RCWD
RICE CREEK WATERSHED DISTRICT

NOVEMBER

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DECEMBER

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RCWD BOARD OF MANAGERS WORKSHOP

Monday, November 10, 2025, 9:00 a.m.

Rice Creek Watershed District Conference Room
4325 Pheasant Ridge Drive NE, Suite 611, Blaine, Minnesota
Virtual Monitoring via Zoom Webinar

Join Zoom Webinar:
https://us06web.zoom.us/j/83559431304?pwd=lrYwkyOubJdSMOHVB1XRxbkQfHEesd.1
Passcode: 129740
+1 312 626 6799 US (Chicago)
Webinar ID: 835 5943 1304
Passcode: 129740

Agenda

ITEMS FOR DISCUSSION

- Priebe Lake Outlet Project Facility Maintenance and Associated Draft Memorandum of Agreement
- Highway 61 Ponds Facility Project – Final Report
- Floral Park District Facility Access Agreement
- RCWD Policy Book Minnesota Paid Family Medical Leave (PFML)
- Minnesota Watersheds Additional Resolutions
- 2026 Administrator Salary

Administrator Updates (If Any)

Priebe Lake Outlet Project Facility Maintenance and Associated Draft Memorandum of Agreement

MEMORANDUM
Rice Creek Watershed District

Date: November 6, 2025
To: RCWD Board of Managers
From: Tom Schmidt, Drainage & Facilities Manager
Subject: Priebe Lake Outlet Project Facility Maintenance and Associated Draft Memorandum of Agreement

Introduction
This informational item is about the Priebe Lake Outlet Project (PLOP) facility maintenance and the previously proposed draft Memorandum of Agreement (MOA) with municipal partners.

Background
PLOP is a flood mitigation project. The District rebuilt the PLOP, specifically the outlet structure at Priebe Lake, in 2022. The original PLOP system was petitioned by the cities of Birchwood Village and White Bear Lake and was built in 1980 by the District to provide flood relief at Priebe Lake. The discharge water was then, and remains, directed through an underground pipe to Hall's Marsh. Hall's Marsh is used passively, then water discharges to White Bear Lake. Hall's Marsh is a Public Waters Wetland (PWW) in the City of Birchwood Village. A DNR permit was required, and RCWD obtained one for the original installation and its 2022 repairs. The PLOP is a confirmed district facility identified in RCWD's watershed management plan. The District's obligation is to inspect and maintain its facilities.

Investigations undertaken during planning for the 2022 reconstruction of the outlet structure revealed multiple municipal connections to the PLOP pipe. These connections are *not* identified in the original petition and plans. District staff and consultants have engaged municipalities on their connections, their independent interests, and their responsibility to maintain their infrastructure and further the collective benefits of collaboration.

The draft MOA would serve to memorialize the interplay of inputs to the facility and define each party's obligations regarding maintenance. Some members of the Birchwood City Council have commented on the draft MOA and have asked the District for substantial changes to the agreement. District staff and consultants acknowledge Birchwood Villages' interest in further "improvements" in and around the Hall's Marsh area. Yet, those "improvements" are not expressly clear as facility obligations of the initial public establishment process. These are policy questions posed by the Birchwood Village request and staff are only identifying them as such and not offering an opinion.

This nuance may rest when the District proceeds with the intent to fulfill its maintenance obligations, regardless of a MOA, and as District programs offer potential grant dollars and support guidance on City lead goals. Staff have sought a task order from the district engineer to provide a scope and cost estimate for completing the maintenance work; staff will coordinate among the cities. This maintenance is intended to be undertaken regardless of whether an executed MOA is in place.

Staff recommendation
Staff are seeking Board consensus direction on facility maintenance and related task order.

Attachments
HEI Task Order 2025-018.
Birchwood Comments/concerns regarding PLOP Maintenance Agreement (proposed) dated (11/2/25).
Manager Waller submitted materials (RCWD 10/8/2025 Board Meeting - Manager Update).

RCWD Administrative Information:

Account No.: 95-03

Account Name: District Facilities Maintenance

Houston Engineering Project No.: R005555-0374

Task Order Purpose:

The purpose of the task order is provide engineering services related to the evaluation of sediment at the PLOP storm sewer outfall, permitting, development of a quote bid package and construction management for the removal of the sediment.

Professional Services Rendered:

HEI intends to provide the following professional services during the completion of this Task Order:

Task 1 – Field Survey

HEI will complete survey in the area immediately downstream of the PLOP outfall (i.e., Halls Marsh) for a distance of approximately 150 feet from the outfall. The survey will collect existing topographic elevations and estimate the depth of sediment accumulation above the natural ground. Other site features and topographic data in the vicinity of the potential sediment removal area will be surveyed to support development of construction drawings.

Task 2 – Sediment Sampling

HEI will work with a geotechnical subconsultant to complete this task. They will collect three analytical samples for grain size analysis and for analysis of baseline analytical parameters. Gran size analysis protocols to be followed for certainty in following MPCA's Managing Dredge Materials guidance.

Task 3 – Technical Summary

HEI will summarize the observations from the survey of sediment at the outfall, the sediment testing results, and prepare an opinion of probable construction cost within a brief technical memo.

Task 4 – Permitting

HEI will submit a public waters work permit application to the DNR after a preliminary meeting with DNR staff.

Task 5 – Quote Bid Package and Construction Management

HEI will prepare a quote bid package that will be provided to selected contractors by District staff. HEI will also answer bidder questions. During construction, HEI will provide construction staking, construction observation on a part-time basis, complete an as-built survey, and prepare a record drawing.

Deliverables:

The deliverables for the Task Order consist of the following:

- Survey data
- Sediment sampling results (Sieve analysis and if necessary, chemical testing)
- Technical memorandum
- Construction Documents for Quotes
- Record Drawings.

Schedule and Compensation:

HEI recommends a budget in the amount of **$20,400** for engineering services described within this task order. HEI shall not exceed this amount for the completion of this work without prior authorization. HEI will deliver the Technical Memorandum no later than **December 15th, 2025**.

Assumptions:

The estimated compensation for the execution of the tasks identified within the "Professional Services Rendered" section of this Task Order is based upon the following assumptions:

1. The technical memorandum will be approximately 2-3 pages (excluding sediment testing report)
2. Addressing one set of comments for the draft alternatives and memorandum
3. Scope includes one meeting – a virtual pre-application meeting with DNR.

4. No wetland delineation will be completed.
5. Access to the sediment removal area is assumed to be off of Iris Street and no access agreement or easement is necessary to complete the dredging.
6. Bid package / construction plan will not show an on-site dewatering area and trucks will be required to be sealed to prevent water on roadways.
7. Construction stakes will be set once. Contractor is responsible for replacement of staking.

SIGNATURES:

The services described by this Task Order are being provided in accordance with the Professional Services Agreement between the Rice Creek Watershed District and Houston Engineering dated May 14, 2008, as amended and extended. This **Task Order** shall be effective **October 15, 2025** as authorized by the signatures of representatives of the Rice Creek Watershed District and Houston Engineering, Inc.

Rice Creek Watershed District

By: _____

Name: Nick Tomczik

Title: Administrator

Date: _____

Houston Engineering, Inc.

By: _____

Name: Chris Otterness

Title: District Engineer

Date: October 30, 2025

Attachment A
ESTIMATED BUDGET
PLOP Outfall Sediment Investigation

Houston Engineering Inc.

Date Prepared: October 31, 2025
Date Revised: November 4, 2026
Prepared by: J. Lewis
Checked by: C. Otterness

Total Estimated Labor	**$14,746**
Total Estimated Expenses	**$5,615**
Total Estimated Budget	**$20,361**

TASK DESCRIPTION	Geotechnical	Engineer 10	Engineer 4	Scientist 3	Tech 7	2-Person Survey Crew	Expenses	Total Hours	Total Dollars
		CO	ND	CT	AD	JM			
Total Labor Hours ===>	0	4	15	0	2	7	0	28	
Total Labor Dollars ===>	$0	$860	$2,475	$0	$312	$1,463	$0	$5,110	
PLOP Outfall Sediment Investigation	0	8	37	11	12	16	0	10	$14,746
Task 1 - Field Survey		**0**	**1**	**0**	**0**	**7**		**8**	**$1,628**
Topographic Survey at PLOP Outfall			1			7	55		
Task 2 - Sediment Sampling		**1**	**1**	**0**	**0**	**0**		**2**	**$380**
Collect Samples and Sieve Analysis	$3,680	1	1						
Chemical Testing	$1,500								
Task 3 - Technical Memorandum		**3**	**13**	**0**	**2**	**0**		**18**	**$3,102**
Estimate quantity of sediment		1	1		2				
Develop opinion of cost		1	4						
Draft technical memorandum		1	8						
Task 4 - Permitting		**3**	**0**	**11**	**0**	**0**		**14**	**$2,350**
Initial coordination with DNR staff		1		1					
Prepaire DNR public waters work permit		1		8					
Respond to questions after submittal		1		2					
Task 5 - Quote Bid Package and Construction Management		**1**	**22**	**0**	**10**	**9**		**42**	**$7,286**
	$0	$215	$3,630	$0	$1,560	$1,881	$380		
Quote bid package - (assume plan sheet/GIS figure)		1	4		8				
Respond to bidder questions			2						
Construction staking						5	140		
Construction observation			16				115		
As-built survey						4	125		
Record drawings					2				

Total Estimated Labor	**$14,746**
Total Estimated Expenses	**$5,615**
Total Estimated Cost	**$20,361**

H.A. KANTRUD, P.A.
LAWYERS AND COUNSELORS
Post Box 517, Saint Paul, Minnesota 55090
Phone: 612.743.4242 Facsimile Service: 651.413.2929

H. Alan Kantrud, Esq.
hakantrud@protonmail.com

Judy Yang
Personal Assistant

2 November, 2025

Rice Creek Watershed District
4325 Pheasant Ridge Drive NE
Blaine, MN 55449

Re: Birchwood Comments/concerns regarding PLOP Maintenance Agreement (proposed)

Dear Mr. Schmidt:

As you are aware the City of Birchwood recently reviewed the proposed Maintenance Agreement that has been under discussion and process for over two years now. While the parties seem to be in alignment on most issues, the City of Birchwood has a few clarifications to make and obligations to be recognized by RCWD to move this process and its underlying project forward:

1. RCWD agrees that Halls Marsh is part of the whole 'system' and agrees to test areas throughout the marsh and remove all contaminated sediment as soon as the drawdown is finalized. This will ensure that work may then begin in returning the marsh to its deeded use as a nature preserve.
2. RCWD will take full responsibility for the initial clean up and assistance in removing the invasive growth that has taken over the marsh due to the effluent that has accumulated in the marsh and caused the takeover.
3. Continued work with the City of White Bear Lake in improving the conditions of Priebe Lake and the conditions of the water entering the PLOP.
4. Assurance that water quality is measured and if found to be in excess of levels of pollutants at the outflow (point of entry into Halls Marsh) as set by the State, RCWD shall address those levels proactively and create a plan to mitigate the pollutants.
5. RCWD shall notify the City of Birchwood if any new strategies related to water movement, drawdown, or flow management within Halls Marsh or the portion of the Priebe Lake Outfall Project located within its jurisdiction are being considered. No such changes shall be implemented without the written concurrence of Birchwood Village, which reserves the right to withhold approval if such changes are deemed detrimental to the ecological health, public use, or property interests associated with Halls Marsh.
6. RCWD shall commit resources to its own or the City of Birchwood's projects as they relate to the restoration of the marsh to a functioning marsh habitat.

In addition, suggested language was also presented at the meeting held by the City Council last month. Those changes were approved in-principle by Council and are being provided to the District for its consideration.

We trust many of these issues are already 'included' in the general framework of the RCWD's plan for the PLOP Project moving forward, but the City would like its position and expectations known and memorialized as well as its intentions to have the marsh restored to a more naturally-informed state without the sediments and certainly without the levels of pollutants in the inputs relative to when the PLOP started.

Our City is looking forward to the next forty years as an opportunity to be partners with the District and that each will be more intentional with the fate of the marsh.

Yours,

H. Alan Kantrud
o/b/o City of Birchwood Village

HAK
Encl.
c: City Council
City Engineer

Operations and Maintenance Agreement for the Priebe Lake Outfall Project and Associated Facilities

This Agreement between the Rice Creek Watershed District (RCWD) and the Cities of Birchwood Village, Mahtomedi and White Bear Lake (Cities), together, the "Parties", is intended to address the obligations and expectations of the Parties related to the Priebe Lake Outfall Project (PLOP) and associated facilities. This Agreement is further intended to facilitate the collaboration of RCWD, Birchwood Village, Mahtomedi, and White Bear Lake in managing the PLOP and associated facilities for the benefit of all Parties and those citizens benefitted by the combined water management and stormwater system. This Agreement is effective as of the signature date of the last executing Party to the Agreement. To be effective, this Agreement must be ratified by all Parties within 90 days of the first Party's date of ratification. It serves to describe and formalize the existing rights and obligations of the Parties, not to create new ones.

I. Recitals:

A. The Priebe Lake Outfall Project (PLOP) was constructed by the RCWD in 1979-1980 in response to a 1976 petition by the Cities of White Bear Lake and Birchwood Village to solve repeated serious flooding of homes in the 1960's and early 1970's around Priebe Lake (DNR Public Water 62-36P) in the vicinity of Riviera Drive N and E County Line Road.

B. The original PLOP included the Priebe Lake Outlet Structure and storm sewer piping (PLOP Storm Sewer), from the Priebe Lake Outlet Structure to its discharge into Hall's Marsh (DNR Public Water Wetland 82-480W) in Birchwood Village (Hall's Marsh Outfall) - see Attachment A.

C. In 1980 the PLOP was amended to also include an outlet structure to control flow from Hall's Marsh into White Bear Lake (DNR Public Water 82-167P) (Halls Marsh Outlet) - see Attachment A.

D. The PLOP was established and is maintained as a lake outlet/flood damage reduction project and not a stormwater project.

E. The original project was permitted by the Minnesota Department of Natural Resources (#1980-6067) and paid for through a 20-year special assessment to benefitted landowners in the drainage area of the system. The Hall's Marsh Outlet was paid for with RCWD ad valorem (District-wide) funding.

F. The PLOP is recognized within RCWD's 2020 Watershed Management Plan as a District Facility.

G. The RCWD Engineer completed a condition assessment for the PLOP in July 2020, recommending that the original outlet control structure at Priebe Lake be replaced. The remainder of the PLOP Storm Sewer was found to be in good condition.

H. The current Priebe Lake Outlet Structure was installed in 2022 by RCWD, to replace the original structure that was failing.

I. The current Priebe Lake Outlet Structure was permitted by the Minnesota Department of Natural Resources (#Number?) and paid for by RCWD ad valorem funds under M.S. 103B.

J. The PLOP Storm Sewer is commingled with associated stormwater facilities owned by the Cities of Birchwood Village (Tighe-Schmitz Park Outlet), Mahtomedi (Wedgewood Hills Dry Basin), and White Bear Lake (Pond A) - Attachments A and B.

K. This agreement applies to the PLOP and associated stormwater facilities identified in attachments A and B, all of which manage the flow of stormwater from the PLOP drainage area identified in Attachment C to White Bear Lake. Stormwater from Halls Marsh Outfall flows naturally through Halls Marsh, discharges from Halls Marsh through the Halls Marsh Outlet Structure, and continues along the natural watercourses and wetlands to White Bear Lake. It is not uncommon for high water conditions on White Bear Lake to back-flow into Halls Marsh.

L. The PLOP storm sewer plan and profile, Priebe Lake Outlet Structure record drawings and Operation and Maintenance Plan, and Halls Marsh Outlet Repair Record Drawings are included in Attachments D-G.

M. A 2013 report by the Minnesota Pollution Control Agency determined that Priebe Lake was hypereutrophic.

Based on the foregoing, the Parties agree as follows:

II. General Provisions:

A. Each Party shall carry liability insurance and hold the other harmless for damage or other claims related to the existence or operation of the Party's infrastructure. Each Party agrees to provide standard indemnifications to the others.

B. Costs associated with each activity described herein are the individual responsibility of each respective Party.

C. Each Party shall provide 5-days[1] advance notice to the other Parties before performing any maintenance activity described herein; advance notice for inspection activities or emergency maintenance not required.

D. Each Party agrees to communicate and cooperate in good faith to the others in order to allow each to carry out its duties under the Agreement - including waiver of any applicable permit fees.

E. Each Party agrees to share the results or reports of inspection activities or analyses.

F. All timelines referenced herein are flexible and subject to change due to weather and permitting timelines. Notwithstanding the flexibility described above, each Party is expected to exercise diligence in executing its obligations herein.

G. Each Party is responsible for future inspection and maintenance of its own infrastructure as outlined herein.

H. Sediment removal within Priebe Lake and Pond A requires drawdown of the water level within each basin. Priebe Lake drawdown will be passive via the outlet structure and requires issuance of a DNR permit. Pond A drawdown will rely on pumping and does not require a DNR permit.

I. Each party is responsible for communicating with its respective constituents regarding the shared goals and actions to be implemented through this Agreement.

J. Each Party is responsible for complying with all applicable federal, state, and local laws.

K. The approval of this Agreement and authorization for its execution shall be reflected in a resolution of the governing body of each Party to be provided to each other Party to this Agreement.

L. The timelines in this Agreement are to be viewed as a general guide in order to promote the diligence of each Party in executing its obligations.

M. The use of terms such as "storm sewer" in this Agreement are for ease of understanding and not to assign status to the project as a "storm water project" or to make it subject to Municipal Separate Stormwater System (MS4) regulation.

N. This agreement constitutes the entire agreement of the Parties.

O. This Agreement may be executed in counter parts.

P. Disputes under this Agreement shall be resolved pursuant to Minnesota Statutes Section 103D.539 ~~by submitting the dispute to the dispute resolution committee of the Board of Water and Soil Resources. Any decision of the dispute resolution committee shall binding on the Parties.~~.

III. Birchwood Village Agrees To:

A. Provide RCWD with access to Halls Marsh property under City ownership (see map at Attachment G) for inspection and maintenance activities outlined this agreement.

B. Provide Mahtomedi and RCWD with access via its property to the property in Mahtomedi containing the Wedgewood Hills dry basin for inspection and maintenance activities outlined in the Agreement.

C. Rescind its formal objection to DNR approval of Priebe Lake drawdown to allow for sediment removal, Structure maintenance and other water quality improvement activities.

D. Accept responsibility for all costs associated with maintenance and repair of the outlet from Tighe-Schmitz Park into the PLOP Storm Sewer as identified in Attachment A (to be coordinated by RCWD).

E. Accept responsibility for vegetative and/or habitat management activities within Halls Marsh related to the City's desired property use and management and engaging RCWD when PLOP management may enhance City efforts. Because hypereutrophic conditions increase vegetation growth, RCWD shall equally share costs of removal of vegetation, if the most recent testing of Priebe Lake shows hypereutrophic conditions. Such conditions shall be evaluated with respect to Minnesota Pollution Control Agency or similar standards.

F. Prepare and make available to the public an annual report on the ecological health of Halls Marsh.

G. Upon identification of a deficiency in the performance of the PLOP or related facilities, notify RCWD. If responsible for correction of a deficiency, develop a plan to address or correct the deficiency within 90 days of identification or receipt of the RCWD ~~respond~~response outlined in section VI.~~O~~P, below.

IV. Mahtomedi Agrees To:

A. Inspect Wedgewood Hills dry basin as identified in Attachment A every five years.

B. Jointly with RCWD, analyze Wedgewood Hills dry basin for possible water quality retrofit improvements; if a feasible and cost-effective project is found, cooperate with RCWD to implement the project.

C. Accept responsibility for all costs associated with sediment pollutant testing[1], removal of accumulated and/or contaminated sediment, and outlet control structure maintenance at Wedgewood Hills dry basin (to be coordinated by RCWD, as referenced below).

D. Remove sediment and maintain outlet control structure in Wedgewood Hills dry basin as needed and indicated by future inspections.

E. Upon identification of a deficiency in the performance of the PLOP or related facilities, notify RCWD. If responsible for correction of a deficiency, develop a plan to address or correct the deficiency within 90 days of identification or receipt of the RCWD respond as outlined in section VI.~~O~~P, below.

V. White Bear Lake Agrees To:

A. Inspect City-owned storm sewer outfalls into Priebe Lake at least every five years.

B. Inspect Pond A and its outlet control structure for sediment buildup and function as identified in Attachment A at least every five years.

C. Jointly with RCWD, analyze Pond A for possible water quality retrofit improvements; if a feasible and cost-effective project is found, cooperate with RCWD to implement the project.

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[1] Sediment pollutant testing shall be limited to areas where sediment removal is planned or required and shall occur in accordance with Minnesota Pollution Control Agency (MPCA) standards to characterize the sediment for dredged material disposal. Testing shall include testing for Polycyclic Aromatic Hydrocarbon (PAH), along with other pollutants required by the MPCA.

D. Accept responsibility for all costs associated with sediment pollutant testing, removal of accumulated and/or contaminated sediment, and outlet control structure maintenance at Pond A (to be coordinated by RCWD, as referenced below).[2]

E. Serve as co-applicant with RCWD for DNR permit to complete drawdown of Priebe Lake.

F. Accept responsibility for all costs associated with sediment pollutant testing, removal of accumulated and/or contaminated sediment, and outlet maintenance at its storm sewer outfalls to Priebe Lake (to be coordinated by RCWD, as referenced below).

G. Remove sediment deltas at its storm sewer outfalls in Priebe Lake and Pond A as needed and indicated by future inspections.

H. Upon identification of a deficiency in the performance of the PLOP or related facilities, notify RCWD. If responsible for correction of a deficiency, develop a plan to address or correct the deficiency within 90 days of identification or receipt of the RCWD respond outlined in section VI.~~O~~P, below.

[1] Sediment pollutant testing shall be limited to areas where sediment removal is planned or required and shall occur in accordance with Minnesota Pollution Control Agency (MPCA) standards to characterize the sediment for dredged material disposal. Testing shall include testing for Polycyclic Aromatic Hydrocarbon (PAH), along with other pollutants required by the MPCA. [2] The Parties acknowledge that County Road runoff may also enter into Pond A.

VI. RCWD Agrees To:

A. Inspect and maintain the PLOP (Priebe Outlet, PLOP storm sewer, Halls Marsh Outfall, Halls Marsh Outlet) as identified in Attachment A.

B. Coordinate a project to undertake sediment pollutant testing within Priebe Lake, Pond A, Wedgewood Hills dry basin and at the Halls Marsh Outfall (expanded scope from 2021 Birchwood Village testing) within six (6) months of the effective date of this Agreement. Share with the Parties the results of sediment pollutant testing.

- Costs for Priebe Lake and Pond A sediment pollutant testing will be responsibility of White Bear Lake.
- Costs for Wedgewood Hills dry basin sediment pollutant testing will be responsibility of Mahtomedi.

[2] The Parties acknowledge that County Road runoff may also enter into Pond A

- Costs associated with Halls Marsh Outfall sediment pollutant testing will be responsibility of RCWD.

C. Coordinate a maintenance project to remove accumulated or contaminated sediment deltas from Priebe Lake, Pond A, Wedgewood Hills dry basin and at the Halls Marsh Outfall, including any needed outlet control structure maintenance at each site, within eighteen (18) months of completion of sediment pollutant testing as described above. The project may include excavation to ensure proper water drainage. RCWD will coordinate with the City of Birchwood Village on the timing of this maintenance. Testing results after sediment removal shall meet or exceed all applicable residental government standards for contamination and pollution.

D. Manage DNR permitting process for drawdown of Priebe Lake with White Bear Lake as a co-applicant on any permit.

E. Manage DNR permitting process for sediment removal from Priebe Lake and at the Halls Marsh Outfall.

F. Inspect the areas adjacent to the Halls Marsh Outfall for sediment accumulation every five years.

G. Within two years following the effective date of this Agreement, conduct a bathymetric survey of Hall's Marsh for the purpose of assessing its hydraulic conveyance and drainage characteristics. The findings of the survey shall be distributed to all Parties. RCWD shall subsequently undertake the removal of any sediment accumulations identified as an impediment to flow in order to restore and maintain proper conveyance through the marsh. Following this initial sediment removal, the resulting conditions shall be documented to establish a new baseline for the marsh. RCWD shall conduct future surveys every ten years to identify and remove sediment as needed to ensure the marsh is maintained at this baseline condition and continues to function properly.

~~G~~H. Remove sediment deltas at the Halls Marsh Outfall as needed and indicated by future inspections.

~~H~~I. Inspect Halls Marsh Outfall and the Halls Marsh Outlet to White Bear Lake a minimum of three times annually and promptly remove any debris found to be causing a major flow obstruction.

~~I~~J. Collaborate with White Bear Lake on a project to retrofit or improve Pond A and its outlet for water quality if a feasible and cost-effective project is found.

~~J~~. Collaborate with Mahtomedi on a project to retrofit or improve the Wedgewood Hills dry basin for water quality if a feasible and cost-effective project is found.

~~K~~. Collaborate with Birchwood Village on a project to retrofit or improve the Tighe-Schmitz Park Outlet for water quality if a feasible and cost-effective project is found.

~~L~~. Continue to consider multiple strategies to decrease Total Phosphorus (TP) and Total Suspended Solids (TSS) loading to White Bear Lake and achieve water quality goals as indicated in its Watershed Management Plan.

~~M~~. Develop a drawdown plan in advance of completing a drawdown of Priebe Lake and share the plan with the City-Parties to this Agreement.

~~N~~. Coordinate the sediment pollutant testing, sediment removal, and outlet control structure maintenance activities in partnership with the City-Parties for the initial phase of work, including consultant and contractor management and invoicing of costs to each Party.

~~O~~. Within 14 business days of notice by any Party of an observed deficiency in the performance of the PLOP or associated facilities, develop a response to all Parties identifying the nature of deficiency, if any, the Party responsible for correction and a summary of corrective actions, if any, required.

Q. Pursuant to III.H, share the costs of vegetation removal from Hall's Marsh. RCWD may fund vegetation removal costs through grants.

RESOLUTION

Mr. PETRANGELO offered the following resolution and moved its adoption:

Whereas the "Priebe Lake Project" was petitioned for by the City of White Bear Lake and the City of Birchwood Village, and

Whereas, said project was determined to be beneficial to all parties affected and is in addition, beneficial to the Rice Creek Watershed district, and

Whereas, it is provided by statute that the managers shall determine the amount to be paid by the District for the basic water management portion of the improvement, and

Whereas, the installation of the Halls Marsh water treatment structure became and is a portion of the basic water management features of said project in that it provides for biological, chemical and physical treatment of the water entering White Bear Lake and outletting therefrom into other waters of the district, and

Whereas, the benefit and cost thereof are attributable to said basic water management of the district, and

Whereas, said benefit and cost could only be determined because of changes in the project requested by the City of Birchwood Village, various citizens, the Minnesota Department of Natural Resources and the White Bear Lake Conservation District, and

Whereas, the benefits to the basic water management of the district resulting from the Halls Marsh installation include direct but intangible benefits to the district for flood control, prevention of siltation, control of erosion, maintenance of lake level and the propagation, protection and preservation of fish and other wildlife, said benefits being substantial and greatly in excess of the Halls Marsh Installation cost as ultimately determined, and

Whereas, the cost of said installation is in the sum of $16,697.00 to the district and not to individual tracts of otherwise benefited land,

Now, therefore be it Resolved, that the Halls Marsh Installatio be and hereby is a portion of the basic water management of the said Project; that the cost thereof is hereby determined to $16,697.00 which sum is assessed to the District; that the benefits therefrom are direct, are for the purposes stated and in addition to the benefits found for individual tracts of land; that said benefits and cost of the district are properly payable by the district from its water management fund; that the records of the district be and hereby are conformed as requisite; that the district pay as a part of the basic water management of the district as its portion of the project cost the aforesaid sum for benefits received; that this resolution is made in conformity to the applicable statutes for the reasons stated above.

The motion was seconded by Mr. CARDINAL.

