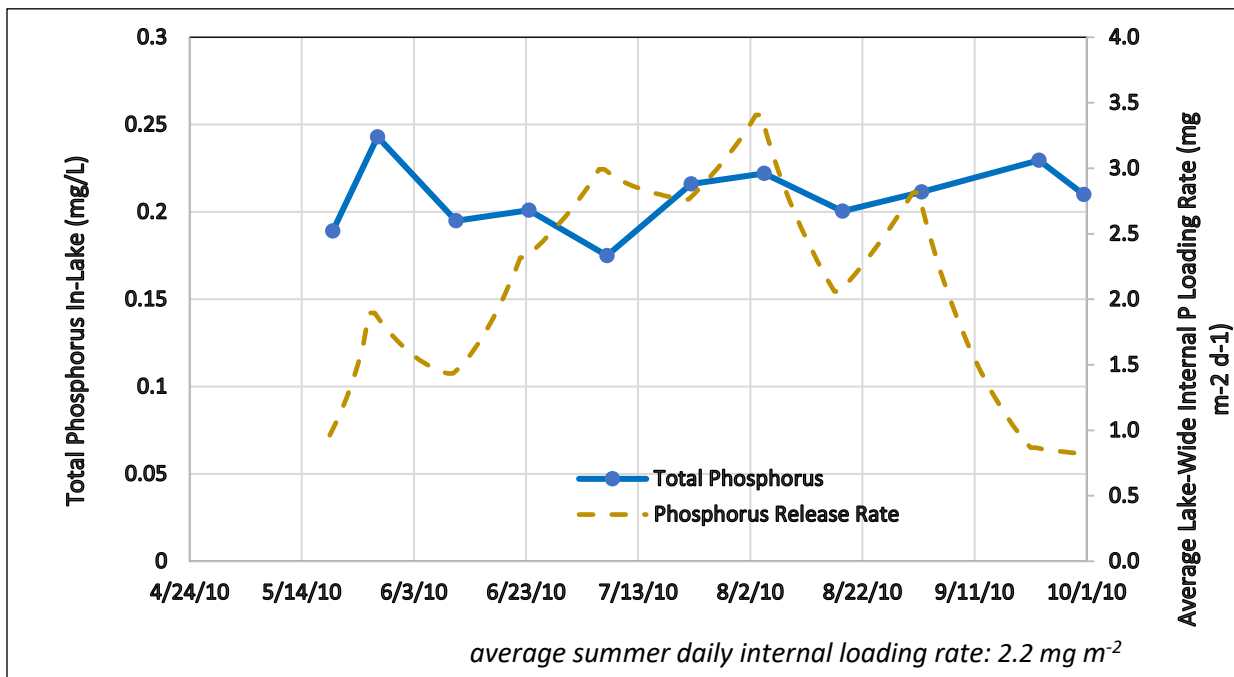


Figure 3-21 Phosphorus Measurements in Round Lake Compared to the Model-Estimated Lake-Wide Daily Phosphorus Release Rate

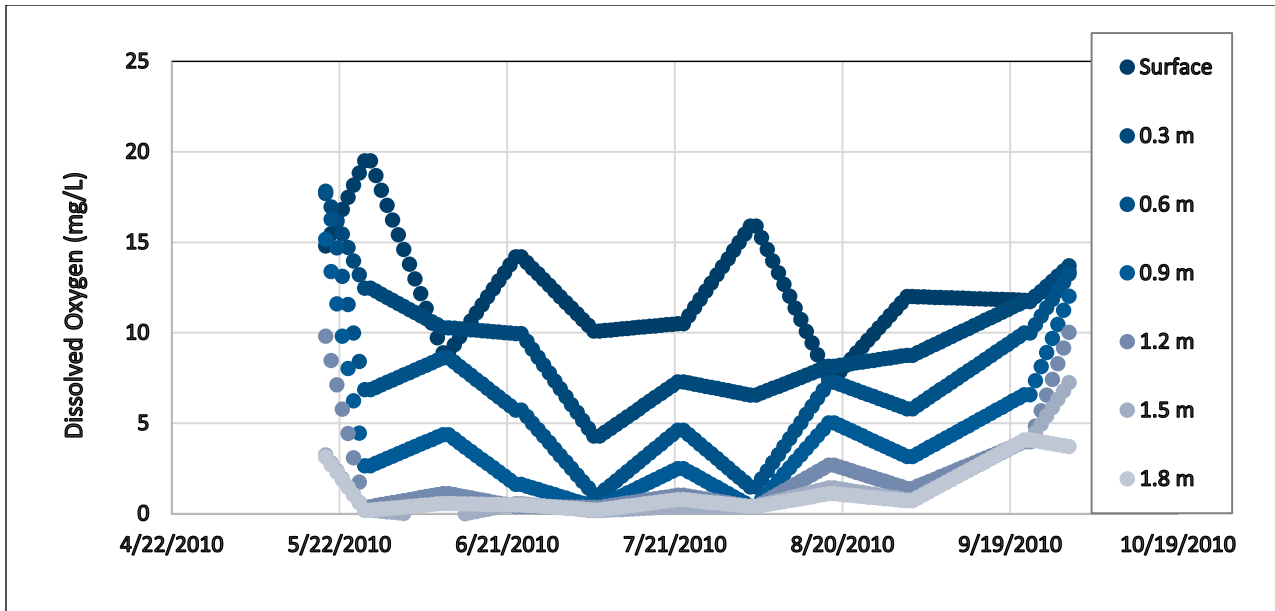


Figure 3-22 Model-Extrapolated Dissolved Oxygen by Lake Depth in Wakefield Lake



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## 4 Discussion and Recommendations

The intent of this study was to qualitatively quantify internal loading in several RWMWD lakes without conducting watershed modeling or complex in-lake models. Internal load estimates were for the most part based upon lake bottom sediment phosphorus composition, dissolved oxygen in the lake water column, and temperature in the lake water column. A model was built to develop daily internal loading estimates and these estimates were compared to the pattern of monitored in-lake phosphorus increases and decreases to confirm the model estimates.

There appears to be three groupings for the lakes that were studied: (1) lakes with high organic phosphorus and no relationship between surface phosphorus concentrations and changes in in-lake dissolved oxygen, (2) lakes with high mobile-P and a clear relationship between surface phosphorus concentrations and changes in in-lake dissolved oxygen, and (3) lakes with low mobile-P and a clear relationship between surface phosphorus concentrations and changes in in-lake dissolved oxygen. These categories likely will affect what approach may be applied to mitigate internal loads if considered necessary.

