BROWN'S CREEK WATERSHED DISTRICT

455 HAYWARD AVE N
OAKDALE, MN
55128

651.330.8220 X26 [PHONE]
651.330.7747 [FAX]
WWW.BCWD.ORG

REGULAR MEETING OF THE BOARD OF MANAGERS
Wednesday, June 12, 2024 at 6:30 PM

NOTE MEETING LOCATION
Regular Board Meeting will be held at
Family Means
1875 Northwestern Ave, Stillwater, MN 55082

1) Call Regular Meeting to order

2) Approve Regular Meeting Agenda and Discussion Agenda **-Board Action**

3) Public Comments

4) Consent Agenda – **Board Action** (*all items listed under the consent agenda are considered to be routine by the Board of Managers and will be enacted by one motion. There will be no separate discussion on these items unless a Manager removes an item from the consent agenda for discussion or there is a request to remove the item from the consent agenda, in which event the board will consider whether to remove the item from the consent agenda and consider it separately.*)
   a) Approve Board Meeting Minutes of the May 8, 2024 Regular Meeting
   b) Accept Permit Fee Statement
   c) Authorize board per diem, registration, and expenses and staff registration and expenses for MN Watersheds Summer Tour June 25-26, 2024 in St. Paul, MN

5) Treasurer's Report
   a) Review Authorized Funds Spreadsheet
   b) Current Items Payable-**Board Action (Roll Call Vote)**

6) Permits
   a) BCWD Permit 22-18 Stillwater Oaks – Permit Amendment and Extension - **Board Action**

7) Projects
   a) Brown's Creek Restoration - **Board Action**

8) Planning
   a) Hydrologic and Hydraulic Modeling – **Board Action**
   b) Management Plan Update Discussion

9) Discussion Agenda - No Action Required
   a) Updates
      (1) Administrator
         (a) Management Plan Update – kick-off meeting July 9, 2024 at Stillwater Library 2-6pm

(b) HELP grant application
(c) 2025 Budget process:
(i) July 10, 2024 Regular meeting initial budget discussion
(ii) August 14, 2024 – workshop 5-6:30pm
(iii) September 11, 2024 – tentative workshop 5-6:30pm, public hearing at regular meeting

(2) Legal
(3) Engineer –
(a) Permit Inspections
(4) Managers

b) July 2024 Regular Meeting BCWD Board Agenda:

10) Adjournment

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DRAFT Minutes of the regular meeting of the Brown's Creek Watershed District Board of Managers, Wednesday May 8, 2024

ROLL CALL

Managers Present:	**Others Present:**
Klay Eckles, President	Karen Kill, BCWD administrator
Celia Wirth, Vice President	Camilla Correll, EOR, BCWD engineer
Gerald Johnson, Treasurer	Michael Welch, Smith Partners, BCWD counsel
Chuck LeRoux	Cameron Blake, BCWD
Debra Sahulka, Secretary	Tyler See, Abdo
	Ryan Fleming, EOR, BCWD engineer
	Stu Grubb, EOR, BCWD engineer
	Aaron DeRusha, Washington Conservation District

1) Call to Order

President Klay Eckles called the regular meeting to order at 6:30 p.m.

2) Approve Agenda

Manager LeRoux moved, seconded by Manager Johnson, to approve the agenda as presented. Motion carried, 5/0

3) Public Comments

There were no public comments

4) Consent Agenda

Manager LeRoux moved, seconded by Manager Johnson, to approve the consent agenda:

a) Approve minutes of the April 10, 2024, regular meeting
b) Accept permit fee statement
c) Authorize president to execute amended agreement with city of Stillwater for the Brown's Creek Restoration Project
d) Authorize expenditure with Stillwater Printing for public notice for Brown's Creek Restoration Project not to exceed $1,500 from account 947-0022
e) Authorize Washington Conservation District scope for shoreline assessments on Woodpile, Masterman, Long Lakes not to exceed $518 from

account 300-4710-1 and transfer $518 from contingency reserve to account 300-4710-1
f) Approve Lower St Croix One Watershed One Plan workplan amendment as presented
g) Approve EOR groundwater monitoring scope for 2024 not to exceed $3,960 from account number 942-0004 and $10,724 from account number 942-0011. Motion carried 5/0.

5) Treasurer's Report

a) Review Authorized Funds Spreadsheet

Manager Johnson moved, seconded by Manager LeRoux, to accept the authorized funds spreadsheet as presented. Motion carried, 5/0.

b) Current Items Payable

Manager Johnson moved, seconded by Manager LeRoux, to authorize payment of bills as presented in the amount of $93,887.41. Motion carried on a roll call vote, 5/0.

c) 2023 Audit Presentation

Tyler See presented the 2023 audit of BCWD financial performance. The auditors returned an unmodified opinion. There was one internal control finding noting the district does not have an independent auditor prepare the financial statement and the footnotes in the audit report. This is a recurring finding and common for organizations the size of the district. The managers agreed on the draft management response, which states that due to the size of the district the board accepts the degree of risk of not opting to audit the auditor.

Manager Wirth moved, seconded by Manager Sahulka, to accept the 2023 audit and to authorize the administrator to finalize and distribute the audit as required by statute. Motion carried, 5/0.

6) Permits

a) BCWD Permit 24-06 Rutherford Elementary – Engineer Review

Camilla Correll presented an overview of the recreational facilities improvements and the plan for stormwater treatment on the school site. The applicant is requesting a variance from the BCWD volume requirement because management of parking-lot runoff is provided in lieu of treating runoff from the proposed trail. The managers noted the difficulty in capturing trail runoff with a stormwater practice. They acknowledged that some treatment will occur as the trail runoff will flow across a field, and the infiltration basin for the parking lot will serve an overall greater site level pollutant capture.

Manager Wirth moved, seconded by Manager Johnson, to approve the permit and variance with all the outlined conditions and stipulations in the engineer's report. Motion carried, 5/0.

7) Projects

a) Monitoring Result Presentations

(1) Macroinvertebrate monitoring in Brown's Creek

Mike Majeski explained that monitoring macroinvertebrates provides the district with an indicator of water quality of Brown's Creek, which allows for adaptive management and measurement of district goals related to the current impairment listing for biota. He noted long-term data are important to see trends, and that future goals for the creek could include reintroducing native brook trout. Data collected between 2015 and 2023 indicate an overall improving trend in stream health and macroinvertebrate community quality.

(2) Lakes and Stream monitoring

Aaron DeRusha explained that despite warmer temperatures and lower precipitation rates the last two years the water monitoring results are still showing improving trends for pollutant levels and creek temperatures.

Lake and wetland water levels have continued to fall after record high levels in 2020.

Chlorides were sampled in all district lakes and large ponds for the first time in 2023. Only Sinnets Pond, the former Jackson Wildlife Manage Area, was close to state impairment standards.

The water quality from the diversion drainage area toward McKusick Lake is improving. In addition to recent restoration projects in this drainage area, he noted the presence of beaver dams in the diversion drainage system that are further helping reconnect the floodplain in this tributary.

(3) Groundwater trends

Stu Grubb reviewed groundwater trend data from the district's residential wells network as well as larger capacity wells, and Department of Natural Resources observational wells. Groundwater levels increased up to 2020 and have been decreasing since then.

(4) Performance Monitoring

(a) Iron Enhanced Sand Filter Project & Scope

Ryan Fleming explained there was on overall lower range of total phosphorus removed from the filter in 2022 and 2023. This could be due to drought and how much water could be pumped into the system. There is also a higher rate of phosphorus discharging from the filter. It is still removing dissolved phosphorus, but is losing capacity. Based on media testing the filter may have three years of capacity remaining.

Lifetime performance was calculated. The system is estimated to have removed about 240 pounds of phosphorus over 10 years; 60 pounds dissolved phosphorous and 180 pounds of particulate phosphorous. An additional 2,800 pounds of total phosphorous was removed through two dredgings of the harvest pond. The cost to remove a pound of phosphorus equates to $200 with harvest dredging and $2,500 by the filter only per pound of phosphorus removal.

Manager Wirth moved, seconded by Manager Johnson, to approve the 2024 iron enhanced sand filter operation and maintenance scope of services for an estimated cost of $21,570 from account 948-0000. Motion carried, 5/0.

(b) Brown's Creek Park Rock Crib

Ms. Correll explained that the goal of the rock crib the district constructed in Brown's Creek Park was to reduce water temperatures and phosphorus from the surface run off from the park parking lot and a portion of Neal Ave. Overall the practice is reducing the temperature of the runoff between 2 and 2.5 degrees before it enters Brown's Creek. The impact to the creek is less clear at this point, but more practices like this would have a cumulative positive impact on the resource. There are opportunities downstream of the restoration project to add a similar project as well as retrofit opportunities with existing best-management practices that the district can consider in future planning.

(5) Drone Flight Results

Mr. Majeski explained that the survey found one beaver dam, which is not of concern. There was some cutting of alder by a landowner and one previously known beaver dam disappeared. There were a few downed trees that can be observed to make sure they do not become an obstruction in the future. Ms. Kill explained she could put a link to the drone flight video on the district's website.

b) 62nd Street Trail Flood Risk Reduction Project– Public Hearing & Resolution 24-02

President Eckles called the public hearing on ordering a cost-share project to support the City of Stillwater's work on the 62nd Street Trail to mitigate flood risk to adjacent homes. No public were present for the hearing. Mr. Welch explained that support for this project in the management plan is minimal. The board acknowledged these concerns, but agreed that this flood reduction collaboration fits the overall mission of reducing flood risk.

Manager Johnson moved, seconded by Manager Eckles, to adopt Resolution 24-02 – Ordering the 62nd Street Trail Flood-Resilience Improvement Project and authorizing work in support of the project by the administrator:

	Yea	Nay	Abstain	Absent
Manager Eckles	**X**			
Manager Johnson	**X**			

Manager LeRoux X
Manager Sahulka X
Manager Wirth X
Motion carried 5/0.

8) Discussion Agenda

a) Updates

(1) Administrator

(a) Management Plan Update – kick-off meeting
There will not be a quorum as required by statue on June 6, 2026. Ms. Kill will resend a poll to find an alternative meeting time. Other participants will include regulatory staff, and participation form stakeholders that were contacted during the enhanced engagement efforts.
(b) HELP grant application
There is an opportunity to apply for funds for continuing restoration at the Brown's Creek Conservation Area, as well as potentially enhancing buffers in the watershed in collaboration with homeowner associations.
(c) Coordination with city of Stillwater Northland Ave/Brewers Pond drainage
The city is interested in exploring whether needed stormwater pipe repairs could be turned into a retrofit opportunity for Brewer's Pond water quality improvements.
(d) Brown's Creek Restoration Project - The Brown's Creek restoration project notice to proceed is being distributed tomorrow with contractor mobilization proposed the week of May 20. The contractor proposes to work west of Neal Ave in June and west of Neal Ave in July. A postcard notice will be mailed to neighboring residents within about a half mile radius and project information is available on the district website.

(2) Legal

Mr. Welch explained that there was something of a compromise reached on the state plumbing board's decision to interpret and apply the plumbing code to inhibit effective design of stormwater-management facilities, with an uncertain commitment from the plumbing board reconsider the issue in rulemaking.

12) Adjournment

Manager Johnson moved, seconded by Manager Sahulka, to adjourn the meeting at 9:26p.m. Motion carried 5/0.