The question was on the adoption of the resolution and the roll being called, there were 2 yeas and 1 nays, and so the resolution was adopted this 20th day of November, 1980.

E.A. Petrangelo
Secretary

JUN 1 2 1980
0070

STATE OF MINNESOTA

OFFICE OF THE SECRETARY OF STATE

ST. PAUL, MINNESOTA 55155

TO: THE CHIEF CLERICAL OFFICER OF The Rice Creek Watershed District

RE: MINNESOTA LAWS, 1980, CHAPTER 612, APPLYING TO SAID UNIT

SUBJECT League of local governments

WHEN SAID LAW HAS BEEN APPROVED LOCALLY, MINNESOTA STATUTES 645.021 REQUIRE THE CHIEF CLERICAL OFFICER OF SAID LOCAL UNIT OF GOVERNMENT TO SUBMIT THE ENCLOSED CERTIFICATE ALONG WITH A COPY OF THE RESOLUTION OF APPROVAL TO THE SECRETARY OF STATE.

LOCAL APPROVAL MUST COME AFTER FINAL ENACTMENT OF THE BILL, AND MUST BE FILED WITH THE SECRETARY OF STATE BEFORE THE FIRST DAY OF THE NEXT REGULAR SESSION OF THE LEGISLATURE, OTHERWISE IT WILL BE DEEMED TO BE DISAPPROVED.

RETURN TO: SECRETARY OF STATE'S OFFICE
ATTN: PEGGY STEINECK
ROOM 180 STATE OFFICE BLDG.
ST. PAUL, MN 55155

STATE OF
MINNESOTA
DEPARTMENT OF NATURAL RESOURCES
444 Lafayette Road, Space Center Building, St. Paul, MN 55101

PHONE: 296-4800

File No. _____

November 13, 1979

Rice Creek Watershed District
Suite 177, Arden Plaza
3585 Lexington Avenue North
Arden Hills, Minnesota 55112

RE: PERMIT APPLICATION 80-6087, PRIEBE LAKE OUTFALL PROJECT, No. 76-11-1

Gentlemen:

Enclosed is a water resources permit authorizing the construction of the Priebe Lake Outfall project. Please note special provisions VIII and IX, which provide for construction of a channel to convey the storm water to open water and for construction of a fish screen. Some design changes may be desirable to allow for easier maintenence; i.e., if the bearing bars are installed vertically, debris can be raked from them easier.

We are encouraged to see the District's recent action in regard to erosion problems within the watershed area. We fully support the District's action and trust there will be continued enforcement of erosion control within the District. Feel free to call on the Regional Hydrologist, Kent Lokkesmoe, for any assistance the DNR can provide in protecting public waters.

If you have any questions regarding this matter, please feel free to contact Kent Lokkesmoe at 296-7523.

Sincerely,

DIVISION OF WATERS

Larry Seymour
Director

LS/KL/ch

cc: Rice Creek Watershed District
Division of Waters
Birchwood Village
City of White Bear Lake
City of Mahtomedi
Duane Shodeen, Regional Fisheries Manager
Roger Johnson, Regional Wildlife Manager
U.S. C.O.E.
Ramsey County SWCD
Joseph N. Alexander

W 70-50
Rev. 11/70

STATE OF MINNESOTA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WATERS, SOILS AND MINERALS
Centennial Office Building, St. Paul, Minnesota, 55101

P.A. No. 80-6087

IN THE MATTER OF THE APPLICATION OF RICE CREEK WATERSHED DISTRICT

for a PERMIT TO CHANGE THE COURSE, CURRENT, OR CROSS SECTION of Priebe Lake, Hall's Marsh and White Bear Lake

Ramsey County.

PERMIT

Pursuant to Minnesota Statutes, Chapter 105, and on the basis of statements and information contained in the permit application, letters, maps, and plans submitted by the applicant, and other supporting data, all of which are made a part hereof by reference, **PERMISSION IS HEREBY GRANTED** to Rice Creek Watershed District whose address for the purpose of notices and other communications pertaining to this permit is Michael A. Panzer which address is subject to change by written notice from the permittee.

To E.A. Hickok & Associates
545 Indian Mound, Wayzata, Minnesota 55391

construct Priebe Lake Outfall Project No. 76-11-1 in accordance with plans dated September 20, 1979 and in accordance with the following special provisions;

PROPERTY DESCRIBED as: $SE\frac{1}{4}$, Section 25, T30N, R22W

for the purpose of storm water management. Ramsey COUNTY

This permit is granted subject to the following GENERAL and SPECIAL PROVISIONS:

GENERAL PROVISIONS

1. This permit is permissive only and shall not release the permittee from any liability or obligation imposed by Minnesota Statutes, Federal Law or local ordinances relating thereto and shall remain in force subject to all conditions and limitations now or hereafter imposed by law.
2. This permit is not assignable except with the written consent of the Commissioner of Natural Resources.
3. The Director of the Division of Waters, Soils and Minerals shall be notified at least five days in advance of the commencement of the work authorized hereunder and shall be notified of its completion within five days thereafter. The notice of permit issued by the Commissioner shall be kept securely posted in a conspicuous place at the site of operations.
4. No change shall be made, without written permission previously obtained from the Commissioner of Natural Resources, in the hydraulic dimensions, capacity or location of any items of work authorized hereunder.
5. The permittee shall grant access to the site at all reasonable times during and after construction to authorized representatives of the Commissioner of Natural Resources for inspection of the work authorized hereunder.
6. This Permit may be terminated by the Commissioner of Natural Resources, without notice, at any time he deems it necessary for the conservation of the water resources of the state, or in the interest of public health and welfare, or for violation of any of the provisions of this permit, unless otherwise provided in the Special Provisions.

SPECIAL PROVISIONS

I. Construction work authorized under this permit shall be completed on or before November 30, 1980. Upon written request to the Commissioner by the Permittee, stating the reason therefore, an extention of time may be obtained.

II. The excavation of soil authorized herein shall not be construed to include the removal of organic matter DOES NOT APPLY unless the area from which such organic matter is removed is impervious or is sealed by the application of bentonite after excavation.

III. In all cases where the doing by the permittee of anything authorized by this permit shall involve the taking, using, or damaging of any property rights or interests of any other person or persons, or of any publicly owned lands or improvements thereon or interests therein, the permittee, before proceeding therewith, shall obtain the written consent of all persons, agencies, or authorities concerned, and shall acquire all property, rights and interests necessary therefor.

IV. This permit is permissive only. No liability shall be imposed upon or incurred by the State of Minnesota or any of its officers, agents or employees, officially or personally, on account of the granting hereof or on account of any damage to any person or property resulting from any act or omission of the permittee or any of its agents, employees, or contractors relating to any matter hereunder. This permit shall not be construed as estopping or limiting any legal claims or right of action of any person other than the state against the permittee, its agents, employees, or contractors, for any damage or injury resulting from any such act or omission, or as estopping or limiting any legal claim or right of action of the state against the permittee, its agents, employees, or contractors for violation of or failure to comply with the provisions of the permit or applicable provisions of law.

V. No material excavated by authority of this permit nor material from any other source, except as specified herein, shall be placed on any portion of the bed of said waters which lies below. DOES NOT APPLY. It shall be the duty of the permittee to determine correctly all pertinent elevations

SPECIAL PROVISIONS

VII. Receipt is hereby acknowledge of $ DOES NOT APPLY as payment for cubic yards of sand, gravel or rock and cubic yards of muck and silt, the estimated amount of material to be removed hereunder computed at the rate of ten cents per cubic yard for sand and gravel and two cents per cubic yard for muck and silt.

Permittee agrees by acceptance of this permit as shown by commencement of work authorized hereunder to pay, by certified check, bank or postal money order, made payable to the State Treasurer and delivered to the Director, Division of Waters, Soils and Minerals, Department of Natural Resources, Centennial Office Building, St. Paul, Minnesota 55101, for any material removed from the bed of public waters in excess of that so estimated, at the above rate within thrity days after completion of the work authorized hereunder.

VIII. V A 350 foot (approximate) channel shall be constructed from the Hall's Marsh outlet structure along the base of the hill to provide a conveyance for the storm waters to open water of White Bear Lake. The channel shall have a depth of ~~one~~ foot and a top width of ten feet. All spoil shall be removed from the site. FOUR(4) FEET Lsymm/llc Dec 12, 79

IX. A fish screen shall be installed on the Hall's Marsh outlet as generally depicted on drawings submitted November 13, 1979. It is recommended that the bearing bars be installed vertically and the cross bars be spaced further apart to allow for easier debris removal. When the final drawings are prepared, they shall be submitted to the Regional Hydrologist for review and approval.

X. The Hall's Marsh outlet structure shall be located as shown in the plans and as determined at the on-site meeting of November 5, 1979.

SEE ATTACHED SPECIAL PROVISIONS

c: Division of Waters
Rice Creek WSD
Birchwood Village
City of White Bear Lake
City of Mahtomedi
Duane Shodeen, Reg. Fisheries
Roger Johnson, Reg. Wildlife
U.S. C.O.E.
Ramsey County SWCD
Joseph N. Alexander

DATED AT ST. PAUL, MINNESOTA, THIS 13 DAY OF NOV. 19 79

Division of Waters, LMS/ltk SEYMOUR

SPECIAL PROVISIONS

(Only the numbered Special Provisions apply to this permit)

_____ The permittee shall comply with all rules, regulations, requirements, or standards of the Minnesota Pollution Control Agency and other applicable federal, state, or local agencies.

_____ The use of explosives in any of the waters of the state is prohibited unless the local State Conservation Officer is notified thereof at least 48 hours in advance of the time the work is to be done. (M.S., Sec. 101.42, Subd. 11).

_____ Before construction and after completion of the project authorized, permittee shall supply the Regional Hydrologist with photographs of the project area.

XI. Spoil material shall not be placed on the beds of public waters, and, wherever possible such material should not be placed anywhere within areas subject to flooding. In the event spoil must be placed within flood plain areas because areas free from flooding are not readily available, the spoil should be placed parallel to the direction of flow and/or spread over a large area so as to minimize any possible obstruction to the passage of flood waters.

_____ Future maintenance of this project shall not exceed the dimensions herein authorized. Prior to commencing any maintenance, permittee shall advise the Regional Hydrologist. Maintenance excavation shall not be commenced until permittee's receipt of the Regional Hydrologist's approval.

XII. This permit does not obviate any requirement for federal assent from the U.S. Corps of Engineers, 1210 U.S. Post Office and Custom House, St. Paul, MN. 55101

_____ Permittee shall seed a strip of land abutting both sides of the ditch to permanent grasses and legumes, these strips to meet one of the following standards:

a. Each strip shall be at least 40 feet wide for the full length of the excavated ditch and shall not be mowed prior to July 15 in any year: or

b. Each strip shall be at least 25 feet wide for the full length of the excavated ditch, provided mowing of these narrower strips shall not be done.

_____ Any organic materials or mud wave that may be raised or pushed up above the existing lakebed as a result of grade fill placement shall be removed to the satisfaction of the Department of Natural Resources.

XIII. Permittee shall notify the Regional Hydrologist at 296-7523, and Conservation Officer Mike Thesing, at 483-1479, 48 hours prior to intent to commence authorized work.

XIV. Permittee shall notify the Regional Hydrologist immediately upon completion of authorized work so that a final inspection can be conducted.

(SEE REVERSE SIDE FOR ADDITIONAL PROVISIONS, IF ANY)

XV. When work is performed by contract, the permittee shall, prior to commencement of work, notify the Regional Hydrologist, in writing, the name of the contractor, the address, phone number and project foreman for project.

XVI. Permittee shall prepare or require the contractor to prepare a comprehensive erosion and sediment control plan addressing construction and final grade stabilization to prevent erosion and sedimentation into public waters. Such plan shall include, but not be limited to, bale diking, temporary ponding, temporary and/or permanent sodding, seeding, mulching and netting. Such plan shall be completed prior to commencement of authorized work and submitted to the Regional Hydrologist for inclusion in permit file.

XVII. Permittee shall ensure that the contractor has received and thoroughly understands all conditions of this permit.

_____ Permittee and contractor are hereby advised that any violation of the conditions of this permit constitute a misdemeanor, punishable by a fine of $500 and/or 90 days in jail.

_____ All exposed soil resulting from the authorized activity shall, within 48 hours of completion of such work, be seeded with a mixture of perennial and annual grasses and then mulched with straw or similar mulch. The use of sod as erosion protection will preclude the need for seeding and mulching, provided the sod is installed within the alotted time period and is staked on slopes steeper than 4 feet horizontal distance every 1 foot of vertical rise.

AMENDMENT NO. 2

TO THE

ENGINEER'S REPORT

PRISBE LAKE OUTFALL PROJECT

PROJECT NO. 76-11-1

Prepared for the Board of Managers of

the Rice Creek Watershed District

By

E. A. Hickok and Associates, Inc.

Consulting Engineers

545 Indian Mound

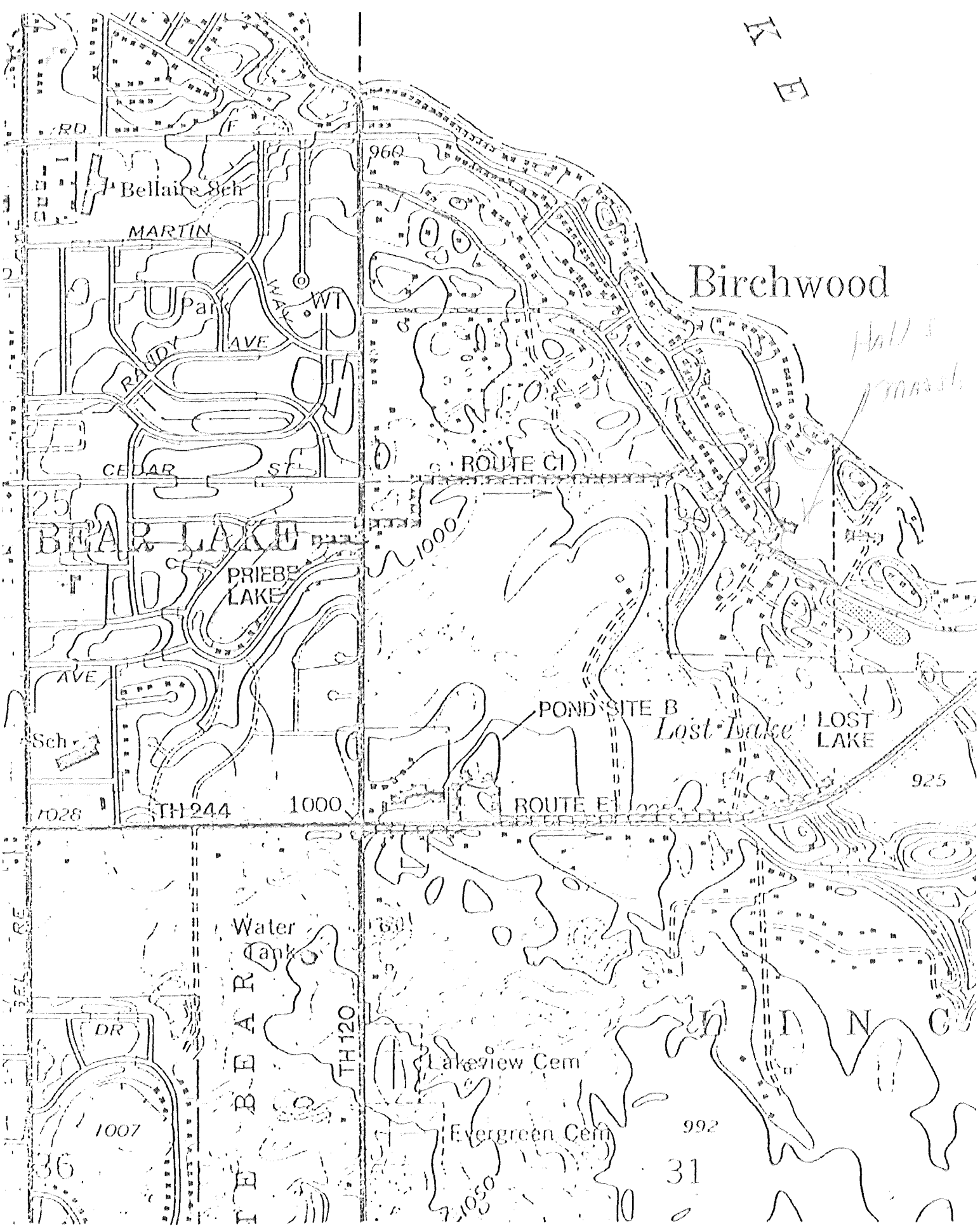
Wayzata, Minnesota 55391

March 1979

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

William D. Weidenbacher Date 3/23/79 Registration No. 8968

William D. Weidenbacher, P. E.



PRIEBE LAKE OUTFALL
RICE CREEK
WATERSHED DISTRICT

SA HICKOK & ASSOCIATES

RECOMMENDED ROUTES

AMENDMENT NO. 2

TO THE ENGINEER'S REPORT

ON THE PRIEBE LAKE OUTFALL PROJECT

PROJECT NO. 76-11-1

MARCH 23, 1979

I. INTRODUCTION

A. Chronology

On March 18, 1978 the Engineer's Report dated March 14, 1978 and entitled, "Priebe Lake/Crossroads Outfall Projects" was submitted to the Water Resources Board and other appropriate agencies for review. On May 17, 1978 a Public Hearing was held in accordance with the requirements of MSA Chapter 112. On June 14, 1978 the Board of Managers of the Rice Creek Watershed District directed the Engineer to modify the project as originally proposed in the Engineer's Report. On July 26, 1978 the Board received the Amendment to the Engineer's Report, passed a resolution establishing the improvements as modified in the Amendment and directed the Engineer to proceed with Final Plans and Specifications for the modified improvements. On August 25, 1978 the City of Birchwood Village filed an appeal with the District Court requesting the Court to vacate the previous order of the Board of Managers establishing the improvements and to instruct the Board of Managers to proceed with additional studies and reports. In November of 1978 the District Court vacated the previous order of the Board of Managers establishing this improvement in order that said Board may make further studies and reports. On December 13, 1978 the Board of Managers of the Rice Creek Watershed District passed a resolution directing the Engineer to restudy said project and report his findings to the Board. A copy of this resolution is included in the Appendix of this report and is identified as Exhibit "P". This Amendment, Amendment No. 2, will respond to the Board's direction in their resolution of December 13, 1978.

All information and data in the original Engineer's Report dated March 14, 1978 and the Amendment to the Engineer's Report dated July 26, 1978 pertaining to the Priebe Lake Outfall portion of the original project is hereby incorporated as part of Amendment No. 2 except as deleted or revised herein.

B. Project Identification

The restudied project shall be identified by name and number as follows:

NAME: PRIEBE LAKE OUTFALL PROJECT
NUMBER: PROJECT NO. 76-11-1

II. SCOPE OF AMENDMENT NO. 2

The Board resolution of December 13, 1978 directed the Engineer to restudy the project and report his findings to the Board. Two significant events occurred subsequent to the Board resolution of July 26, 1978 and the appeal by the City of Birchwood Village on August 25, 1978; 1) On November 16, 1978, the Washington County Highway Department informed the Engineer that the City of Birchwood Village Council requested that the County not rebuild Hall Avenue (County Road 29). Accordingly, the Washington County Highway Department has deleted this project from further consideration, and 2) In view of the plans by the Washington County Highway Department not to rebuild Hall Avenue, the City of Birchwood Village proposed a revised storm sewer alignment for consideration. The above two items introduce changes in the alignment of the storm sewer, the estimated total cost of the project and the properties affected. This Amendment will report the Engineer's findings relative to these three specific changes.

III. REVISED ALIGNMENT OF STORM SEWERS

The revised alignment of the proposed storm sewer is shown on Figure 1A and identified as the Birchwood Realignment. Figure No. 1A shows the proposed total amount of storm sewer to be

constructed under this project. The Birchwood Realignment is very similar to Alternate Route A discussed in the Engineer's Report with the exception that at its intersection with Park Avenue the storm sewer runs southeasterly to Hall's Marsh rather than northerly to White Bear Lake. The primary consideration for not recommending Alternate Route A at the time of the Engineer's Report was due to the fact that it would not provide adequate storm sewer trunk facilities for handling the stormwater runoff for the then proposed improved Hall Avenue. With the decision being made that Hall Avenue will not be improved at this time, a modified Route A is being recommended as suggested on page 23 of the Engineer's Report. Another disadvantage of Alternate Route A was that the stormwater discharge would outfall directly into White Bear Lake without the benefit of wetlands treatment. This disadvantage has been overcome by directing the storm sewer southeasterly along Park Avenue to the northwest corner of Hall's Marsh. The major disadvantage of the Birchwood Realignment over the route previously recommended is additional cost due to larger pipe requirements and added length. Larger pipe is required along Park Avenue due to the inavailability of adequate slope necessary for the storm sewer to handle the design discharge. An additional 250 lineal feet of storm sewer pipe is required to reach the marsh along the Birchwood Realignment as compared to the previously recommended route C-1. The Birchwood Realignment, however, utilizes the entire length of Hall's Marsh for wetland treatment purposes.

IV. CHANGES IN ESTIMATED TOTAL COST OF PROJECT

The proposed Priebe Lake outfall storm sewer has been sized to handle the discharge from Priebe Lake resulting from a 100-year frequency rainfall event. For all other contributing areas, this trunk storm sewer has been sized to handle stormwater runoff from a 5-year frequency rainfall event. As undeveloped properties are improved within the contributing watershed area, on-site ponding will be required to control the rate

of discharge to prevent overloading of the trunk sewer. The estimated construction cost of the proposed storm sewer using the Birchwood Realignment is $278,000 as shown in Table No. 1A. The total estimated project cost is $383,300 as shown in Table No. 3B.

V. PROPERTIES AFFECTED BY THE REVISED STORM SEWER ALIGNMENT

Figures No. 2A and 3A delineate the contributing watershed and the changes in properties affected as a result of the Birchwood Realignment. Figures No. 13 and 14 in the Engineer's Report are still valid and delineate the contributing watershed areas to Priebe Lake that lie west of East County Line Road. Exhibit "Q" in the Appendix of this report specifically names those properties added and those properties no longer affected by virtue of the Birchwood Realignment of the storm sewer. The drainage area added by the realignment amounts to 706,000 square feet. The area deleted by virtue of the Birchwood Realignment amounts to 956,000 square feet. The decision not to rebuild Hall Avenue at this time deleted an additional 300,000 square feet of drainage area. The total area contributing runoff is estimated at 10,311,800 square feet. Dividing the total estimated project cost of $383,300 by the total area benefited results in a cost factor of $0.0372 per square foot.

VI. ADDITIONAL CONSIDERATIONS

A. Project Compatibility with State and Federal Law

Pages 27 and 28 of the Engineer's Report dated March 14, 1978 establish the project compatibility with State and Federal Law and are still valid.

B. Economic and Environmental Considerations

Economic and environmental considerations were addressed on pages 29 and 30 of the Engineer's Report dated March 14, 1978. In addition, Exhibit "E" of the Engineer's Report contained an

Environmental Assessment Worksheet for the proposed improvements. All information and data included in the Engineer's Report pertaining to the Priebe Lake Outfall portion of the project are relevant with one exception. That exception being that the storm sewer outfall is now located at the extreme northwesterly corner of Hall's Marsh. The new location of the storm sewer outfall will provide assurance of the complete utilization of Hall's Marsh as a wetland treatment facility for the stormwater discharge prior to its entry into White Bear Lake. From an environmental consideration standpoint, the new location of the storm sewer outfall is preferred over the previously recommended location. The Board of Managers are required, under the State Environmental Policy Act, Chapter 116D, to assure "that environmental amenities and values, whether quantified or not, will be given at least equal consideration in decision making along with economic and technical considerations."

C. Easements, Right-of-Way and Property Ownership

Exhibit "N" of the Amendment to the Engineer's Report dated July 26, 1978 contained a list of properties where easements were required for storm sewer construction or ponding purposes. Exhibit "N" is still valid and it describes the acreage which will be required for right-of-way for the Priebe Lake Outfall Project. Other than those properties listed on Exhibit "N", the Birchwood Realignment of the storm sewer falls on existing drainage easements or public right-of-way.

D. Financing

The Priebe Lake Outfall project is proposed to be financed by special assessments. The assessments are to be levied upon properties benefited by the improvements in accordance with MSA Chapter 112.60. Benefited properties include all lands contributing water handled or controlled by the proposed improvements. Benefits and damages shall be determined according to the provisions in MSA Chapter 112.50, Subdivision 1. The

assessments may be spread for up to 23 years as provided in MSA Chapter 106.411, Subdivision 3.

E. Advisory Committee Comments

At the time of preparation of this Amendment, the comments from the Rice Creek Watershed District Citizen's Advisory Committee were not available. When available the comments will be obtained and forwarded to the Board of Managers for their consideration.

VII. FINAL RECOMMENDATIONS

It is the recommendation of the Engineer the the Birchwood Realignment of the Priebe Lake Outfall project as presented in Amendment No. 2 is feasible, necessary and practical in providing a solution to the drainage problems in this area of the Rice Creek Watershed District. Implementation of the Priebe Lake Outfall Project is found to be in the best interest of public health, convenience and welfare. The Priebe Lake Outfall project addresses the needs presented in the petitions of the Cities of White Bear Lake and Birchwood Village. The Engineer recommends that the necessary steps be taken by the Board of Managers of the District to implement the project at this time.

The Engineer further recommends that the benefits be determined based on the current or planned land use of the area. It is suggested that commercially zoned land and right-of-ways receive twice the benefits that residentially zoned land receives.

TABLE NO. 1A

CONSTRUCTION COST ESTIMATE FOR PRIEBE LAKE OUTFALL PROJECT
BIRCHWOOD REALIGNMENT

Item No.	Description	Unit	Estimated Quantity	Unit Price	Amount
1	Mobilization	L.S.	1		$ 3,000
2	Clearing & Grubbing	Acre	0.4	$6,000.00	2,400
3	27" RCP Class III	L.F.	470	11.00	6,270
4	36" RCP Class IV	L.F.	2,930	25.00	73,250
5	42" RCP Class III	L.F.	520	29.00	15,080
6	48" RCP Class III	L.F.	700	36.00	25,200
7	Pipe Installation	L.F.	4,720	7.00	33,040
8	Bulk Excavation	C.Y.	65,000	.60	39,000
9	Outlet Structure	L.S.	1		30,000
10	Skimmer Structure and Culvert	L.S.	1		15,000
11	Manholes, 0-8 ft.	Each	15	700.00	10,500
12	Extra Depth Manholes	Feet	200	40.00	8,000
13	27" RCP Apron with rip-rap	Each	1	600.00	600
14	Road Replacement	S.Y.	600	10.00	6,000
15	Driveway Replacement	Each	5	400.00	2,000
16	Watermain Replacement	L.F.	60	18.00	1,080
17	Gas Main Replacement	L.F.	60	10.00	600
18	Telephone Line Replacement	L.F.	60	8.00	480
19	Remove & Replace Fence	L.F.	600	5.00	3,000
20	Tree & Shrub Replacement	L.S.	1		1,500
21	Sodding	S.Y.	1,000	2.00	2,000
				ESTIMATED CONSTRUCTION COST	$278,000

TABLE NO. 3B

COST ESTIMATE FOR PRIEBE LAKE OUTFALL PROJECT
BIRCHWOOD ALIGNMENT

TOTAL ESTIMATED CONSTRUCTION COST (Table No. 1A).....	$278,000
Legal and Administrative @ 5 percent..... Attorney's fees, Viewer Costs, Notices for Public Hearing, Public Hearing, etc.	$ 13,900
Engineering @ 15 percent..... Final Design, Contract Administration, Construction Staking and Inspection	$ 41,700
Engineer's Report.....	$ 15,000
Aerial Topography.....	$ 7,200
Assessment Roll Preparation.....	$ 8,000
Easement Acquisition Costs.....	$ 8,600
Preliminary Report*.....	$ 10,900
TOTAL ESTIMATED PROJECT COST.....	$383,300

*Actual Cost = $10,918.28

EXHIBIT P

PRIEBE LAKE MATTER

RESOLUTION

MR. HAMILTON offered the following resolution and moved its adoption:

Whereas, the Rice Creek Watershed District did heretofore make an order confirming the appraisers report and the report of the engineer in the matter entitled:

In the Matter of the Petition of the
City of White Bear Lake and the City of
Birchwood Village and others, for the Priebe Lake/Crossroads
Outfall Project

and,

Whereas, the City of Brichwood Village appealed said order to the District Court of Ramsey County, Minnesota, naming the City of White Bear Lake the respondent in said action, and whereas the said parties to the appeal did stipulate as shown in the attached exhibit and,

Whereas, the District Court of Ramsey County pursuant to said stipulation did vacate the order of the Board of Mnagers establishing the said improvement in order that said Board may make further studies and reportes on said petitioned for project,

NOW THEREFORE, BE IT RESOLVED, That in accordance with the said Order of the District Court of Ramsey County, the order establishing the said project including the confirming of the appraisers report be and hereby is vacated, set aside and declared to be of no effect,

BE IT FURTHER RESOLVED, That the engineer heretofore appointed be and he hereby is directed to restudy said project and report his findings to the Board and that thereafter and thereupon any properties shown to be affected as shown by the restudied report of the engineer be be viewed for damages and benefits which may arise out of the said project.