**Round Lake** has by far the highest Org-P, the lowest ratio of extractable iron to total phosphorus, and no distinguishable relationship between total phosphorus in the water column and model-estimated internal loading rate. It seems unlikely that a traditional single alum treatment, which binds mobile-P, which is largely absent from Round Lake sediments, would work. When Org-P decays, either iron or aluminum must be present to bind it and prevent release into the water column. It is largely believed that aluminum “ages” and become less capable of binding phosphorus over time. It is not known if this is true in the natural environment. Regardless, alum would likely need to be applied at low doses for a number spaced-out years to be effective. Iron, if added to the sediments, would need to be accompanied by aeration to keep the iron oxidized. This could be an effective approach, and although it has not been applied to shallow lakes it has proven effective in East Vadnais Lake, a drinking water intake source for the St. Paul Water Utility.

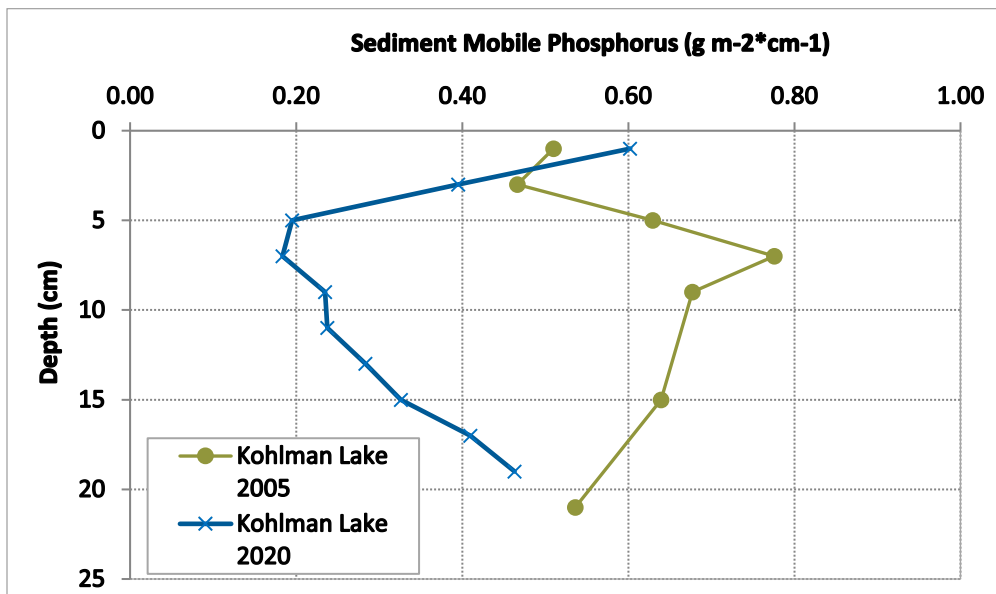
**Bennett Lake** has high Org-P, a low ratio of extractable iron to total phosphorus, and no distinguishable relationship between total phosphorus in the water column, dissolved oxygen and model-estimated internal loading rate. Similar to Round Lake, it seems unlikely that a traditional single alum treatment would work. When Org-P decays, either iron or aluminum has to be present to bind it and prevent release to the water column. If alum were used to prevent internal loading in Bennett Lake, would likely need to be applied at low doses for few spaced-out years to be effective. Iron, if added to the sediments, would need to be accompanied by aeration to keep the iron oxidized. This could be an effective approach since it is hypothesized that iron may not become “buried” like aluminum does with an alum treatment.

Even though the sediment chemistry of **Emily Lake** is similar to Bennett Lake, the lake becomes anaerobic much earlier (mid-June) in the year and surface total phosphorus clearly jumped in late June to early July in response to low oxygen. The observation that two lakes with similar sediment chemistry, one that goes anaerobic and has a clear increase in phosphorus in the water column compared to the lake that does not

go anaerobic, suggests that aeration (plus the addition of iron) may be an effective means of preventing internal loading in Emily Lake.

**Lake Owasso** is a bit of a surprise in that the major source of internal load to the lake is likely the decay of Org-P in shallow areas of the lake. If there is an interest in reducing internal load in Lake Owasso (it is quite low overall), a low dose shallow-depth alum treatment is the recommended approach. Iron may also be used to treat the shallow areas of the lake, but some additional investigation may be needed to better understand the oxygen dynamics of the shallower areas of Lake Owasso. If an alum treatment is conducted, it can be expected that aluminum from the treatment will migrate to the lake bottom, dragging particles and phosphorus that it sticks to.

It is intriguing how readily internal loading is triggered by the onset of anaerobic conditions in **Wakefield Lake**. It is also notable how readily internal loading shuts off once oxygen increased in the fall of 2019. Even though Org-P is high in the lake bottom sediments and is likely a significant source of internal loading, it appears that aeration may reduce internal loading resulting from mobile-P release. The relative effect of stormwater, internal loading from Org-P, mobile-P, as well as plants is currently being investigated and the relative effect of these different sources will be quantified.



**Figure 4-1 Mobile P in 2005 Sediments Compared to Mobile-P in 2020 Sediments for Cores Collected in Kohlman Lake.**

Similar to Wakefield, internal loading at **Kohlman Lake** was readily triggered by the onset of anaerobic conditions in 2018. Given how much Al-P is buried in the sediments of Kohlman Lake and the concentration of mobile-P that remains, it is unlikely that internal loading has returned to pre-alum treatment conditions. However, the average top 6 centimeters of mobile-P concentration in cores

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collected prior to alum treatment was  $0.53 \text{ g m}^{-2} * \text{ cm}^{-1}$  whereas for this current study (approximately 10 years after treatment) the average in the top 6 centimeters was  $0.398 \text{ g m}^{-2} * \text{ cm}^{-1}$ . Figure 4-1 compares the average of four sediment cores taken in 2005 (pre-alum treatment) to the four cores taken in 2020. This figure demonstrates that mobile-P has returned to pre-treatment concentrations in the top 4 centimeters, however, mobile-P is significantly lower post-alum treatment at depths greater than 4 centimeters. It is not known to what extent mobile-P at depth is able to migrate to the surface. Regardless, at this point it appears that if internal loading control is desired, a low dose alum treatment or aeration would be effective.

**Battle Creek Lake** had the highest mobile-P in lake bottom sediments when compared to the other lakes in this study, and even though monitoring data suggest that internal loading may lead to an increase in total phosphorus during summer months, this increase is not notable. Total phosphorus concentrations are low and are likely helped by low concentrations coming from Tanner's Lake. If there is a need to control internal loading, an alum treatment can be expected to be effective. Battle Creek Lake is also highly anerobic during a significant portion of the summer and aeration may be another approach to control internal loading. There may also be an ecological benefit of increasing oxygen concentrations in Battle Creek Lake.