Respectfully Submitted by
Karen Kill, BCWD Administrator and Debra Sahulka, Secretary

APPLICANT/PERMIT NO.	RULES							TYPE				FEES OWED	
	2	3	4	5	6	7	Decompaction	GOV	SF RES	RES DEV	COM	EXEMPT	AMT DUE
Bergmann Development/Sanctuary Permit No. 05-12	X	X	X			X				X			$ -
Stillwater Medical Center Parking Permit 13-26	X	X				X					X		$3,039.10
Brown's Creek Cove Permit 15-07	X	X	X			X				X			$8,238.52
Heifort Hills Permit 16-03	X	X	X	X		X				X			$1,327.34
Farms of Grant/White Oaks Savannah Permit 17-01	X	X	X			X				X			$18,688.54
The Lakes of Stillwater Permit 17-04	X	X	X			X					X		$3,368.08
West Ridge Permit 17-17	X	X	X			X	X			X			$701.51
Heifort Hills Estates Permit 18-02	X	X	X			X	X			X			$41,206.46
Boutwell Farms Permit 18-04A	X	X	X			X	X			X			$0.79
Hazel Place/Hertiage Ridge Permit 18-05 (Was 17-09)	X	X	X			X	X			X			($2,445.17)
Nottingham Village Permit 18-06	X	X	X			X				X			$650.03
Ridgecrest Permit 18-11	X	X				X	X				X		$16.68
St Croix Valley Recreation Center Expansion Permit 18-14		X				X	X	X				$6,970.28	
Central Commons Permit 19-05	X	X	X			X	X				X		($5,000.00)
Neal Ave Road Reconstruction Permit 20-05	X	X						X				$19,088.31	
CSAH 15-36 Interchange Permit 20-08		X			X	X		X				$19,495.85	
White Pine Ridge Permit 20-12		X					X			X			($631.32)

APPLICANT/PERMIT NO.	RULES							TYPE				FEES OWED	
	2	3	4	5	6	7	Decompaction	GOV	SF RES	RES DEV	COM	EXEMPT	AMT DUE
Westridge Block 1 Lot 1 Permit 21-09 - NOPV, no permit received		X					x		x				$2,885.11
Maryland Gateway Addition Permit 21-13	x	x				x				x			($854.61)
Schwartz Residence Permit 21-15	x	x							x				($319.38)
Millbrook Park- City of Stillwater Permit 21-21	x	x	x					x				$6,970.18	
Fahey Permit 21-34		x							x				($743.78)
Norell Ave N Improvements Permit 21-45	x	x				x		x				$10,458.63	
Gonyea (8 lots)- White Pine Ridge Permit 22-02		x								x			($570.51)
Wetridge (12 lots) - Sharkey/GreenHalo Permit 22-03 (Transferred 21-30 and 21-31)		x								x			($442.71)
13290 Boutwell Road N - Sharkey/GreenHalo Permit 22-05		x								x			($590.51)
7125 Lone Oak Trail (WOS L106)-weichman Permit 22-11		x							x				$7,395.12
13199 Dellwood Rd Permit 22-15		x							x				$217.83
Read Residence Permit 22-17	x	x							x				$1,246.52
Stillwater Oaks Permit 22-18	x	x								x			$6,365.25
Miller Flood Protection Permit 22-19						x				x		$0.00	
Popeyes OPH Permit 22-20		x									x		($266.26)
Fanberg Residence - Manning Estates L4B3 Permi 22-22		x							x				($729.36)
7138 Lone Oak Trl N (WOS L109) Permit 22-24		x							x				($0.20)

APPLICANT/PERMIT NO.	RULES							TYPE				FEES OWED	
	2	3	4	5	6	7	Decompaction	GOV	SF RES	RES DEV	COM	EXEMPT	AMT DUE
7164 Lone Oak Trl (WOS L113)		x							x				($49.83)
Permit 22-25													
Wash Co. CSAH 5 Phase II								x				$820.28	
Permit 22-30		x											
Wash Co. CSAH 57 culverts		x						x				$0.00	
Permit 22-31													
Cty Rd 61 Re-alignment	x	x						x				$8,073.47	
Permit 23-01													
WOS L114 - Cates (7211 Lone Oak Trail Tweden)		x	x			x			x				$8,327.82
Permit 23-02													
Boutwell Farm Lot 1 (2545 Boutwell Farm Rd)		x							x				$3,500.18
Permit 23-03													
Westridge B1L4 (986 Creekside)		x							x				($656.02)
Permit 23-04													
Rocket Carwash	x	x									x		$4,824.00
Permit 23-05													
7239 Lone Oak Trail (WOS L118)		x							x				$541.58
Permit 23-07													
72nd St Road and Trail Improvements								x				$3,254.41	
Permit 23-08													
Kirn Residence (McLafferty 8000 Neal Ave)		x							x				($693.29)
Permit 23-09													
Curio Dance Studio	x	x									x		$5,267.50
Permit 23-10													
7273 Lone Oak Trail- WOS Lot 122 - Freiroy Residence		x							x				$858.11
Permit 23-11													
CSAH 9 -Keystone Ave - Culvert Replacement						x		x				$1,525.04	
Permit 23-12													
The Lakes - Phase III/Sandhill Shores		x								x			($292.05)
Permit 23-13													
Wiskow Berm		x							x				($819.86)
Permit 23-14													
7085 Lone Oak Trail- WOS L102- Mensah Res/Cates		x							x				$1,098.36
Permit 23-15													

APPLICANT/PERMIT NO.	RULES							TYPE				FEES OWED	
	2	3	4	5	6	7	Decompaction	GOV	SF RES	RES DEV	COM	EXEMPT	AMT DUE
13294 Boutwell Rd. N Permit 23-16		x							x				($787.29)
Sundance Townhomes Permit 23-17	x	x	x			x					x		$6,688.75
7285 Lone Oak Trl- WOS L124 Permit 23-18		x							x				$44.32
Liberty Classical Academy Expansion Permit 23-19	x	x	x			x					x		$11,218.25
Lodges of Settler's Glen Pond Excavation Permit 23-20		x						x				$351.38	
Take 5 Oil Change Permit 24-01	x	x				x					x		$6,069.50
Schuster Residence- 122nd St N Permit 24-02		x							x				$685.87
WOS L120- 7255 Lone Oak- Hilgert Permit 24-03		x							x				$1,767.62
Washington County CSAH 5 - 36 to Croixwood Permit 24-04		x						x				$ 1,071.25	
Swager Residence Permit 24-05		x							x				$ (810.38)
Rutherford Elementary Permit 24-06	x	x				x		x				$ 7,842.75	
Elliot Crossing Permit 24-07	x	x	x			x				x			$ 4,810.00
Altendorfer Residence - 13075 Lynch Rd Permit 24-08		x							x				$ 146.25
Washington County CSAH 5 - Trails and Bridge Permit 24-09	x	x			x	x		x					$ 4,593.75
	90	326	34	15	27	160		71	153	13	119		
TOTAL NON-EXEMPT DUE BCWD:													**$163,587.17**
Total due back to applicants if closed:													**$ (212,376.33)**

Karen Kill

From: Maddy Bohn <mnwatershed@gmail.com>
Sent: Thursday, May 9, 2024 1:53 PM
To: Maddy Bohn
Subject: Summer Tour Invitation

Good afternoon, please join us for the 2024 East Metro Summer Tour!

Summer Tour Dates: June 25 - 26
Hosted by Capitol Region Watershed District and Ramsey Washington Metro Watershed District

Click here to register for the event. Registration $135.23/person
Book your hotel stay by following this link.
Workshop and Reception location: The Essence, Saint Paul, MN

Here's a tentative agenda for the event.

The Summer Tour provides the host watershed district(s) or watershed management organization(s) with the opportunity to showcase their watershed management efforts. It also provides members with the chance to visit other areas of the state to learn about watershed work from flood control and drainage to water quality and more.

Let me know if you have any questions and we look forward to your participation.

--

MINNESOTA WATERSHEDS
Maddy Bohn
Program Coordinator
651.900.3285

2024 East Metro SUMMER TOUR

Hosted by

MINNESOTA WATERSHEDS
Connecting People. Protecting Water.

CAPITOL REGION WATERSHED DISTRICT

RAMSEY-WASHINGTON METRO WATERSHED DISTRICT est 1975

Tuesday, June 25

Location: The Essence Event Center
1217 Bandana Blvd N #203, St Paul, MN

9:00a - 12:00p **Minnesota Association of Watershed Administrators (MAWA) Meeting**
12:00p - 1:00p **Lunch**
1:00p - 5:00p **Hear from the local experts**

1:00p Legislative Update
Jess Lindeen, MW Lobbyist

1:15p Parkers Lake Chloride Reduction Study
Laura Jester, Bassett Creek Watershed Management Organization
Greg Wilson, Barr Engineering

Parkers Lake, in the City of Plymouth, is impaired due to high chloride concentrations. Stormwater monitoring data shows that most chloride enters the lake from industrial and commercial areas northeast of the lake. This study included 1) development of a mass balance model to evaluate how historical stormwater chloride loadings impacted surface and bottom-water lake chloride concentrations; 2) permitting discussions with Met Council on potential discharge of chloride-laden lake water to the sanitary sewer; and 3) analysis of two different mechanisms to reduce chloride in Parkers Lake: pumping hypolimnetic water through an ion exchange system and returning cleaned water to the lake and, pumping hypolimnetic water through a reverse osmosis system and returning cleaned water to the lake. This presentation will focus on the viability and potential application of using the ion exchange and/or reverse osmosis systems to reduce chlorides in lakes or ponds.

2:00p Developing the MWMO Equity Strategic Action Plan
Abby Moore, Mississippi Watershed Management Organization

The MWMO will present on a planning effort begun in 2022 to initiate the process of institutionalizing principles of Diversity, Equity and Inclusion (DEI) into our work across all programs and projects. The presentation will provide a snapshot of the organization as well as the watershed and the people who live, work and play within its boundaries. It will provide an overview of the reasoning, process, outcomes and outlook as we continue to strive to meet our mission while reflecting and serving all of the people and places within the watershed. We will share the MWMO Equity Strategic Action Plan and highlight our accomplishments thus far.

2:45p RCWD Common Carp Management Program
Matt Kocian, Rice Creek Watershed District

The invasive common carp (Cyprinus carpio) are detrimental to water quality and lake ecology. The Rice Creek Watershed District (RCWD) has implemented an innovative, multi-year program to manage common carp in the Long Lake / Lino Chain of Lakes system. Pre-project carp density was very high (670 kg/ha) – nearly seven times the ecological damage threshold. Water quality in Long Lake and the Lino Chain was poor, with frequent algae blooms. The RCWD and Carp Solutions embarked on a multi-year comprehensive program

to reduce carp density. New and innovative tools and technologies were developed. A consistent, but flexible management approach was used, paying close attention to changing efficiencies of various management tools. Over 400,000 pounds of carp were removed from the system, and density was reduced by 88% to 80 kg/ha. In 2022, phosphorus concentrations in Long Lake were the lowest on record (38 yrs.). We will present details on program methods and water quality improvements to this successful, long-term carp management program.

3:30p Morningside Flood Infrastructure Project
Ross Bitner, City of Edina

The Edina's Morningside neighborhood has several low and flood prone area and climate change is increasing the risk. The City of Edina worked with the public to plan flood infrastructure to reduce the risk of flooding in the area.
The project included:
· Weber Pond and Lynn/Kipling Pond were expanded and lowered to create about 100ac-ft of flood storage
· An expanded and reconfigured pipe network and minor grade overflow changes to better route flood waters away from homes
· A new emergency flow swale to route water through Weber Park
· The activation of 40 ac-ft of pond flood storage with a real time control system for clean water and flood protection benefits
· Natural resources restoration in upland areas
· Nature trails and bridge crossings at two locations at Weber Park
· Improved pedestrian access to the park with ADA-compliant trails in Weber Park
· Rebuilt sports fields in impacted areas with new turf a shallow groundwater sourced irrigation systems

5:00p - 8:00p Welcome Reception, Dinner and Bus Tour Overview

Wednesday, June 26

Bus Tour Day - departing at 8:00a from the Best Western Plus Como Park Hotel, 1010 Bandana Blvd W, St Paul, MN
Stop locations include

Capitol Region Watershed District
Como Lake and BMPs
CRWD Office
Allianz Field
Highland Bridge

Ramsey-Washington Metro Watershed District
Lake Owasso County Park
Keller Golf Course
Maplewood Mall
Eastside St. Paul Partnerships

Thank you to our Sponsors!