The motion was seconded by Mr. CARDINAL and the question was on the adoption of the resolution, the roll being called there were 5 yeas and no nays and so the resolution was adopted.

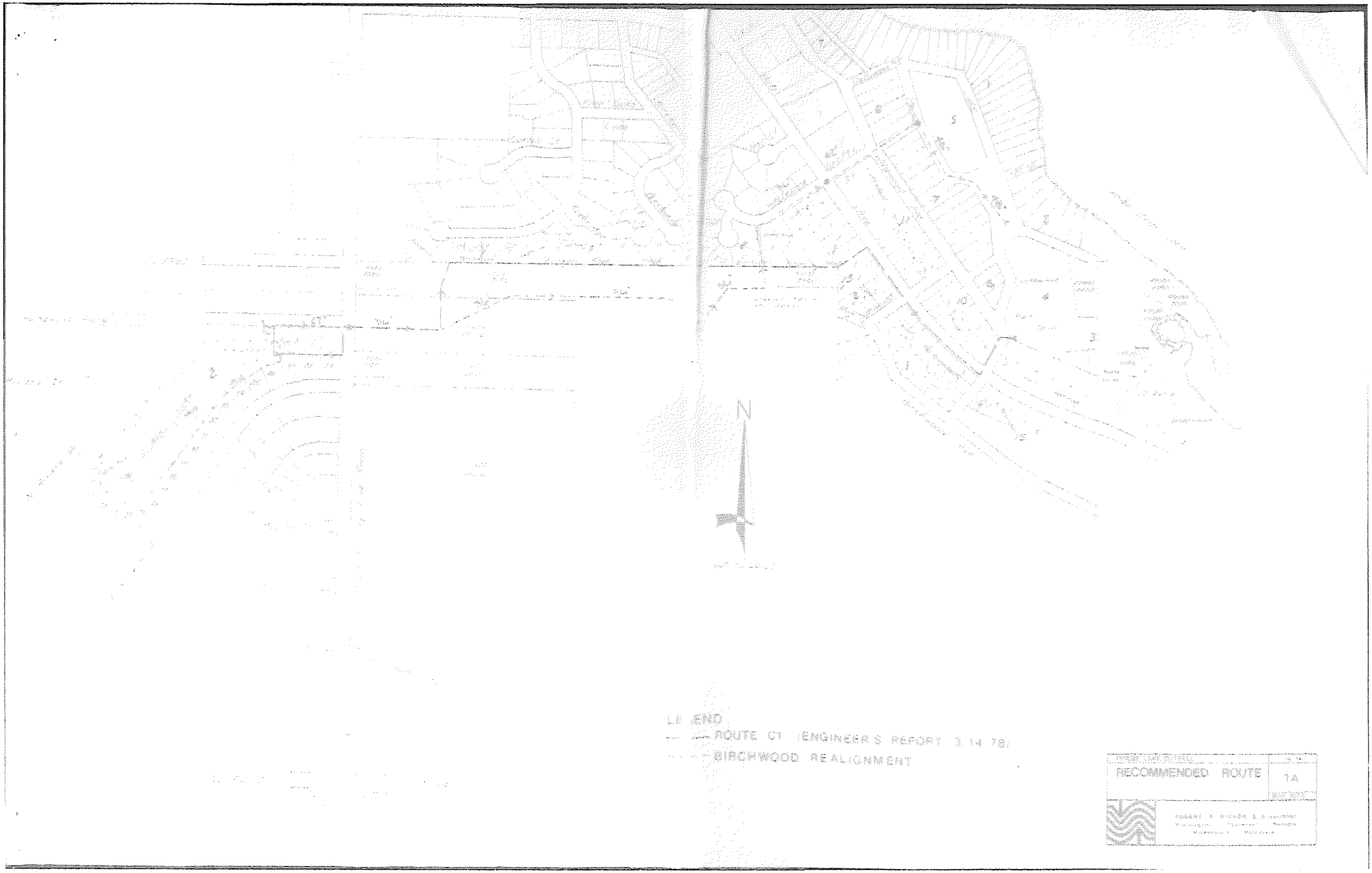
Dated December 13, 1978.

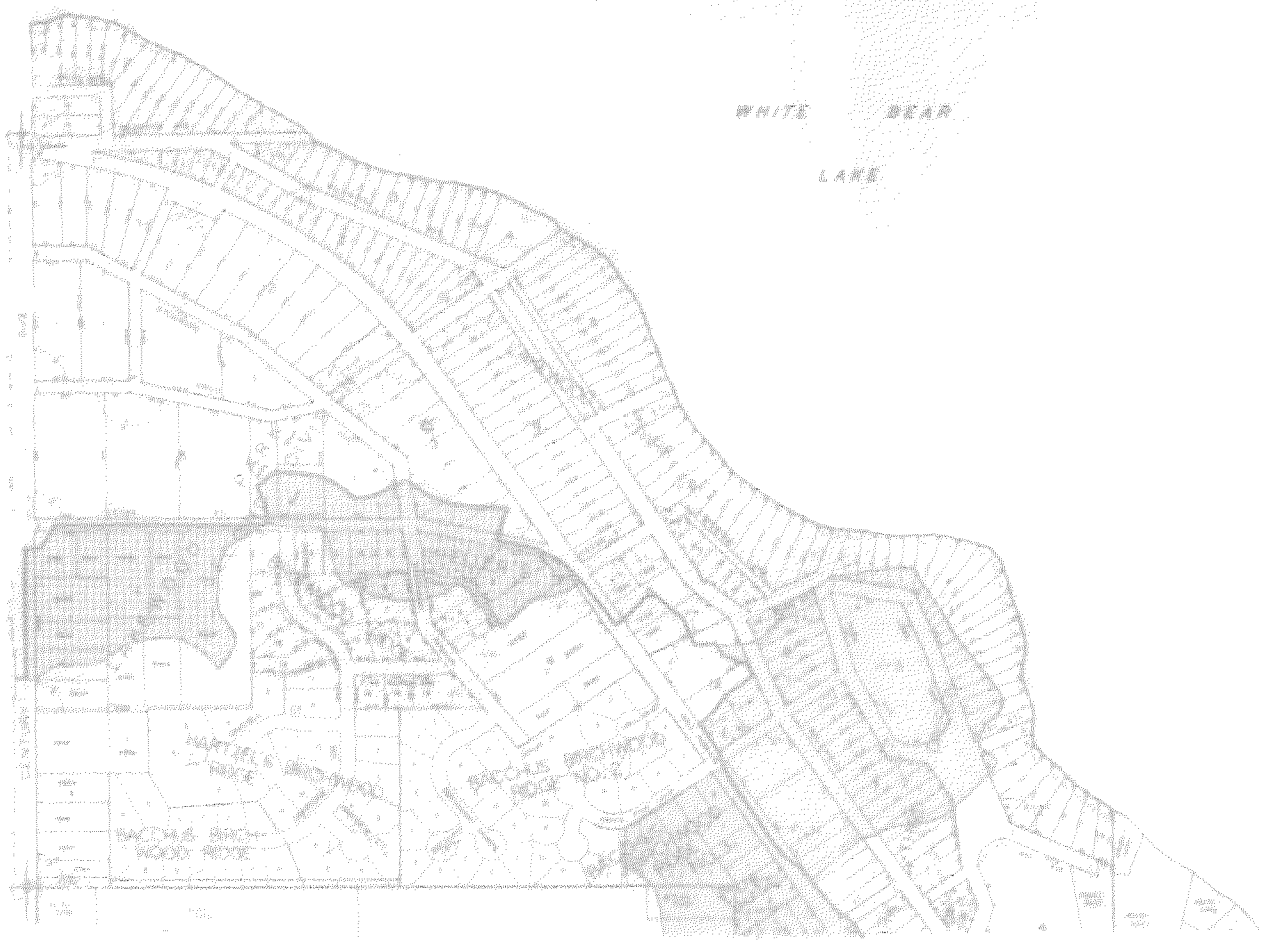
Secretary, Board of Managers

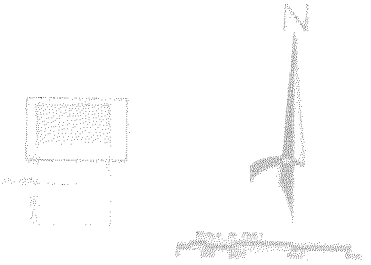
ORDER

To Eugene Hickok and Associates:

Pursuant to the foregoing resolution you are hereby directed and authorized to restudy the above named project and report to the Board thereon.


N
LEGEND
ROUTE 01 (ENGINEER'S REPORT 3.14.78)
BIRCHWOOD REALIGNMENT
RECOMMENDED ROUTE
1A





LEGEND

AREA DELETED BY AMENDED WATERSHED BOUNDARY 300,000 s.f.

AREA ADDED BY REALIGNMENT 706,000 s.f.

AREA DELETED BY REALIGNMENT 956,000 s.f.

APPENDIX A
AFFECTED PROPERTY MAPS
2A

PRIEBE LAKE OUTFALL AMENDMENTS

Additional Properties Affected by Outfall Relocation

NAME OF OWNER	ADDRESS	Description of Land			
		Plat	Parcel	Subdivision Lot	Subdivision Block
	LAKEWOOD PARK 3rd DIVISION				
Thomas J. & Nancy S. Watkins	409 Lake Avenue Birchwood, MN 55110	25442	2050	1,2	1
Ed.W.& Margaret V. Fridholm c/o Frid.Inc.	413 Lake Avenue White Bear Lake, MN 55110	"	2100	Pt. 3,4	1
Robert B.& Mary E. Liggett	425 Lake Ave White Bear Lake,Mn 55110	"	2150	Pt.of 4	1
"	"	"	2200	Pt.of 5	1
John C. & Barbara A. Winters	429 Lake Ave White Bear Lake,MN 55110	"	2250	Pt of 5	1
"	"	"	2300	6,Pt. of 7	1
Donald A.&Bette L. Smeed	433 Lake Ave White Bear Lake,MN 55110	"	2350	Pt.of 7	1
"	"	"	2400	8	1
"	"	"	2450	Pt.of 9	1
John A.& Martha E.Hess c/o 1st National Bank	441 Lake Ave White Bear Lake,MN 55110	"	2500	Pt.of 9,10	1
Keith H.&Bernadine A. Ackerman	2510 7th Ave E. North St. Paul, MN 55109	"	2550	11	1
"	"	"	2600	12	1
Margaret M.&Delores M. Schreiner	1267 West 7th St. St. Paul, MN 55102	"	2650	13	1
Claire F. Anderson	928 Westminster Street St. Paul, MN 55101	"	2700	14,15	1
Phyllis M. LaCasse	471 Lake Avenue White Bear Lake,MN 55110	"	2750	16	1
James M.&Phyllis M. LaCasse	"	"	2800	17	1
"	"	"	2850	18	1

Lakewood Park 3rd Division

NAME OF OWNER	ADDRESS	Description of Land				
		Plat	Parcel	Subdivision		
				Lot	Block	
Edwin W. Kellgren	479 Lake Ave.Birchwood White Bear Lake,Mn55110	25442	2900	19	1	
"	"	"	2950	Pt.of 20	1	
Robert W.III & RobinC. Nicholson	483 Lake Avenue White Bear Lake,MN55110	"	3000	Pt.of 20	1	
Lillian E. Miller	505 Lake Ave White Bear Lake,MN55110	25442	3050	1	2	
Village of Birchwood	207 Birchwood Ave Birchwood, MN 55110	25442	3570		5	2.83 Ac. unsub-divided --Park--
Edwin & Thelma E. Benson	401 Wildwood Ave White Bear Lake,MN 55110	25442	3550	1	6	
Marcella A. Truen	411 Wildwood Ave White Bear Lake 55110	"	3600	Pt.of 2	6	
Paul C. & Susan C. Parent	409 Wildwood Birchwood, MN 55110	"	3650	Pt.of 2	6	
Ronald & Shirley Freeman	1957 Sheridan Ave St. Paul, MN 55116	"	3700	Pt.of 2	6	
"	"	"	3750	Pt.of 3	6	
Samuel A.& Minnie Gordon	1696 Watson Ave St. Paul,MN 55116	"	3800	Pt.of 3	6	
Elliot & Frances Taler	2013 Magoffin St. St. Paul, MN 55116	"	3850	4	6	
MarionL. Wilkinson	427 Wildwood Ave White Bear Lake,MN 55110	"	3900	5,6	6	

Lakewood Park 3rd Division

NAME OF OWNER	ADDRESS	Description of Land			
		Plat	Parcel	Subdivision Lot	Subdivision Block
Michael E.&Karen M. Charpentier	501 Wildwood Ave White Bear Lake,MN 55110	25442	3950	1	7
Robert J.& Sandra R. Anderson	505 Wildwood Ave Birchwood, MN 55110	"	4000	2	7
Kemble C. & JoAnn N. Broom	509 Wildwood Ave White Bear Lake,MN 55110	"	4050	3	7
"	"	"	4100	4	7
Peter J. & Lola J. Latuff	517 Wildwood White Bear Lake,MN 55110	"	4150	5	7
Thomas D. & Nancy D. Ruvelson	1824 Buchanan St.NE Minneapolis,MN 55418	"	4200	6,Pt. of 7	7
Themla R. Ruvelson	Birchwood White Bear Lake,MN 55110	"	4250	Pt.of 7	7
"	"	"	4300	8	7
Marilyn C.&Francis T. Tretter	533 Wildwood Ave White Bear Lake,MN 55110	"	4350	9	7
Charles C. Carol G. Kaufman	543 Wildwood Ave White Bear Lake, MN 55110	"	4400	10	7
"	"	"	4450	11	7
Paul O.& Betty A. Schilling	545 Wildwood Ave White Bear Lake,MN 55110	"	4500	12	7
Arvin E. Ortloff	506 Wildwood Ave White Bear Lake,MN 55110	25442	5050	Pt.of 1	11
Leila G. Erickson	508 Wildwood Ave White Bear Lake,MN 55110	"	5100	Pt.of 1	11
"	"	"	5150	Pt.of 1	11
Frank B. & Juanita Wettengel	512 Wildwood White Bear Lake,MN.	"	5200	Pt.of 1	11
Vernoa J. Iverson	514 Wildwood Ave White Bear Lake, MN	"	5250	Pt.of 2	11

Lakewood Park 3rd Division

NAME OF OWNER	ADDRESS	Description of Land			
		Plat	Parcel	Subdivision Lot	Subdivision Block
Frank B. & Juanita H. Wettengel	512 Wildwood White Bear Lake, MN	25442	5300	Pt.of 2	11
Robert W. Engebretson	521 Hall White Bear Lake, MN	"	5350	Pt.of 2	11
"	"	"	5400	Pt.of 2	11
Thomas F. & Tryphena B. Woulfe	526 Wildwood Birchwood, MN 55110	"	5450	3	11
Village of Birchwood	207 Birchwood Ave Birchwood, MN	25442	3060	Part of Kay Street	
"	"	Park Avenue			
"	"	Lake Avenue			
"	"	Wildwood Avenue			

PRIEBE LAKE OUTFALL AMENDMENTS
Properties No Longer Affected

NAME OF OWNER	ADDRESS	Description of Land			
		Plat	Parcel	Subdivision Lot	Subdivision Block
Jerome V & Monetta B. Cartier	536 Hall Avenue St. Paul, MN 55110	87030	2400		
	BACCHUS BIRCHWOOD RIDGE NO. 3				
Loren T. & Kathryn R. Jenkins	530 Hall Avenue St. Paul, MN 55110	25042	2050	1	1
Kenneth W. & Anita M Bacchus	1701 Arcade Street St. Paul,MN 55109	"	2100	2	1
"	"	"	2150	3	1
	LAKEWOOD RE-ARRANGEMENT				
Warren H.&Ruth D. Teichroew	580 Hall Avenue St. Paul, MN 55110	25452	2000	1	1
"	"	"	2050	2	1
"	"	"	2100	3	1
Frederick L&CarolynL. Knudsen	612 Hall Ave St. Paul, MN 55110	"	2150	4&5	1
Louis B.MaryM. Hauser	616 Hall Avenue St. Paul, MN 55110	"	2200	6&7	1

PRIEBE LAKE OUTFALL AMENDMENTS
Properties No Longer Affected

NAME OF OWNER	ADDRESS	Description of Land			
		Plat	Parcel	Subdivision Lot	Subdivision Block
	LAKEWOOD RE-ARRANGEMENT				
Emmett D.& Barbara L. Dowdal	540 Hall Avenue St. Paul, MN 55110	25452	2500	1, 2, 3, 4	2
Richard L. Gunderson	2662 N. Riviera Drive St. Paul, MN 55110	25452	2550	1, 2, 3, 4, 5, 6	3
William K. & Elenor W. Butler	221 Wildwood Avenue St. Paul, MN 55110	"	2600	7, 8	3
City of Birchwood	207 Birchwood Avenue Birchwood, MN 55110	25452	2625		A
	LAKEWOOD PARK 3rd DIVISION				
John A. & Rosmarie A Frucci	553 Hall Avenue St. Paul, MN 55110	25442	4700	Pt. of 1	10
"	"	"	4750	Pt. of 1	10
John A. Frucci	"	"	4800	2	10
John B. & Lavonne A. Grant	608 Wildwood Avenue St. Paul, MN 55110	"	4850	3	10
Julia A. Moreno	612 Wildwood Avenue St. Paul, MN 55110	"	4900	4	10

PRIEBE LAKE OUTFALL AMENDMENTS
Properties No Longer Affected

NAME OF OWNER	ADDRESS	Description of Land			
		Plat	Parcel	Subdivision Lot	Subdivision Block
	LAKEWOOD PARK 3rd DIVISION				
James E. & Gretchen D. Davidson	697 Hall Avenue St. Paul, MN 55110	25442	4950	5	10
"	"	"	5000	6,7 8	10
Joseph J. & Ruth H. Kammerer	600 Wildwood Avenue St. Paul, MN 55110	25442	5600	6,7	11
Thomas & Sue Ann O'Brien	531 Hall Avenue St. Paul, MN 55110	"	5650	8	11
Patrick F. Marzitelli	538 Hall Avenue St. Paul, MN 55110	25442	5850	Pt.of 2&3	13
Jerome V.&Monetta B. Cartier	536 Hall Avenue St. Paul, MN 55110	"	5900	Pt.of 2	13
William Butler Wollstencroft	820 Birchwood Avenue St. Paul, MN 55110	25442	6450	5,Pt. of6,7	16
	BIRCHWOOD RIDGE				
William D.&BeverlyL. Bosse	186 Cedar St. St. Paul, MN 55110	25058	2150	4	
Edward G. & Marcia L. Chilton	402 Birchwood Avenue St. Paul, MN 55110	"	2200	5	

PRIEBE LAKE OUTFALL AMENDMENTS
Properties No Longer Affected

NAME OF OWNER	ADDRESS	Description of Land			
		Plat	Parcel	Subdivision Lot	Subdivision Block
Patricia A. Johnson	3980 E.Co.Line Road St. Paul, MN 55110	25441	3750	Pt.of 1	9
John B.Jr,&Delores M. Rubbelke	112 Cedar Street St. Paul, MN 55110	"	3760	Pt.of 1	9
Roy J.&Karen A. Krahn	3870 E.Co.Line Rd. St. Paul, MN 55110	"	3800	Pt.of 1	9
Ronald R.&Barbara R. Peltier	3874 E. Co.Line Rd. St. Paul, MN 55110	"	3950	Pt.of 1	9
George G.I.& Ann M. Moore	124 Cedar Street St. Paul, MN 55110	"	4050	Pt.of 2	9
Michael K.&Sandra J. Zanish	130 Cedar Street St. Paul, MN 55110	"	4100	Pt.of 2	9
City of Birchwood	207 Birchwood Avenue Birchwood, MN 55110	Highwood Street			

PRIEBE LAKE OUTFALL AMENDMENTS
Properties No Longer Affected

NAME OF OWNER	ADDRESS	Description of Land			
		Plat	Parcel	Subdivision Lot	Subdivision Block
	HELLER'S SUBDIVISION				
Jean B.&Ctewart Rankin Ethel L. Beck	405 Birchwood Avenue St. Paul, MN 55110	25300	2050	Pt.of 2	
James E.&Gladys O. Brown	236 Cedar Street St. Paul, MN 55110	"	2100	Pt.of 2	
Vermayne E.&Carole J. Bertram	234 Cedar Street St. Paul, MN 55110	"	2150	3	
"	"	"	2250	4	
Dennis Bruce & Kathleen I. Ohlund	401 Birchwood Ave St. Paul, MN 55110	"	2300	5,6	
	LAKEWOOD PARK 2nd DIVISION				
William J.& Martha Hartzel	219 Birchwood Avenue St. Paul, MN 55110	25441	2800	4,5	3
Beverly B. Johnson	215 Cedar Street St. Paul, MN 55110	"	2850	6	3
"	"	"	2900	7	3
City of Birchwood	207 Birchwood Ave St. Paul, MN 55110	25441	3720	5	8

AMENDMENT

TO THE

ENGINEER'S REPORT

PRIEBE LAKE/CROSSROADS

OUTFALL PROJECTS

PROJECT NO. 76-11-1

Prepared for the Board of Managers of

the Rice Creek Watershed District

By

E. A. Hickok and Associates, Inc.

Consulting Engineers

545 Indian Mound

Wayzata, Minnesota 55391

July 1978

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

William D. Weidenbacher Date 7/26/78 Registration No. 8968

William D. Weidenbacher, P. E.

Highway 61 Ponds Facility Project – Final Report

MEMORANDUM
Rice Creek Watershed District

Date: November 5, 2025
To: RCWD Board of Managers
From: Matt Kocian, Lake and Stream Manager
Subject: Hwy 61 Ponds Facility Project – Final Report

Introduction

The Highway 61 Ponds Project is complete. This memo will provide an overview of the study and final report. This is an informational item; Board action is not required.

Background

The Hwy 61 Ponds ("Hwy 61 / JD No. 1 Treatment Basin" in the RCWD WMP) are a District Facility. The ponds are located near the terminus of Ramsey-Washington Judicial Ditch 1 in White Bear Township, just upstream of Bald Eagle Lake. The purpose of the ponds is to provide water quality treatment for Bald Eagle Lake, as well as enhance wetland habitat in the area. The ponds were constructed in 2003. Maintenance has not been conducted on the ponds since construction.

In 2022, the District received a *Watershed-Based Implementation Fund* grant from BWSR to conduct a feasibility study for enhancing the performance of the ponds. The purpose of this study is to: 1) Assess the need for potential maintenance (i.e. dredging) of the ponds, and 2) develop retrofit options for increasing phosphorus retention. The scope of the study includes pond surveying, water quality modeling, concept design, and a feasibility report. The grant amount is $40,000, with a required match from the District of at least $7,000. Additionally, the District's 60-06 (Bald Eagle Lake Water Mgmt. Project) budget has available funds to expand the study, up to a total budget of around $60,000.

The District selected Barr Engineering to complete this study. Work commenced in October of 2024, and a final draft of the report was recently completed. Barr has completed all items in the project scope, and the report satisfies the requirements of the WBIF grant, which expires at the end of 2025.

Report Summary and Recommendations

Regarding the **current condition** of the Hwy 61 Ponds, and the need for potential maintenance:

- Sediment storage space remains in both ponds, and maintenance (dredging) is not required
- Sedimentation rates are relatively low, and maintenance may not be needed for many decades
- The ponds capture approximately 75 pounds of phosphorus annually, which is 6% of the total load passing through the ponds (94% of P passes through)
- The relatively poor P retention is due to:
    - Undersized ponds (pond size is constrained by available space)
    - Much of the phosphorus is *dissolved*; ponds are not good at capturing dissolved P
- The ponds, themselves, are not a significant *source* of phosphorus (via sediment P release)

Take home message: The ponds are working as best they can, given size limitations, and maintenance is not necessary.

Regarding the potential for **pond retrofits to improve performance**:

- Retrofit options are limited, with no clear path forward
- Alternatives developed by Barr include:
    - No action / consider upstream phosphorus sources (Schuneman Marsh)
    - Aeration & chemical augmentation (alum) – high impact, high cost
        - Construction cost: $925,000
        - 15-year costs: $2.2 million
        - 15-year P removal (lbs): 4,770
        - % of total P load removed: ~45%
        - Efficiency ($/lb. P): $400-600
    - Aquatic plant transplanting and harvesting – low impact, low cost
        - 15-year costs: $90,000
        - 15-year P removal (lbs): 180
        - % of total P load removed: ~1-2%
        - Efficiency ($/lb. P): $500

Although impactful, *Aeration and Chemical Augmentation* is very expensive, and somewhat experimental – both technically and programmatically. *Plant Transplanting and Harvesting*, although inexpensive, would introduce a potentially time-consuming program for District staff, and would not be impactful in terms of phosphorus removal.

Take home message: District staff recommend no *immediate* action, but continue internal evaluation of *Aeration and Chemical Augmentation*, especially regarding grant eligibility and state regulations.

Attachment

- Highway 61 Ponds Water Quality Treatment Performance Improvement Feasibility Report, final draft (Oct 2025)

Highway 61 Ponds
Water Quality Treatment Performance Improvement Feasibility Report

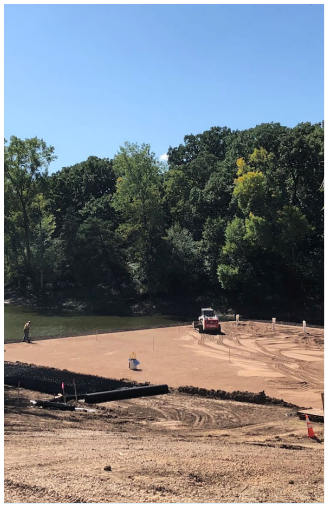
Prepared for
Rice Creek Watershed District

Prepared by
Barr Engineering Co.

October 2025

4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435
952.832.2600

barr.com



Certification

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Date

Highway 61 Ponds
Water Quality Treatment Performance Improvement Feasibility Report

October 2025

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Abbreviations

Barr	Barr Engineering Co.
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
CFS	cubic feet per second
DNR	Minnesota Department of Natural Resources
DRO	Diesel Range Organics
GIS	Geographic Information System
GRO	Gasoline Range Organics
JD1	Judicial Ditch 1
LGU	Local Governmental Unit
MNDNR	Minnesota Department of Natural Resources
MPCA	Minnesota Pollution Control Agency
NURP	National Urban Runoff Program
OHWL	Ordinary High Water Level
P	Phosphorus
OPC	Opinion of Cost
PAHs	Polycyclic Aromatic Hydrocarbons
RCWD	Rice Creek Watershed District
SDS	State Disposal System
SRP	Soluble Reactive Phosphorus
TMDL	Total Maximum Daily Load
TP	Total Phosphorus
TSS	Total Suspended Solids
UST	Underground Storage Tank
WCA	Wetland Conservation Act
WIMN	What's in My Neighborhood

Executive Summary

This Highway 61 Ponds Water Quality Treatment Performance Improvement Feasibility Report provides a comprehensive evaluation of two stormwater ponds located east of Highway 61 in White Bear Township. These ponds were originally constructed in-line with JD1 to mitigate phosphorus loading into Bald Eagle Lake, a recreational water body that has undergone significant restoration efforts. Despite these efforts, phosphorus—particularly in dissolved and reactive forms—continues to enter the lake from the JD1 watershed.