**Beaver Lake** had the third highest concentration of mobile-P in bottom sediments and internal loading responded in step with reduced dissolved oxygen. Aeration or alum treatment will likely be effective.

One of the surprising outcomes of this study is the observation of internal loading turning on and off with the onset and ending of anaerobic conditions. Changes in dissolved oxygen with mixing demonstrates that aeration may be a very effective approach to controlling internal loading in shallow lakes. This is bit different than conventional wisdom. There is less risk compared to deep lakes where aeration can simply transport high phosphorus from bottom waters to the surface. Transport already occurs more readily in shallow lakes and aeration may simply act to prevent internal loading. Aeration has an additional benefit in that oxygen will be increased which is beneficial to aquatic life.

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## 5 References

Pilgrim et al., 2007. A method for comparative evaluation of whole-lake and inflow alum treatment. *Water Res.* 2007 Mar;41(6):1215-24. doi: 10.1016/j.watres.2006.12.025. Epub 2007 Feb 12.  
<https://pubmed.ncbi.nlm.nih.gov/17296215/>

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# Administrator's Report

\* \* \* \* \*

# MEMO

**TO:** Board of Managers and Staff  
**FROM:** Tina Carstens, Administrator  
**SUBJECT:** January Administrator's Report  
**DATE:** December 29, 2020

## A. Meetings Attended

|                        |          |   |
|------------------------|----------|---|
| Monday, November 30    | 11:00 AM | MS4 Permit Webinar with MPCA                |
| Tuesday, December 1    | 11:00 AM | Cooperative Weed Management Discussion      |
| Wednesday, December 2  | ALL DAY  | MAWD Annual Meeting                         |
|                        | 6:30 PM  | Board Meeting                               |
| Thursday, December 3   | ALL DAY  | MAWD Annual Meeting                         |
| Friday, December 4     | MORNING  | MAWD Annual Meeting                         |
| Wednesday, December 9  | 1:00 PM  | Audit Planning Meeting                      |
| Thursday, December 10  | 8:00 AM  | Water Resources Conference Planning Meeting |
| Friday, December 11    | 8:30 AM  | MAWA Subcommittee Meeting                   |
| Monday, December 14    | 3:00 PM  | Gold Line Permitting Discussion             |
| Tuesday, December 15   | 9:30 AM  | WaterFest 2021 Planning Meeting             |
| Wednesday, December 23 | 1:30 PM  | Grass Lake Berm Wetland Replacement         |
| Thursday, December 24  | ALL DAY  | Holiday                                     |
| Friday, December 25    | ALL DAY  | Holiday                                     |
| Friday, January 1      | ALL DAY  | Holiday                                     |

## B. Upcoming Meetings and Dates

|   |                    |
|---|--------------------|
| Metro MAWD                              | January 19, 2021   |
| February Board Meeting (Annual Meeting) | February 3, 2021   |
| CAC Meeting                             | February 9, 2021   |
| March Board Meeting                     | March 3, 2021      |
| April Board Meeting                     | April 7, 2021      |
| Metro MAWD                              | April 21, 2021     |
| CAC Meeting                             | April 27, 2021     |
| CAC Meeting                             | June 8, 2021       |
| Metro MAWD                              | July 21, 2021      |
| CAC Meeting                             | September 28, 2021 |
| Metro MAWD                              | October 20, 2021   |
| CAC Meeting                             | October 26, 2021   |
| CAC Meeting                             | December 7, 2021   |

**C. Annual Meeting Reminder**

This is just a reminder that we will hold our District annual meeting at the February 3<sup>rd</sup> meeting. If you aren't able to attend that meeting, please let me know as I would like to be sure we have all board members available for this meeting. The annual meeting is where you will consider the election of officers and the official designations of engineer, attorney, accountant, bank, and newspapers.

**D. Welcome Kyle Kubitza**

As of the first of the year, we welcome Kyle Kubitza to the watershed as a full-time staff member as a Water Monitoring Technician. Kyle will work mostly alongside Eric and Lyndsey in our water monitoring program and other staff in inspections and maintenance. Kyle has been with the district as an intern for the last couple of years. He is a highly valued employee who easily steps into this full time role, and we are pleased to welcome him to our staff.

**E. LMCIT Insurance Dividend**

Each year we receive a dividend from the League of Minnesota Cities Insurance Trust based on the entire league program's performance. This year's dividend for RWMWD is \$3,011. The attached information provides our premium history and a memo on the calculations. Annually, I provide this in the packet for your information.

**DIVIDEND ANNOUNCEMENT  
December 2, 2020**

Enclosed is a check for your share of the \$5.7 million dividend being returned to members of the League of Minnesota Cities Insurance Trust's property/casualty program. Also enclosed is your dividend history and an information sheet showing the data used to calculate your dividend. Your agent will also receive this information, and we encourage you to share it with your city council or other governing body.

**Dividend Amount**

This year's dividend is based on losses experienced by members, actuarial projections, investment results, legislative and coverage changes, reinsurance costs, and the Trust's long-term strategic direction. Reductions in actuarial projections on old property/casualty claims and unrealized capital gains in our investment portfolio helped build our fund balance. This, along with increasing our property and liability reinsurance retentions, allowed us to keep overall property/casualty premium rates flat this year. At the same time, we've been able to maintain a fund balance strong enough to hedge against the uncertainty associated with COVID-19, cyber, police liability, property, and other variables we expect to see from year to year.

**Dividend Formula**

Dividends are calculated based on a formula that recognizes members with a longer history of coverage with the Trust and greater success in avoiding and controlling claims. Your share was determined based on the calculations shown on the enclosed information sheet.

Thank you for your continued membership with the Trust. We appreciate your confidence and the chance to partner with you to serve your community. Feel free to contact either of the following individuals if you have any questions, comments, or need additional information.