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Brown's Creek Watershed District
2024 Approved Budget- Final Certified Levy
5-8-2024

		Revised 2023 Carry Forward for Approval	2024 Grants	2024 Levy	2024 Total Budget (For approval)	Allocated	Available
100-2910	Designated Funds - Management Plan Projects	*$ 992,580*			$ 992,580		$ 1,003,777
					$ -		$ -
Revenue					$ -		$ -
100-3700	Interest Income				$ -		$ -
100-3601	Metropolitan Council Outlet Monitoring Grant		$ 5,000		$ 5,000		$ 5,000
100-3630	Washington County Cost-share Applewood Reuse	*$ 66,800*			$ 66,800		$ 66,800
100-3631	MPCA Small Watershed Grant 2023-2026	*$ 320,706*			$ 320,706		$ 320,706
100-3100	Tax Levy			$ 1,180,803	$ 1,180,803		$ 1,180,803
TOTAL, ESTIMATED Sources of Funding		***$ 1,380,086***	***$ 5,000***	***$ 1,180,803***	**$ 2,565,889**		**$ 2,577,086**

ACCT. #	General Expenses	Revised 2023 Carry Forward for Approval	2024 Grants	2024 Levy	2024 Total Budget (For approval)	Allocated	Available
200-4000	Manager Per Diem and Expense			$ 10,000	$ 10,000	$ 10,000	$ -
200-4001	Manager Communications/Tablets	*$ 4,350*			$ 4,350	$ 4,350	$ -
200-4220	Secretarial Services	*$ 4,000*		$ (4,000)	$ -		$ -
200-4250	Dues & Subscriptions (MAWD 6500 and LMCIT 2500)			$ 9,000	$ 9,000	$ 9,000	$ -
200-4270	Bonding & Insurance			$ 6,000	$ 6,000	$ 6,000	$ -
200-4280	Postage & Delivery			$ 1,000	$ 1,000		$ 1,000
200-4290	Printing & Notices			$ 1,000	$ 1,000		$ 1,000
200-4330	Accounting			$ 4,560	$ 4,560	$ 4,560	$ -
200-4331	Audit			$ 10,300	$ 10,300	$ 10,300	$ -
200-4949	Misc., Other Expense			$ 2,000	$ 2,000	$ 1,000	$ 1,000
200-4320	Wash. Conservation District--Admin			$ 58,670	$ 58,670	$ 58,670	$ -
200-4265	Admin Conference Registrations			$ 2,000	$ 2,000		$ 2,000
200-4410	Legal Fees - General			$ 25,800	$ 25,800	$ 25,800	$ -
200-4500	Staff Engineer			$ 28,445	$ 28,445	$ 28,445	$ (1)
	Diversity, Equity and Inclusion Training			$ 5,000	$ 5,000		$ 5,000
	Contingency Reserve	*$ 45,824*		$ -	$ 45,824		$ 45,824
TOTAL GENERAL FUND EXPENSES:		***$ 54,174***	***$ -***	***$ 159,775***	***$ 213,948***	***$ 158,125***	**$ 55,823**

ACCT. #	MANAGEMENT PLAN EXPENSES	Revised 2023 Carry Forward for Approval	2024 Grants	2024 Levy	2024 Total Budget (For approval)	Allocated	Available
300-4320	Wash. Conservation District--Administrator			$ 176,005	$ 176,005	$ 176,005	$ -
300-4410	Legal Fees - Mgmt Plan			$ 60,000	$ 60,000		$ 60,000
300-4501	Staff Engineer			$ 90,474	$ 90,474	$ 90,474	$ 0
300-4702	Permitting, Legal Review			$ 15,000	$ 15,000		$ 15,000
300-4703	Permitting, Engineering Review			$ 55,000	$ 55,000		$ 55,000
300-4704	Permitting, Inspection Database			$ 1,000	$ 1,000		$ 1,000
300-4710-1	Baseline Monitoring	*$ 518*	$ 5,000	$ 136,420	$ 141,938	$ 141,938	$ -
300-4640	Equip. Maint. and Upgrades	*$ 15,000*		$ 10,000	$ 25,000	$ 7,400	$ 17,600
300-4810	Shared Educator Position			$ 20,500	$ 20,500	$ 20,500	$ -
300-4950	Management Plan Implementation -future projects			$ -	$ -		$ -
903-0001	Trout Habitat Preservation Project: Monitoring,			$ 6,500	$ 6,500	$ 6,490	$ 10
909-0000	Rules Review/Evaluation	*$ 27,000*		$ 3,000	$ 30,000		$ 30,000
909-0001	Groundwater Dep Nat Resource Inventory update	*$ 10,000*		$ (10,000)	$ -		$ -
909-0002	Permitting Program Internal Procedure updates	*$ 25,000*			$ 25,000		$ 25,000
910-0000	Education & Outreach			$ 15,000	$ 15,000	$ 13,648	$ 1,352
911-0000	Volunteer Stream Monitoring			$ 4,045	$ 4,045	$ 4,045	$ -
912-0000	Grant Preparation	*$ -*			$ -		$ -
914-0000	Homeowner BMP Program			$ 50,000	$ 50,000		$ 50,000
922-0000	Plan Reviews - LGU/LWMP				$ -		$ -
923-0000	H & H Model Maintenance	*$ 3,800*		$ 130,824	$ 134,624		$ 134,624
923-0002	Flood Risk Assessment	*$ 89,316*		$ (63,360)	$ 25,956	$ 25,956	$ -
927-0000	Management Plan Update	*$ 127,000*		$ 90,000	$ 217,000	$ 170,642	$ 46,358
929-0000	Long Lake Plan Implementation-shoreline management			$ -	$ -		$ -
929-0010	Long Lake -Implementation - regional treatment	*$ 75,000*		$ (75,000)	$ -		$ -
929-0011	Long Lake - 62nd Street Pond Retrofit Feasibility	*$ 15,000*			$ 15,000		$ 15,000
929-0012	Long Lake - Marketplace Reuse Feasibility	*$ 164,900*		$ 60,220	$ 225,120		$ 225,120
931-0001	Benz Lake Management Plan Implementation	*$ 15,500*		$ (15,500)	$ -		$ -
935-0000	Land Conservation Program	*$ 100,000*		$ 50,000	$ 150,000		$ 150,000
935-0002	110th Street Property Implementation	*$ 45,000*		$ 25,000	$ 70,000		$ 70,000
935-0003	Develop Land Conservation Priorities	*$ 20,000*			$ 20,000		$ 20,000
940-0000	BMP Program – LGU/Community Demonstration Projects	*$ 10,000*			$ 10,000	$ 10,000	$ -
942-0004	Measuring Trends in GW Elevations & Flow	*$ 3,960*			$ 3,960	$ 3,960	$ -
942-0007	Groundwater - Browns Creek piezometers	*$ 8,960*			$ 8,960		$ 8,960
942-0011	Groundwater - Coordination with users	*$ 40*		$ 24,000	$ 24,040	$ 24,036	$ 4
942-0012	Groundwater - Install Monitoring Wells	*$ 58,000*		$ (58,000)	$ -		$ -
942-0013	Groundwater - Pump Test	*$ 15,000*		$ (15,000)	$ -		$ -
947-0017	Brown's Creek Implementation - Ecoli site visits/cost-share	*$ 10,000*			$ 10,000		$ 10,000
947-0018	Brown's Creek - Biological Survey (Macroinvert & Fish)	*$ 4,000*			$ 4,000	$ 3,776	$ 224
947-0022	Brown's Creek - Buffer and Stream Restoration	*$ 330,000*		$ 133,000	$ 463,000	$ 359,244	$ 103,757
947-0023	Brown's Creek - Golf Course Reuse - Oak Glen				$ -		$ -
947-0026	Brown's Creek - Brown's Creek Cove Reach			$ 20,000	$ 20,000		$ 20,000
948-0000	CIP Maintenance	*$ 35,418*		$ 135,000	$ 170,418	$ 33,870	$ 136,548
950-0001	South School Curly Leaf Treatment	*$ 1,000*		$ (1,000)	$ -		$ -
951-0001	Woodpile Lake Management Plan Implementation	*$ 10,000*		$ (10,000)	$ -		$ -
953-0000	Fen Management Plan Implementation	*$ 4,000*			$ 4,000	$ 4,000	$ -
957-0000	Weather Station			$ 3,700	$ 3,700	$ 3,642	$ 58
959-0001	Resource Assessment - upstream 110th/Drone flight			$ 4,700	$ 4,700	$ 4,700	$ -
959-0002	Resource Assessment - Diversion Tribs - Head cut Repairs	*$ 60,000*		$ (60,000)	$ -		$ -
959-0003	Resource Assessment - Brown's Creek Gorge Bluff				$ -		$ -
960-0000	St Croix Phosphorus Reduction	*$ 10,000*			$ 10,000		$ 10,000
961-0000	Mendel Wetland Restoration Feasiblity	*$ 20,000*		$ 15,000	$ 35,000		$ 35,000
962-0000	District-Wide Pond Management Planning/Implementation			$ 4,500	$ 4,500	$ 4,500	$ -
963-0000	District-Wide Vegetation Surveys	*$ 10,000*		$ (10,000)	$ -		$ -
964-0000	District-Wide Chloride Source Assessment	*$ 2,500*			$ 2,500		$ 2,500
TOTAL MANAGEMENT PLAN PROJECT EXPENSES:		***$ 1,325,912***	***$ 5,000***	***$ 1,021,028***	***$ 2,351,940***		**$ 1,243,114**
TOTAL, OPERATING EXP. & MGMT. PLAN PROJECTS:		***$ 1,380,086***	***$ 5,000***	***$ 1,180,803***	***$ 2,565,888***		***$ 1,298,938***

BROWN'S CREEK WATERSHED DISTRICT
6/12/2024
CURRENT ITEMS PAYABLE-PAGE 1 of 2

	YES	NO	ABSTAIN	ABSENT
ECKLES	_____	_____	_____	_____
JOHNSON	_____	_____	_____	_____
LEROUX	_____	_____	_____	_____
WIRTH	_____	_____	_____	_____
SAHULKA	_____	_____	_____	_____

VENDOR		**ACCOUNT #**		ITEMS	TOTAL	**CK NO**
Emmons & Olivier Resources, Inc.	Invoices May 2024					
	Inv. 41-0000-222 Retainer	300-4500	$	7,078.50		
	Inv. 41-0000-222 Retainer	200-4500	$	2,359.50		
	Inv. 41-0001-225 General Permitting	300-4703	$	6,504.00		
	Inv. 41-0307-86 Permits 2017					
	Permitting #17-01 Grant Holdings Subd	300-4703	$	35.87		
	Inv. 41-0384-33 Permits 2021					
	Permitting #21-09 Westridge	300-4703	$	33.50		
	Inv. 41-0402-27 Permits 2022					
	Permitting #22-11 WOS L106	300-4703	$	81.87		
	Permitting #22-18 Stillwater Oaks	300-4703	$	2,072.25		
	Permitting #22-24 WOS L109	300-4703	$	52.62		
	Permitting #22-25 WOS L113	300-4703	$	52.62		
	Inv. 41-0420-17 Permits 2023					
	Permitting #23-02 WOS L114	300-4703	$	52.62		
	Permitting #23-07 WOS L118	300-4703	$	52.62		
	Permitting #23-11 WOS L122	300-4703	$	52.62		
	Permitting #23-13 Sandhill Shores	300-4703	$	35.87		
	Permitting #23-14 Wiskow Berm	300-4703	$	29.25		
	Permitting #23-15 WOS L102	300-4703	$	52.62		
	Permitting #23-16 Brock Residence	300-4703	$	29.25		
	Permitting #23-18 WOS L124	300-4703	$	52.62		
	Permitting #23-19 Liberty Classical Academy Expansion	300-4703	$	2,605.50		
	Inv. 41-0438-05 Permits 2024					
	Permitting #24-02 Schuster Residence	300-4703	$	35.87		
	Permitting #24-03 WOS L120- Hilgert Residence	300-4703	$	52.62		
	Permitting #24-05 Swager Residence	300-4703	$	35.87		
	Permitting #24-06 Rutherford Elementary	300-4703	$	2,133.00		
	Permitting #24-07 Elliot Crossing	300-4703	$	3,444.75		
	Permitting #24-08 Altendorfer Residence	300-4703	$	146.25		
	Permitting #24-09 CSAH 5 Phase 3	300-4703	$	4,593.75		
	Inv. 41-0205-80 CIP Operation and Maintenance	948-4500	$	931.39		
	Inv. 41-0391-23 Millbrook HOA Restoration	947-0022	$	346.50		
	Inv. 41-0418-18 Brown's Ck Pk Restoration	947-0022	$	981.50		
	Inv. 41-0429-6 2023 GW Elevations	942-0004	$	1,782.00		
	Inv. 41-0401-6 Bluff Restoration/Highway Sponsorship	947-0022	$	1,907.91		
	Inv. 41-0432-8 Enhanced Stakeholder Engagement	927-0000	$	247.50		
	Inv. 41-0437-4 2024 OGGC Reuse Maintenance and Monitoring	948-0000	$	1,273.01		
	Inv. 41-0439-2 Brown's Ck Pk Restoration - construction signage	947-0022	$	1,087.64		