Barr Engineering Co. (Barr) evaluated several improvement scenarios. Options such as pond expansion, infiltration/filtration, and wetland evapotranspiration were deemed infeasible due to site constraints and maintenance concerns. Possible strategies to improve phosphorus retention in the ponds include sediment phosphorus inactivation using aluminum treatments, aeration and chemical augmentation to reduce phosphorus loading, and aquatic plant management to enhance nutrient uptake. By far, the most expensive but also most cost-effective solution is aeration and chemical augmentation.

Permitting considerations for these strategies include stormwater permits, dredged material management, wetland conservation compliance, and pollutant discharge permits.

1 Introduction

1.1 Introduction

Bald Eagle Lake is a highly used recreational lake located primarily in White Bear Township, Ramsey County, MN (Figure 1-1). Historically, algae blooms were frequent, and occasionally severe, driven by both externa an internal phosphorus loading. A Total Maximum Daily Load (TMDL) was developed in 2012, establishing water quality goals for the lake including targeted reductions in both watershed and internal phosphorus loading. Management efforts by the Rice Creek Watershed District (RCWD), including stormwater reuse, iron-enhanced sand filters, and an alum treatment, have dramatically improved water quality in Bald Eagle, leading to *delisting* from the impaired waters list. The RCWD continues to identify and implement water quality improvement projects around Bald Eagle. Ramsey Washington Judicial Ditch 1 (JD1) is a primary contributor of runoff and phosphorus loading to the lake making it a focal point for potential management to reduce nutrient loading. JD1 drains approximately 8,000 acres of wetlands, low-density and rural residential land, two golf courses, and two lakes. The lower part of the JD1 watershed is characterized by Shuneman Marsh, a large, ditched wetland complex just above the two stormwater ponds. Prior to discharging Bald Eagle Lake, JD1 passes through two stormwater ponds located just east of Highway 61 on the east side of Bald Eagle Lake. These ponds are often referred to as the "Highway 61 Ponds." The stormwater ponds were designed and constructed by the RCWD in 2003 to reduce phosphorus loading to Bald Eagle Lake. However, the ponds have not been surveyed or maintained since then, creating an opportunity for potential performance improvement.

1.2 Objectives

Based on years of water quality monitoring by District staff, significant phosphorus loading to Bald Eagle Lake is still occurring from the JD1 watershed with much of the loading comprised of dissolved and reactive phosphorus fractions (measured as ortho-phosphorus in this study) that traditional stormwater ponds struggle to remove. Consequently, there was a need to evaluate the level of watershed loading and the role of the stormwater ponds in reducing or maintaining watershed phosphorus loading. District staff determined that an evaluation of the stormwater ponds and their current functioning was warranted. The objectives of this study include:

1. Determine the level of phosphorus loading to Bald Eagle Lake under current conditions including phosphorus fractions (total phosphorus and ortho-phosphorus)
2. Evaluate the current function of the stormwater ponds for phosphorus and sediment removal and
3. Determine if there are feasible and cost-effective changes to improve the performance of the Highway 61 ponds

1.3 Data Gathering and Assessment Methods

Barr performed a comprehensive desktop and field review of the ponds to assess their current conditions, site constraints, utilities, bathymetry, and other pertinent information. Following is a brief description of the methods used for this assessment.

1.3.1 Desktop Review

Barr gathered and analyzed available data for the site, including the Bald Eagle Lake TMDL (Wenck 2012), the pond design plans (2001) and historic monitoring data from the RCWD (2001 through 2024). Barr also compiled and reviewed available GIS data including soils survey data, public waters inventory

data, national wetlands inventory data, LiDAR topography, current and historic aerial imagery, parcel data, and municipal boundaries. No as-built documentation was provided for the ponds; however, construction contract documents provided by RCWD determined that the ponds were constructed in 2003.

Placeholder for:

Figure 1-1 Pond Watersheds and Location

A review of the Minnesota Pollution Control Agency's (MPCA) "What's in My Neighborhood" (WIMN) database was conducted to identify potential sources of contamination within the project area. The review revealed no documented sites of concern within the immediate vicinity of the stormwater ponds. However, within the broader JD1 watershed, several environmental records were identified, including underground storage tanks (USTs), construction stormwater permits, and various remediation or cleanup sites. No high-priority pollutant sources or areas of significant environmental concern were identified within the watershed boundary.

1.3.2 Pond Survey

In November of 2024 Barr conducted a comprehensive topographic survey of both ponds. The survey scope included the acquisition of surface features such as ground elevations, vegetation (notably trees), culverts, overhead utilities, fences, and other relevant site infrastructure. A utility design locate was performed through Gopher State One Call to identify and mark subsurface utilities, including natural gas, water, sanitary sewer, and electrical lines. These utility features were subsequently incorporated into the topographic dataset.

The pond bottoms were surveyed to determine the existing sediment surface elevations. A systematic survey grid with 25-foot spacing was employed to ensure consistent spatial coverage and data resolution across the pond areas. In addition, the survey rod was driven into the sediments until refusal at each point to approximate the depth to a firm layer, providing data useful for assuming an as constructed condition. Historical construction drawings were referenced to support the interpretation of pond bottom conditions.

1.3.3 P8 Modeling

A P8 (Program for Predicting Polluting Particle Passage through Pits, Puddles, and Ponds, IEP, Inc., 1990) watershed runoff and pollutant loading computer model was developed to simulate hydrologic and water quality conditions for the drainage areas contributing to both the south and north ponds. GIS tools were utilized to delineate the contributing watershed and derive key hydrologic parameters, including land use classifications, impervious surface coverage, and runoff curve numbers. Historic rainfall data from the Minneapolis/St. Paul area was used to simulate hydrologic runoff from 2008 through 2024 when flow data were available from the District.

Hydraulic parameters were established using data obtained from the topographic survey. This included incorporating detailed pond bathymetry and surface infrastructure such as culverts and bridges into the model. These features were included to accurately represent flow conveyance and storage characteristics within the system pond system.

The RCWD has historically monitored flow at the outlet of the pond system along the JD1 channel near Hugo Road. A stage-discharge relationship (rating curve) developed by RCWD was applied as the outlet boundary condition in the P8 model. Additional model inputs were informed by monitoring data from Pine Tree Lake, previous studies of Shuneman Marsh, and pollutant loading assumptions from the 2012 Total Maximum Daily Load (TMDL) study for Bald Eagle Lake.

The P8 model was used to estimate pollutant loads, mainly total suspended solids (TSS) and total phosphorus (TP) delivered to the ponds from the upstream watershed. It also served to evaluate the sediment capture efficiency of the ponds and quantify the sediment retention performance of Shuneman Marsh.

The P8 model was validated by comparing simulated total runoff volume and depth against the values reported in the TMDL study. Additionally, modeled TSS and TP loads were evaluated relative to the TMDL benchmarks. All modeled outputs were found to be within acceptable tolerances, demonstrating consistency with the TMDL-reported values and supporting the model's reliability for watershed pollutant load estimation.

1.3.4 Sediment Coring

1.3.4.1 Sediment Phosphorus Fractionation and Sediment Phosphorus Release

Sediment cores were collected from two locations in the Highway 61 ponds on 11/19/2024 (Figure 1-2). The sediment sites were selected to represent the deep areas of the north and south ponds. It should be noted that sediments were collected based on filed estimates of the deep location prior to the development of the bathymetric map. A gravity sediment coring device (Aquatic Research Instruments, Hope ID) equipped with an acrylic core liner was used to collect sediment cores. Cores from each site were sectioned vertically at 5-cm intervals between 0-20 cm. All sediment sections were evaluated for mobile phosphorus fractions (loosely bound phosphorus (P), iron-bound P, labile organic P), as well as the inactive aluminum-bound P fraction.

Three replicate cores were collected at each site (one in the south pond and one in the north pond) and incubated in the laboratory under anoxic conditions to determine sediment P release rates. Redox conditions were controlled by gently bubbling nitrogen in the overlying water column throughout the 20-day incubation, creating an anaerobic environment. Three methods were used to estimate sediment P release rates (mass change over experimental period, regression over experimental period, and regression over period of greatest change) to provide a more comprehensive assessment of soluble reactive phosphorus (SRP) release.

1.3.4.2 Sediment Contamination and Disposal Options

Barr additionally assessed sediments from the pond to determine whether sediment, if excavated, could be used as fill or should be disposed of in a landfill. Barr personnel collected sediment samples from two coring locations and sent the samples to Pace Analytical to analyze the following parameters:

- Metals: arsenic, barium, cadmium, chromium, copper, lead, selenium, silver, and mercury
- Polycyclic aromatic hydrocarbons (PAHs)
- Benzene, toluene, ethylbenzene, and xylene (BTEX)
- Diesel range organics (DRO)
- Gasoline range organics (GRO)

Placeholder for:

Figure 1-2 Highway 61 Pond Bathymetry and Sediment Sampling Locations

1.3.5 Flow Estimation

RCWD conducted flow monitoring at the JD1.1 station, located at Hugo Road just downstream of the stormwater ponds, since 2001 with most of the data collected after 2008. Flow data at this site were collected using velocity meters and manual stream measurements, which were used to develop rating curves correlating water depth to flow rate.

To support continuous monitoring, a data logger installed near the JD1.1 station records water depth at 15-minute intervals, typically from April through November, depending on ice conditions. Approximately 25 discrete flow measurements, dating back to 2001, were used to calibrate and refine the rating curves (Figure 1-3).

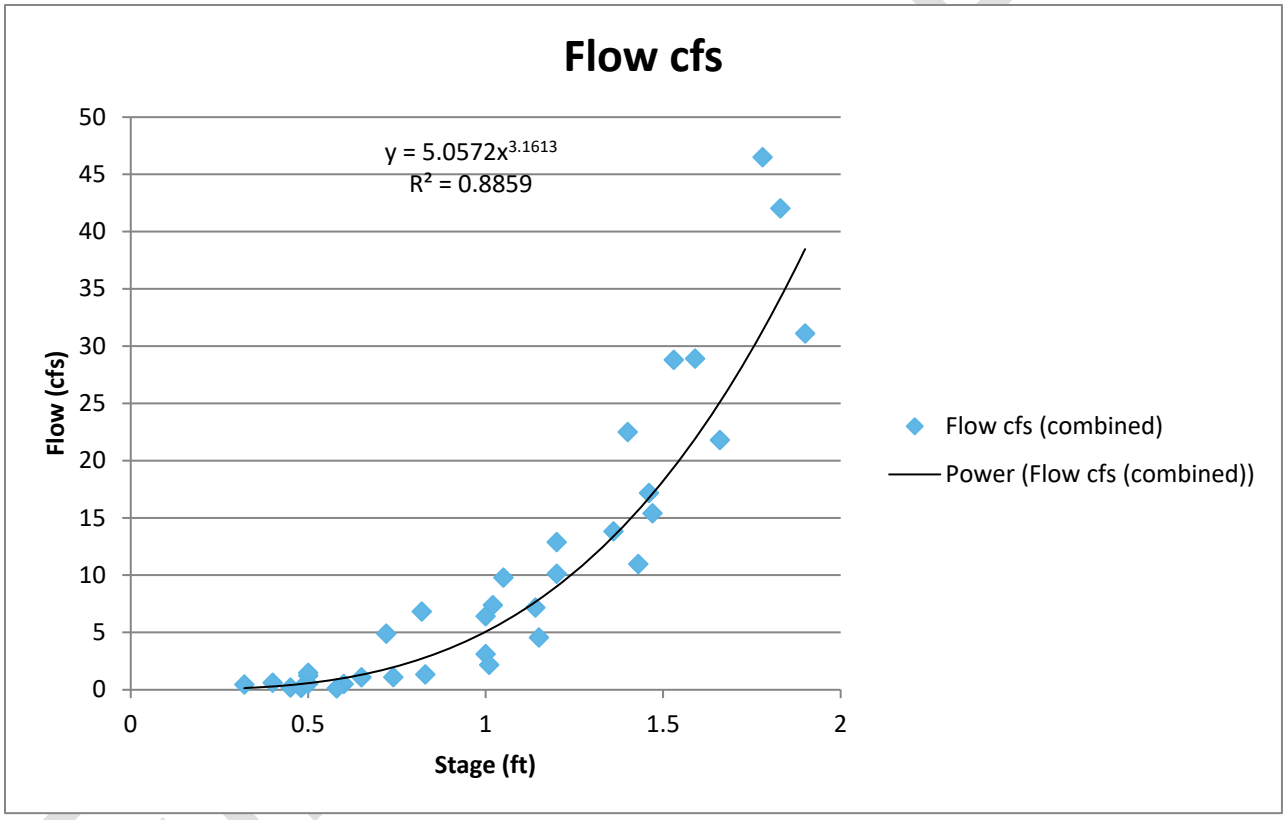


Figure 1-3 Flow rating curve for the outlet to the Highway 61 ponds

Using these rating curves, flow rates at the JD1.1 station generally range from 5 to 25 cubic feet per second (cfs), with peak flows commonly exceeding 50 cfs during high runoff events (Figure 1-4). The long-term average flow is estimated to range between 6 and 8 cfs annually.

The rating curve was developed primarily under low-flow or baseflow conditions, with limited representation of higher runoff events. The flow data used to construct the curve has an average discharge of approximately 10 cubic feet per second (cfs), with the highest recorded flow reaching 47 cfs. Corresponding water surface elevations were also relatively low, averaging 1.0 feet and peaking at 1.9 feet. These values indicate that the rating curve is based on a narrow range of low-stage conditions.

In contrast, the estimated maximum capacity of the box culvert beneath Highway 61 is approximately 200 cfs. This suggests that the current rating curve does not adequately capture the full range of potential flow conditions at the site. During high-flow events, it is likely that backwater effects from Bald Eagle Lake significantly influence the hydraulics at the JD1.1 monitoring station.

Given the absence of rating curve data points at higher stages and discharges, the extrapolation of the curve using a logarithmic function may result in overestimation of flows under high-stage conditions. This introduces uncertainty in flow estimates during storm events or other periods of elevated discharge.

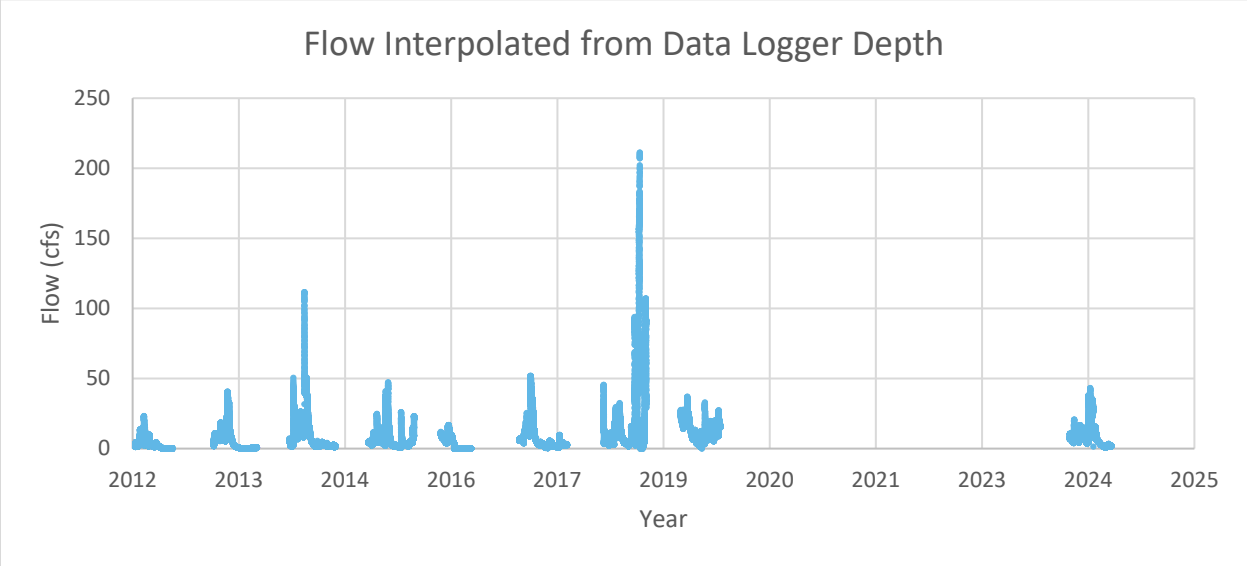


Figure 1-4 Flow Data from Site JD1.1

2 Highway 61 Ponds Functional Assessment

The first step in the pond evaluation was to determine the current conditions of the pond and current functioning for capturing total suspended solids, total phosphorus, and dissolved phosphorus fractions, particularly SRP. To evaluate the pond's current functioning, the following components were evaluated:

- current physical conditions and hydraulic functioning of the ponds,
- water quality conditions in the inflow and outflow of the ponds,
- sediment and phosphorus retention and build-up in the ponds,
- a water quality assessment of the ponds and inflows, and
- a phosphorus budget for the ponds.

2.1 Watershed and Pond Physical Characteristics

The Highway 61 ponds are located just east of Highway 61 bisected by Meehan Drive in White Bear Township (Figure 1-1). The primary drainage to the ponds and ultimately Bald Eagle Lake encompasses a total area of approximately 8,020 acres flowing through JD1 discharging through the two Highway 61 Ponds (**Error! Reference source not found.**). A small area (260 acres) discharges directly into the North Pond via a contiguous wetland complex. The watershed features a diverse mix of land uses, including impervious surfaces (e.g., buildings, roadways, and developed areas), forested regions, wetlands, open water bodies, and agricultural lands. Impervious surfaces account for approximately 8% of the total drainage area contributing to the ponds.

The south pond receives the majority of its runoff from Shuneman Marsh with a small residential drainage area between the marsh and the pond contributing stormwater.

2.1.1 Current Conditions

The north and south ponds were surveyed on November 14-15, 2024 to determine current depths and water volumes (Table 2-1; Figure 1-2). Both ponds were determined to be small and shallow (total area of 2.3 acres and a total volume of 4.4 acre-feet). The south pond receives flow from the majority of the JD1 watershed (7,760 acres) which flows through Shuneman Marsh prior to discharging to the north pond. While the south pond is the larger of the two ponds, it is still small (1.6 acres) and shallow (maximum depth of 7 feet) with an average residence time of 0.8 days (Table 2-2). The north pond receives stormwater from the south pond and small drainage (260 acres) comprised primarily of wetlands. The north pond is also small (0.7 acres) and shallow (maximum depth of 6 feet) with an average residence time of 0.4 days.

Table 2-1 Bathymetry Characteristics assuming a water elevation of 911 feet

Elevation (ft)	Depth (ft)	North Pond		South Pond	
		Area (ac)	Volume (ac-ft)	Area (ac)	Volume (ac-ft)
911	0	0.73	2.2	1.56	4.4
910	1	0.63	0.68	1.29	1.4
909	2	0.46	0.54	1.00	1.1
908	3	0.30	0.38	0.70	0.84
907	4	0.22	0.26	0.41	0.55
906	5	0.15	0.18	0.17	0.28
905	6	0.05	0.09	0.09	0.13
904	7	0.00	0.02	0.01	0.04

Table 2-2 Physical Characteristics of Ponds

Parameter	North Pond	South Pond
Surface Area (ac)	0.7	1.6
Volume (ac-ft)	2.1	4.4
Average Depth (ft)	3.0	2.8
Max Depth (ft)	7	8
Residence Time (days)	0.4	0.8
Watershed Area (ac)	8,020	7,760
Observed Water Level	911.11	911.11
Bald Eagle Lake Average Water Level	910.92	
Bald Eagle Lake OHWL	911.87	

The short residence time of the ponds is significant and suggests they can replace the pond volume multiple times a day during wet conditions, minimizing the ability of the ponds to settle particulate phosphorus or for algae to grow and process dissolved fractions. This high flushing rate suggests that the ponds will have poor ability to sequester and maintain both particulate and dissolved phosphorus fractions.

2.1.2 Hydrologic and Hydraulic Functioning

The hydrologic and hydraulic functioning of the ponds are important factors affecting retention of not only suspended particulates but also dissolved nutrients. The following are some key findings regarding the hydrologic and hydraulic functioning of the ponds.

2.1.2.1 Backwater Effects from Bald Eagle Lake

The primary hydraulic control on the pond outflow is the culvert beneath Hugo Road, which has an invert elevation of 910.20 feet. This is the highest invert among the series of culverts along the downstream flow path, making it the effective control point for pond water levels. Other downstream culverts located at the railroad crossing, Highway 61, and Meehan Drive have lower invert elevations and therefore do not influence the normal water surface elevation of the pond system (Figure 2-1).

The surveyed water surface elevation of the pond was 911.11 feet, which is nearly the same elevation as the Minnesota Department of Natural Resources (MNDNR) long-term average lake elevation for Bald Eagle Lake (910.92 feet.) Further, the Ordinary High Water Level (OHWL) of Bald Eagle Lake is 911.87 feet, indicating that the pond is typically operating below Bald Eagle Lake's OHWL but within the range of potential backwater influence.

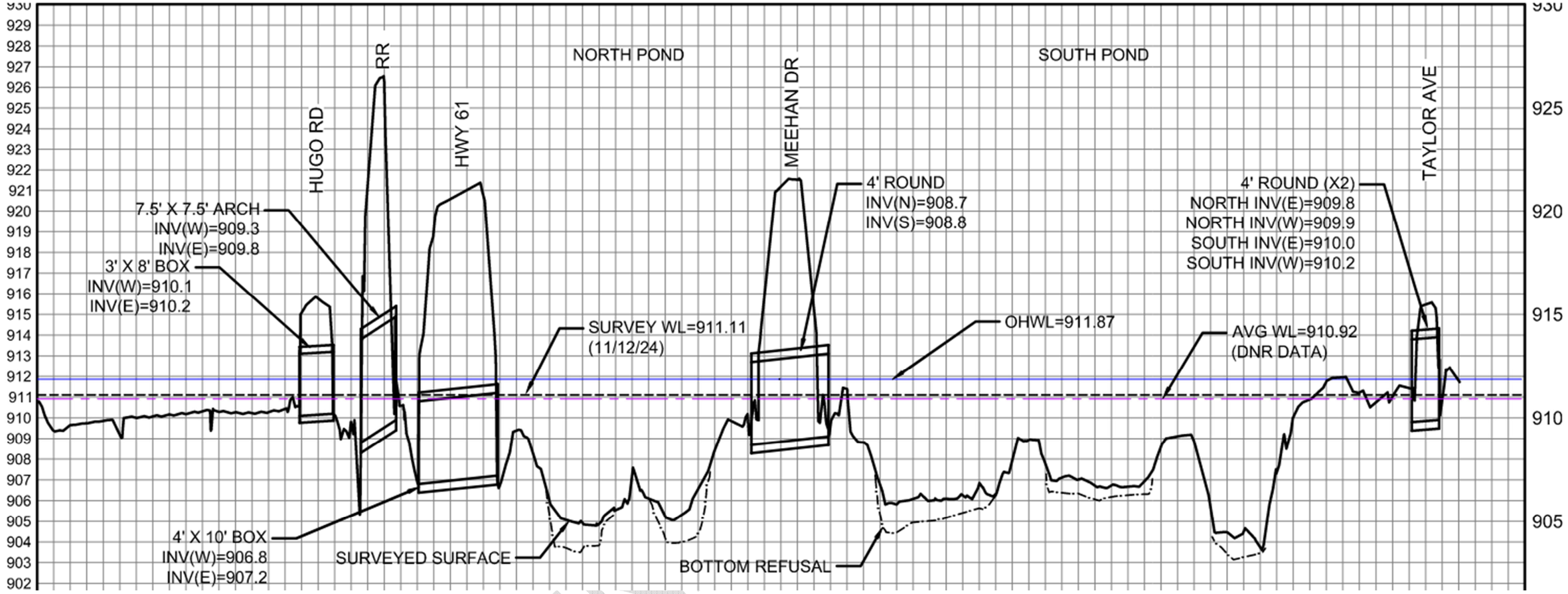


Figure 2-1 Longitudinal survey of the Highway 61 ponds.

2.1.2.2 Pond Outlet Hydraulics

The current configuration of the pond outlet to Bald Eagle Lake results in a skimming effect, where only water below the pond surface enters the culvert. The outlet from the two ponds is a 4-foot by 10-foot box culvert under Highway 61 (top of culvert 910.8 feet), which is set approximately 3 feet below the Hugo Road culvert invert (Figure 2-1). Due to this elevation difference, water does not naturally flow through the Highway 61 culvert unless sufficient hydraulic head is present. As a result, floatable materials such as debris, duckweed, and pond scum are retained within the pond unless water levels drop significantly and flow from the JD1 system is sufficient for water to flow through the culvert. Most of the recorded water levels at the from the ponds are above the top of the culvert under Highway 61, indicating the skimming effect of the ponds (Figure 2-2). It is unclear whether this hydraulic configuration was an intentional design feature of the ponds. However, the effect is that floating vegetation and debris may remain in the pond for extended periods, independent of the pond's hydraulic residence time.

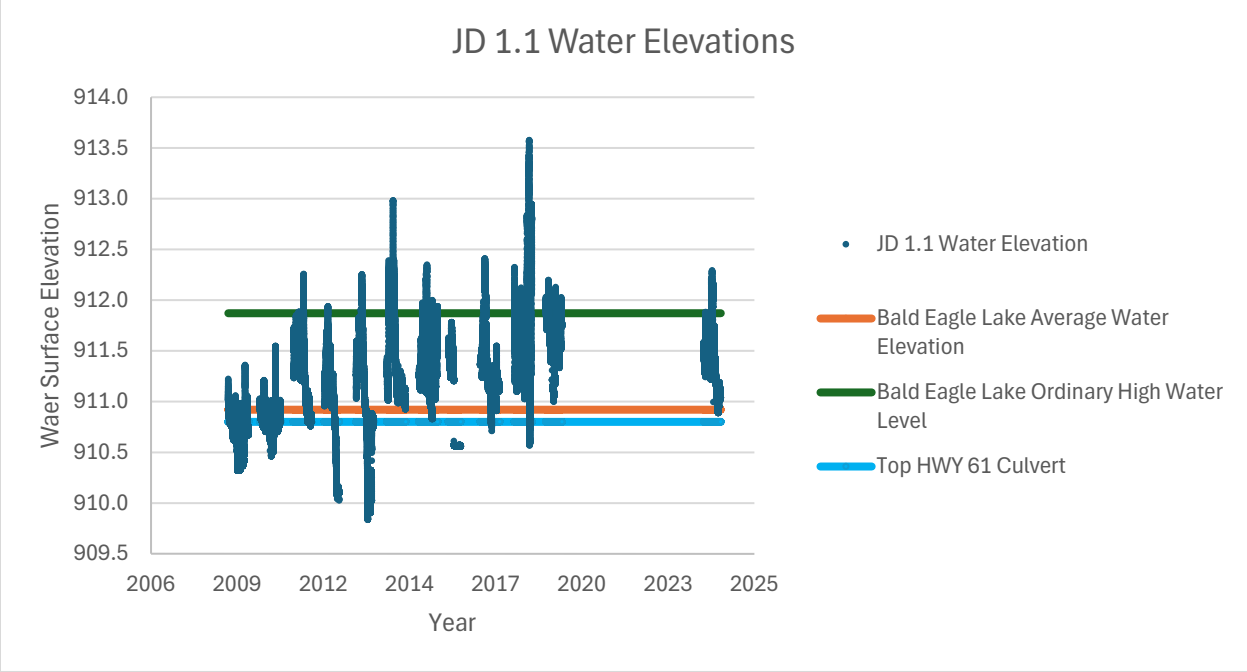


Figure 2-2 Water Elevations for Bald Eagle Lake (OHWL and average water surface elevation) compared to the JD1.1 monitoring site elevation.