Dan Greensweig, Trust Administrator  
[dgreensweig@lmc.org](mailto:dgreensweig@lmc.org)  
(651) 281-1291

Laura Honeck, Trust Operations Manager  
[lhoneck@lmc.org](mailto:lhoneck@lmc.org)  
(651) 281-1280

**The League of Minnesota Cities Insurance Trust Board of Trustees**

Jake Benson, Councilmember, Proctor  
Dave Callister, City Manager, Plymouth  
Clint Gridley, City Administrator, Woodbury  
Anna Gruber, City Administrator, Sartell

D. Love, Councilmember, Centerville  
Dave Unmacht, Executive Director, LMC  
Alison Zelms, Deputy City Manager, Mankato

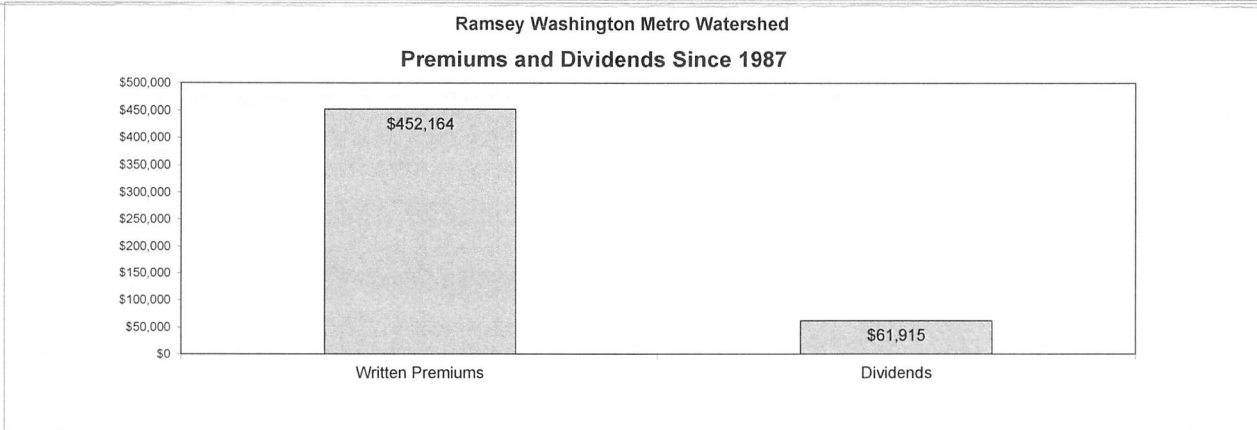
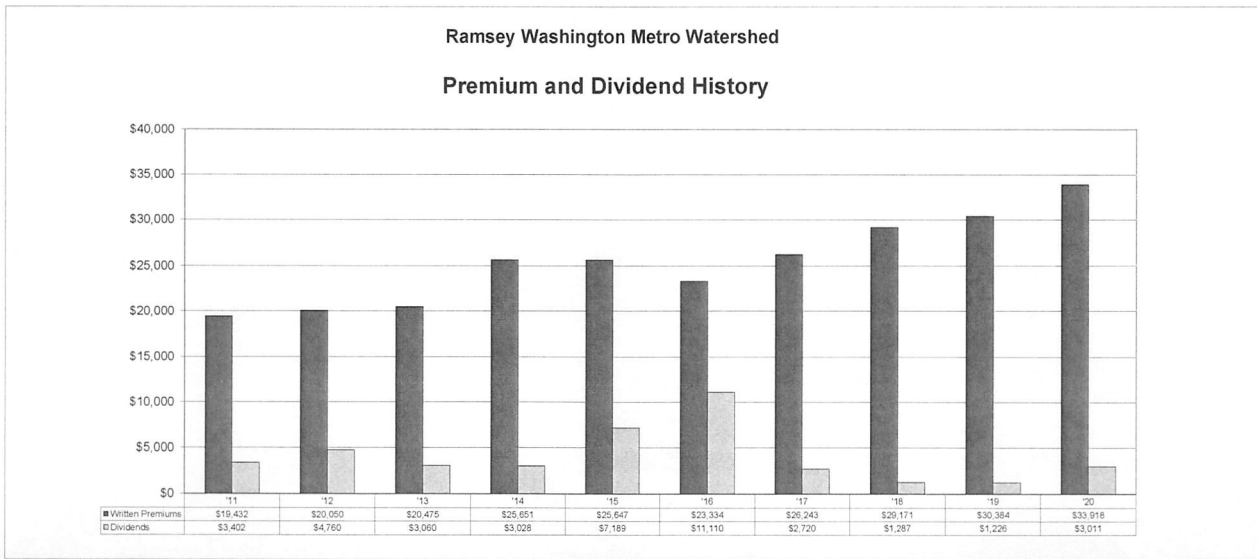


**LEAGUE OF MINNESOTA CITIES INSURANCE TRUST  
PROPERTY/CASUALTY  
2020 DIVIDEND CALCULATION  
AT MAY 31, 2020**

**Bearence Management Group LLC**  
2010 Centre Pointe Blvd  
Mendota Heights MN 55120-1200

**Ramsey Washington Metro Watershed**  
2665 Noel Dr  
Little Canada, MN 55117-1237

**GROSS EARNED PREMIUM** \$379,943  
**ADJUSTED LOSSES** \$6,083  
**MEMBERS DIVIDEND PERCENTAGE** 0.00052819000  
**DIVIDEND AMOUNT** \$3,011



The "gross earned premium" figure is the member's total earned premiums as of May 31, 2020 for the past 20 years. This is the premium figure that's used in the dividend calculation.  
The "2020 written premium" figure is the member's total premium for the member's most recent renewal prior to May 31, 2020 (for most members, only a portion of that 2020 written premium would be earned as of May 31, 2020).

\* \* \* \* \*

# Project and Program Status Reports

\* \* \* \* \*

## Memorandum

**To:** Board of Managers and Staff  
**From:** Tina Carstens and Brad Lindaman  
**Subject:** Project and Program Status Report – January 2021  
**Date:** December 30, 2020

### Project feasibility studies

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#### **Owasso basin flood risk reduction feasibility study (Barr project manager: Sam Redinger; RWMWD project manager: Tina Carstens)**

*The purpose of this study is to evaluate the benefit-cost relationships of redirecting runoff from the Owasso basin upstream drainage area by reviewing potential pipe alignments, land acquisition costs, utility conflicts, permitting issues, and related design as well as construction and long-term maintenance costs associated with each alternative that achieves the project objective of removing habitable structures from the floodplain in this area.*

Previously, Barr completed compiling the project elements into a near-final comprehensive technical memorandum. The most recent version has been provided to RWMWD staff for review. Once staff comments are received, Barr will integrate the relevant updates into the final report. The information in this study is being used to guide the phased approach for the area.

Recently, Barr provided modeling support for the development of the elements of this project that will be implemented through the 2021 CIP efforts. Implementation of various other portions of the study will be ongoing in future years. However, project summaries, refined cost estimates, and the proposed schedule will be presented to the board prior to completion of significant work.

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

*The purpose of this study is to evaluate the benefit-cost relationships of infrastructure changes in the Willow Lake area by reviewing potential pipe alignments, land acquisition costs, utility conflicts, permitting issues, and related design as well as construction and long-term maintenance costs associated with each alternative that achieves the project objective of removing habitable structures from the floodplain in this area.*

This period, staff worked with the cities of Maplewood and North St. Paul to finalize notification letters to be sent to property owners in flood prone portions of the Kohlman Creek subwatershed. These letters will be sent to ask residents for surveyors' permission to collect elevations near their home or business. Survey elevations will include the low opening and low adjacent grade near each structure. This work is being coordinated with survey work in the Ames Lake area, as described below.