EOR Cont.	Inv. 41-0442-2 2024 Weather Station	957-0000	$	49.50		
	Inv. 41-0446-2 Masterman Long Woodpile Lake Plans	923-0002	$	2,583.00		
	Inv. 41-0447-2 BCWD 2024 WMP Update	927-0000	$	2,277.00		
	Inv. 41-0451-1 BCWD 2024 Bio Survey	947-0018	$	148.50		
	Inv. 41-0431-1 Browns Creek Cove	947-0022	$	2,423.00		
	Inv. 41-0452-1 Grant Assistance 2024	947-0023	$	719.80		
	Inv. 41-0453-1 IESF OM 2024	948-4500	$	7,812.22	$	56,246.28
Xcel Energy	Inv. 878813272- Iron Enhanced Sand Filter pump operation	948-4500	$	49.64	$	49.64
Washington Conservation District	Inv. 6535 April 2024- Water Monitoring					
	Baseline Water Monitoring- labor	300-4710	$	10,441.25		
	Baseline Water Monitoring- equipment	300-4640	$	218.36		
	Tech Sales	300-4640	$	4,738.40		
	Inv. 6542 Volunteer Stream Monitoring	911-0000	$	1,898.75		
	Inv. 6541 Administration Q1 2024					
	Administration (1/4)	200-4320	$	14,667.19		
	Administration (3/4)	300-4320	$	44,001.56		
	iPad Purchase		$	4,332.65		
	Miscellaneous Expenses	200-4949	$	8.69		
	Inv. 6512 March 2024- BMP Program	914-0000	$	466.50		
	Inv. 6529 April 2024- BMP Program	914-0000	$	929.00	$	81,702.35
Smith Partners	May 2024 Invoices					
	Inv. 44942 Retainer - Meetings, Preparation	200-4410	$	2,183.98		
	Inv. 44943 General Legal Services	300-4410	$	251.10		
	Inv. 44944 Planning	300-4410	$	111.60		
	Inv. 44946 Policy Issues	300-4410	$	754.56		
	Inv. 44945 Permits	300-4703	$	474.30		
	Inv. 44949 Brown's Creek Restoration	300-4410	$	195.30		
	Inv. 44947 Lake McKusick Iron-Sand Infiltration	300-4410	$	251.55		
	Inv. 44948 Capital Project Development	300-4410	$	279.00	$	4,501.39
Dave McCord	Inv. 4381 April 2024 Accounting Services	200-4330	$	380.00	$	380.00
Abdo	Inv. 489505 2023 Audit	200-4331	$	2,300.00	$	2,300.00
ECM Publishers Inc	Inv. 1390950 Cost Share Public Hearing Notice	200-4290	$	51.00	$	51.00
Press Publications	Inv. 805808 Cost Share Public Hearing Notice	200-4290	$	160.94	$	160.94
Heritage Embroidery	Inv. 60258 2024 Apparel Order	910-0000	$	120.00	$	120.00
Total Amount Disbursed					**$**	**145,511.60**

BROWN'S CREEK WATERSHED DISTRICT
6/12/2024
MONTHLY ITEMS DEPOSITED - Page 1 of 1

VENDOR	INVOICE/DESCRIPTION	ACCOUNT #	CK NO	DEPOSIT DATE		TOTAL
George Altendorfer	#24-08 Permit Deposit	300-4703	7017	5/8/2024	$	1,000.00
Waldeck & Woodrow, P.A.	Permit Data Request Deposit	300-4703	90767	5/22/2024	$	1,446.25
4M Fund	Dividend	100-3700	Direct Deposit	5/31/2024	$	4,407.40
TOTAL AMOUNT DEPOSITED:					**$**	**6,853.65**

Brown's Creek Watershed District
Treasurer's Report
6/12/24

Total Bank Balance			
4M Fund		$	957,049.15
USBank			-
Less Accounts Payable			(145,511.60)
Plus Unrecored Deposits since	05/31/2024		-
Total Balance		$	811,537.55

May 31, 2024

Brown's Creek Watershed District
% Karen Kill, Administrator
455 Hayward Ave N
Oakdale, MN 55128

RE: Permit Approval Extension for Permit Application No. 22-18

Dear Karen.

Fairway Estates of Grant is formally requesting an extension of the permit application No. 22-18 for the Stillwater Oaks project in Grant. The conditional permit was approved in September of 2023. We would like an extension of 24 months.

On May 5, 2024, we submitted the requested documents for completion of the permit application. The permit application, as it stands, covers the entire 148 acres. On May 5 we submitted documents for final permit approval and construction of the project south of 88th Street. The overall project is bisected by 88th Street, and stormwater management is also bisected by 88th Street. We have separated the project into two phases along 88th Street accordingly. We have separated this due to market uncertainty and approvals or lack thereof on the north portion. We currently have an easement from the DNR to access the property on the north portion but continue to get mixed responses from the DNR on how best to proceed.

We are requesting the financial securities be broken out based on the phases. It is understood that final development of the north phase will require BCWD approval of final permit consistent with the conditional permit approval. Furthermore, we are requesting final permit approval for the south phase to begin construction. Lastly, we are requesting the north portion conditional permit extension be extended 24 months as we work through our permitting process with the DNR, BCWD, and City of Grant.

Thank you for your consideration and if you have any further questions, please feel free to contact me.

Sincerely,

Jason Palmby
Chief Manager
Magellan Land Development
612-220-6641

Project Name |	BCWD Permit 22-18 Stillwater Oaks	**Date** |	06/11/2024
To / Contact info |	BCWD Board of Managers		
Cc / Contact info |	Jason Palmby, Fairway Estates of Grant / Scott Dahlke, Civil Engineering Site Design		
Cc / Contact info |	Karen Kill, Administrator / BCWD		
From / Contact info |	Camilla Correll, PE; Ryan Fleming, PE; John Sarafolean / EOR		
Regarding |	Permit Application No. 22-18 Amendment and Extension		

Applicant: Jason Palmby, Fairway Estates of Grant

Recommendation: Approve Permit Amendment and Extension

OVERVIEW

The board conditionally approved permit 22-18 for the Stillwater Oaks development at the September 2023 board meeting. This conditional approval was for the development of two streets, 15 parcels, associated stormwater management facilities, and a variance from compliance with each of BCWD's stormwater rate-control and volume-retention requirements (paragraphs 2.4.1(a)(i & ii)).

The applicant is requesting an amendment which would allow implementation of the southern portion of the site in a first phase, leaving implementation of the northern portion for a second; i.e., issuance of a permit (22-18A) for implementation of the proposed work on the work south of 88th Street, while the activities north of 88th Street (permit 22-18B) remain conditionally approved. The applicant is also requesting a two-year extension of the permit and the conditional approval.

The project plans and performance of stormwater management facilities were evaluated under the proposed phased construction approach. The two phases are geographically separated by 88th St and located within separate subwatersheds. As shown in the engineer's report for the original application (attached), the stormwater management is proposed separately for each of the south and north phases. The BCWD engineer has verified that the separate construction of phase 1 and phase 2 may proceed independently without causing a further shortfall in compliance with stormwater-management requirements for either phase, and that bifurcation of the project into separate phases does not exacerbate the shortcomings from compliance for either of the two variances approved with the original conditional permit approval. Each phase would have its own access road, stormwater management facilities, and discharge points. The following bullets from the September 2023 engineer's report further describe the proposed phases while Figure 1 illustrates these phases:

Phase 1

- The southern portion of the site (66 acres + 10.5 acres of offsite drainage; area between 88th Street North and Lofton Avenue) drains to a series of wetlands and discharges to the east towards the Gasthaus Bavarian Hunter. This portion of the site includes 8 wetlands. All of these wetlands are less than an acre in size.
- The southwestern portion of the site (15 acres + 2 acres of offsite drainage; west of Lofton Avenue) discharges west to the back of residential properties off of Lake Elmo Avenue. This portion of the site includes 1 wetland. This is the only wetland on the site that is greater than an acre in size.

Phase 2

- The northern portion of the site (67 acres + 3.6 acres of offsite drainage; area north of 88th Street North) has numerous discharge points along the Brown's Creek State Trail, all of which run east to a Manage 1 wetland complex located across Dellwood Road to the north and directly to the east of Knollwood Dr. N. This portion of the site includes 24 wetlands. All of these wetlands are less than an acre in size.

Additionally, the permit applicant is requesting a 24-month permit extension of the conditional approval.

Recommendation:

The BCWD engineer recommends approval of the permit amendment and extension.

If the managers approve the requested amendment, work under phase 1 may proceed as soon as the conditions of approval for that phase have been satisfied. No work on phase 2 may proceed until all conditions on approval of that phase have been satisfied, however the term for the applicant to satisfy the applicable conditions and complete all work on phase 2 would be extended to October 1, 2026.

RECOMMENDED CONDITIONS OF THE PERMIT AMENDEMENT:

The applicant has submitted documents to meet conditions on approval of the original application, which the engineer continues to review. No conditions of the permit have been met at this time.

The engineer recommends approval of the requested amendment and extension, restating and re-recommending the conditions of as approved by the Board on *September 13, 2023, except as specifically modified as follows:*

2-2. Provide a stormwater facility maintenance declaration in a form acceptable to the District and proof of recordation with Washington County after approval. (BCWD Rule 2.6).

Given that the permit applicant is planning to construct the project in two phases, the permit applicant must provide a stormwater facility maintenance declaration for phase 1 of the project in a form acceptable to the District and, after approval, proof of recordation with Washington County before work proceeds on phase 1. The permit applicant must provide a stormwater facility maintenance declaration for phase 2 in a form acceptable to the District and, after approval, proof of recordation with Washington County before work proceeds on phase 2.

9-1. Address all financial assurance requirements.

Given that the permit applicant is planning to construct this project in a phased manner, it will require modifying the financial assurance requirements. The permit applicant has requested that this amendment require only financial assurances for Phase 1 of the project before the Permit is issued. Once the permit applicant decides to move forward with Phase 2 of the project, the applicant will be required to provide financial assurance for phase 2 of the project.

Provide the required financial assurances (BCWD Rule 9.0):

a. Total grading or alteration assurance 18.0 acres ($36,000).

Change to "Total grading or alteration assurance for Phase 1 - 7.9. acres ($15,800).

b. Stormwater management facilities assurance (125% of Facility Cost) ($TBD).

The stormwater management facilities assurance will be determined for phase 1 of the site once the permit amendment has been approved by the Board of Managers.

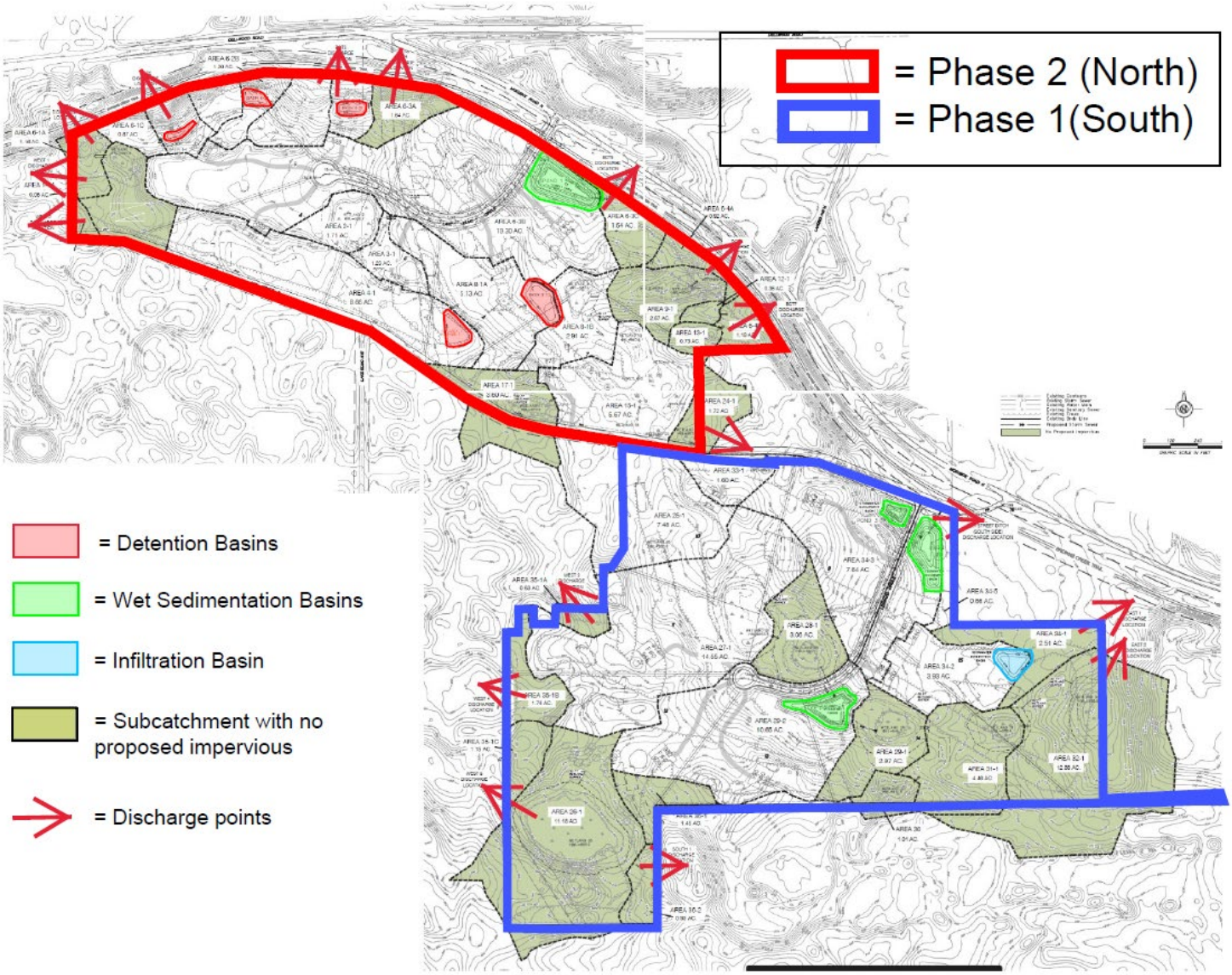

Figure 1: Proposed phasing map.