2.2 Pond Sedimentation and Phosphorus Retention

2.2.1 Observed Sediment Accumulation

To assess sediment accumulation in the ponds, the topographic survey data was used to interpolate the current sediment surface. During the survey, the survey rod was pushed through the sediment and underlying soft soils until reaching a firm layer, which was interpreted as the original constructed bottom of the pond. For the purpose of this analysis, this firm layer was used as the reference point for estimating sediment depth.

Design plans indicated that the south pond was originally built with three smaller internal basins, while the north pond had two (Figure 2-3). This layout was likely intended to concentrate sediment collection in specific areas rather than allowing it to spread throughout the entire pond. The survey confirmed that these internal basins were generally present as designed, although the actual depths and surface areas showed some variation from the original plans.

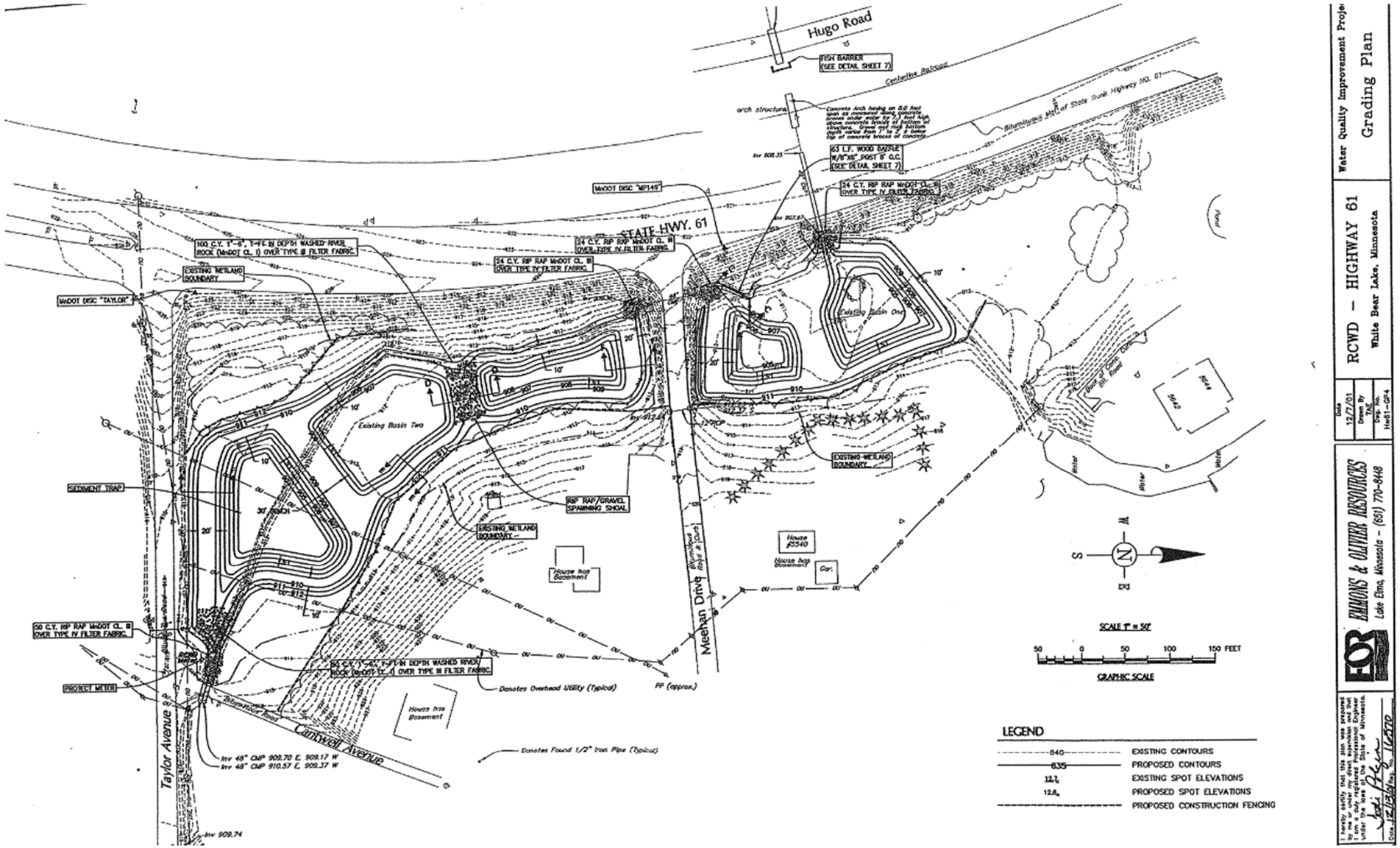


Figure 2-3 Design Plans for Highway 61 **Ponds**

During surveying, there were several observations made for all areas of the pond as described below.

- **South Pond**
  - Southern Basin-A had a very loose/mucky layer 2-3 feet deep before the survey rod could be supported at the top of sediment layer. There was approximately 12-inches of more stable sediment that the rod pushed through before hitting refusal.
  - North and Middle Basins: Some loose sediment existed, but a consistent 8-inch layer of sediment was pushed through before encountering refusal.
- **North Pond**
  - Minimal sediment accumulation was observed. However, the underlying material was notably softer than that of the South Pond, allowing the survey rod to penetrate more easily. The difference between the sediment surface and the refusal layer was approximately 12 inches, though this depth did not appear to represent true sediment deposition, but rather softer native material.

To estimate the sediment accumulation in both ponds, the difference between the top of sediment layer and refusal layer was compared (Table 2-3). It should be noted these estimates are based on depth to refusal measurements which may or may not represent accumulated sediment. However, this estimate does represent likely "mucky" areas of the pond that could be removed to increase pond volume. Estimated volumes of loose sediments were approximately 10% of the overall volume of the ponds with both the north and south basins demonstrating similar sediment accumulations. If the ponds were constructed in 2002 (22 years prior), the sedimentation rate is approximately 46 cubic yards per year and would take over 100 years to fill in 50% of the pond. The sediment survey did not suggest that the pond is accumulating sediment at a high rate.

Table 2-3 Estimated sediment deposit volumes in the North and South Ponds

	South Pond		North Pond	
	Accumulated Sediment (CY)	% Pond Volume	Accumulated Sediment (CY)	% Pond Volume
South Basin	331	5%	119	4%
Middle Basin	177	2%	--	--
North Basin	142	2%	239	7%
TOTAL	**650**	**9%**	**358**	**11%**

P8 mass loading was also used to estimate pond sediment accumulation rates. Based on the P8 model for this watershed, the average annual TSS load delivered to the south pond is 25 tons/year and 59 tons/year for the north pond. Using the sediment core data, the bulk density of 1.03 g/cm^3 would suggest a sediment delivery of 29 cubic yards per year to the south pond and 34 cubic yards per year to the north pond. Since the pond has been constructed for 22 years, it would be anticipated that the south pond would accumulate 620 CY of sediment and the north pond would accumulate 759 CY of sediment during the same time period. While the south pond estimated sediment volume from the survey nearly matches the predicted, the north pond appears to overpredict sediment accumulation suggesting that more may be leaving the ponds or inflow rates are lower. However, both ponds are still functioning with sediment storage excess available storage volume.

2.2.2 Pond Sediment Contaminant Testing Results

Sediment samples were collected from both ponds to determine sediment contamination and disposal options. Soil sample results indicate that the north pond contains arsenic concentrations exceeding the MPCA's commercial chronic soil reference value (SRV), while the south pond contains barium concentrations above the residential acute SRV. Both of these parameters also exceed the criteria for unregulated fill. Based on these results, sediment excavated from the ponds would need to be hauled to a certified landfill for proper disposal. A complete list of parameters and results are included in Appendix B.

2.2.3 Phosphorus Retention

P8 estimates the amount of phosphorus retained through settling or lost through infiltration. Since there are no indications of water loss through infiltration (the pond is close to surficial groundwater). The ponds can capture larger particles but do not provide enough TSS or TP reduction from the watershed to meet target reductions of 45% TP and 80% TSS removal (Table 2-4). Overall TP removal for the ponds is less than 6% of the overall total phosphorus loading. In contrast, P8 results suggest that Shuneman Marsh provides a significant amount of sediment reduction and nearly 45% total phosphorus reduction for the contributing watersheds as a result of particulate P settling. These results do not account for potential phosphorus recycling in Shuneman Marsh where particulate phosphorus may be transformed into dissolved phosphorus fractions that can be exported downstream.

Table 2-4 P8 Estimated Load Reductions for the Highway 61 Ponds

Variable	Load Reduction (%)		
	South Pond	North Pond	Shuneman Marsh
P0%	<1%	<1%	<1%
P10%	7.9	4.3	86.8
P30%	36.3	22.7	93.7
P50%	63.7	49.2	97.6
P80%	88.9	83.6	99.7
TSS	50.9	37.7	95.3
TP	6.2	4.8	44.9

While the ponds are only capturing a small proportion of phosphorus from watershed loading, they do appear to retain some phosphorus. P8 predicted the ponds retained approximately 75 pounds of phosphorus annually with the highest retentions in the summer growing season (June 1 through September 30; Table 2-5).

Table 2-5 Average Monthly Phosphorus Retention in Hwy 61 Ponds from P8 Results

Month	North Pond P Retention (lbs)	South Pond P Retention (lbs)
Jan	**0.3**	**0.3**
Feb	0.9	1.1
Mar	3.0	3.6
Apr	4.0	4.6
May	4.3	5.0
Jun	4.7	5.4
Jul	4.5	5.2
Aug	4.7	5.4
Sept	2.7	3.1
Oct	3.2	3.8
Nov	1.4	1.6
Dec	1.2	1.4
TOTAL	**34.9**	**40.5**

2.3 Pond Water Quality

Water quality and discharge monitoring was provided by the RCWD for the outflow of the ponds (JD1.1) and the inflow into the ponds (JD1) (Figure 2-4; Table 2-6). It should be noted that the data at JD1, the inflow to the ponds from Shuneman Marsh, is older data with the data ending in 2002. However, these data still provide some context for upstream water quality conditions and were used to better describe water quality functioning in the ponds.

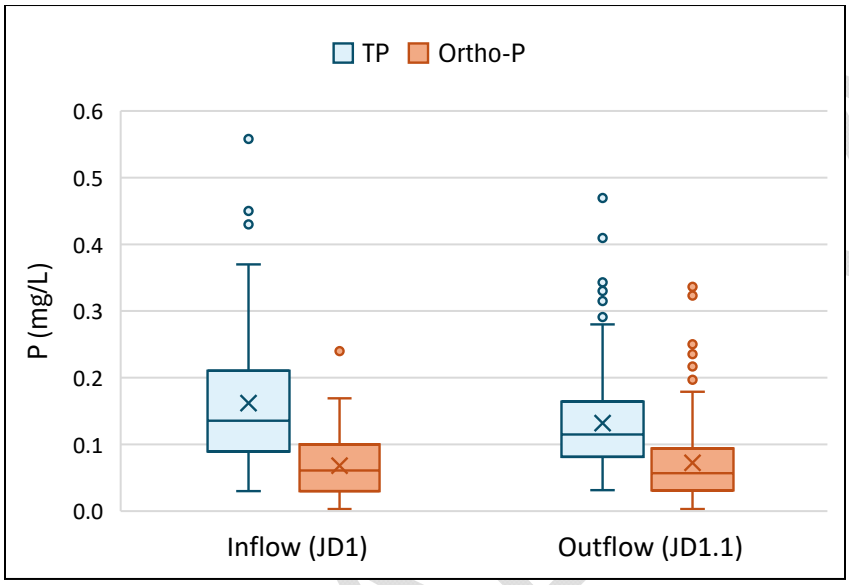
Table 2-6 Data Provided by Rice Creek Watershed District

Monitoring Site	Flow Period	Water Quality Period
JD1.1	2008–2024	2008 – 2023, 2025 (March-May)
JD1	1998–2002	1998 – 2002, 2025 (March-May)

Placeholder for:

Figure 2-4 Water Quality Sampling Sites

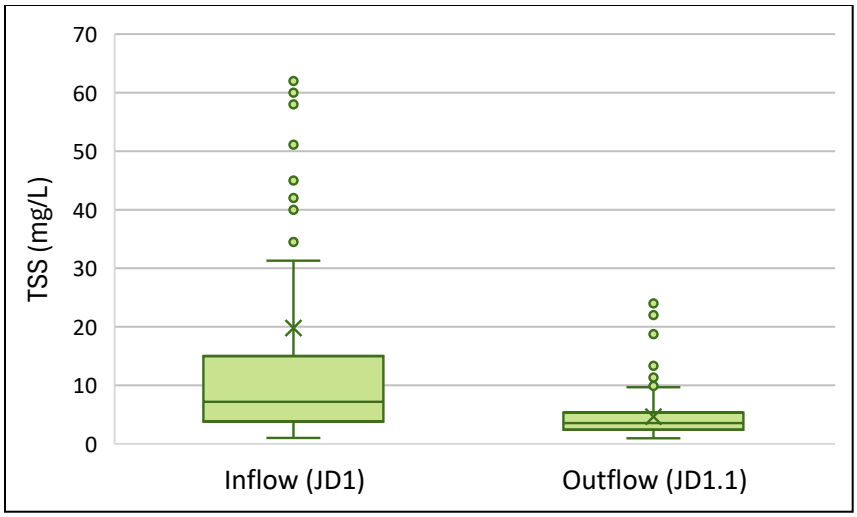
While the monitoring periods are different for JD1 (pond inflow) and JD1.1 (pond outflow to Bald Eagle Lake), a comparison of total phosphorus and ortho-phosphorus provides some insight into the functioning of the ponds. Total phosphorus concentrations at the outflow were marginally lower than inflow concentrations suggesting the ponds are retaining some phosphorus (Figure 2-5). However, peak concentrations were still high at the outflow reaching almost 0.35 mg/L. In contrast, ortho-phosphorus (a dissolved reactive form of phosphorus), was similar in inflow and outflow concentrations suggesting the ponds have little influence on ortho-phosphorus concentrations. Further, on average, ortho-phosphorus represented 46% of the inflow phosphorus and 50% of the outflow phosphorus suggesting the ponds may, at times, add ortho-phosphorus to the outflow phosphorus load. The high proportion of outflow ortho-phosphorus is problematic in that this species of phosphorus is readily available for algal uptake and growth. Additionally, ponds are designed to settle particulate phosphorus and have little benefit for removing dissolved phosphorus fractions.



X= mean; lines are median, 25th and 75th percentile;
whiskers are min and max within 1.5 x the interquartile range (IQR);
points are outliers.

Figure 2-5 Inflow vs Outflow Phosphorus Concentrations

TSS were typically low at both the inlet and outlet of the ponds with outflow concentrations lower suggesting the ponds are effectively settling TSS (Figure 2-6). Peak TSS concentrations at the inflow were relatively high at times exceeding 60 mg/L while outflow concentrations never exceeded 25 mg/L. Inflows to both ponds flow through large wetland complex that are effective at settling suspended solids. High TSS values are likely the results of sediment resuspension, flushing of organic matter from the wetlands, or algal production in the slow-moving ditches. Overall, TSS data suggest that even though inlet TSS concentrations are low at the inlet, the ponds are effectively reducing sediment loads from the watershed and wetland complexes.



Inflow boxplot does not show all outliers.
Outliers include 4 measurements ranging from 91 to 300 mg/L.
Outliers occurred in April, August, and September of 1998.

Figure 2-6 Inflow vs. Outflow TSS Concentrations

Annual trends at the outlet of the ponds were fairly consistent year over year, especially 2014 through 2022 with concentrations typically between 0.1 and 0.2 mg/L with about half in the ortho-phosphorus fraction (Figure 2-7). The stream eutrophication criteria is 0.100 mg/L as a growing season average. While the standard is not focused on requirements to meet the Bald Eagle Lake TMDL, average concentrations exceed this value in most years.

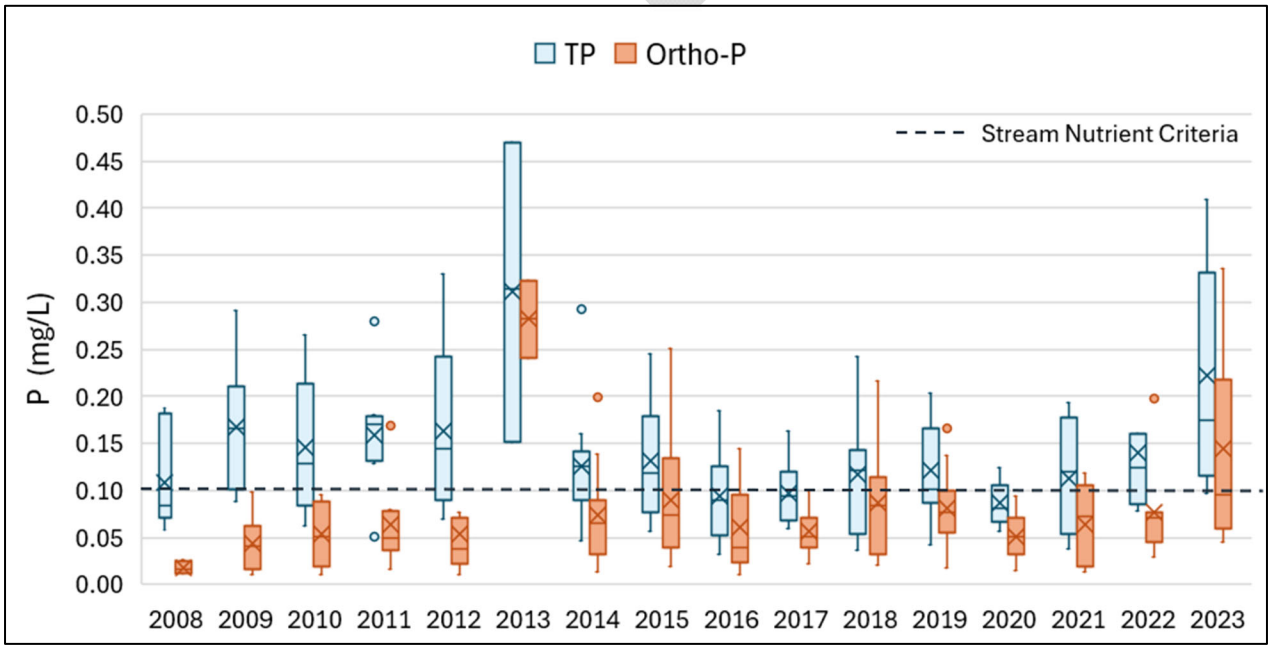


Figure 2-7 Annual JD1.1 Phosphorus Concentrations 2008-2023

Monthly patterns in total and ortho-phosphorus follow the growing season with higher concentrations during snowmelt (March) and then increasing concentrations May through August as water temperatures increase and more anoxia occurs in the ponds and in the wetlands that discharge to the ponds (Figure 2-8). Concentration then decreases as water temperatures cool. Anoxia is reduced and wetland vegetation begins storing phosphorus for the winter. These patterns suggest that the greatest release of phosphorus is during the growing season with peak concentrations at the period of greatest sensitivity for algal growth in Bald Eagle Lake.

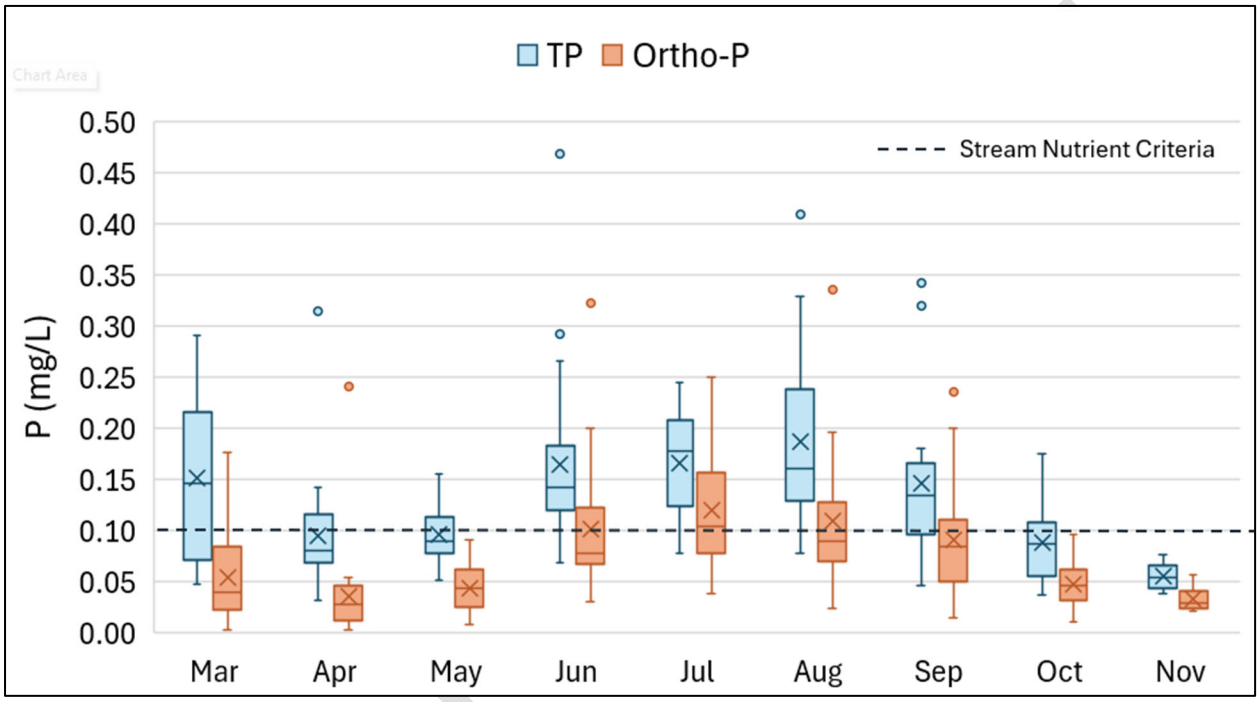


Figure 2-8 Monthly JD1.1 Phosphorus Concentrations

Flow related concentrations and loads were evaluated using flow duration curves to determine the flow conditions where high concentrations and high loads occur Figure 2-10 and Figure 2-11. Flow duration curves sort flows by probability of occurrence with high flows at the lower occurrence frequency and low flows at the highest frequency with median flow at 50% occurrence. So, concentrations and loads are sorted from high to low flow from left to right on the graph.

Total and soluble reactive phosphorus concentrations were high across all of the flow regimes suggesting consistent phosphorus loading regardless of flow condition. There does not appear to be a flush from the wetlands where concentrations drop during high flow events, essentially flushing out a built-up phosphorus pool.

Loading for both total and soluble reactive phosphorus was highest at high flows even though concentrations were high across the flow regime of the ponds (Figure 2-9). This is consistent with concentration pattens where high concentrations were observed across all flow regimes and suggests that the phosphorus source is consistently available even during high flows. High phosphorus concentrations during high flow periods result in large pulses of nutrients from the ponds into Bald Eagle Lake (Figure 2-10). These results suggest that while loading occurs at both low and high flows, the greatest loading occurs during high flows and that phosphorus sources are resistant to flushing.

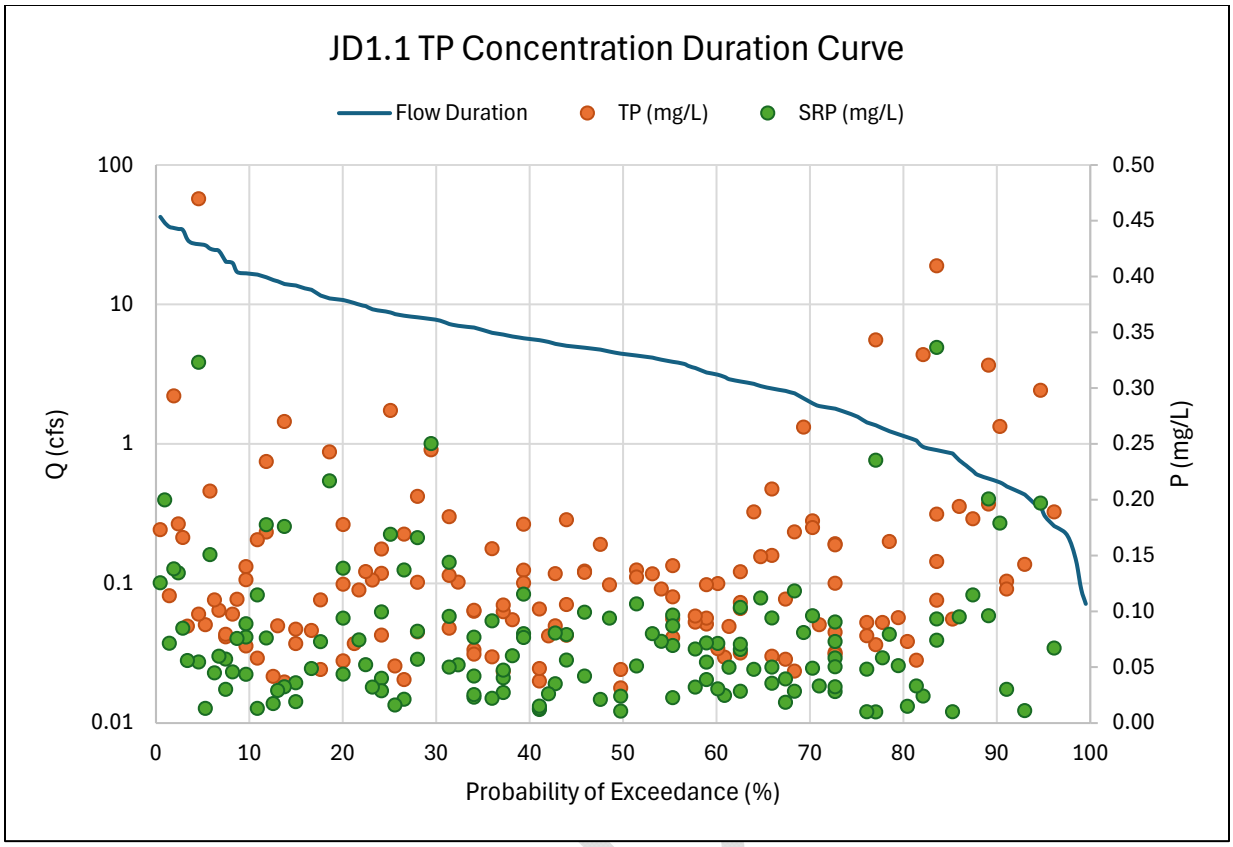


Figure 2-9 **Flow Duration Curve and Phosphorus Concentrations at the Outlet of the Highway 61 Ponds**

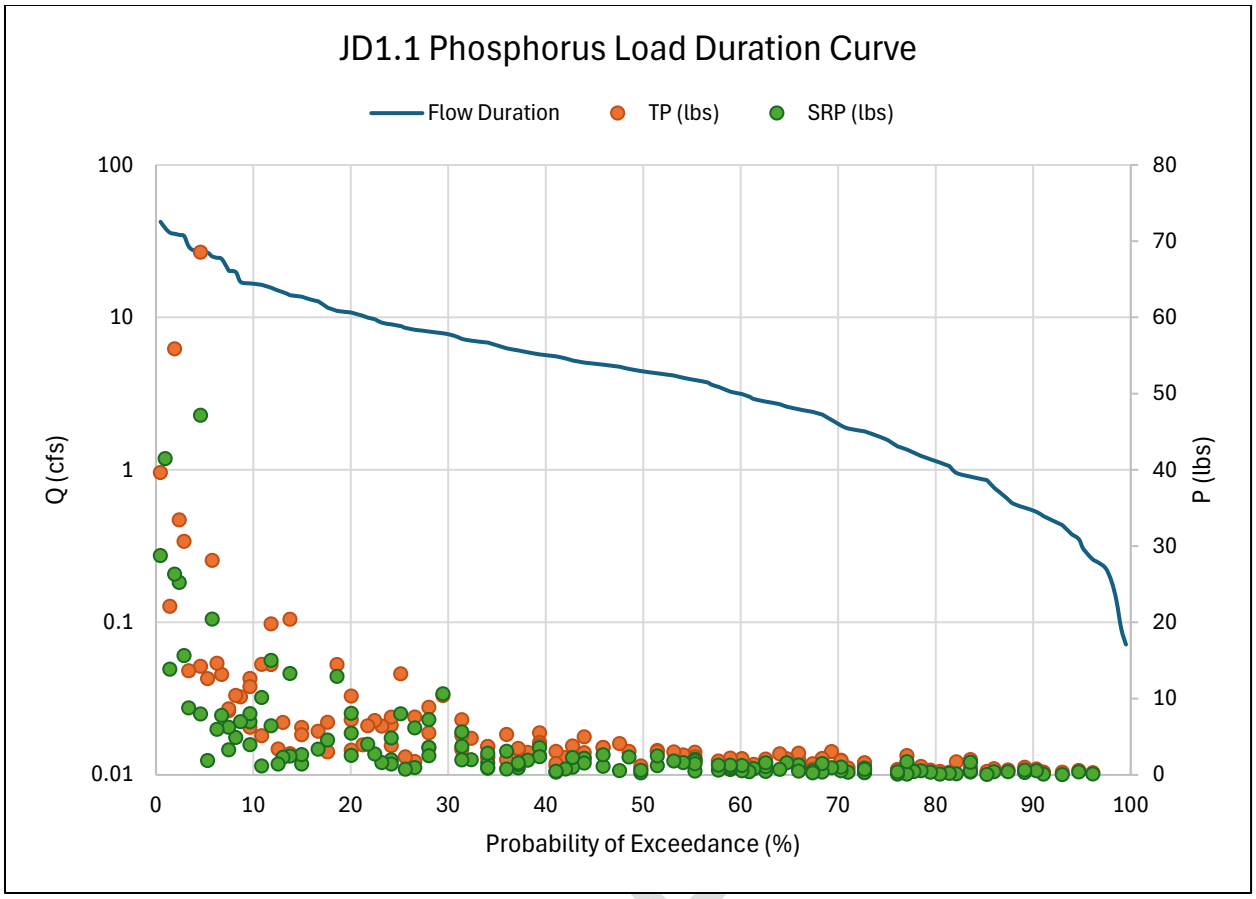


Figure 2-10 Load Duration Curve for Phosphorus at the Outlet of the Highway 61 Ponds

High loading from the ponds at high flows and the high flushing rates of the ponds suggest that the ponds are having relatively little impact on phosphorus flushing from the system and that soluble phosphorus fractions flush into Bald Eagle Lake which may contribute to algal blooms.