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Implementation of various portions of the study will be ongoing in future years. However, project summaries, refined cost estimates, and the proposed schedule will be presented to the board prior to completion of significant work.

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

*The purpose of this study is to evaluate the benefit-cost relationships of infrastructure changes that would remove habitable structures from the floodplain in this area. This study will be phased. The first phase will involve communications with the City of Saint Paul about how to approach flood management in this area, which involves both regional and localized flooding issues. The second phase (if pursued) will encompass reviewing potential pipe alignments, land acquisition costs, utility conflicts, permitting issues, and related design as well as construction and long-term maintenance costs associated with each alternative that achieves the project objective, as defined in partnership with the city.*

This month, staff sent property owner notification letters and began collecting survey information for structures near flood-prone areas. Our practice has been to notify residents, first by US mail, and then by knocking on doors prior to conducting the survey. If no answer occurs at the door, the survey crew typically proceeds with the survey and leaves the property, since a letter had been sent previously. Recently, our survey crew was confronted and threatened by a homeowner that came home while the survey was underway. The homeowner had a firearm and made it visible to the surveyor. No one was hurt and our crew left the property immediately. However, our practice for surveys like this has now changed to require a positive affirmation from the property owner before our crew enters onto their property (as opposed to simply describing where a homeowner should call if they wish to deny the surveyors access). That may be an oral or written (via email or return receipt mail) affirmation. This new practice will delay this survey completion but will reduce the risk to our crews going forward.

Survey elevations being collected include the low opening and low adjacent grade near each structure. The elevation information is needed to verify that the elevations estimated from LiDAR accurately characterize the elevation of existing structures.

Next month staff will be reviewing the survey elevations to verify structures are within the floodplain, and begin evaluation of system modifications. The evaluation is anticipated to be ongoing through the spring of 2021. During the coordination meetings with the City of Saint Paul, Barr also mentioned that the city may need to evaluate and implement many of the conceptual improvement options (mentioned in the resiliency study) for this area, with guidance and technical assistance from the RWMWD. Collaboration with City of Saint Paul representatives is expected to continue in 2021.

**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 to develop information required to update the FEMA floodplain maps.*

Barr staff met with the DNR on November 20<sup>th</sup> to discuss DNR comments and receive direction regarding modifications to development of inundation areas. This month staff began the process of updating

inundation areas following direction provided by the DNR. Staff anticipate that final inundation areas and supporting GIS files will be submitted to the DNR in January 2021.

Due to the DNR's extended review of the first draft of the stormwater model, the project schedule was also extended and will now continue into the spring of 2021.

## Capital improvements

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### **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.*

The first and second phases of construction of the retrofit project at the East Saint Paul site (Suburban Avenue Target) is site is now substantially complete and the plantings are scheduled to be installed in spring 2021.

Design development for the North Saint Paul site is nearly complete. Draft construction plans were provided on December 16<sup>th</sup> for review by RWMWD and Target staff. The project will be brought to the RWMWD Board at the February meeting to seek authorization to advertise the project for bidding.

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

*The objective of this current investigation is to develop one or more conceptual designs that will fit within the footprint of the existing Kohlman basin permeable weir. The revised design should provide filtration capacity and remove solids and phosphorus.*

The retrofit design will be implemented as a part of the CIP Maintenance and Repairs 2021 project to be considered for an award at the January 6 board meeting.

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

*This project includes design, bid document development, bidding, permitting, and project procurement of modifications to the Keller channel structure and the Phalen outlet structure. The purpose is to implement a design that will allow the RWMWD to remotely adjust the weir heights on the Keller channel structure and the Phalen outlet structure in accordance with an approved operating plan. Operation of the structures under certain conditions will help reduce upstream flood levels where homes exist in the floodplain.*

The DNR permit was received on December 23<sup>rd</sup> and now the only remaining permission is from Ramsey County Parks and Recreation (RCPR). The project is underway, however, with the contractor currently working at Lake Phalen and not on RCPR property in the Keller channel.

In December, the contractor mobilized and began work. Crews have been setting up tree protection and pedestrian trail traffic control measures and their electrical subcontractor installed the underground

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wiring. Crews will now begin to construct the temporary control of water cofferdam for their work area near the Phalen outlets. Modifications to the east outlet will be done first followed by the west outlet.

The work is expected to continue through March 2021.

### **Twin Lake outlet construction (Barr project manager: Brandon Barnes; RWMWD project manager: Tina Carstens)**

*The purpose of this project is to design and construct an outlet system and develop an outlet operating plan in accordance with feasibility study recommendations. The outlet and associated operating plan help reduce flood risk to habitable structures in the Twin Lake watershed in Little Canada and Vadnais Heights.*

This period, the contractor completed the installation of the drop-down weir. District staff confirmed that the weir could be operated to open and close the outlet. District staff also met with City staff to review the new outlet and verify that the City had equipment to open and close the outlet. As previously mentioned, following construction, the City of Little Canada will handle outlet operation as well as manhole and culvert maintenance, in accordance with the operating plan. The RWMWD is responsible for maintenance of the conveyance ditch from the railroad to the outlet. Details regarding operation and maintenance responsibilities will continue to be developed over the next few months.

The contractor has a few minor punch list items remaining including installing a flared end section marker in the MnDOT right-of-way, removing the floating silt curtain, and repairing the chain-link fence. Staff anticipates that all remaining items will be complete in January 2021.

## **CIP project repair and maintenance**

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### **CIP maintenance/repairs 2021 project (Barr project manager: Greg Nelson; RWMWD project manager: Dave Vlasin)**

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

This project is currently being advertised, with bids being received and opened on Tuesday, January 5<sup>th</sup>. Bid results will be presented at the January 6<sup>th</sup> board meeting. The board should consider a motion that formally accepts the bids and awards the project to the lowest responsive and responsible bidder that is in the best interest of the project. Construction is expected to begin in January.

### **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.*

As previously mentioned, based on our preliminary findings, a few specific defects warrant consideration for near-term rehabilitation. The repairs are localized and specific and outside of the previous project repair extents. These repairs, and remaining pipe inspections, will be completed and a comprehensive inspection report provided this winter, when flows subside, and the tunnel can be accessed safely.

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

*The purpose of this project is to implement the improved conveyance through the Gervais Creek, as recommended by the Owasso By-Pass Feasibility Study. This work is a part of the Owasso Basin Bypass Feasibility Study recommendations.*

This period, Barr staff performed the detailed H&H analyses of the Ryan Dr. and Keller Parkway crossings and confirmed the appropriate sizing of the two conveyance systems. These findings will inform the design development of the crossing modifications. A site survey was performed on Keller Parkway, with the results used to develop an existing condition basemap for this site. Additionally, Barr has been coordinating the collection of two geotechnical soil borings at the Keller Parkway crossing. The soil boring work is scheduled for Tuesday, December 29. Barr subcontracted Haugo Geotechnical Services to perform the drilling. The City of Little Canada and Ramsey County were notified of this work, and the County issued a ROW obstruction permit.