Project Name |	BCWD Permit 22-18 Stillwater Oaks	**Date** |	09/08/2023
To / Contact info |	BCWD Board of Managers		
Cc / Contact info |	Jason Palmby, Fairway Estates of Grant / Scott Dahlke, Civil Engineering Site Design		
Cc / Contact info |	Karen Kill, Administrator / BCWD		
From / Contact info |	Camilla Correll, PE; Ryan Fleming, PE; Paul Nation, PE; John Sarafolean / EOR		
Regarding |	Permit Application No. 22-18 Engineer's Report		

The following review of the above mentioned project located within the legal jurisdiction of the Brown's Creek Watershed District (BCWD) was conducted to determine compliance with the BCWD rules for purposes of the engineer's recommendation to the Board of Managers for its determination of the permit application.

Applicant: Jason Palmby, Fairway Estates of Grant
Permit Submittal Date: *7/26/2023*
Completeness Determination: *08/01/2023*
Board Action Required By: *09/30/2023*
Review based on BCWD Rules effective April 1, 2020
Recommendation: Consider Variance Request

GENERAL COMMENTS

Existing Conditions: The 148-acre site is the former Sawmill Golf Club. It is located south of Dellwood Road (County Road 96), southwest of McKusick Road and west of Manning Avenue. Existing large acreage lots are adjacent to the site to the north, east and west. There is a commercial restaurant property to the southeast (Gasthaus Bavarian Hunter) and another golf course to the south (Loggers Trail Golf Course). All existing impervious areas – cart paths, parking lot, and buildings – are to be removed prior to commencement of the proposed residential site redevelopment.

The entire site has three main discharge points:

- The northern portion of the site (67 acres + 3.6 acres of offsite drainage; area north of 88th Street North) has numerous discharge points along the Brown's Creek State Trail, all of which run east to a Manage 1 wetland complex located across Dellwood Road to the north and directly to the east of Knollwood Dr. N. This portion of the site includes 24 wetlands. All of these wetlands are less than an acre in size.
- The southern portion of the site (66 acres + 10.5 acres of offsite drainage; area between 88th Street North and Lofton Avenue) drains to a series of wetlands and discharges to the east towards the Gasthaus Bavarian Hunter. This portion of the site includes 8 wetlands. All of these wetlands are less than an acre in size.
- The southwestern portion of the site (15 acres + 2 acres of offsite drainage; west of Lofton Avenue) discharges west to the back of residential properties off of Lake Elmo Avenue. This portion of the site includes 1 wetland. This is the only wetland on the site that is greater than an acre in size.

The entire site is within one mile of Brown's Creek. The MPCA's Construction Stormwater Permit has additional requirements for projects with a discharge point within one (1) mile (aerial radius measurement) of and which flows to an impaired water as described under Rule 2.0 Stormwater Management and Rule 3.0 Erosion and Sediment Control.

Proposed Conditions: The proposed project will subdivide the existing 148-acre site into 15 residential properties and include the construction of approximately 2,600 linear feet of new street with bituminous pavement, and rural ditches with driveway culverts. The residential lots will be sold individually to builders for construction of the driveways and homes. The stormwater management plan provides for 0.5-acre impervious coverage to account for the home and the driveway on each lot. Each builder and homeowner will determine the final design and layout, and adjustments and modifications to the stormwater plan may need to be submitted as permit modifications or will be addressed in individual-lot permits.

The proposed redevelopment will maintain the three main discharge points as well as the discrete discharge points described above under existing conditions as follows:

- The northern portion of the site, shaded red on Figure 1, will be subdivided into eight (8) lots. Stormwater runoff from the northern portion of the site will be collected via roadway ditches from the streets, driveways, and front lawns and routed to one stormwater management basin (wet pond) located at the most westerly entrance from McKusick Road. This basin has been designed to capture stormwater runoff for reuse via irrigation. Rear lot drainage is routed to existing wetlands or smaller detention basins (5) designed to meet the stormwater management requirements before discharging to the Brown's Creek State Trail or to the main discharge point under McKusick Road. This portion of the site is subdivided into 26 subwatersheds and includes 24 wetlands. Six of the wetlands were determined to be incidental under the Wetland Conservation Act; that is, not protected under WCA. One wetland is going to be incorporated into a new, larger wetland; the remaining 5 incidental wetlands will remain undisturbed. In addition, 6.5 acres of tree preservation and native vegetation restoration areas will provide volume control through evapotranspiration.
- The southern portion of the site, shaded purple on Figure 1, will be subdivided into seven (7) lots. Stormwater runoff from the southern portion of the site will be collected via roadway ditches from the streets, driveways, and front lawns and routed to three stormwater management basins (wet ponds), two of which are located at the entrance from 88th Street N and one which is located near the entrance road (Leeward Circle) cul-de-sac. One of these basins has also been designed to capture stormwater runoff for reuse via irrigation. Rear lot drainage is routed to existing wetlands and an infiltration basin before discharging east towards Brown's Creek State Trail. In addition, 4.7 acres of tree preservation and native vegetation restoration areas will provide evapotranspiration-based volume control where infiltration is not feasible.

- Stormwater runoff from the southwestern portion of the site, shaded yellow on Figure 1, drains to the larger wetland and the back of the adjacent residential properties. 1.6 acres of tree preservation and native vegetation restoration areas will provide evapotranspiration-based volume control because geotechnical analysis found that infiltration is not feasible.

Recommendation: As discussed under Section 10.0 – Variances, the BCWD engineer does support approval of the variance requested by the applicant from the volume control requirement.

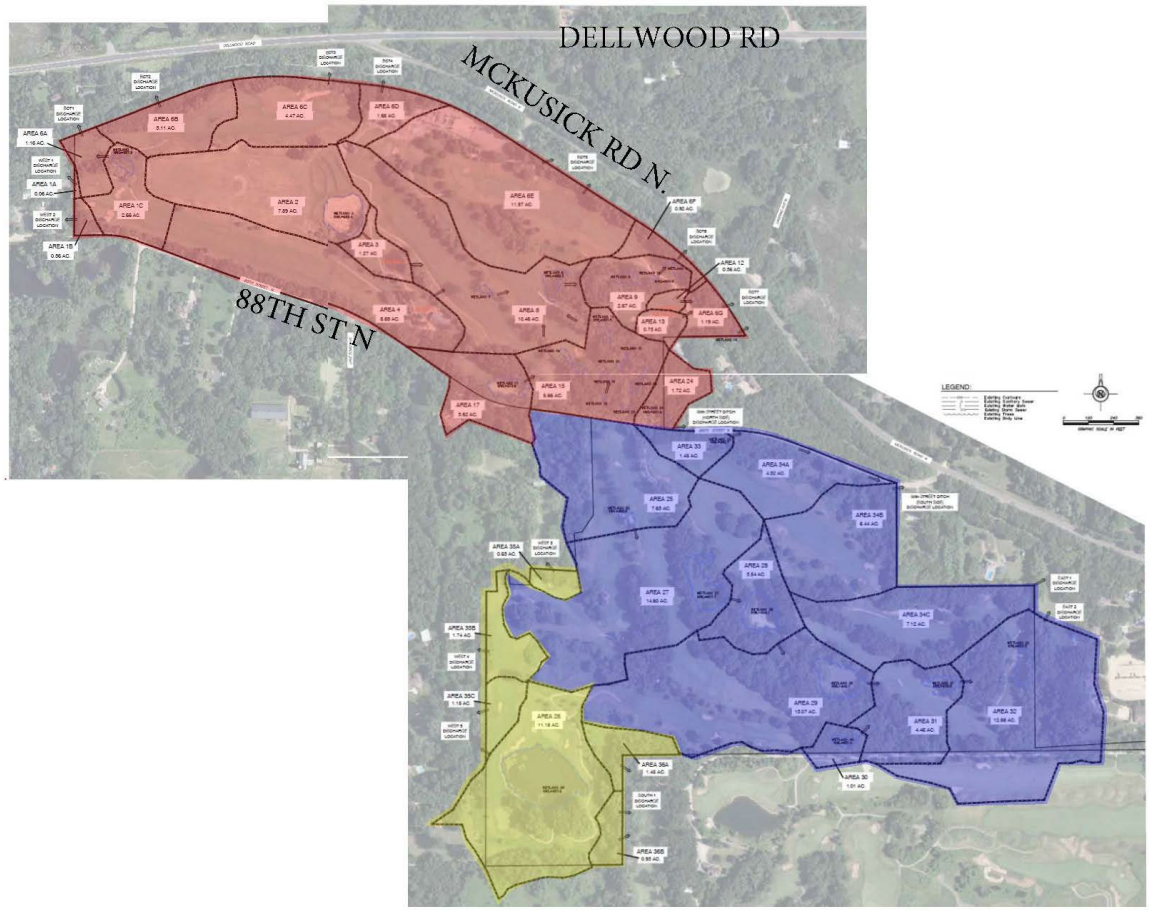

Figure 1 - Site Plan

Rule 2.0—STORMWATER MANAGEMENT

Under 2.2(b) of the rule, the proposed project triggers the application of Rule 2.0 Stormwater Management because it is a residential subdivision of more than four lots. The site is outside the Diversion Structure Drainage area, so the criteria in subsection 2.4.1a apply. Since the proposed activity will disturb more than 50 percent of existing impervious surface, the Stormwater Management Standards will apply to all impervious surface and disturbed areas.

The stormwater management plan for the project includes:

- *Roadway ditches which capture runoff from the roadway and the front of the lots and route it to the stormwater management facilities.*
- *Four (4) stormwater management basins (wet ponds) holding permanent pools allowing pollutants and sediment to settle out, two of which will be used for stormwater harvest and reuse for irrigation of the surrounding homes.*
- *Five (5) detention basins (rate control/dry ponds) that control peak flow rate and reduce the effects of erosion.*
- *One infiltration basin.*
- *12.8 acres of tree preservation and native vegetation restoration areas which will provide evapotranspiration-based volume control where infiltration is not feasible.*
- *The applicant is requesting a variance concerning the rate and volume requirements that is addressed in Section 10.0 – Variances.*