2.4 Pond Phosphorus Budgets

Barr developed a simple phosphorus budget for the ponds to better understand phosphorus sources and delivery to Bald Eagle Lake.

2.5 Watershed Loading

Watershed loading was estimated using P8 for the south and north ponds (Table 2-7 and Table 2-8). Dissolved phosphorus loads were high representing as much as 75% of the phosphorus loading to the ponds.

Table 2-7 Average Monthly P8 Estimated Phosphorus and Sediment Loads

Month	North TP Load (lb/yr)	North DP Load (lb/yr)	North TSS (lbs/yr)
Jan	21	12	84
Feb	18	12	174
Mar	77	64	445
Apr	80	66	371
May	74	48	386
Jun	69	5	1,382
Jul	67	38	380
Aug	80	59	494
Sept	65	55	370
Oct	50	30	312
Nov	40	29	169
Dec	34	32	197
TOTAL	**675**	**490**	**3,763**

Table 2-8 Average Monthly P8 Estimated Phosphorus and Sediment Loads

Month	South TP Load (lb/yr)	South DP Load (lb/yr)	South TSS (lbs/yr)
Jan	20	11	41
Feb	16	10	85
Mar	68	54	264
Apr	72	56	207
May	64	39	213
Jun	60	5	1,206
Jul	58	31	200
Aug	70	48	276
Sept	59	47	217
Oct	45	26	158
Nov	38	27	89
Dec	32	29	98
TOTAL	**602**	**454**	**2,053**

2.6 Internal Phosphorus Loading

Internal phosphorus loading was measured in the laboratory under anoxic conditions (Table 2-9). Both ponds demonstrated a high potential release rate (7.6 mg/m^2/day) with the south pond having an average rate of 7 mg/m^2/day. Sediment P release rates in the north pond were lower, averaging closer to 4.4 mg/m^2/day.

Table 2-9 Average P Release Rates in Highway 61 Ponds

Station	Overall P Release (mass) (mg SRP/m^2/day)	Overall P Release (regression) (mg SRP/m^2/day)	Max P Release (regression) (mg SRP/m^2/day)
North	4.3	4.4	7.6
South	6.9	7.0	7.6

Dissolved oxygen data were not available in the ponds, so annual loads were calculated using Nürnberg's (2005) shallow lake equation for quantifying internal loads in polymictic lakes (Table 2-10). Although sediment P release rates were relatively high, mass phosphorus release was relatively small releasing about 2 and 7 pounds annually for the north and south ponds, respectively. Even if the ponds are anoxic all growing season, the mass load for the North and South Pond would only increase to 4 and 12 pounds, respectively.

Table 2-10 Annual Internal Load Summary for Highway 61 Ponds

Station	Internal Annual Load (mg/m^2/year)	Annual Load (lb/year)	Maximum Annual Load (122 days) (lbs/yr)
North	335.3	2.3	3.6
South	490.7	6.8	11.8

2.7 Pond Phosphorus Budget

Phosphorus loading in both ponds is dominated by watershed runoff with internal loading only representing 9 pounds out of a total of 706 pounds that makes it to Bald Eagle Lake (Figure 2-11). The majority of inflow to the South Pond comes from Shuneman Marsh which is likely acting as a transformer of phosphorus, settling particulate P, and releasing phosphorus in a soluble, reactive form during the growing season. The north pond receives an additional 118 pounds from the large wetland complex to the north of the pond.

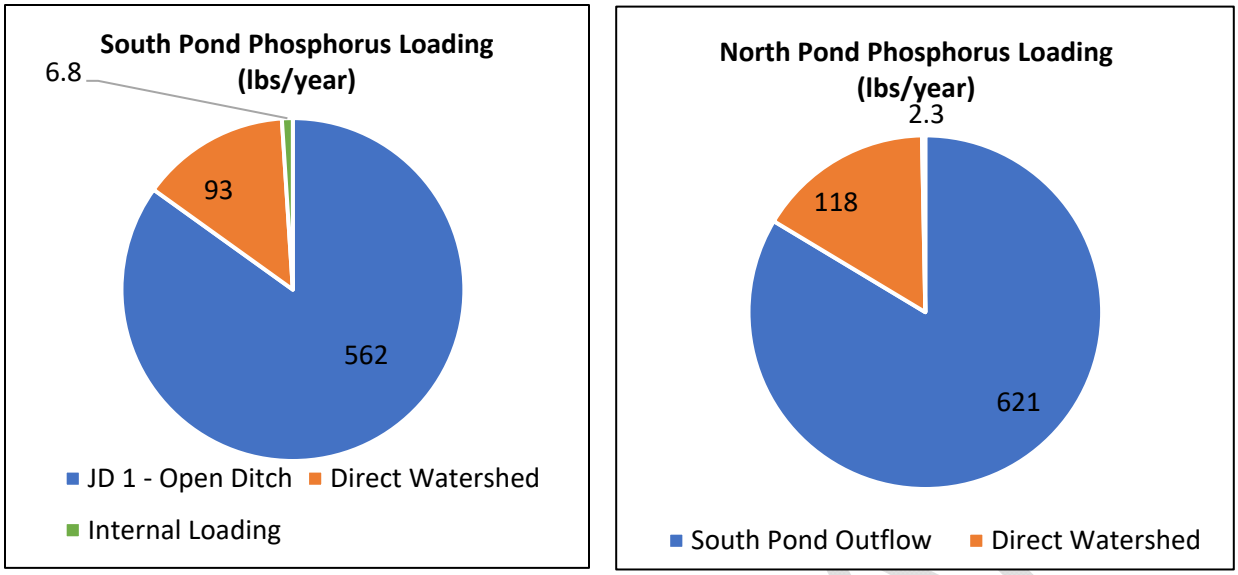


Figure 2-11 Inflow Phosphorus Budget for Highway 61 Ponds

Overall, the ponds are only capturing 76 pounds of phosphorus annually, while passing 706 pounds of phosphorus. This represents less than 11% net retention (Table 2-11). While internal loading rates were high in the ponds, mass loading is low, with only 9 pounds of phosphorus released from the sediments.

Table 2-11 Highway 61 Ponds Phosphorus Budget

Source	South Pond	North Pond
Inflow (lbs/yr)	562	621
Direct Watershed (lbs/yr)	93	118
Internal Loading (lbs/yr)	6.8	2.3
Settling (lbs/yr)	-41	-35
Total Outflow (lbs/yr)	**621**	**706**

3 Pond Improvement Scenarios

3.1 Phosphorus Source Summary

A review of the phosphorus budget, water quality data, pond hydrology and hydraulics, and physical conditions suggest:

- The ponds are extremely undersized for the watershed area limiting the settling capacity of the ponds and increasing the flushing rate.
- The ponds discharge from below the water line allowing for surface vegetation to form which might increase anoxia and sediment phosphorus release.
- Sediment phosphorus release from the ponds is a relatively small proportion of the overall phosphorus load leaving the ponds.
- Upstream wetlands likely act as transformers of phosphorus, settling particulate P and releasing soluble P.
- The majority of the phosphorus loading (~75%) into the ponds is in soluble form; the pond is not effective at removing soluble phosphorus.
- Phosphorus loading is likely episodic with the largest proportion of the phosphorus load coming from large storm events with sustained high phosphorus concentrations.
- The JD1 watershed has the potential to deliver large, episodic pulses of phosphorus to Bald Eagle Lake and is critical in the long-term management of Bald Eagle Lake.

With this understanding of how the Highway 61 ponds are functioning, several potential improvements were evaluated to determine if changes to the ponds or pond management could improve phosphorus retention and decrease phosphorus loading to Bald Eagle Lake.

3.2 Eliminated Phosphorus Reduction Strategies

Barr representatives met with RCWD personnel to discuss potential options for improving the Highway 61 Ponds. Initial discussions suggested projects that require a high level of operation and maintenance are less desirable options due to potential staffing demands and maintenance costs. It was also recognized that JD1 is a public ditch where current drainage must be maintained. Based on these discussions and the results of the water quality and physical assessment, the following approaches were eliminated from consideration for this study:

- Pond expansion for increased settling
- Infiltration and/or filtration
- Reducing pond discharge through increased evapotranspiration
- Episodic water column stripping
- Aeration
- Alternative P binders

While some of these strategies may be considered in future iterations, they have significant challenges given high maintenance requirements, site constraints, and limitations on effectiveness. Each of these approaches is discussed briefly in the following sections.

3.2.1 Pond Expansion

General guidance for stormwater pond sizing specifies that the required storage volume should be equivalent to a 2.5 runoff volume generated by over 24 hours. Based on these criteria, the required storage volume is approximately 128 acre-feet (Table 3-1). However, the storage capacity surveyed within the existing ponds is only 5.5 acre-feet which is significantly below the required volume to meet NURP standards.

Table 3-1 Pond Requirements to Achieve 45% Phosphorus and 80% Total Suspended Solids Removal

Pond System	Contributing Impervious Surface Drainage Area (acres)	Required NURP Storage Volume (ac-ft)	Existing Storage Volume (ac-ft)	Storage Deficit to meet NURP Standards (Ac-ft)
Combined Ponds	618	128	5.5	122.5

There is limited potential to increase the depth of the South Pond; however, the additional storage capacity of up to approximately 700 cubic yards (0.4 acre-feet) could be provided. Minor expansion to the east is feasible and could yield an additional 0.3 acre-feet of volume. Despite these modifications, the total gain in storage would remain insufficient to meet the NURP volume standard.

The North Pond also has limited opportunity for deepening due to safety and stability constraints. However, lateral expansion to the north could potentially double its current volume to approximately 1.4 acre-feet. This option would necessitate extensive wetland permitting, which may render the approach cost-prohibitive—especially considering that even with expansion, the total volume would still fall well short of the NURP standard.

The survey comparison and volume calculations for sediment storage capacity presented in Section 2 indicate that the ponds are not filling in at the anticipated rate and are also not in need for immediate cleaning maintenance. The majority of the accumulated sediment based on the survey is in the southern basin of the South Pond. This area could be cleaned out; however, there is not an immediate need for this based on the sediment delivery and available sediment storage capacity.

3.2.2 Infiltration and Filtration

A conceptual review of both infiltration and filtration practices was conducted to explore their potential for reducing stormwater volume and pollutant loading out of the ponds. These methods aim to reduce the amount of runoff and/or associated nutrients reaching Bald Eagle Lake, which in turn could lower TSS and TP levels, improving overall pond performance.

The ponds' proximity to Bald Eagle Lake and assumed elevation above the groundwater table limits the feasibility of infiltration. The ponds are influenced by both surface water and shallow groundwater from Bald Eagle Lake and the surrounding wetland complex. These hydrologic connections suggest that groundwater levels are likely high, which reduces the ability of stormwater to infiltrate into the ground effectively.

Filtration methods such as engineered soil systems or subsurface treatment layers (iron enhanced sand filters) were also considered. These systems require dry conditions below the surface to function properly and need enough elevation difference to allow water to move through the filter media. At the pond locations, shallow groundwater and limited elevation change between the ponds and Bald Eagle Lake make these conditions difficult to achieve. Further, the outlet of the ponds is already submerged and would require alteration to provide enough head to drive a filter system.

Based on this high-level assessment, neither infiltration nor filtration appear to be a practical or cost-effective solution at the pond sites due to the influence of groundwater and surface water. While other parts of the watershed may offer better conditions for infiltration, evaluating those areas was beyond the scope of this review.

3.2.3 Reduce Pond Discharge through Wetland Evapotranspiration

The wetland complex that drains into the north pond could be considered partially drained. This wetland is a large cattail marsh covering over 75 acres surrounded by development, roadways, and undeveloped land, all with elevations higher than the basin itself with no low-lying adjacent areas. There is a gravel path located at the northeast end of the basin that connects Bloom Road to Red Pine Blvd; however, this path appears to be a walking trail and does not serve vehicles.

A review of LiDAR data suggests there is potential to gain additional water storage in this wetland complex. Allowing for an addition 1-foot of water rise in this basin would gain an additional 75-acre feet of water storage to the watershed. When reviewing the total annual flow volumes of 3,500 acre-feet, and the average monthly flow between May and September, this added storage could provide a 10-20% reduction in flow volume to the lake if the area stored water allowing for evapotranspiration. This would assume that a variable flow rate structure would be installed to manipulate water levels in the wetland. This structure would slowly draw down water to build available live water storage capacity during higher flow rates allowing for up to an additional 1-foot stage increase during peak runoff.

To divert water into this water storage area, a lift pump would be installed near the north pond and would pump inflow water over the variable outlet structure. This will require construction of a lift station, electrical connections, and routine pump maintenance.

By removing 10–20% of the flow from the watershed, it would be expected that a potential 50–100 pounds of total phosphorus could be removed annually from the watershed phosphorus load. However, this approach was eliminated from consideration due to concerns around flood storage and drainage in the watershed, the high costs of a new outlet structure, the high maintenance cost of managing stormwater pumps, and liability concerns for flood events.

3.2.4 Episodic Water Column Stripping

Another approach to reducing outflow phosphorus loads is to periodically treat the water column with a phosphorus stripping agent. In contrast to continuous injection of a phosphorus stripping agent, episodic treatments assume that an application could occur on a less frequent basis reducing the burden of infrastructure construction, operations, and maintenance. To assess episodic water column stripping, average monthly residence times for the ponds were calculated to estimate the frequency of applications (Table 3-2). Based on P8 flow estimates, the ponds turn over (replace water volumes) almost daily suggesting that any water column stripping would have very short impacts with high phosphorus water

rapidly replacing the stripped water column (Table 3-2). Based on these results, episodic water column stripping is not a viable option for these ponds.

Table 3-2 Estimated Monthly Residence Times for the North and South Ponds using P8 Flow Estimates

Month	North Pond		South Pond	
	Outflow (ac-ft)	Residence Time (days)	Outflow (ac-ft)	Residence Time (days)
1	75	0.9	74	1.80
2	59	1.1	54	2.44
3	242	0.3	222	0.60
4	242	0.3	226	0.59
5	211	0.3	195	0.68
6	274	0.2	256	0.52
7	184	0.3	172	0.77
8	224	0.3	208	0.64
9	199	0.3	190	0.70
10	147	0.4	137	0.96
11	134	0.5	129	1.03
12	113	0.6	108	1.23
Average	**175**	**0.5**	**164**	**1.0**

3.2.5 Aeration

Pond aeration can be an effective tool for reducing sediment P release from lake and pond sediments. However, if used incorrectly in can actually increase sediment P release by increasing the rate of sediment mineralization liberating phosphorus from organic sediments. Further, aeration requires maintenance, annual installation and removal due to ice conditions, and annual electricity costs. Just aeration without chemical augmentation will only potentially address sediment P release which was only a small fraction of phosphorus budget for the ponds. When compared to sediment phosphorus inactivation using a chemical binder, the costs are always significantly higher on small scales such as ponds. Consequently, this approach was not considered for the highway 61 ponds.

3.2.6 Alternative Phosphorus Binders

There are a number of phosphorus binders that can be used for stripping phosphorus from the water column including iron (ferric chloride or ferric sulfate) or spent lime (calcium carbonate). Additionally, new lanthanum based products are coming to market although water column stripping products are relatively new and proprietary making evaluation of potential impacts difficult to assess. For water column stripping, the product must form a microfloc to bind with phosphorus and eventually settle out. Aluminum is the most widely used metal for this process and was chosen for this assessment. While other metals may work, few examples exist for their effectiveness. However, a cost benefit analysis could be completed during the feasibility stage if this option moves forward.

For sediment phosphorus inactivation, aluminum in the form of aluminum sulfate or sodium aluminate are the most widely used metal in Minnesota. Since there are widely accepted dosing methods and available costs, aluminum was chosen for this assessment. Spent lime is widely available at low costs and is showing promise for phosphorus binding, but the mechanisms for binding are poorly understood and the approach is still experimental. Lanthanum products also show promise for phosphorus binding but due to their proprietary nature, our experience is that they are 30 to 40% higher in cost than other products. Iron filings are also showing promise for reducing sediment phosphorus release but are still considered experimental with only a few case studies.

3.3 Phosphorus Reduction Strategies

Following the initial screening of potential best management practices, four alternatives were moved forward for further analysis including:

- No action
- Sediment phosphorus inactivation
- Aeration and chemical water column stripping
- Aquatic plant introduction and management

Cost estimates for each of the alternatives were developed using present day value for comparison between projects. These estimates are not intended to provide an accurate long-term cost for the project. Future costs for alum and other phosphorus binders are difficult to estimate since they are priced as a commodity where prices may fluctuate from year to year. Rather, these costs allow for consistent comparison among the alternatives. If an alternative is moved forward, inflationary costs could be include in the more detailed analysis of the alternative.

3.3.1 No Action

In the event that none of the alternatives are feasible or cost effective, a No Action alternative may be selected. While this alterative suggests that there are no actionable alternatives for upgrading the ponds to improve nutrient removal, opportunities may still exist for reducing watershed nutrient loading from the JD1 watershed to Bald Eagle Lake. For example, more maintenance approaches that were initially screened out for this study could be pursued due to a lack of a more effective option. Additionally, upstream sources could be addressed such as the measured high soluble phosphorus load coming from Shuneman Marsh that currently appears to bypass the ponds.

3.3.2 Sediment Phosphorus Inactivation

One alternative for decreasing phosphorus loading from the ponds is to reduce or eliminate phosphorus recycling from sediments in the ponds. The pond mass balance suggests that the ponds deliver approximately 9 pounds of phosphorus to Bald Eagle Lake assuming all released phosphorus gets flushed out of the ponds into Bald Eagle Lake.

To evaluate the effectiveness and costs for completing a sediment P inactivation project the ponds, an alum dose and cost estimate were developed. Mobile P fractions demonstrated peaks at 8 and 10 centimeters in the north and south ponds respectively (Figure 3-1). Alum doses were developed to inactivate 90% of the mobile P fractions at these depths.

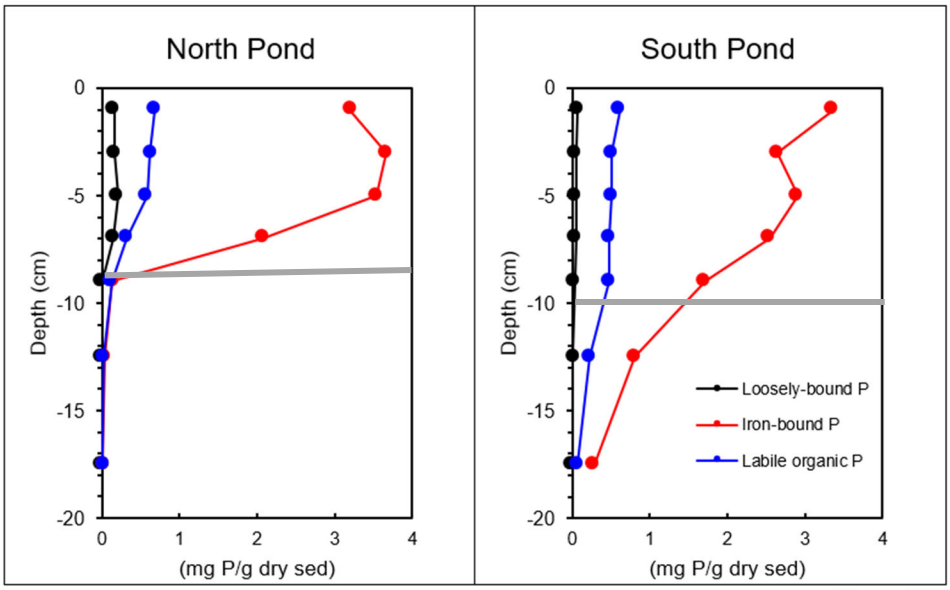


Figure 3-1 Sediment Chemistry Vertical Profiles in Highway 61 Ponds

An initial dose and cost estimate were developed using James and Bischoff (2015) assuming the treatment could occur in all areas of the pond greater than 2 feet in depth. The calculated alum doses for the ponds were 555 g Al/m^2 and 571 g Al/m^2 for the north and south ponds, respectively. While these are high sediment doses, the added chemical volumes to achieve the doses are relatively low. However, the applications need to be buffered due to the low water volumes in the pond that result in limited buffering capacity.

Since the ponds have a very high flushing and sedimentation rate, inactivated phosphorus in the sediments could be replaced by new watershed inputs, specifically mobile phosphorus fractions (Table 3-3). Using this approach, it was estimated that the treatments would need to be completed every three to four years to maintain low mobile P in the sediments and minimize sediment P release.

Table 3-3 Estimated Mass of Mobile P in the Sediment Inactivated and Years to Replace Inactivated P

Pond	Mass P Inactivated (kg)	Mobile P Sedimentation Rate (kg/yr)	Years to Replace Inactivated P (years)	Estimated Reapplications over 15 years
North	31.5	13	2.5	4
South	65	15	4.3	3

1 assumes 80% of sedimented P is in the mobile fraction

An initial treatment was estimated to cost about $80,000 with up to three treatments required over a 15-year period (Table 3-4). The total cost is about $350,000 for a 15-year assessment period using present-day values. The North Pond target is the top 8 cm of sediment with 555 g Al/m^2 for phosphorus inactivation. The South Pond target is the top 10 cm of sediment with 571 g Al/m^2 for phosphorus inactivation.

Table 3-4 Present Day Cost Estimate for Treating the North and South Pond

Zone	Acres	Item	Unit	Quantity	Unit Cost	Total Cost
1-North Pond	0.5	Aluminum sulfate	Gal $Al_2(SO_4)_3$	1,983	$2.60	$5,156
		Sodium aluminate	Gal $NaAlO_2$	992	$11.00	$10,912
2-South Pond	1	Aluminum sulfate	Gal $Al_2(SO_4)_3$	4,626	$2.60	$12,028
		Sodium aluminate	Gal $NaAlO_2$	2,313	$11.00	$25,443
		Mobilization	Lump sum	1	20%	$10,708
		Engineering and Quotes	Lump sum	1	$15,000	$15,000
Reapplications	1.5		Lump sum	3	$80,000	$240,000
		Monitoring	Lump sum	2	$15,000	$30,000
					Total Application Cost Estimate	$349,247

1 The North Pond target is the top 8 cm of sediment with 555 g Al/m^2 for phosphorus inactivation.
2 The South Pond target is the top 10 cm of sediment with 571 g Al/m^2 for phosphorus inactivation.

3.3.3 Aeration and Chemical Augmentation

Chemical augmentation is a water treatment process that involves the targeted addition of chemical agents, commonly aluminum sulfate (alum), to stormwater or surface flows to reduce pollutant loads, particularly phosphorus and suspended solids. The treatment involves injecting a liquid coagulant directly into the flowing water, followed by a brief but controlled mixing phase to ensure adequate contact between the chemical and the target pollutants. Upon contact, the coagulant reacts with dissolved and particulate phosphorus, forming insoluble compounds that aggregate into floc, rendering them incapable of producing algal blooms. These floc particles encapsulate the pollutants and settle out of the water column through sedimentation, thereby effectively removing them from the flow. Typically, the quantity of chemical applied is based on phosphorus load reduction goals and floc formation with a goal of settling all the floc prior to discharge downstream. However, the Highway 61 ponds have extremely high flushing rates, suggesting all of the floc may not settle prior to discharging to Bald Eagle Lake. “Micro-dosing” the chemical addition minimizes the chemical addition to maintain water quality standards while still rendering a portion of the phosphorus insoluble and unreactive. In the case of micro-dosing, floc settling in the ponds is less important as water quality standards are maintained while also rendering bound phosphorus unreactive.

While there are a number of potential phosphorus binders that can be used to inactivate water column phosphorus, aluminum was selected for evaluation in this study. Aluminum has been used in this capacity for a stormwater pond and demonstrated to be effective (Osgood 2017). Further, aluminum readily forms a micro floc that efficiently binds with water column phosphorus. Iron could potentially be used but most stormwater applications require settling of the floc rather than microdosing. Lanthanum products for water

column stripping are in development but some concerns remain surround lanthanum's ability to bioaccumulate in fish tissue.

3.3.3.1 Potential P Removal

The chemical augmentation design includes supplementing the flow with 6,500 gallons of alum annually. The alum dosage was determined using the aluminum concentration threshold for freshwater aquatic life, calculated from the EPA's 2018 Aluminum Criteria Calculator (EPA, 2018). Based on this concentration, the aluminum volume was assumed to bind phosphorus at a 10:1 Al:P binding ratio and a 70% treatment efficiency, due to the pond's mixing abilities. Based on this, 6,500 gallons of alum can be applied annually, resulting in 318 pounds of phosphorus removed each year, which is around 50% of the annual P load to the south pond (Table 3-5). Since pH is a concern with alum, aluminum chlorohydrate was the assumed coagulant for cost estimates since it has minimal impact on pH.

Table 3-5 Chemical Augmentation Calculations

Allowable Alum (mg/L)	Allowable Al (lbs)	Potential P removal (lbs)	Potential Alum Annual Application (gal)	Phosphorus Removal Rate (%)
0.85	4,547	318	6,575	49%

3.3.3.2 System Design Components

Several components are needed for this system including a storage building to house all the components, mechanical pumps and variable rate chemical injection system, storage tanks, compressors, and aeration diffusers to provide adequate mixing of the ponds with the injection. The layout of the system would inject aluminum to the system at a variable rate that adjusts with the flow of the JD1 ditch flow. The aluminum would be injected into the south pond. The South Pond would act as a mixing pond in which an aeration system would aid in providing ample dissolved oxygen and also provide mixing to the ponds. As the flow makes its way through the south pond, it would effectively be treated as it leaves the South Pond and enters the North Pond. There will be some accumulation of flocculant in the South and North Ponds, which is estimated to be removed every 15 years; however, further sedimentation calculations are needed to determine the overall maintenance schedule.