During the next period, Barr staff will continue performing detailed H&H analyses of the crossings, will begin the next stages of design (e.g., geotechnical and structural), and will continue developing the design drawings to develop construction documents.

## **Project operations**

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### **Tanners Lake alum facility monitoring (Barr project manager: Meg Rattei; RWMWD project manager: Eric Korte)**

*The purpose of this project is to complete monitoring and reporting required by the general National Pollutant Discharge Elimination (NPDES)/State Disposal System (SDS) permit for MS4s.*

The alum treatment facility has been shut down for the winter. Over the next few months, we will summarize and analyze the data and complete the required MS4 report for the Tanner's alum treatment facility per its permit requirements.

### **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.*

Barr staff has completed the report graphs for the five completed lake level stations (Phalen, Snail, Wabasso, Owasso, and West Vadnais Lakes). The reports are now being updated in real-time every 4 hours. RWMWD staff is working with their website designer, Windmill Designs, who is progressing smoothly with creating the iFrames on the District's website that will provide the connection with the report graphs. In addition, a few minor cosmetic changes are currently being made to the report graphs. When complete, staff will demonstrate the systems at a future board before "going live" on the district's website.

And, the 4 newest stations (Spoon, Battle Creek, Twin, and Tanners Lakes) are nearing completion of the physical installation. Xcel Energy and Kilmer Electric are currently working on the power connection at

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the Tanners and Twin Lakes stations and those are nearly done. Barr and district staff will install the monitoring equipment as soon as all stations have power.

## Lake studies

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### **Internal load management discussions (Barr project manager: Keith Pilgrim; RWMWD project manager: Bill Bartodziej)**

*The primary objective of this study is to develop an overall assessment of a number of at-risk or total maximum daily load (TMDL) lakes with respect to the magnitude of internal phosphorus loads, benefits of controlling internal loads, and potential internal-load mitigation approaches.*

The draft report is now complete and is included in the board packet for this month. A presentation providing an overview of this work and next steps for the managers' consideration will be presented at the January board meeting.

### **Wakefield Lake internal loading study (Barr project manager: Keith Pilgrim; RWMWD project manager: Bill Bartodziej)**

*The primary objective of this study is to determine the effect of curly-leaf pondweed on overall lake water quality and determine the potential water quality benefit of managing curly-leaf pondweed and internal loading.*

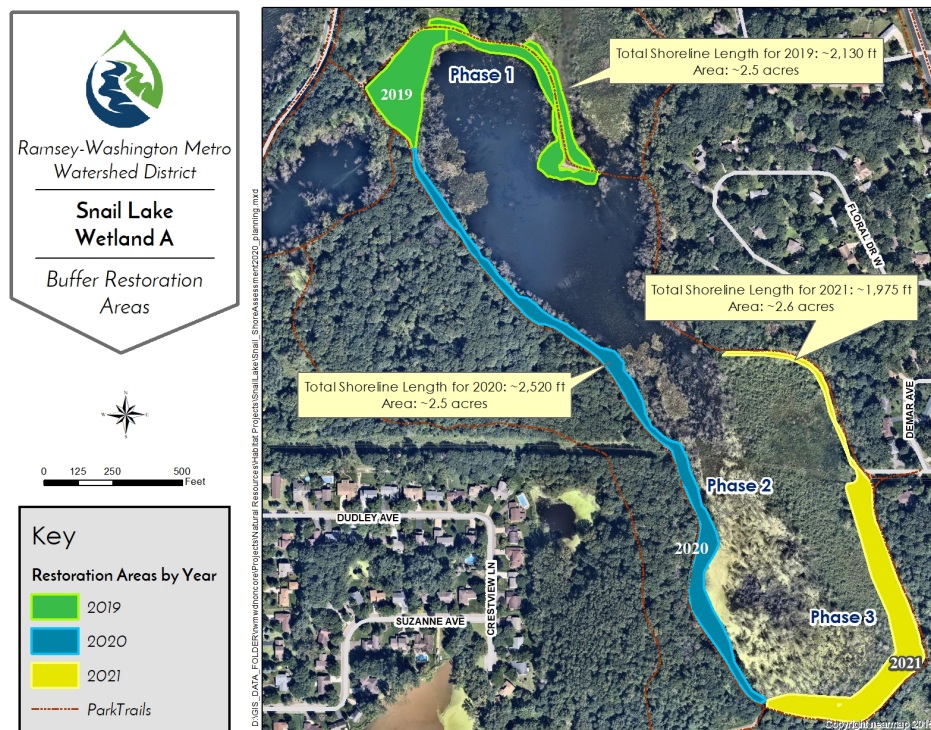
During the most recent period, Barr completed watershed and in-lake water quality modeling to better define the complexities of nutrient cycling in Wakefield Lake. Modeling results suggest that a combination of internal loading and nitrogen limitation are needed to control phytoplankton blooms in the lake. The 2020 modeling effort used watershed loading estimates rather than monitored data- 2020 data was not collected due to Covid-19 limiting the district's monitoring activities. Because this limited the model's accuracy, future monitoring data should be collected in and the model should be updated prior to implementing corrective measures in the lake as a result of this effort.



## Natural Resources Update – Bill Bartodziej and Simba Blood

### Wetland A – Ecological Restoration – Phase III

Early last month, an ecological restoration contractor cut and piled woody material, primarily buckthorn, in the Phase III restoration area (see pictures below). This is a 2.6 acre buffer on the southeast side of the wetland (highlighted on the map in yellow). A good portion of the area is composed of rich organic/peat soils with numerous remnant sedge meadow patches. This type of sedge meadow habitat is locally rare. The target native plant community here will be “wet meadow” composed of native wetland grasses, sedges and wet forbs. So we will build on the existing sedge/forb patches that are present. With the dominance of peat soils, it is likely that fire during the pre-settlement era, repeatedly set back woody vegetation in these sedge meadow areas. Over the last few decades, the buildup of buckthorn and other woody vegetation had to do with the lack of fire. The County now plans to use fire to sustain the native plant communities.