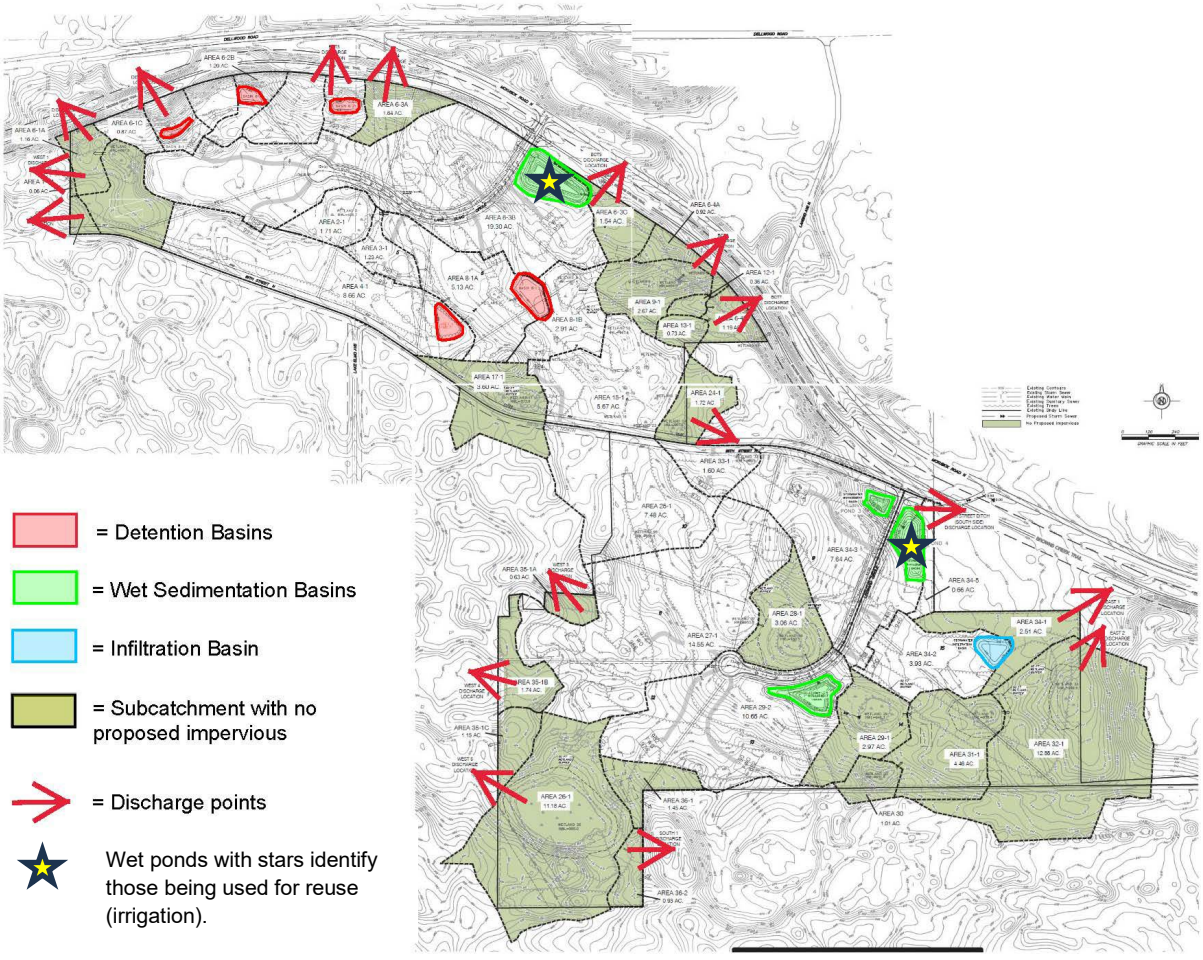

Figure 2 - Proposed stormwater facilities and offsite discharge points

Rate Control

According to BCWD Rule 2.4.1(a)(i), an applicant for a stormwater management permit must demonstrate to the District that the proposed land-altering activity will not increase peak stormwater flow from the site, as compared with the pre-settlement condition, for a 24-hour precipitation event with a return frequency of two, 10 or 100 years for all points where discharges leave a site.

☒ Rule Requirement Not Met – See Section 10.0 Variances

The stormwater management plan developed for the site was evaluated using a HydroCAD model of pre-settlement and post-development site conditions. A comparison of the modeled peak flow rates is included in Tables 1 & 2. Offsite discharge rates that exceed the pre-settlement rate are underlined and marked with an asterisk. See Section 10.0 for further analysis and discussion of this variance request.

Table 1 - Peak Discharge Rate Summary – North Drainage Area

Subcatchment Area [Pre-settlement / Post-development]	*Pre-settlement Runoff Rates [cfs]*			*Proposed Runoff Rates [cfs]*		
	2 yr (2.81")	*10 yr (4.17")*	*100 yr (7.23")*	*2 yr (2.81")*	*10 yr (4.17")*	*100 yr (7.23")*
Area 1A to West 1	0.04	0.10	0.27	0.04	0.10	**0.28***
Area 1-1A to West 1*						
Area 1B to West 2	0.22	0.60	1.63	0.22	0.60	1.63
Area 1-1B to West 2*						
Area 6A & WL1 to BCT1	0.72	1.92	5.26	0.72	1.92	5.26
Area 6-1A & WL1 to BCT1*						
Area 6B to BCT2	1.94	5.15	14.10	1.66	3.74	13.08
Area 6-1B, C, D to BCT2						
Area 6C to BCT3	2.78	7.40	20.26	2.22	5.10	11.92
Area 6-2A, B, C to BCT3						
Area 6D to BCT4	1.03	2.73	7.48	**1.12***	**2.86***	**7.65***
Area 6-3A to BCT4*						
Area 6E to BCT5	4.32	14.72	46.44	1.31	9.34	25.25
Area 6-3C & Basin 1 to BCT5						
Area 6F & WL9 to BCT6	1.66	5.75	44.25	0.96	5.49	28.79
Area 6-4A & WL9 to BCT6						
Area 6G, 12, 13 to BCT7*	1.42	3.78	10.33	**1.62***	**4.08***	**10.77***
Area 6G, 12, 13 to BCT7*						
Wetland 24 to North Ditch	0	0	0.40	0	0	0.40
Wetland 24 to North Ditch						

Table 2 - Peak Discharge Rate Summary – South Drainage Area

Subcatchment Area [Pre-settlement / Post-development]	*Pre-settlement Runoff Rates [cfs]*			*Proposed Runoff Rates [cfs]*		
	2 yr (2.81")	*10 yr (4.17")*	*100 yr (7.23")*	*2 yr (2.81")*	*10 yr (4.17")*	*100 yr (7.23")*
WL 33, 34A, 34B to S Ditch WL 33, Basin 34-4, Area 34-5 to S Ditch	0.04	1.08	14.19	0.03	0.42	5.80
Area 34-C to East 1 Area 34-1, Basin 34-2 to East 1	0.09	1.39	10.30	0	0.15	10.06
Wetland 32 to East 2 Wetland 32 to East 2*	0	0	4.70	0	0	**5.41***
Area 35A to West 3 Area 35-1A to West 3*	0.11	0.53	2.03	**0.17***	**0.67***	**2.28***
Area 35B to West 4 Area 35-1B to West 4*	1.08	2.88	7.89	**1.51***	**3.52***	**8.78***
Area 35C & WL 26 to West 5 Area 35-1C & WL 26 to West 5*	0.72	1.90	5.21	**1.00***	**2.32***	**5.80***
Area 36A, 36B to South 1 Area 36-1, 36-2 to South 1*	0.11	1.06	5.77	**0.15***	**1.20***	**6.08***

Volume Control

According to BCWD Rule 2.4.1(a)(ii), an applicant for a stormwater management permit must demonstrate to the District that the proposed land-altering activity will not increase stormwater flow volume from all points where discharge leaves the site, as compared with the pre-settlement condition, for a 24-hour precipitation event with a return frequency of two years, or five years within a landlocked basin or a subwatershed draining to a landlocked basin.

☒ Rule Requirement Not Met – See Section 10.0 Variances

The stormwater management plan developed for the site was evaluated using a HydroCAD model of pre-settlement and post-development site conditions. A comparison of the modeled runoff volume is included in Table 3. Offsite discharge volumes that exceed the pre-settlement volume are underlined and marked with an asterisk. See Section 10.0 for further analysis and discussion of this variance request.

Table 3 – 2-Year 24-Hour Event Discharge Volume

Discharge Point	*Pre-settlement Runoff Volume [cf]*	*Proposed Runoff Volume [cf]*	*Volume Control Required [cf]*	*Volume Reduction Provided [cf]*	*Volume Shortfall [cf]*
West 1	133	142	9	0	9*
West 2	799	799	0	0	0
SUB-TOTAL			***9***	***0***	***9****
BCT1	2,574	2,574	0	1,103	0
BCT2	6,901	8,481	1,580	0	1,580*
BCT3	9,919	13,658	3,739	0	3,739*
BCT4	3,661	3,891	230	0	230*
BCT5	18,336	53,721	35,385	27,205	8,180*
BCT6	7,001	22,479	15,478	11,795	3,683*
BCT7	5,059	5,588	529	0	529*
SUB-TOTAL			***56,941***	***40,103***	***16,838****
N. 88th Ditch	0	0	0	749	0
S. 88th Ditch	843	8,804	7,961	12,130	0
SUB-TOTAL			***7,961***	***12,879***	***0***
East 1	1,569	7,906	6,337	7,906	0
East 2	0	0	0	10,784	0
SUB-TOTAL			***6,337***	***18,690***	***0***
West 3	612	815	203	0	203*
West 4	3,861	4,990	1,129	0	1,129*
West 5	2,552	3,298	746	2,004	0
SUB-TOTAL			***2,078***	***2,004***	***74****
South 1	1,126	1,298	172	0	172*
SUB-TOTAL			***172***	***0***	***172****
TOTAL			**73,489**	**73,676**	**n/a**

Pollutant Loading

According to BCWD Rule 2.4.1(a)(iii), an applicant for a stormwater management permit must demonstrate to the District that the proposed land-altering activity will not at the downgradient property boundary or to an onsite receiving waterbody or wetland, increase annual phosphorus loading as compared with the pre-development condition.

☒ Rule Requirement Met

The Permit Applicant submitted MIDS Calculator results demonstrating that annual phosphorus loading does not increase when compared to pre-development conditions at the 17 individual discharge points as shown in Table 4.

Table 4 - Offsite Annual Phosphorus Loading

Discharge Point	*Pre-Development Phosphorus Load (lbs/yr)*	*Proposed Phosphorus Load (lbs/yr)*
West 1*	No Change (Proposed = Pre-development Phosphorus Load)	
West 2*	No Change (Proposed = Pre-development Phosphorus Load)	
BCT1*	No Change (Proposed = Pre-development Phosphorus Load)	
BCT2	1.6	0.6
BCT3	1.8	1.8
BCT4	0.8	0.4
BCT5	24.9	17.9
BCT6	2.0	1.9
BCT7	0.6	0.5
N. 88th Ditch (Wetland 25)	1.7	1.7
S. 88th Ditch (Basin 4)	2.2**	2.1
East 1 (Infiltration Basin)	1.1**	0.00
East 2	13.6	10.3
West 3	0.2	0.2
West 4	0.7	0.7
West 5	3.7	3.2
South 1	0.8	0.4

*The drainage area and vegetation coverage discharging to these locations will remain unchanged from the pre-development condition, i.e., they will remain perennial vegetation without impervious. Therefore, there will be no increase in annual phosphorus loading as compared with the pre-development condition at the downgradient property boundary in these locations.

**Area weighted loading based on combined MIDS model of "Pre-development for areas south of 88th Street that drain east to Browns Creek Trail"

Table 5 demonstrates that annual phosphorus loading is reduced from pre-development conditions for each onsite receiving wetland. Pollutant loading analysis was not conducted for, and the related criterion was not applied to, the six incidental wetlands because they are manmade aesthetic or irrigation-system features of low quality that do not provide cognizable wetland functions and values.

Table 5 – Onsite Receiving Wetland Phosphorus Loading

Wetland	*Pre-Development Annual Phosphorus Loading (lbs/yr)*	*Proposed Annual Phosphorus Loading (lbs/yr)*
1	0.9	0.8
2	3.3	0.2
5	1.4	1.0
8	1.5	1.4
9	0.3	0.3
10	0.1	0.1
11	0.2	0.2
15	0.2	0.2
16	0.5	0.5
17	0.3	0.3
18	0.3	0.3
19	0.1	0.1
20	0.0	0.0
21	0.1	0.1
22	0.2	0.2
23	0.2	0.2
24	0.2	0.1
25	1.7	1.7
26	3.3	3.3
27	3.6	3.5
28	0.5	0.4
29	4.0	3.4
30	0.1	0.1
31	0.6	0.6
32	1.2	1.2
33	0.4	0.4

Infiltration Pretreatment

According to BCWD Rule 2.5.2 surface flows to infiltration facilities must be pretreated for long-term removal of at least 50 percent of sediment loads.

☒ Rule Requirement Met

The project includes an infiltration basin to meet the stormwater requirements (rate, volume, and water quality). Therefore, pretreatment is required for runoff directed to this facility.

All runoff being routed to the infiltration basin will first be directed to a grass swale. The Permit Applicant submitted MIDS Calculator results demonstrating compliance with Rule 2.5.2. The pretreatment requirement is met as demonstrated by the results in Table 6.

Table 6 - Infiltration Basin Pretreatment

Practice	*TSS Inflow Loading (lb/yr)*	*TSS Outflow Loading (lb/yr)*	*TSS Reduction (%)*
Grass Swale	312.1	31.7	90

Lake/Wetland Bounce

According to BCWD Rule 2.4.1(a)(iv), an applicant for a stormwater management permit must demonstrate to the District that the proposed land-altering activity will not increase the bounce in water level or duration of inundation, for a 24-hour precipitation event with a return frequency of two, 10 or 100 years in the subwatershed in which the site is located, for any downstream lake or wetland beyond the limit specified in Appendix 2.1.

☒ Rule Requirement Met

Wetland bounce and duration of inundation was analyzed for the 2-year, 10-year, and 100-year 24-hour rainfall events. All wetlands onsite are classified as Manage 2 wetlands which have a permitted bounce of Pre-development plus 1.0 feet, and a permitted increase in inundation of 2 days and 14 days for the 2-year and 10-year events, respectively. Table 7 and Table 8 display that the standards are met for Rule 2.4.1(a)(iv). Note that wetlands 8, 9, and 15 form complexes with other onsite wetlands that act as a single waterbody hydrologically, and therefore, have been grouped in the tables below.