For this study, the system was proposed to be installed on the Adam Benik property on the north side of Taylor Avenue. Easements or land acquisition would be necessary for this location. Other locations on right-of-way and easements were reviewed; however, construction of a building would be infeasible at these locations due to site and building restrictions. At the assumed location, there is an existing grass area adjacent to the driveway to the parcel that would be suitable for access and the construction of a building. This location is also at the inlet point of the South Pond and the alum injection would properly be injected at the inflow point to the system. Figure 3-2 shows the schematic of the augmentation system.

Placeholder for:

Figure 3-2 Schematic View of an Aeration System with Chemical Augmentation

The Engineer's opinion of probable cost (OPC) for this project is between $535,000 and $926,000 for the initial construction and startup with an estimated $50,000 annual costs associated with liquid aluminum, in this case aluminum chlorohydrate. Aluminum chlorohydrate was selected because it will have minimal impact on pH. To estimate the amount of aluminum chlorohydrate required, average annual flow volumes were used to estimate the total aluminum that could be applied and still meet EPA recommended aluminum concentrations. To estimate EPA recommended thresholds, the EPA aluminum toxicity calculator was used with dissolved organic carbon (DOC), pH, and hardness estimates. Since DOC and hardness were not available from JD1, an average from Charley, Sucker, East Vadnais, and Pleasant Lakes were used (2014-2024). To estimate efficiency, it was assumed that at a 10:1 Al:P ratio, a 70% reduction could be achieved. Table 3-6 below shows the itemized breakdown of costs associated with the construction of the augmentation system.

Table 3-6 Cost Estimate for the Aeration and Chemical Augmentation System

BARR PREPARED BY: BARR ENGINEERING CO.			SHEET:	1	OF	1
			CREATED BY:	MAO	DATE:	8/5/2025
ENGINEER'S OPINION OF PROBABLE PROJECT COST			CHECKED BY:		DATE:	
PROJECT: RCWD HWY 61 Ponds			APPROVED BY:		DATE:	
LOCATION: White Bear Lake, MN		ISSUED:	Concepts		DATE:	
PROJECT #: 23021222		ISSUED:			DATE:	
OPINION OF COST - SUMMARY		ISSUED:			DATE:	

Engineer's Opinion of Probable Project Cost

Chemical Augmentation

ITEM NO.	ITEM DESCRIPTION	UNIT	EST. QUANTITY	UNIT COST	ITEM COST	NOTES
1	MOBILIZATION	LS	1.0	$44,950.00	$44,950.00	1,2,3,4,5
2	LAND AQUISTION/EASEMENTS	AC	0.5	$65,000.00	$32,500.00	1,2,3,4,6
3	FENCE	LF	400	$50.00	$20,000.00	1,2,3,4,7
4	DRIVEWAY	SF	10,000	$7.50	$75,000.00	1,2,3,4,8
5	BUILDING FOOTINGS/PAD	LS	1	$65,000.00	$65,000.00	1,2,3,4,9
6	CONSTRUCT BUILDING ENCLOSURE	LS	1	$75,000.00	$75,000.00	1,2,3,4,10
7	INJECTION PIPE	LS	1	$5,500.00	$5,500.00	1,2,3,4,11
8	ELECTRICAL AND CONTROL SYSTEMS FOR INJECTION SYSTEM	LS	1	$65,000.00	$65,000.00	1,2,3,4,12
9	4000 GALLON CHEMICAL STORAGE TANKS	LS	1	$9,500.00	$9,500.00	1,2,3,4,13
10	AERATION SYSTEM	LS	1	$102,000.00	$102,000.00	1,2,3,4,14
	CONSTRUCTION SUBTOTAL				$494,500.00	1,2,3,4,5,6
	CONSTRUCTION CONTINGENCY (20%)				$98,900.00	1,6,7
	ESTIMATED CONSTRUCTION COST				$593,400.00	1,2,3,4,5,6,7
	PLANNING, ENGINEERING & DESIGN (20%)				$118,700.00	1,6,7,8
	ESTIMATED TOTAL PROJECT COST				**$712,100.00**	1,2,3,4,5,6,7,8
	ESTIMATED ACCURACY RANGE	-25%			$535,000.00	6,7,8
		30%			$926,000.00	6,7,8

Notes

[1] Limited Design Work Completed (10-15%).

[2] Quantities Based on Design Work Completed.

[3] Unit Prices Based on Information Available at This Time.

[4] Limited Soil Boring and Field Investigation Information Available.

[5] Estimate assumes that projects will not be located on contaminated soil.

[6] Estimate costs are reported to nearest thousand dollars.

[7] This feasibility-level (Class 4, 10-15% design completion per ASTM E 2516-11) cost estimate is based on feasibility-level designs, alignments, quantities and unit prices. Costs will change with further design. Time value-of-money escalation costs are not included. A construction schedule is not available at this time. Contingency is an allowance for the net sum of costs that will be in the Final Total Project Cost at the time of the completion of design, but are not included at this level of project definition. The estimated accuracy range for the Total Project Cost as the project is defined is -20% to +40%. The accuracy range is based on professional judgement considering the level of design completed, the complexity of the project anc the uncertainties in the project as scoped. The contingency and the accuracy range are not intended to include costs for future scope changes that are not part of the project as currently scoped or costs for risk contingency. Operation and Maintenance costs are not included.

[8] Estimate costs are to design, construct, and permit each alternative. The estimated costs do not include maintenance, monitoring or additional tasks following constuction.

3.3.4 Aquatic Plant Introduction and Management

Phytoremediation, the use of plants to remove chemicals and pollutants from the environment, is a commonly used approach in wastewater treatment especially through the use of constructed wetlands and stabilization ponds. More recently, submerged plants such as waterweed, coontail, and naiads have been used to treat wastewater (Gumbrict 1993a; 1993b). However, submerged plants are not the most common plants used in constructed wastewater wetlands and more research is needed to determine their effectiveness in treating stormwater high in nutrients. Submerged plants were successfully used in the Florida Everglades to reduce stormwater from 100 µg/L to under 50 µg/L in a wetland treatment cell. One of the plants used in that study was Coontail (*Ceratophyllum demersum*).

3.3.4.1 Phosphorus Removal

Coontail is an aggressive growing, native plant capable of dominating an aquatic plant community and growing rapidly throughout the summer. Since the plant is unrooted, much of its nutrients come from the water column making it a suitable candidate for phytoremediation in stormwater ponds. In fact, the City of Gaylord, Minnesota found that coontail helped reduce nutrient loading from their wastewater holding ponds (MnTAP 2019). Since coontail is native to Minnesota, easy to find and transplant, and has potential to sequester phosphorus, one approach for the Highway 61 ponds is to promote the growth of coontail in the ponds to uptake soluble phosphorus from the water column.

To estimate the potential impacts of transplanting coontail (or another appropriate species) into the ponds, the potential mass of phosphorus that could be sequestered in the plants each year using literature values (Table 3-7). The potential biomass of for coontail was estimated by using a range of measured biomass measurements in in shallow lakes in the southwest suburbs of Minneapolis (Newman, 2017). There was a wide range of phosphorus contents for coontail, ranging from 0.11% to 0.41% of the dry biomass. For this study, the median value was used to estimate P removed. These numbers were corroborated by a study on Lake Minnetonka that found a coontail dominated load of removed plants had P content of 0.388% (Barten 2004).

Literature values suggest that peak plant biomass potentially only takes up and holds approximately 12 pounds of phosphorus in an average year representing only a small proportion of the 706 pounds P that discharges through the ponds and into Bald Eagle Lake.

Table 3-7 Potential Biomass Sequestering of P by Coontail in the Highway 61 Ponds

	Aquatic Plant Biomass (g dry weight/m^2)	Percent of Dry Mass as P (%)	Mass P in Coontail (g/m^2)	Dry Mass as P (kg)	Dry Mass as P (pounds)
Coontail	350 (100–600)	0.26% (0.11%–0.41%)	0.91	5.5	12

It should be noted that duckweed is also very effective at adsorbing nitrogen and phosphorus and appears to grow heavily on the pond surface. Therefore, this option might trade benefits from duckweed to benefit from coontail. However, duckweed tends to act as a barrier to oxygen transfer over the water surface which can negatively impact sediment phosphorus release.

3.3.4.2 Aquatic Plant Transplanting

A permit is required to transplant plants from one lake to another (See Section 3.6.6). There are several methods that could be considered for transplanting including (MNDNR 2017; Smart et al. 1996; Smart et al. 2005):

1. *Dumping:* Species that easily reproduce from propagules such as pondweeds, musk grass, and coontail, these fragments can be released directly into the nursery enclosure through dumping or in the surrounding nursery area to allow for broader establishment.
2. *Planting—Burlap:* Other species such as Robbins pondweed should be planted into the burlap fabric that will be anchored at the bottom of any enclosure.
3. *Planting—Potted:* Using biodegradable pots filled with lake bottom sediments, whole plants that have been harvested will be planted into the pot. The pots will then be placed into the nursery enclosure area.

Since coontail is an unrooted plant, the dumping method is the most likely method for success. However, the ponds are currently dominated by duckweed which may prevent the establishment of coontail by shading out any transplanted species. Execution of this approach may require managing duckweed through the use of herbicides or physical removal.

3.3.4.3 Harvesting and Maintenance

To be effective in the long term, aquatic plant harvesting is likely needed to prevent phosphorus recycling from decaying aquatic plant. Although, it should be noted that sediment phosphorus release under dense coontail stands measured by Barr staff are typically low suggesting that senesced coontail mineralizes at a slow rate, effectively burying phosphorus as organic material or peat(unpublished data). Further research on the role of aquatic plants in sequestering phosphorus through aquatic plant uptake and burial is needed. A traditional harvester is unlikely to be used on the Highway 61 ponds due to their shallow depth and difficult access. A small harvester or tools attached to a boat (https://weedersdigest.com/aquatic-mower-motorized-lake-weed-cutter/) will likely be required to maintain the ponds. Cut plant material will need to be collected with a seine and transported to a disposal site. Harvesting may not need to occur every year. It should be noted that this is not commonly done in small ponds and would require the development of a harvesting method to collect aquatic plant biomass. Cutting is also preferable to pulling to prevent sediment resuspension which may flush downstream into Bald Eagle Lake.

3.3.4.4 Present Day Costs

A cost estimate was developed for transplanting and maintaining coontail in the ponds over 15 years (Table 3-8). Costs were based on staff time estimates assuming RCWD staff would perform the work. For transplanting, it was assumed that 3-5 days would be required (1 day for collection and 2-4 days for panting, fencing, etc.). For harvesting, one week of staff time was assumed to collect plant material, load and unload a trailer, and deliver for composting. Composting was assumed to be on local farm field or community garden.

Table 3-8 Present Day Costs for Transplanting Aquatic Plants for Phosphorus Control

Item	Quantity	Unit Cost	Total Cost
Duckweed Control (diquat herbicide)	15 acres	$200/acre	$4,500

Item	Quantity	Unit Cost	Total Cost
Aquatic Plant Transplant (staff time)	1	Lump sum	$5,000
Additional Transplants	2	Lump sum	$10,000
Aquatic Plant Harvesting	7	$5,000	$35,000
Aquatic Plant Transport and Disposal	7	$5,000	$35,000
		Total Cost	$89,500

3.4 Alternatives Summary

A cost-benefit analysis of the viable options suggests that sediment phosphorus inactivation in the ponds provides the least benefit for the costs (Table 3-9). While transplanting coontail provides a small benefit in phosphorus removal and is relatively inexpensive, uncertainties remain around aquatic plant harvesting access and methods. It is possible that harvesting is not necessary, but long-term monitoring of sediment P release is recommended. By far, the most expensive but also most cost-effective solution is aeration and chemical augmentation. This approach has the potential to remove large quantities of phosphorus including soluble phosphorus from stormwater reducing phosphorus loading to Bald Eagle Lake.

Table 3-9 A summary of estimated present day costs over a 15-year life cycle (present day value) for each alternative

Concept	TP Removal (lbs/year)	Concept-Level Construction Cost Estimate[1]	Concept-Level Operation and Maintenance Cost Estimate	Concept-Level Annualized Cost (15 years)	Annualized Benefit-Cost ($/lb-TP/Year)
No Action	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Sediment P Inactivation	9	$80,000	$270,000	$23,333	$2,593
Aeration and Chemical Augmentation	318	$926,000	$750,000 aluminum $500,000 O&M	$145,067	$456
Aquatic Plant Introduction and Management	12	$5,300	$84,200	$5,967	$497

1 Present day costs were used to compare alternatives. Long-term costs including inflation were not considered for this assessment.

One challenge with a chemical augmentation system is potential downtime if the system breaks down and requires repair. While redundancies could be bult into the system to minimize down time, reduced phosphorus removals would be expected. However, even if the system is only operational 50% of the

time, estimated removals will still be more than 10 times any other option and reduce as much as 159 pounds of annual phosphorus loading to Bald Eagle Lake (Table 3-10). Annual changes in chemical cost can also increase costs for operating the system. However, even with a 20% increase in chemical costs and uncertainty in actual maintenance costs, the system operates at an estimated $808 per pound of P removal which is very cost effective for watershed P removal projects.

Table 3-10. Estimated TP removal for chemical augmentation system assuming periodic system downtime.

Operation Time (% growing season)	TP removal (pounds)	Efficiency[1] (annual cost per pound TP removed)
100%	318	$361-$456
75%	239	$482-$608
50%	159	$723-$912

1 assuming an estimated range of operation costs over 15 years ($800,000 to $1,250,000)

3.5 Potential Approaches

Stormwater ponds are designed to settle and retain particulate phosphorus to reduce total phosphorus concentrations in stormwater runoff and reduce watershed phosphorus loading. While they are effective at reducing particulate phosphorus, dissolved fractions are minimally reduced unless they are taken up by phytoplankton or plants ultimately settling the phosphorus to the sediments. One limitation of stormwater ponds is phosphorus recycling where settled phosphorus is released to surface waters as a result of organic P mineralization or sediment reduction whereby P is released from mobile sediment phosphorus pools.

Highway 61 ponds receive stormwater from a large watershed fed by a number of wetlands that appear to settle much of the particulate phosphorus before reaching the ponds. As a result, the majority of phosphorus delivered to the ponds is in a dissolved form that mostly flushes through ponds. Consequently, the ponds retain only a small percentage of the phosphorus flowing through them. Further, the ponds are undersized resulting in a short retention time. These challenges suggest:

- Expanding the ponds (increasing surface area and/or volume) will not significantly improve settling since much of the source phosphorus is dissolved and
- The short residence time limits the ability for episodic water column phosphorus stripping since removed phosphorus will be quickly replaced.

The only options available to improve phosphors retention in the ponds is to develop an approach to bind and permanently settled dissolved phosphorus. While this is routinely done in wastewater treatment plants, these are highly engineered and controlled environment that require a high level of operation and maintenance. However, these concepts can be applied to stormwater ponds to improve phosphorus binding and removal. Several options are available ranging from simple, low-cost

approaches to highly engineered options that require operation and maintenance. These options include:

- Aquatic plant introduction and harvesting to remove dissolved phosphorus (low cost, low efficiency, and experimental)
- Sediment phosphorus inactivation (moderate cost and low efficiency)
- Aeration and chemical augmentation with a phosphorus stripping chemical (high cost and high efficiency but requires operations)

The most effective approach is to install aeration with chemical augmentation to actively strip the water column of dissolved phosphorus fractions. This approach was used effectively in a stormwater pond to control *Wolffia*, a floating aquatic plant, reducing phosphorus below 0.05 mg/L total phosphorus (Osgood 2012). Since the Highway 61 ponds are highly episodic, delivering large phosphorus loads to Bald Eagle Lake during large storms, the chemical augmentation system is the most effective option for reducing phosphorus loads. However, the system will require maintenance including receiving aluminum chlorohydrate a few times a year. Further, breakdowns might occur. However, even with 50% operation time, the system still reduces more than 10 times more phosphorus than any other option and is still cost effective relative to other traditional stormwater practices. Further, maintenance could be conducted by outside firms for an annual contract.

Recognizing that operating an engineered system can be a burden for the District or other LGUs, aquatic plant introduction and harvesting might reduce phosphorus loading to Bald Eagle Lake but only by a small amount (12 pounds). Further, this approach is unproven requiring a monitoring program to prove its effectiveness. This approach still requires operations, however on a less technical scale than chemical augmentation. District or other LGU staff would be required to periodically harvest plant material and dispose of the plant material.

Finally, the lowest benefit option is to periodically apply a phosphorus inactivation agent to strip the water column and bind P in the sediments. This approach will likely have the smallest benefit at a moderate cost. The treatment will likely need to occur periodically (every 5 years or so) to be effective, but the phosphorus reductions will likely be small. Treatment costs are tied to chemical costs, and some P binding materials are showing promise at low costs. Although results are preliminary and the approach is experiment, spent lime treatments might reduce phosphorus at a low cost. However, this approach is still in development and the most effective approach remains aluminum. Other materials are available such as lanthanum that may be effective albeit at a higher cost.

3.6 Permitting Considerations

Any proposed project may require one or more of the following permits/approvals:

- Construction Stormwater General Permit from the MPCA
- Compliance with the MPCA's guidance for managing dredged material
- Public waters permit or water appropriation from the Minnesota Department of Natural Resources
- Compliance with the Minnesota Wetland Conservation Act
- NPDES Permit

3.6.1 Construction Stormwater General Permit

A National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Construction Stormwater General Permit from the MPCA authorizes stormwater runoff from construction sites. A Construction Stormwater General Permit is required if the proposed project would disturb more than 1 acre of soil, above the normal water level only. While the presented options likely do not exceed 1 acre of disturbance, general erosion control practices will be necessary with the construction projects due to the proximity to special and impaired waters.

3.6.2 Guidance for Managing Dredged Material

Dredged material is defined as waste by Minnesota Statute 115.01, and the management and disposal of dredge material is regulated by the MPCA. It is anticipated that sediment dredged as part of the proposed project would be removed from the project site and disposed of at an appropriate landfill, in compliance with the MPCA's guidance for managing dredged materials.

3.6.3 Minnesota Wetland Conservation Act

The Minnesota Wetland Conservation Act (WCA) was enacted to protect wetlands not protected under the Minnesota Department of Natural Resources public waters work permit program. The WCA regulates filling and draining of all wetlands and regulates excavation within Type 3, 4, and 5 wetlands. The WCA is administered by a local governmental unit (LGU), and it is expected that the City of White Bear Lake or Ramsey County will be the LGU for WCA-regulated wetland impacts associated with the proposed project. Barr has not yet conducted a field wetland delineation however a desktop review shows signs of wetlands in the project area. For projects in wetland area, WCA permitting will be required.

3.6.4 Water Appropriation Permit from the DNR

Water appropriations permits are required by the DNR when dewatering or pumping activities draw more than 10,000 gallons of water per day or 1 million gallons per year. Scenarios where water is pumped or removed from the flow in the pond system may trigger a water appropriations permit from the DNR.

3.6.5 Public Waters Permit from the DNR

DNR Public Waters Work Permits are typically required for activities that result in physical alterations below the Ordinary High Water Level of lakes, wetlands, and other designated public waters. Additionally, permits may be necessary for large-scale watershed projects that modify the course, current, or cross-sectional profile of public watercourses. Given the proximity of the proposed pond improvements to designated public waters, and the potential for hydrologic or geomorphic impacts to these resources, it is anticipated that MN DNR permitting will be required as part of project implementation.

3.6.6 Aquatic Plant Collection and Transport Permit

A DNR permit is required to collect and transplant aquatic plants from one lake to another. Permits can be found at http://files.dnr.state.mn.us/fish_wildlife/fisheries/apm/transplant_app.pdf. The following are required for the permit:

1. Lake where plants are going to be collected and lake where plants will be transplanted
2. Common and scientific name of plants to be collected
3. Type of plant material (rootstock, cuttings, whole plant, etc.)
4. A map of where plants are going to be collected and transplanted

3.6.7 National Pollutant Discharge Elimination System Permit

A National Pollutant Discharge Elimination System (NPDES) permit from the MPCA may be required for the chemical augmentation system. NPDES permits are required for point source discharges into waters of the United States. Several flocculation systems have been permitted in Minnesota however none where the floc is not captured and disposed.

4 References

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Floral Park District Facility Access Agreement

MEMORANDUM
Rice Creek Watershed District

Date: November 03, 2025
To: RCWD Board of Managers
From: Tom Schmidt, Drainage & Facilities Manager
Subject: Floral Park District Facility Access Agreement

Introduction
Staff are seeking Board consideration of an access agreement with the City of Arden Hills for ongoing access to the Floral Park Berm (a District facility) located in Arden Hills' Floral Park.

Background
The District has been conducting a systematic review of its district facilities, evaluating each against criteria: first confirming it as a district facility, then analyzing its function to determine whether it still serves a value in meeting District goals. One such facility is the Floral Park Berm (a water-quality and volume detention berm and outlet structure).

The evaluation confirmed Floral Park Berm as a district facility and concluded that it should remain one, as it advances District goals. The evaluation also revealed that the facility does not have a known access agreement with the landowner, Arden Hills. The facility was built circa 1979, and no further documentation regarding the circumstances of any prior agreement was found. The City and District staff both find that an access agreement should be entered into to both protect the City's property and to memorialize the District's right to access its facility for inspection and maintenance.

Staff Recommendation
Staff recommend that the Board of Managers consider and, at a subsequent meeting, approve the access agreement with the City of Arden Hills.

Attachment
Right-of-Entry Acknowledgment and Limited License Agreement between RCWD and the City of Arden Hills.

RIGHT OF ENTRY ACKNOWLEDGMENT AND LIMITED LICENSE AGREEMENT

THIS AGREEMENT ("Agreement") is entered by the City of Arden Hills, Minnesota ("City") and the Rice Creek Watershed District ("District"), effective upon execution by the City as dated below. The City and the District may be collectively referred to as the Parties.

RECITALS:

A. City is the owner of a parcel of property (Parcel Identification Number 223023340052), commonly known as Floral Park, located off of Floral Drive W within the City (the "Property").

B. The District, pursuant to its authority under Minnesota Statutes, section 103D.730, has constructed a berm located within the Property (the "District Facility"). The District Facility is designed to control flooding and improve water quality throughout the District.

C. The District Facility needs maintenance and will need future inspection and maintenance (the "Work"). The Property provides necessary, reasonable, and convenient access to the District Facility to do the Work.

D. City and the District have agreed that the District may enter and occupy the Property to complete the Work on the District Facility, as depicted on the attached **Exhibit A**.

E. The District has requested that City enter into this Agreement acknowledging the District's right of entry for the purpose of inspecting and maintaining the District Facility.

NOW, THEREFORE, for good and valuable consideration, the sufficiency and receipt of which is hereby acknowledged, the City and District agree as follows:

AGREEMENT:

1. RIGHT OF ENTRY. The City hereby acknowledges District's right of entry to the Property for the purpose of completing the Work, as depicted on the attached **Exhibit A**. Further, the City represents that it has the authority to acknowledge the right of entry and no other person may deny such entry.

2. TERM. The term of this Agreement is from the date of execution of the Agreement in perpetuity. Either Party may terminate this Agreement by writing, effective thirty (30) days after receipt of written notice. In the event the City desires to sell or otherwise relinquish ownership of the Property, the City shall inform the District in writing at least ninety (90) days prior to the modification of ownership and shall inform the potential new owner of the Property in writing of this Agreement and the District's interest in the Work at least ninety (90) days before the signing over title to the potential new owner.

3. DISTRICT RETAINS DISCRETION. The District will complete so much of the Work as it deems necessary in its discretion under District policies and as required by Minnesota Statutes, chapter 103D. City agrees that the District is not committing to any ongoing maintenance or other obligations on the Property as a result of completing the Work. It is understood that the District

and its employees, consultants, and contractors will restore the portions of the Property affected by the Work to a condition as nearly equal as possible to the condition which existed prior. Nothing contained in this Agreement shall be construed on the part of the District as a waiver of common law and statutory immunities, or limits on liability pursuant to Minnesota Statutes Chapter 466.

4. DISTRICT RETAINS STATUTORY RIGHTS. The City acknowledges the District's right of entry pursuant to Minnesota Statutes, chapter 103D regardless of this Agreement or lack of any agreement. The City acknowledges that the District retains a reasonable right of entry to access the District Facility. The City and the District acknowledge that the purpose of this Agreement is to outline the agreed upon pathway and mechanism for the District to do the Work.

5. COORDINATION WITH CITY. The District acknowledges that the right of entry shall be exercised reasonably. The City acknowledges that the District may enter the Property without notice. The District shall coordinate with the City and its staff to identify and limit the scope of its work to, included but not limited to, the preservation of certain trees or other resources of importance to the City when the right of entry is exercised for the purpose of repairing or maintaining the District Facility.

6. ACKNOWLEDGEMENT OF REASONABLENESS. The City acknowledges that the entry upon the Property pursuant to this agreement is reasonable and, so long as executed pursuant to this agreement and in a manner consistent with the plan for the Work, shall not create a claim for damages related to the entry.

[SIGNATURE PAGE TO FOLLOW]

SIGNATURE PAGE

CITY OF ARDEN HILLS, MINNESOTA

Signature: _____

Print Name: _____

Phone Number: _____

Email: _____

RICE CREEK WATERSHED DISTRICT

Signature: _____

Print Name: _____

Phone Number: _____

Email: _____

Effective Date: _____, 20___.

EXHIBIT A


Floral Park:
Proposed Access Path
Hamline Ave N
Indian Oaks Trl
Indian Oaks Cir
Elder Cir
W Floral Dr
Royal Ln
Dawn Cir
Norma Ave
Briarholm Dr
Nearmap

RCWD Policy Book Minnesota Paid Family Medical Leave (PFML)

MEMORANDUM
Rice Creek Watershed District

Date: October 30, 2025
To: RCWD Board of Managers
From: Nick Tomczik, Administrator
Subject: RCWD Policy Book Minnesota Paid Family Medical Leave (PFML)

Introduction

Minnesota adopted a new Paid Family and Medical Leave law (PFML) that will go into effect starting January 1, 2026. This is a draft policy statement for board consideration and discussion.

Background

The Board considered PFML at its October 6th workshop. The Board determined to utilize the state-administered public plan for 2026 and directed to proceed paying 100% of the employee PFML premium contribution as a benefit cost for 2026. Staff engaged with Christina Hopke of Rinke Noonan regarding development of RCWD policy. This policy outlines employee rights and responsibilities related to PFML and how it integrates with the District's existing leave policies.

The policy defines:

- The payroll deduction to fund the PFML program, currently the District will cover 100% of the premium contribution as an employee benefit and reserves the right to change this policy and collect a portion of the premium from employees.
- Employees are eligible for PFML benefits provided they meet the minimum earnings established by the State.
- The leave available to employees is up to 12 weeks of medical leave and up to 12 weeks of family leave; an employee may take both medical leave and family leave in the same benefit year, up to a maximum of 20 total weeks of PFML.
- Leave may be taken on an intermittent basis in increments of 30 minutes (consistent with the District's annual leave use) and must provide the District with a schedule of needed leave as soon as practicable.
- Employees must apply for benefits directly through the Minnesota Paid Leave Division of DEED and all eligibility determinations are made by the State.
- Notice, when foreseeable, must be provided to the District when planning to take eligible leave under the PFML law.
- Wage replacements are determined and paid for directly by the State of Minnesota.
- Employees qualifying are entitled to job protection during the leave.
- The District will maintain a qualifying employee's insurance coverage while an employee is absent for eligible PFML leave. (The District pays 100% of the monthly medical premium for full-time employees, during PFML leave, an employee must continue to pay their portion of the premium for any dependent plan.)
- The District strictly prohibits retaliation against any employee for requested or taking leave under PFML.
- Leave taken under the PFML law will run concurrently with all other leave available (Accrued Annual Leave, Accrued Personal / Sick Leave, Short Term Disability) for eligible employees and may choose to do so; use of these benefits may reduce the amount of PFML. These may supplement an employee's PFML benefit.