We were really pleased that the contractor was able to complete the clearing work in early winter. This allowed our NR crew to begin broadcast seeding a diverse mix of native sedge and forb species in the

wet meadow areas that were daylighted. This took place on bare ground before the blizzard. We are sort of looking at this as a head-start in the restoration process, a bonus seeding that was not originally scheduled. Below is a broad outline for the Phase III Restoration effort:

| <b>Time Period</b>   | <b>Restoration Activity</b>   |
|----------------------|---|
| December - 2020      | 1) Clearing and piling of buckthorn, other woody material<br><br>2) Broadcast seeding with a diverse mix of locally collected native sedge and forb species   |
| January-March - 2021 | Additional buckthorn clearing in areas that were too saturated to access in early winter  |
| April - May          | 1) Collect and remove smaller fallen woody material – MCC crews<br><br>2) Haul off piled material along the pathway – contractor<br><br>3) Propagate native plant material (thousands of containers) at the RCC greenhouses                         |
| June - July          | 1) Control and clear invasive herbaceous weeds<br><br>2) Seed associated upland areas with a seed drill and gator<br><br>3) Begin plant installation with volunteers – adult civic groups and possibly students (pending school activity protocols) |
| August - September   | 1) Begin intensive maintenance – spot weed control<br><br>2) Complete plant installation with volunteers<br><br>3) Overseed any bare areas  |
| October - November   | 1) Continue monitoring<br><br>2) Control buckthorn resprouts in the buffer and associated upland areas (prime time of the year)<br><br>3) Possible seed collection and dispersal in bare areas  |

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**Massive piles of primarily cut buckthorn will be hauled off site in the coming months.**



**A look into the bucket where seed representing over 35 native species were mixed and ready for dispersal.**



**The NR crew all set for seeding at Wetland A.**



**Matt is broadcast seeding a few day prior to the blizzard. Stands of dead buckthorn are in the background.**

## Public Involvement and Education Program – Sage Passi

### Honoring Watershed Heroes of 2020

For many years in late fall, our Watershed District has typically held a recognition dinner for its partners, volunteers, teachers, citizen advisory council, LEAP team and staff. We've had to forgo this kind of in-person celebration this year because of the pandemic, but we will be honoring our community in a different way this year through the in-house production of a calendar that we have been working on this month that will be mailed out in early January.

Throughout the year, in the monthly education report, we've acknowledged the contributions of volunteers who are Water Stewards, Master Gardeners and Master Naturalists and their engagement in various roles and projects that reflect different types of stewardship. But there are many other people who don't fit into one of those volunteer niches who nevertheless "show up" and demonstrate a strong commitment to clean water and play an important role in supporting the process of protecting our valuable water and ecological resources.

This month we'd like to honor several of these unsung heroes who shine the light on water, knowing that there are many others who go un-acknowledged, yet engage in this important work of stewardship and leadership in their communities.

Earlier in the year, as I was driving by my favorite local movie theater, The Riverview, I was struck by the message on its marquee, a quote by the wizard, Gandalf, "All we have to decide is what to do with the time that is given us." Certainly, these individuals and the many others who are like them in our watershed, have wisely chosen the actions they have taken in 2020. If we had access to a marquee, all of their names would be lit up on it!

Here are several of those unsung heroes we'd like to spotlight.



Glen Olson (photo above left) and his two sisters have property near Casey Lake in North St. Paul that has been in the family for multiple generations. Early in winter 2020 he contacted the Watershed about applying for a Lawns to Legumes grant. We invited Glen and his sisters to the table to discuss possible stewardship projects that could be done on their land. Glen went ahead and filled out a Lawns to Legumes application in the meantime and waited. As luck would have it, he was chosen for a

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demonstration grant and in early June we spent a couple hours walking with Glen, his son and his dog on his extensive property and deliberated about potential areas for a demonstration project. There seemed to be numerous possibilities, but in the end, an area with good visibility was chosen in front of his sidewalk next to the street with plenty of sun and an adjacent shady area stretching into his front yard so people passing by would have a front row seat to watch his demonstration project bloom from spring to fall. Early in the summer, he covered his site with cardboard to break down the turf. We left him with a lot of handouts with many plant choices to pick from that would have long roots to soak up run-off and plentiful blooms at different times of the year to attract pollinators including the endangered rusty-patched bumblebee.

One evening in mid-summer I called him to check in, knowing that the plan was to potentially do an early fall planting. Glen answered the phone but he was in the hospital, awaiting bypass surgery the next day. He had had a heart attack a few days before this. I took a deep breath and wished him a safe recovery. Undoubtedly, this project was going to have to take a backseat while he healed.

In mid-September we touched bases again. Cathy Troendle had developed a planting plan and offered it to Glen to check over. We provided seedlings started by classrooms over the winter and picked out other native plants from Ramsey County Correctional Nursery. At the end of September, just weeks into his recovery, Glen, his wife and son and a few relatives teamed up to plant his demonstration garden. On the first day he was allowed to drive again, I met him out at the nursery and we loaded up several tree seedlings and shrubs to augment his planting area. Glen is a longtime forester and knows the value of trees. We look forward to seeing his garden in bloom this coming spring, next summer and fall!



**With the Olson's, planting is a family affair.**



**Who are these masked women at the spent lime filter at Willow Pond?**

Anne Haugan (on the left in the photo above) is a powerhouse of a leader in her community. She contacted the Watershed in the summer of 2019 to plan for a Roseville League of Women Voters environmental committee tour in our watershed district for the following year. It was now 2020, but she was not going to be deterred by the pandemic. Originally we had discussed incorporating stops at places like our watershed office site or the Maplewood Mall, but I asked her why not focus on where there was action with our new Water Stewards team in Roseville? She certainly was a supporter of that program, having jumped in with both feet when one of our teams five years ago had proposed building multiple curb cut rain gardens at her residence and got that project in the ground. She resonated with the localizing of the tour and rallied her committee despite the challenges of organizing a group outing during Covid with stops to see the rain garden at Central Park Elementary School, the stormwater buffer plantings at Grace Church and around Willow Pond and onsite testimonials by shoreline homeowners working on stewardship projects around its perimeter. Then later in the summer she tag-teamed with her son to do some refurbishments of her own rain gardens with a little help from her “friends.”

So who are some of the other unsung heroes in our watershed? As timing would have it, I ran into a “long-time” supporter, Vicki Sjogren who lives in the Kohlman Creek subwatershed in Maplewood who drove up to her house while I was delivering her Adopt-A-Drain sign in late November. The sun was going down and she took me on a walk around her property and introduced me to her neighbor who shares her passion for stewardship. She admitted she was a late-comer to signing up for the adoption program, but not to adopting storm drains and protecting her local creek by incorporating many areas of native plantings on her property that slow run-off. She said that she and her neighbor had pulled out numerous barrels of trash abandoned in the creek that flows near her residence over the past fifteen to twenty years and regularly cleaned their nearby drains. “So this year I decided to sign up since I was already doing these kinds of clean-ups. My passion to protect water began when I was working at Harmony Learning Center and we did service projects by Casey Lake.”