Table 7 – Wetland Duration of Inundation

	Pre-Settlement Duration of Inundation (hrs)		*Proposed Duration of Inundation (hrs)*		*Change in Duration of Inundation (hrs)*	
Wetland	***2-year***	***10-year***	***2-year***	***10-year***	***2-year***	***10-year***
1	12	12	12	12	0	0
2	24	26	14	18	-10	-8
8 Complex	14	23	49	54	35	31
9 Complex	13	24	44	48	31	24
15 Complex	13	14	21	22	8	8
17	10	11	10	11	0	0
24	12	13	12	13	0	0
25	15	15	21	23	6	8
26	12	11	10	12	-2	-1
27	22	23	26	28	4	5
28	24	25	23	24	-1	-1
29	30	32	35	38	5	6
30	12	13	12	13	0	0
31	43	35	71	41	28	6
32	7	31	11	42	4	11
33	12	13	18	20	6	7

Table 8 – Wetland Bounce

	**Pre-Settlement Peak Elevation (ft)*			*Proposed Peak Elevation (ft)*			*Bounce (ft)*		
Wetland	***2-yr***	***10-yr***	***100-yr***	***2-yr***	***10-yr***	***100-yr***	***2-yr***	***10-yr***	***100-yr***
1	995.48	996.60	997.54	995.55	996.67	997.56	0.1	0.1	0.0
2	988.72	988.89	989.35	988.19	988.39	988.75	-0.5	-0.5	-0.6
8 Complex	961.59	962.03	962.70	961.88	962.01	962.39	0.3	0.0	-0.3
9 Complex	953.85	954.01	954.76	954.21	954.41	954.90	0.4	0.4	0.1
15 Complex	966.86	967.28	967.62	966.93	967.34	967.64	0.1	0.1	0.0
17	972.35	972.90	973.86	972.38	972.94	973.87	0.0	0.0	0.0
24	965.59	966.59	967.56	965.59	966.59	967.56	0.0	0.0	0.0
25	959.92	960.11	960.59	959.94	960.18	960.64	0.0	0.1	0.0
26	966.41	966.85	967.94	966.45	966.92	968.03	0.0	0.1	0.1
27	952.69	953.00	953.75	952.75	953.11	953.83	0.1	0.1	0.1
28	947.99	948.31	949.09	947.90	948.22	950.08	-0.1	-0.1	1.0
29	945.37	945.75	946.68	945.32	945.68	946.29	0.0	-0.1	-0.4
30	949.58	950.22	951.41	949.58	950.22	951.41	0.0	0.0	0.0
31	936.54	937.77	938.77	935.63	937.73	938.41	-0.9	0.0	-0.4
32	915.56	919.39	923.49	915.71	919.41	923.51	0.2	0.0	0.0
33	964.40	965.09	965.70	964.76	965.47	965.81	0.4	0.4	0.1

Wetlands onsite were evaluated for bounce and inundation against pre-settlement conditions for a conservative evaluation as pre-settlement runoff is less than existing conditions, therefore meeting pre-settlement bounce and duration of inundation is a stricter threshold than existing conditions.

Maintenance

According to BCWD Rule 2.6, Permit applicants must provide a maintenance, inspection and, if required, monitoring plan that identifies and protects the design, capacity and functionality of onsite and offsite stormwater management facilities; provides specifications, methods and a schedule for the inspection and maintenance in perpetuity of the facility, with documentation retained onsite and available to the District on reasonable notice; and contains at a minimum the requirements in the District's standard maintenance declaration. The maintenance plan will be recorded on the deed in a form acceptable to the District.

☒ Rule Requirements Met <u>with Conditions</u>

The following conditions must be addressed in the maintenance plans provided by the applicant:

- *Include in the maintenance plan protection of all natural areas to be used to meet stormwater-management requirements through evapotranspiration.*
- *Include protection of all vegetated areas that must be preserved for irrigation use on individual properties in the maintenance plan and require documentation of the weekly depth of water to be used for irrigation and the dates during which the irrigation system will be active.*
- *Include in the maintenance plan detail on the frequency of infiltration basin inspections and routine maintenance.*
- *Include a vegetation maintenance schedule.*

Rule 2.0 Conditions:

2-1. Provide BCWD with the final Civil Plan Set (BCWD 2.7.9)

2-2. Provide a stormwater facility maintenance declaration in a form acceptable to the District and proof of recordation with Washington County. Resolve conditions above concerning the submitted maintenance plan. A template is available under the permit section of the District's website. The maintenance declaration shall be recorded with the County after a draft is approved by the District (BCWD Rule 2.6).

2-3. Provide documentation as to the status of a National Pollutant Discharge Elimination System stormwater permit for the project from the Minnesota pollution Control Agency and provide an updated Storm Water Pollution Prevention Plan (SWPPP) if any changes are made from the current version. (BCWD Rule 2.7.15).

2-4. Provide the District with a spreadsheet tracking the amount of impervious coverage per lot, the drainage areas impervious is located, and compared to the assumed in the stormwater management plan / calculations. The BCWD will use this tracking tool to make sure that the construction of individual lots complies with what is approved under this permit.

2-5. Submit irrigation-utilization plans showing the irrigation capacity of the system and the areas that will be irrigated, along with requirement that property owners utilize irrigation system.

2-6. The orifice size on the plan set for outlet control structure 1 (OCS-1) is different from the HydroCAD model which the rate control analysis is based on. Correct the orifice size in the OCS-1 structure for wet sedimentation basin 1 so the specifications of the structure correspond to the HydroCAD model inputs.

Rule 3.0—EROSION CONTROL

According to BCWD Rule 3.2, All persons undertaking any grading, filling, or other land-altering activities which involve movement of more than 50 cubic yards of earth or removal of vegetative cover on 5,000 square feet or more of land must submit an erosion control plan to BCWD, and secure a permit from BCWD approving the erosion control plan. The proposed project triggers the application of Rule 3.0 Erosion Control because the proposed development activity will both move more than 50 cubic yards of earth and remove more than 5,000 square feet of vegetation.

☒ Rule Requirements Met with Conditions

The erosion and sediment control plan includes:

- *SWPPP*
- *Rock construction entrances*
- *Storm sewer inlet protection*
- *Fiber log ditch checks*
- *Silt fence perimeter controls*
- *Wood fiber logs*
- *Rip Rap at flared end outlets*
- *Construction fence to protect natural areas*

The following conditions must be addressed in the erosion and sediment control plan to comply with the District's requirements:

Rule 3.0 Conditions:

3-1. Provide the District with contact information for the Erosion Control Supervisor and the construction schedule when available (BCWD 3.3.2).

Rule 4.0—LAKE, STREAM, AND WETLAND BUFFER REQUIREMENTS

According to BCWD Rule 4.2.1, Rule 4.0 applies to land that is (a) adjacent to Brown's Creek; a tributary of Brown's Creek designated as a public water pursuant to Minnesota Statutes section 103G.005, subdivision 15; a lake, as defined in these rules; a wetland one acre or larger; or a groundwater-dependent natural resource; and (b) that has been either (i) subdivided or (ii) subject to a new primary use for which a necessary rezoning, conditional use permit, special-use permit or variance has been approved on or after April 9, 2007, (for wetlands and groundwater-dependent natural resources other than public waters) or January 1, 2000 (for other waters).

☒ Rule Requirements Met

Rule 4.0 applies to the site because there is a wetland onsite (adjacent) that is larger than an acre in size and the property is being subdivided after April 9, 2007 (triggers Rule 4.2.1(b)). Under Rule 4.3, a buffer width of 50 feet applies to the wetland because it has been classified as a Manage 2 wetland (BCWD 4.3.1).

There are a total of 33 wetlands located on the 148-acre site. All but one of these wetlands are less than an acre in size. A wetland evaluation was conducted using the Minnesota Routine Assessment Method (MNRAM) for evaluating wetland function. This assessment found all 33 wetlands to be Manage 2 wetlands and not groundwater dependent. EOR reviewed the MNRAM Assessment and

agrees with this finding. Wetland 26, which is the only wetland that is an acre or larger, is subject to Rule 4.3.1 and requires a 50-foot buffer.

Under Rule 4.4.1, at the time a buffer is created under Rule 4.0, the District may require a planting or landscaping plan to establish adequate native vegetative cover for area that (a) has vegetation composed more than 30 percent of undesirable plant species (including, but not limited to reed canary grass, common buckthorn, purple loosestrife, leafy spurge, bull thistle, or other noxious weeds); or (b) consists more than 10 percent of bare or disturbed soil or turf grass.

Review of the current vegetative condition in the proposed buffer has not been assessed. As a condition of permit approval, the buffer vegetation needs to be analyzed and the project landscaping plan should be modified as appropriate to establish native vegetative cover given the findings of the analysis.

Rule 4.0 Conditions:

4-1. Provide a buffer declaration in a form acceptable to the District and proof of recordation with Washington County. A template is available under the permit section of the District's website. The buffer declaration shall be recorded with the County after a draft is approved by the District (BCWD Rule 4.2.2).

4-2. Conduct an assessment of the proposed buffer area to determine the vegetative composition of undesirable plant species, bare, disturbed soil or turf grass and provide BCWD with a buffer establishment plan for review and approval.

Rule 5.0—SHORELINE AND STREAMBANK ALTERATIONS

According to BCWD Rule 5.2, no person may disturb the natural shoreline or streambank partially or wholly below the ordinary high water mark of a waterbody, without first securing a permit from the District.

☐ Rule Not Applicable to Permit. *There are no proposed shoreline or streambank alterations.*

Rule 6.0—WATERCOURSE AND BASIN CROSSINGS

According to Rule 6.2, no person shall use the beds of any waterbody within the District for the placement of roads, highways and utilities without first securing a permit from the District.

☐ Rule Not Applicable to Permit. *There are no proposed watercourse or basin crossings.*

Rule 7.0—FLOODPLAIN AND DRAINAGE ALTERATIONS

According to Rule 7.2, no person shall alter or fill land below the 100-year flood elevation of any waterbody, wetland, or stormwater management basin, or place fill in a landlocked basin, without first obtaining a permit from the District. No person shall alter stormwater flows at a property boundary by changing land contours, diverting or obstructing surface or channel flow, or creating a basin outlet, without first obtaining a permit from the District.

☒ Rule Requirements Met

No fill is proposed below the 100-year flood elevation of any waterbody, wetland, or storm water management basin. Stormwater flows are proposed to be altered at discharge points as outlined in Section 10.0 – Variances.

According to BCWD rule 7.3.2 all new and reconstructed buildings must be constructed such that the lowest floor is at least two feet above the 100-year high water elevation or one foot above the emergency overflow (EOF) of a constructed basin.

☒ Rule Requirements Met

Table 9 – Freeboard Requirement Summary

Lot	*Waterbody*	*EOF*	*100-Year HWL*	*Allowable Basement Floor*	*Lowest Proposed Basement Floor*
1	Basin 6-3	947.60	947.60	948.60	970
2	Basin 6-21	978.00	977.67	979.00	990
3	Basin 6-1	994.00	993.84	995.00	1002
3	Wetland 1	997.40	997.56	999.56	1002
4	Wetland 2	988.70	988.75	990.75	997
5	Wetland 2	989.00	988.75	990.00	991
6	Basin 8-1	966.00	965.94	967.00	973
7	Wetland 17	973.80	973.87	975.87	976
8	Basin 6-3	947.60	947.60	948.60	952
9	Basin 34-3	934.60	932.95	934.95	965
10	Wetland 33	965.50	965.81	967.81	970
10	Wetland 25	959.90	960.64	962.64	970
10	Wetland 27	952.60	953.83	955.83	970
11	Wetland 27	952.60	953.83	955.83	966
12	Wetland 26	970.20	968.03	970.03	974
13	Basin 29-2	947.75	947.57	948.75	982
15	Basin 34-4	935.50	932.93	934.93	940
15	Infiltration Basin 34-2	931.50	932.10	934.10	940

According to Rule 7.3.5, The District will issue a permit to alter surface flows under paragraph 7.2, above, only on a finding that the alteration will not have an unreasonable impact on an upstream or downstream landowner and will not adversely affect flood risk, basin or channel stability, groundwater hydrology, stream baseflow, water quality or aquatic or riparian habitat.

☒ Rule Requirements Met

When evaluating existing versus proposed conditions, the volume increases at two discharge locations (BCT2 & BCT3). However, the discharge locations are attenuated by a vegetated swale along the Brown's Creek Trail which ultimately discharges to a wetland system northeast of McKusick Rd. As a result, there are no downstream impacts.