The District obtained a revised quote for Short Term Disability. The revised 2026 premium is 65% less, ~$4,925 annual decrease, than our current premium. PFML landscape continues to develop, and staff will engage the Board with updates.

Recommendation

This item is for Board information and discussion. Staff would like to confirm proceeding with the attached policy statement.

Minnesota Paid Family and Medical Leave Policy

Effective January 1, 2026

Minnesota's Paid Family and Medical Leave (PFML) law provides eligible employees with partial wage replacement for qualifying family and medical leave. This policy outlines employee rights and responsibilities related to PFML and how it integrates with Rice Creek Watershed District's (the "District") existing leave policies. The District is a participant of the State of Minnesota's Paid Leave Program.

Payroll Deductions

To fund the PFML program, a premium will be assessed to the District based on a percentage of employee wages. The State of Minnesota may adjust the premium rate annually. The PFML law permits the District to share the cost of the premium with employees through a payroll deduction. Currently, the District will cover 100% of the premium contribution as an employee benefit. The District reserves the right to change this policy and to pass along a portion of the premium amount to employees in the future upon proper notice.

Eligibility

All employees who work in Minnesota may be eligible for PFML benefits, regardless of full-time, part-time, and seasonal status, provided they meet the minimum earnings threshold established by the State of Minnesota. Generally, the employee must also experience a seven-day qualifying event (consecutive or intermittent) related to a covered leave in order to be eligible for PFML benefits. This seven-day period is a retroactively payable period and not an unpaid waiting period. Eligibility determinations will be made by the Minnesota Department of Employment and Economic Development (DEED). For any questions on your eligibility, please contact DEED.

Leave Entitlement and Usage

Pursuant to the applicable definitions contained within the PFML law, and as interpreted and applied by DEED, employees may apply for PFML benefits for the following conditions in a benefit year:

- Up to 12 weeks of medical leave for your own serious health condition.

- Up to 12 weeks of family leave to:
    - Bond with a child through birth, adoption, or foster placement;
    - Care for a family member with a serious health condition;
    - Support a military family member in connection with qualifying exigencies related to military deployment;
    - For certain needs related to domestic abuse, sexual assault, or stalking for yourself or a family member.

Eligible employees may take both medical leave and family leave in the same benefit year, up to a maximum of 20 total weeks of PFML for both types (family and medical) of leave. For

example, an employee may be entitled to 12 weeks of family leave to bond with a child and another 8 weeks of medical leave for their serious health condition. The benefit year starts the first day an employee takes covered leave.

Intermittent Leave

Most types of leaves under the PFML law may be taken on an intermittent basis, provided the leave is reasonable and appropriate to the needs of the individual if leave is based on a serious health condition. This means that leave may be taken in increments of 30 minutes, consistent with the District's other leave policies. An employee requesting leave taken intermittently must provide the District with a schedule of needed leave as soon as practicable. The employee must make a reasonable effort to schedule the intermittent leave so as not to disrupt unduly the operations of the District.

The PFML law provides that intermittent leave may be taken for at least 480 hours of an employee's eligible leave. The use of PFML as intermittent leave will be capped and employees will not be allowed to use any PFML leave in excess of 480 hours per year on an intermittent basis. Further PFML leave to which an employee may be eligible during that year must be taken continuously, up to the maximum amount of PFML leave for which the employee is eligible.

How to Apply

Employees must apply for benefits directly through the Minnesota Paid Leave Division of DEED via the online portal at paidleave.mn.gov or by contacting DEED by phone. All eligibility determinations are made by the State.

After applying, employees will receive a determination from DEED, which is the official decision from the program about whether the application was approved or denied. The determination will also establish the employee's benefit award and leave entitlement.

If approved for PFML payments, payment will be made directly to the employee by the State and will be made via the method selected in the application.

Notice

Reasonable notice (at least 30 days when foreseeable) must be provided to the District when planning to take an eligible leave under the PFML law. If such notice is not practicable because a lack of knowledge of when the employee will need to begin leave, notice must be given as soon as practicable. Notice should include the anticipated timing and duration of the leave. Notice must be given by contacting the District Administrator. The District may also require a copy of the certification submitted to DEED by the employee with their application for PFML benefits.

Wage Replacement/Benefit Determination

Benefits are determined and paid directly by the State of Minnesota. The benefit is a wage replacement rate based on a percentage of the employee's average weekly wage, up to a maximum amount established by the State. The State of Minnesota will determine an employee's

benefit amount and any dispute concerning the benefit determination must be addressed to the State. The PFML law provides for benefits to be paid weekly. Any issues concerning the payment of benefits must be addressed with the State.

Job and Insurance Protection

Employees who have worked for the District for at least 90 days before the start of leave are entitled to job protection under the PFML law. Pursuant to the provisions of the PFML leave, qualifying employees will be reinstated upon return from leave to the same or an equivalent position as held prior to the start of leave.

The District will also maintain a qualifying employee's insurance coverage while an employee is absent for eligible PFML leave. The District pays 100% of the monthly medical premium for full time employees, and 50% of the cost of dependent coverage for the lowest cost provider offered in the program. During a PFML leave, an employee must continue to pay their portion of the premium for any dependent enrolled on the District plan. Arrangements will be discussed, wherever possible, to account for the employee's share of costs prior to the employee's leave. Employees must make timely payments of their portion of the premium cost in order to ensure continuation of coverage. Insurance coverage may be cancelled if an employee's premium payment is 30 days late. Before terminating coverage, the District will provide written notice to the employee at least 15 days before the coverage is terminated that will list the final date payment can be made (30 days past the due date) to avoid cancellation and the date coverage will end if payment is not received.

No Retaliation

The District strictly prohibits retaliation against any employee for requested or taking leave under the PFML law or filing a claim with or receiving benefits from the State.

Concurrent Leave and Substitute Benefits

To the maximum extent permitted by law, leave taken under the PFML law will run **concurrently** with all other leave available for eligible employees when that leave is taken for overlapping purposes. Specifically, but without limiting the forgoing, PFML leave will run concurrently with leave taken for the same purposes under the state Pregnancy and Parenting Leave statute (Minn. Stat. § 181.941) and Minnesota Women's Economic Security Act.

To the extent an employee taking PFML leave has other benefits that the employee wishes to use as a substitute to (instead of) PFML, such as accrued Annual Leave, Sick Time, or an applicable disability insurance plan, the employee may elect to do so. The use of these substitute benefits may reduce the amount of PFML that an employee is eligible for.

Employer offers a short-term disability (STD) policy that runs concurrently with and may be reduced by PFML benefits. The STD policy may also require its own filing requirement pursuant to the terms of the STD policy. Please see the policy plan document for more information. STD payments may be reduced, pursuant to the terms of the STD policy, as a result of receiving

PFML benefits. All determinations concerning application of the STD policy are made by the plan provider.

Supplemental Benefits

Employer designates the following as benefits which an employee may use to supplement their PFML benefit amount:

- Accrued Annual Leave
- Accrued Personal / Sick Leave Time
- STD Plan

To "supplement" an employee's PFML benefit means to "top off" the PFML benefit in order to obtain a higher or full wage replacement during leave. An employee is not required to use these designated benefits to supplement their PFML benefit, but if an employee taking PFML leave elects to use supplemental benefits the employee must notify the District at the start of the PFML leave of the desire to use those other benefits to increase their wage replacement during the leave. Under no circumstances may an employee utilize other benefits to supplement their PFML benefit with the result of receiving a higher wage during leave than if they were working.

Minnesota Watersheds Additional Resolutions

MEMORANDUM
Rice Creek Watershed District

Date: November 4, 2025
To: RCWD Board of Managers
From: Nick Tomczik, Administrator
Subject: MN Watersheds Additional Resolutions for 2025

Introduction
Minnesota Watersheds released three additional resolutions from membership for member consideration. The District Board to consider and later act to set delegate voting.

Background
Minnesota Watersheds annually solicits member proposed resolutions from which to set legislative initiatives. The District Board previously acted at its august 13th meeting on the previous resolutions; these are additional resolutions.

The three new resolutions will be discussed in a Resolutions Hearing at the annual business meeting on Friday, December 5. The hearing will be the same as in previous years. The difference is that these resolutions require a 2/3 majority of the delegates present for it to be adopted.

Staff Recommendation
Staff recommend that the Board review and discuss the additional resolutions and provide consensus direction, vote, instructing delegate voting.

Attachment
- Minnesota Watersheds Additional Three Resolutions

BACKGROUND INFORMATION ON MINNESOTA WATERSHEDS RESOLUTION 2025-04

Resolution Seeking Revision to Minnesota Statute 471.617 to Include Watershed Districts and Watershed Management Organizations

Proposing District: Prior Lake-Spring Lake Watershed District
Contact Name: Joni Giese, Administrator
Phone Number: 952-440-0067
Email Address: jgiese@plslwd.org

Background that led to submission of this resolution:
The Scott County Association for Leadership and Efficiency (SCALE) is currently studying the feasibility of creating a self-insurance pool for employee health benefits. Benefits of a self-insurance pool may include increased flexibility in employee health insurance plan design to better meet employees' needs. It may also result in lower employee health benefits costs for pool participants. Governmental entities currently investigating the self-insurance pool formation include Scott County, municipalities within Scott County, and the Prior Lake-Spring Lake Watershed District.

Minnesota Statute 471.617, Subdivision 2 states any two or more statutory or home rule charter cities, counties, school districts, or instrumentalities thereof which together have more than 100 employees may jointly self-insure for any employee health benefits. The current statute does not include Watershed Districts or Watershed Management Organizations in the list of political subdivisions allowed to jointly self-insure for employee health benefits.

Prior Lake-Spring Lake Watershed District advocates a revision to the statute to explicitly list Watershed Districts or Watershed Management Organizations to the list of political subdivisions that can self-insure for employee health benefits.

Efforts to solve the problem
The issue has been brought to the attention of a state legislator who indicated an openness to address the issue. It was also brought forward to the SCALE legislative committee as a potential legislative priority for the 2026 session.

Is legislative action the best means of addressing the matter? If yes, what is the purpose or intent of your proposal? If not, what advocacy steps could be taken with state or local government officials?
Legislative action is required to change the statute. The intent of this proposal is to change Minnesota Statutes 471.617, Subdivisions 1 and 2 to include Watershed Districts and Watershed Management Organizations as authorized entities that can self-insure for employee health benefits.

Anticipated support or opposition
Other governmental entities considering the formation of the self-insurance pool for employee health benefits may support this issue. Other Watershed Districts and Watershed Management Organizations who may be interested in a self-insurance approach for employee health benefits may support the issue. Opposition to the statute revision is not anticipated.

This issue: (check all that apply)

Applies only to our district:		Requires legislative action:	X
Applies only to 1 or 2 regions:		Requires state agency advocacy:	
Applies to the entire state:	X	Impacts MW bylaws or MOPP:	

MINNESOTA WATERSHEDS RESOLUTION 2025-04

Resolution Seeking Revision to Minnesota Statute 471.617 to Include Watershed Districts and Watershed Management Organizations

WHEREAS, Minnesota Statute 471.617 Self-Insurance of Employee Health Benefits, Subdivision 1 states a statutory or home rule charter city, county, school district, or instrumentality thereof which has more than 100 employees, may by ordinance or resolution self-insure for any employee health benefits; and

WHEREAS, Minnesota Statute 471.617, Subdivision 2 states any two or more statutory or home rule charter cities, counties, school districts, or instrumentality thereof which together have more than 100 employees, may jointly self-insure for any employee health benefits; and

WHEREAS, governmental entities within Scott County are considering the formation of a self-insurance pool for employee health benefits; and

WHEREAS, Prior Lake-Spring Lake Watershed District would like the opportunity to join the self-insurance pool; and

WHEREAS, Minnesota Statute 471.617, Subdivisions 1 and 2 do not expressly include Watershed Districts or Watershed Management Organizations in the list of political subdivisions allowed to self-insure for employee health benefits.

NOW, THEREFORE, BE IT RESOLVED that Minnesota Watersheds seeks revision to Minnesota Statute 471.617, Subdivisions 1 and 2 to explicitly include "Watershed Districts and Watershed Management Organizations" on the list of political subdivisions allowed to self-insure for employee health benefits.

Notes:

BACKGROUND INFORMATION ON MINNESOTA WATERSHEDS RESOLUTION 2025-05

Resolution Improving Mitigation Under the Minnesota Endangered Species Act

Proposing District: Coon Creek Watershed District
Contact Name: Jon Janke, Administrator
Phone Number: 763-755-0975
Email Address: jjanke@cooncreekwd.org

ADDRESSING THE CONSERVATION OF ENDANGERED AND THREATENED SPECIES AND ENCOURAGING THE MINNESOTA DEPARTMENT OF NATURAL RESOURCES TO DEVELOP SPECIES RECOVERY PLANS, COOPERATE WITH LOCAL LAND AND WATER MANAGEMENT AUTHORITIES, AND DEVELOP A SYSTEM OF AGREEMENTS, MITIGATION BANKING AND GUIDANCE TO AVOID, MINIMIZE AND MITIGATE IMPACTS ON LISTED SPECIES

Background that led to submission of this resolution:
The Minnesota Department of Natural Resources is directed by statute to "preserve important existing natural habitats of rare and endangered plants, wildlife and fish, provide for the wise use of our remaining areas of natural habitats, take necessary protective measures where appropriate, and to not issue a "takings" permit until all alternatives have been evaluated (M.S. 84.095; MS 116D.02).

The DNR tends to rely on only two of the three primary types of mitigation.

1. Permittee responsible for mitigation where the permittee carries out all mitigation efforts required by the takings permit and retains legal liability for conforming to the permit standards;
2. In-lieu fee compensation, in which the permittee pays a fee, and in exchange is relieved of any liability for ensuring that mitigation measures are completed and successful.

(NOTE: Third method is banking based on species recovery plans)

Despite the importance of mitigation, the DNR does not have a uniform approach or statewide mitigation policy to guide permitting and mitigation decisions at the local level resulting in inconsistent mitigation outcomes even for the same species, which cost time and is expensive for the applicant, rather than continue to make mitigation more predictable and transparent.

With the state's water quality mandates, flood risk reduction needs and increasing demand to be fiscally efficient and effective, the need to improve mitigation while continuing to encourage the recovery of listed threatened and endangered species is vital. Most of the projects that led to the permit efficiency initiative, resolution and draft legislation endorsed by the MW Board, have involved endangered or threatened species and have been delayed in part because of DNRs limited options.

Efforts to solve the problem
The need for DNR to identify critical habitats and procedures to ensure the conservation of listed species, encourage their recovery, increase certainty for everyone involved during land use actions that involve these species as well as develop additional tools to preserve and/or restore critical habitats was discussed generally during the January, February and March 2025, Coon Creek Watershed District and Minnesota Watersheds staff met with the MDNR commissioners, Division Directors and lead program staff.

Those meetings have yet to produce any practical or feasible alternatives or clear or practical paths to conserving these species or reducing the risk and uncertainty in pursuing public projects or the waste of public funds.

Is legislative action the best means of addressing the matter? If yes, what is the purpose or intent of your proposal? If not, what advocacy steps could be taken with state or local government officials?
Legislation is needed to effectively address the problem and concerns .

The purpose is to facilitate improvements in mitigation efforts and to confront future challenges arising from infrastructure development and the mandate to restore impaired waters.

Our intent is to develop a third mitigation strategy to reduce the risk and uncertainty in both the preservation of endangered and threatened species and the restoration of natural infrastructure and impaired waters. To do this we must engage the DNR with the legislature's knowledge to:

1. Develop and implement species recovery plans based on no net loss
2. Use species recovery goals to inform mitigation measures.
3. Change the conversation involving approved local restoration projects to joint problem solving
4. Authorize and encourage DNR to engage in local management and cooperative agreements.
5. Refine the disclosure and documentation of projects in state reviewed and approved plans, studies and strategies that require approval by the state, and
6. Provide for conservation banks that provide the ecological functions and services expressed as credits that are preserved and managed in perpetuity for particular species and used to offset impacts occurring elsewhere.

Anticipated support or opposition

Support:
Watershed Districts
Soil and Water Districts
Highway authorities
Pipeline owners

Opposition:
Environmental groups

This issue: (check all that apply)

Applies only to our district:		Requires legislative action:	X
Applies only to 1 or 2 regions:		Requires state agency advocacy:	\-
Applies to the entire state:	X	Impacts MW bylaws or MOPP:	

MINNESOTA WATERSHEDS RESOLUTION 2025-05

Resolution Improving Mitigation Under the Minnesota Endangered Species Act

WHEREAS, the Minnesota Environmental Policy Act (M.S. 116D.02) and the Threatened and Endangered Species (M.S. 84.095) requires the Minnesota Department of Natural Resources to:

- Preserve important existing natural habitats of rare and endangered species of plants, wildlife and fish
- Provide for the wise use of our remaining areas of natural habitat
- Protect Threatened and Endangered Species
- Not issue a takings permit until "all alternatives, including trapping and transplantation, have been evaluated

(M.S. 116D.02 Subd. 2 (10) & M.S. 84.095 Subd. 7 (c))

WHEREAS, the future status of a species, after it is listed, is often dictated by DNR permits and authorizations for activities that affect the listed species, and

WHEREAS, at the crux of permit review is how the proposed impacts might be avoided, minimized, and/or offset, making mitigation one of the most important factors in determining the effectiveness of the Minnesota Endangered Species Act and whether we save or lose species, and

WHEREAS, the Minnesota Department of natural Resources relies on only two of the three primary types of mitigation; (1) Permittee responsible mitigation where the permittee carries out all mitigation efforts required by the takings permit and retains legal liability for conforming to the permit standards; and (2) In-lieu fee compensation, in which the permittee pays a fee, and in exchange is relieved of any liability for ensuring that mitigation measures are completed and successful, and,

WHEREAS, despite the importance of mitigation, the DNR does not have a uniform approach or statewide mitigation policy to guide permitting and mitigation decisions at the local level resulting in inconsistent mitigation outcomes and resulting in timely and expensive processes for applicants rather than make the review and mitigation process more predictable and transparent, and,

WHEREAS, with population and economic growth, the state's water quality and impaired waters mandates as well as the increasing need to be fiscally efficient and effective, the need exists to improve mitigation while listed threatened and endangered species recover, and,

WHEREAS, these needed improvements in the process will be particularly important given the need to restore the quality of the state's impaired waters as well as repair and replace the state and local roads, bridges and other infrastructure, and

WHEREAS, many of these mandated and needed activities could impact endangered species and their habitats, better approaches to review and mitigate impacts are needed to minimize the friction between our conservation goals for fish and wildlife and our water restoration goals as well as reduce the costs of studies and planning.

NOW, THEREFORE, BE IT RESOLVED that Minnesota Watersheds should pursue legislation that addresses the need to improve threatened and endangered species mitigation by addressing past gaps and future challenges arising from approved water quality restoration projects, and

BE IT FURTHER RESOLVED that Minnesota Statute 84.0895 should be amended to require the Commissioner of Natural Resources to develop and implement recovery plans for the conservation and survival of state listed endangered and threatened species, and

BE IT FURTHER RESOLVED that the Commissioner shall cooperate to the maximum extent practicable with local land and water management authorities. Such cooperation in implementing the endangered species act shall allow the Commissioner to:

a) Enter into management agreements with any local land managing unit of government for the administration and management of an area established for the conservation of endangered or threatened species.
b) Enter into cooperative agreements which establishes and maintains an adequate and active program for the conservation of endangered and threatened species.
c) Conduct periodic review of locally administered programs at no greater frequency than annual intervals.

BE IT FURTHER RESOLVED that Minnesota Statutes 84.0895 Subd 7, which outlines general exceptions, should be amended by adding (f) the commissioner must give approval under this subdivision to water management projects that are part of a state approved:

a) Comprehensive Watershed Management Plans and capital improvement plans under MS 103B or MS 103D;
b) Watershed Restoration and Protection Strategies (WRAPS);
c) Load reduction studies,
d) Impairment monitoring and other studies, particularly studies involving impairments for fish and aquatic life.

BE IT FURTHER RESOLVED that Minnesota Statutes 84.0895 should be amended to provide for "conservation banking" defined by a site or suite of sites that provide the ecological functions and services expressed as credits that are conserved and managed in perpetuity for a species and used expressly to offset impacts occurring elsewhere to the same species.

Notes:

BACKGROUND INFORMATION ON MINNESOTA WATERSHEDS RESOLUTION 2025-06

Resolution Supporting a Legislative Amendment to Clarify the Deadline for Watershed Districts to Certify Levies

Proposing District: Comfort Lake-Forest Lake Watershed District
Contact Name: Michael Kinney, Administrator
Phone Number: 651-395-5855
Email Address: michael.kinney@clflwd.org

Background that led to submission of this resolution:
Watershed districts are "special taxing districts" as defined at Minnesota Statutes §275.066. Under the "Truth in Taxation" statute, Minnesota Statutes §275.065, special taxing districts must certify their levies by September 30 of each year. Previously, this deadline was September 15, but in 2017 the legislature changed this to September 30. However, the watershed law, at Minnesota Statutes §§103D.911 and 103D.915, states a September 15 deadline. It seems nearly certain that when the legislature changed the deadline in the Truth in Taxation law, it simply didn't take account of the specific provisions in the watershed law, and the need to amend these as well. Now there are two different dates in the law.

As a consequence, every year there is confusion. Our county auditors distribute materials advising us of a September 30 deadline and are unaware of the September 15 deadline in the watershed law. We understand this is true for watershed districts in other counties as well. We have spoken with a Mn Department of Revenue representative, who was not aware of the specific term in the watershed law. However, legal counsel advises that as a technical matter, the earlier deadline in the watershed law remains applicable. The purpose of this legislative change is to make a correction that the legislature overlooked in 2017, remove confusion, and allow watershed districts, without risk, the additional two weeks as may be desirable in their annual budgeting process.

Efforts to solve the problem
The matter is resolved only by this legislative change to the watershed law.

Is legislative action the best means of addressing the matter? If yes, what is the purpose or intent of your proposal? If not, what advocacy steps could be taken with state or local government officials?
Yes, the issue is a conflict between two statutes, and so legislative action is the only means to resolve it. Each watershed district could ask its county auditor(s) to affirm that they will accept levy certifications to September 30, but this is inefficient and still would risk districts being in technical non-compliance with the watershed statute.

Potential solutions include
Amending Minnesota Statutes §§103D.911 and 103D.915 from "September 15" to "September 30."

Anticipated support or opposition
We would expect support from all watershed districts, county auditors, and possibly the Mn Department of Revenue. We would not expect opposition.

This issue: (check all that apply)

Applies only to our district:		Requires legislative action:	X
Applies only to 1 or 2 regions:		Requires state agency advocacy:	
Applies to the entire state:	X	Impacts MW bylaws or MOPP:	

MINNESOTA WATERSHEDS RESOLUTION 2025-06

Resolution Supporting a Legislative Amendment to Clarify the Deadline for Watershed Districts to Certify Levies

WHEREAS, the Minnesota Truth-in-Taxation statute, Minnesota Statutes §275.065, specifies procedures and deadlines for "special taxing districts" to determine and certify property tax levies, and watershed districts are defined, at Minnesota Statutes §275.066, as special taxing districts; and

WHEREAS, the Truth-in-Taxation statute previously required special taxing districts to certify tax levies to county auditors by September 15 each year, but in 2017 was amended to specify a September 30 deadline; and

WHEREAS, since 1994, the watershed law, at Minnesota Statutes §§103D.911 and 103D.915, has specified a September 15 deadline to certify tax levies; and

WHEREAS, it is fairly presumed that when the legislature amended the Truth-in-Taxation levy certification deadline in 2017, it overlooked the deadlines also specified in the watershed law, and did not intend to create two different certification deadlines for watershed districts; and

WHEREAS, the existence of two deadlines creates confusion annually among watershed districts and county auditors, risks technical non-compliance with levy requirements, and risks that a levy certification may be disrupted or deemed ineffective.

NOW, THEREFORE, BE IT RESOLVED that Minnesota Watersheds supports the introduction of legislation to amend Minnesota Statutes §§103D.911 and 103D.915 to specify a levy certification deadline of September 30.

Notes:

2026 Administrator Salary

Gallagher

Insurance | Risk Management | Consulting

MEMORANDUM

TO: **Rice Creek Watershed District**

FROM: **Arthur J. Gallagher & Co. (AJG)**

DATE: **October 21, 2025**

SUBJECT: **Salary Increase & Structure Adjustment Market Trends**

The following memo outlines the 2025 and projected 2026 market trends for salary budget (base pay increases) and salary structure adjustment trends in the market.

AJG gathered market trend rates from the *WorldatWork 2025-26 Salary Budget Survey*. These projections are an estimate based on the labor market trends for salary budget increases (base pay increases), and salary structure increases as represented by participants.

We utilized the *WorldatWork Salary Budget Survey* based on the following parameters:

- Widely accepted salary survey across private and public sector organizations with robust participation. The FY 2025-26 survey includes 1,773 participants.
- Survey concentrates solely on salary budget planning information.
- Able to repeat the various labor markets (i.e., National, Regional, State, Metro area).

Salary Budget increases and Salary Structure increases are two different adjustments.

The 'Salary Budget' increase as defined by *WorldatWork* refers to total increases (General, COLA, Merit, and Other) expressed as a percentage of payroll to be granted as increases during the year. We use this adjustment to age the actual salary data.

The 'Salary Structure' increase as defined by *WorldatWork* refers to percentage change in the control (or midpoints) of the formal salary range, band, or wage rate that are adjusted to reflect movements in the marketplace. We use this adjustment to age salary range data.

Salary Budget (Base Pay Increases)

The following table outlines the most recent (2025) and projected (2026) base pay increases reported by *WorldatWork 2025-26 Salary Budget Survey* respondents for Public Sector, All Industries, and the Utilities industry by geographic region.

BASE PAY INCREASE				
	ACTUAL 2025		PROJECTED 2026	
Public Sector	**Median (%)**	**Average (%)**	**Median (%)**	**Average (%)**
COUNTRY - US	4.0%	4.2%	4.0%	3.9%
REGION - CENTRAL US	3.0%	4.0%	4.0%	4.2%
STATE - MINNESOTA	6.4%	5.4%	7.0%	5.7%
Overall Average:	**4.5%**	**4.5%**	**5.0%**	**4.6%**
All Industries	**Median (%)**	**Average (%)**	**Median (%)**	**Average (%)**
COUNTRY - US	3.5%	3.7%	3.5%	3.6%
REGION - CENTRAL US	3.5%	3.6%	3.5%	3.6%
STATE - MINNESOTA	3.5%	3.6%	3.5%	3.5%
Overall Average:	**3.5%**	**3.6%**	**3.5%**	**3.6%**
Utilities	**Median (%)**	**Average (%)**	**Median (%)**	**Average (%)**
COUNTRY - US	3.8%	4.0%	3.5%	3.8%
REGION - CENTRAL US	3.5%	3.8%	3.5%	3.8%
STATE - MINNESOTA	4.0%	3.8%	3.7%	3.7%
Overall Average:	**3.8%**	**3.9%**	**3.6%**	**3.8%**

According to WorldatWork, the actual overall base pay increase for the Utilities industry in 2025 was 3.8% (median) and 3.9% (average), which is higher than the increases reported for All Industries and lower than the Public Sector. Projected for 2026, the overall base pay increase for the Utilities industry is 3.6% (median) and 3.8% (average). In comparison, the All-Industries projection for 2026 is lower at 3.5% (median) and 3.6% (average), while the Public Sector industry is projected higher at 5.0% (median) and 4.6% (average).

2024 Board Action 3% increase

Administrator's current salary: $139,343

Board's 2025 Administrator Evaluation

Overall Rating 2.4

1= Needs Improvement

2= Meets Expectations

3= Exceeds Expectations

4= Outstanding