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I met another storm drain adopter, this one in Woodbury, as I was dropping off a sign for his yard. I asked if he minded if I installed the sign and he announced in a friendly voice, "Sure! I am a fisherman!"

As the days grew colder and before the next big snowfall hit in late December, I noticed that there was a



small uptick in adoptions before the storm drains were covered up with snow. Keaton Riebel adopted two drains in the Sucker/Vadnais Lakes subwatershed on December 18. On the same day, another drain was adopted in the Battle Creek Lake sub-watershed near Tamarack Nature Preserve and nicknamed "Zipper." Did this resident see the trail sign near the park that promoted the Adopt-A-Drain program in November and get inspired? Then on December 22, Henry Elias, a resident in Shoreview adopted 4 drains that lead to Snail Lake.

Can you imagine all of these stewards' names up on a marquee like at the Riverview Theater?



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## **Communications Report – Lauren Hazenson**

### **Communications Strategy**

This month's focus was on creating the 2021 communications plan, including gathering program-level communications needs for next year through several check-in meetings. This will allow Communications to provide support and promotion to all RWMWD work with maximum possible audience engagement.

Lauren and Sage also met with Barr Engineering to discuss Flood Risk Mitigation engagement and communications as well as engagement before and after site visits.

### **Publications/ Original Content**

A video of the Ames Lake sculpture project was completed and was made available to area visitors through signage with QR codes in addition to our regular communication channels and emailing the video link to community partners. Currently, the video has 238 views on Youtube and 134 on Facebook.

The December e-news was published last week and has a 35.2% open rate and a 3.8% click through rate, consistent with previous email publications. Our email newsletter audience grew by 177 to 1,342 subscribers, primarily due to an Adopt A Drain contact import.

Planning for permanent, interactive signage at Wetland A began this month. The signage will provide education about wetlands and native planting and outline the impact of the restoration on the area.

The lake level iframe for program pages nears completion as the report pages are converted to update the website automatically. Consultant Windmill Design estimates that this work will be completed in early January 2021.

### **Social Media (Facebook, Twitter, Instagram)**

Numbers as of 12/22 for December:

Audience/Subscribers: 2,524

Impressions/Post Views: 8,000

Engagement (likes, comments, shares): 435

## **Citizen Advisory Committee (CAC) Update – Carrie Magnuson**

In December, the RWMWD Citizen Advisory Committee met to review accomplishments from the past year and to begin development on a 2021 work plan. A brief summary of 2020 accomplishments are as follows:

Transition to remote meetings. The CAC was able to pivot from one in-person meeting in February, to finishing the year with five remote-meetings via the Zoom platform. This was managed by CAC Chair, Dana Larsen-Ramsay and all regularly-attending members were able to adapt, attend, and contribute.

Revisioning of CAC by-laws. Several changes were made to the CAC by-laws, predominantly the language outlining appointments and membership. An inclusion statement was developed and added to the member representation section to better reflect the values of RWMWD and the CAC. This review process also resulted in the reorganization of primary membership/representation roles. The revised by-laws were modified slightly by the Board and adopted.

Planting at Snail Lake Regional Park. The CAC traditionally does at least one planting effort annually to assist staff with projects and provide a team-building opportunity for members. Though unsure if an in-person event was possible, the Natural Resources staff developed a socially-distant event to make it happen. Twelve CAC volunteers planted about 1,500 new plants along shoreline and shallow waters in mid-June.

Creating and launching Adopt-a-Raingarden Project: New in 2020, this idea was brought up as something the CAC and RWMWD staff thought would be mutually beneficial. Utilizing staff and board input, a series of rain gardens in need of maintenance were identified. The Casey Lake neighborhood rain gardens were originally installed as an RWMWD initiative, but the maintenance agreement had expired. Several rain gardens were overgrown because of the physical limitations of the residents. In a 2-day effort (9/30/20 and 10/7/20), at least 42-gallon contractor bags full of weeds, over 30 5-gallon buckets of sediment, plus a truck-bed full of woody debris were hauled out of 6 rain gardens.

Continuing support for the Ames Lake Sculpture Project. This effort was led predominantly by CAC member Randee Edmundson, with the support of RWMWD Stewardship Grant funding and other local partners. In 2020, the sculptures were cast in bronze and installed around Ames Lake. District communications staff worked with the youth artists and local partners to create a video about the years-long project.

Expanding CAC membership outreach. With the leadership of Communications Coordinator, Lauren Hazenson, the CAC helped develop and support an outreach plan to recruit new CAC members from an application pool that more accurately represents our constituents.

**To:** Board of Managers and Staff  
**From:** Tina Carstens and Brad Lindaman  
**Subject:** Project and Program Status Report January 2021  
**Date:** December 30, 2020

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Developing an alternative to the annual Volunteer Recognition Dinner. This event, usually held in November, had to be cancelled due to concerns regarding COVID. Sage Passi initiated several conversations with the CAC to brainstorm alternatives that would seek to keep that partner and volunteer audience engaged. It was determined that instead of a remote-event, we would provide a gift and a letter to those we would have invited and/or awarded at the dinner. A 2021 calendar was developed by staff using photography from the CAC, staff, and partners. The calendar is currently in production and should be mailed out in early January.

Integrating meetings with training of RWMWD programs/initiatives including:

- Stewardship Grant Program & Equity Initiative (Paige Ahlborg) – February
- Wetlands Assessment (Karen Wold, Barr Engineering and CAC member) – February
- Glyphosate Use in RWMWD and Risk Assessment (Simba Blood) – April
- Carp Management Update (Bill Bartodziej) – June
- Communications plan (Lauren Hazenson) – June
- Adopt-A-Rain Garden Assessment (Simba Blood) – September
- Carp Management in the Owasso Chain of Lakes (Bill Bartodziej) – October

During the December meeting, the group discussed potential work program requirements and opportunities for the coming year including:

- Confirm membership at the first meeting in 2021 and send to the Board for review.
- Facilitate and support CAC membership recruitment outreach (January 2021) and hopefully bring new and diverse voices to the table
- Develop smart-salt-use outreach and education for local business owners and residents
- Create invasive species education pieces
- Participate in a planting event that supports RWMWD staff and/or the community
- Support the Watershed Excellence Awards
- Provide training opportunities to CAC members from RWMWD and partners
- Collaborate on public communication strategies regarding flood risk education

2021 CAC meetings:

- February 9<sup>th</sup>
- April 27<sup>th</sup>
- June 8<sup>th</sup>
- September 28<sup>th</sup>
- October 26<sup>th</sup>
- December 7<sup>th</sup>