Rule 8.0—FEES

Fees for this project as outlined below:

1. Stormwater management fee	$3,100
2. Erosion control fee for grading	$1,500
3. Shoreline and streambank alterations fee	$NA
4. Stream and lake crossings fee	$NA
5. Floodplain and drainage alterations fee	$500
▪ **TOTAL FEES**	**$5,100**

Rule 9.0—FINANCIAL ASSURANCES

Financial assurances for this project are as outlined below:

1. Grading or Alteration (18.0 acres disturbed x $2,000/acre)	$36,000
2. Stormwater Management Facilities (125% of facility cost)	$TBD
▪ **TOTAL FINANCIAL ASSURANCES ($5,000 Minimum Performance Financial Assurance)**	$TBD

The BCWD engineer is currently waiting on the engineer's estimate provided by the applicant and will use this estimate to determine the required financial assurance.

Rule 9.0 Conditions:

9-1. Final estimate of stormwater facilities cost as agreed upon by applicant's engineer and BCWD engineer.

Rule 10.0—VARIANCES

According to BCWD Rule 10.0, the Board of Managers may hear requests for variances from the literal provisions of these Rules in instances where their strict enforcement would cause undue hardship because of the circumstances unique to the property under consideration. The Board of Managers may grant variances where it is demonstrated that such action will be keeping with the spirit and intent of these rules. Variance approval may be conditioned on an applicant's preventing or mitigating adverse impacts from the activity.

The Permit Applicant is requesting a variance to the following rules:

- Rule 2.4.1(a)(i) No increase in peak stormwater flow from the site, as compared with pre-settlement condition, for a 24-hour precipitation event with a return frequency of two, 10 or 100 years for all points where discharge leaves a site.

- Rule 2.4.1(a)(ii) No increase in stormwater flow volume from all points where discharge leaves a site, as compared with the pre-settlement condition, for a 24-hour precipitation event with a return frequency of two years.

The basis for the variance request and the Engineer's assessment of this request is addressed below for each rule requirement.

Rule 2.4.1(a)(i) Rate Control Requirement: There are a total of 17 discharge points from the site. The stormwater management plan meets the rule requirement of matching pre-settlement rate control at six (6) of these points. Therefore, 11 discharge points do not meet the pre-settlement rate control requirement. The permit applicant is requesting a variance from this rule requirement, arguing that the project largely preserves the existing land cover and does not substantially increase impervious area in the subcatchments. The increase in runoff from pre-settlement conditions is due to the fact that the existing vegetation does not perform as well as native vegetation in terms of capturing, slowing, and infiltrating stormwater runoff. The applicant has stated that meeting the pre-settlement rate control requirement would mean additional land disturbance from that which is currently proposed for the development. All 17 discharge points match or are less than the existing (pre-development) rates discharging from the site, as shown in Table 10 and Table 11 (note that an asterisk for proposed rates indicates the discharge does not meet the pre-settlement discharge rate).

Table 10 – Rate of discharge - north

Subcatchment Area [Pre-settlement / Post-development]	*Pre-development Runoff Rates [cfs]*			*Proposed Runoff Rates [cfs]*		
	2 yr (2.81″)	*10 yr (4.17″)*	*100 yr (7.23″)*	*2 yr (2.81″)*	*10 yr (4.17″)*	*100 yr (7.23″)*
Area 1A to West 1	0.04	0.11	0.29	0.04	0.10	0.28*
Area 1-1A to West 1*						
Area 1B to West 2	0.22	0.60	1.63	0.22	0.60	1.63
Area 1-1B to West 2*						
Area 6A & WL1 to BCT1	0.86	2.13	5.56	0.72	1.92	5.26
Area 6-1A & WL1 to BCT1*						
Area 6B to BCT2	2.37	5.78	14.97	1.66	3.74	13.08
Area 6-1B, C, D to BCT2						
Area 6C to BCT3	3.71	8.75	22.12	2.22	5.10	11.92
Area 6-2A, B, C to BCT3						
Area 6D to BCT4	1.80	3.66	8.54	1.12*	2.86*	7.65*
Area 6-3A to BCT4*						
Area 6E to BCT5	8.76	20.95	54.75	1.31	9.34	25.25
Area 6-3C & Basin 1 to BCT5						
Area 6F & WL9 to BCT6	2.33	7.30	56.51	0.96	5.49	28.79
Area 6-4A & WL9 to BCT6						
Area 6G, 12, 13 to BCT7*	1.66	4.12	10.81	1.62*	4.08*	10.77*
Area 6G, 12, 13 to BCT7*						
Wetland 24 to North Ditch	0	0	0.40	0	0	0.40

Table 11 – Rate of discharge - south

Subcatchment Area [Pre-settlement / Post-development]	*Pre-development Runoff Rates [cfs]*			*Proposed Runoff Rates [cfs]*		
	2 yr (2.81")	*10 yr (4.17")*	*100 yr (7.23")*	*2 yr (2.81")*	*10 yr (4.17")*	*100 yr (7.23")*
WL 33, 34A, 34B to S Ditch WL 33, Basin 34-4, Area 34-5 to S Ditch	0.12	1.97	17.72	0.03	0.42	5.80
Area 34-C to East 1 Area 34-1, Basin 34-2 to East 1	0.38	2.30	12.35	0	0.15	10.06
Wetland 32 to East 2 Wetland 32 to East 2*	0	0	6.83	0	0	5.41
Area 35A to West 3 Area 35-1A to West 3*	0.17	0.67	2.28	0.17*	0.67*	2.28*
Area 35B to West 4 Area 35-1B to West 4*	1.51	3.52	8.78	1.51*	3.52*	8.78*
Area 35C & WL 26 to West 5 Area 35-1C & WL 26 to West 5*	1.00	2.32	5.80	1.00*	2.32*	5.80*
Area 36A, 36B to South 1 Area 36-1, 36-2 to South 1*	0.15	1.20	6.08	0.15*	1.20*	6.08*

The rates from Basins 2 (subcatchment area Wetland 32 to East 2) and 4 (subcatchment area WL 33, Basin 34-4, Area 34-5 to S. Ditch) will actually be less than what is presented in Table 11 since stormwater reuse (for irrigation) has not been accounted for in the HydroCAD model.

The rule standard of setting peak rate and volume control at a pre-settlement level provides protection of sensitive high-value downstream resources (BCWD Rules SONAR, 2007). The implication of increasing stormwater discharge rate leaving the site is that it presents a higher risk of erosion which damages vegetation and carries sediment and pollutants to downstream resources. The flow paths and downstream resources at each location that do not meet the pre-settlement rate control standard are analyzed in Table 12.

Table 12 - Rate Control Variance Analysis

Subcatchment Area [Pre-settlement / Post-development]	*Pre-settlement Runoff Rates [cfs]*			*Proposed Runoff Rates [cfs]*		
	2 yr (2.81")	*10 yr (4.17")*	*100 yr (7.23")*	*2 yr (2.81")*	*10 yr (4.17")*	*100 yr (7.23")*
Area 1A to West 1 Area 1-1A to West 1*	0.04	0.10	0.27	0.04	0.10	**0.28***
Analysis: *Increase of 0.01 cfs for the 100-year event is within expected inherent error of model parameter inputs and calculation methods. Insignificant change in flow rate and within acceptable error for small watershed modeling and large volume events.*						
Area 6D to BCT4 Area 6-3A to BCT4*	1.03	2.73	7.48	**1.12***	**2.86***	**7.65***
Analysis: *Minor increase in flow rate from pre-settlement; flow rate is less than existing conditions. Discharges to gently sloping ditch along Brown's Creek Trail, thence into the McKusick Road ditch (3% slope). Enters wetland north of McKusick Road 1,800 feet away. Flow will experience significant attenuation due to nature of slope, vegetation, and length such that erosion and sediment deposition risk to the downstream resource is minimized in this case.*						
Area 6G, 12, 13 to BCT7* Area 6G, 12, 13 to BCT7*	1.42	3.78	10.33	**1.62***	**4.08***	**10.77***
Analysis: *Minor increase in flow rate from pre-settlement; flow rate is less than existing conditions. Discharges to heavily wooded ditch along Brown's Creek Trail, thence beneath the trail via 12" pipe, beneath McKusick Road, and into a large wetland categorized as a GDNR approximately 500 feet away. Flow will experience significant attenuation due to nature of slope, vegetation, length, and restrictive pipe such that erosion and sediment deposition risk to the downstream resource is minimized in this case.*						
Wetland 32 to East 2 Wetland 32 to East 2*	0	0	4.70	0	0	**5.41***
Analysis: *Increase in flow rate from pre-settlement for 100-year only; flow rate is less than existing conditions. Discharges to nearly flat open turf area before crossing beneath Brown's Creek Trail, McKusick Road, and to a small wetland located on private property 950 feet away. Flow will experience significant attenuation due to non-concentrated sheet flow across the open turf area and length of the flow path to the downstream resource such that erosion and sediment deposition risk to the downstream resource is minimized in this case.*						
Area 35A to West 3 Area 35-1A to West 3*	0.11	0.53	2.03	**0.17***	**0.67***	**2.28***
Analysis: *Minor increase in flow rate from pre-settlement; flow rate is less than existing conditions. Discharges to a small wetland complex which outlets back onto the project site approximately 500 feet away and to the north. Small, flat catchment area at 0.63 acres in size generating low volume and rates for all rain events, which proportions to low risk of erosion and sediment deposition. Flow will experience significant attenuation when entering the downstream wetland such that erosion and sediment deposition risk to the downstream resource is minimized in this case.*						

Subcatchment Area [Pre-settlement / Post-development]	*Pre-settlement Runoff Rates [cfs]*			*Proposed Runoff Rates [cfs]*		
	2 yr (2.81")	*10 yr (4.17")*	*100 yr (7.23")*	*2 yr (2.81")*	*10 yr (4.17")*	*100 yr (7.23")*
Area 35B to West 4 Area 35-1B to West 4*	1.08	2.88	7.89	**1.51***	**3.52***	**8.78***
Analysis: *Minor increase in flow rate from pre-settlement; flow rate is less than existing conditions. Wide flat swale discharges to a wooded depression located on private property before flowing to a wetland on an adjacent property approximately 550 feet away. Flow will experience significant attenuation by sheet flow across the wide flat swale, the woods, and the depression before entering the downstream wetland such that erosion and sediment deposition risk to the wooded area and downstream resource is minimized in this case.*						
Area 35C & WL 26 to West 5 Area 35-1C & WL 26 to West 5*	0.72	1.90	5.21	**1.00***	**2.32***	**5.80***
Analysis: *Minor increase in flow rate from pre-settlement; flow rate is less than existing conditions. Discharges to a small wetland complex which outlets back onto the project site approximately 250 feet away and to the south. Small, catchment area at 1.15 acres in size generating low volume and rates for all rain events, which proportions to low risk of erosion and sediment deposition. Flow will experience significant attenuation when entering the downstream wetland, thence further attenuated through the second wetland such that erosion and sediment deposition risk to the downstream resource is minimized in this case.*						
Area 36A, 36B to South 1	0.11	1.06	5.77	**0.15***	**1.20***	**6.08***
Analysis: *Very minor increase in flow rate from pre-settlement; flow rate is less than existing conditions. Discharges down a heavily wooded slope, onto a flat turf fairway on the neighboring golf course, thence through a wooded area to a wetland approximately 1,000 feet away. Small, gently sloping catchment area at 1.45 acres in size generating low volume and rates for all rain events, which proportions to low risk of erosion and sediment deposition. Flow will experience significant attenuation when entering the wooded area and flat turf fairway such that erosion and sediment deposition risk to the downstream resource is minimized in this case.*						

BCWD engineer finds that there is adequate technical basis to support the managers' granting a variance from the rate-control requirement as the findings in the above analysis conclude that meeting the existing conditions peak discharge rates, at these specific locations, is technically satisfactory to sufficiently protect downstream resources, and will not result in adverse impacts to downstream properties. Note that proposed values marked with an asterisk in Table 12 are higher than the pre-settlement discharge rate standard.

Rule 2.4.1(a)(ii) Volume Control Requirement: As previously stated, there are a total of 17 discharge points from the site. The stormwater management plan meets the rule requirement of matching pre-settlement runoff volumes for the 2-year, 24-hour event at six (6) of these points (West 2, BCT1, N 88th Ditch, East 1, East 2, West 5). This means that 11 discharge points do not meet the pre-settlement volume control requirement (West 1, BCT2, BCT3, BCT4, BCT5, BCT6, BCT7, S. 88th Ditch, West 3, West 4, South 1). The permit applicant is requesting a variance from this rule requirement since the volume at 14 of the discharge points match (or are lower than) the existing runoff volumes, as shown in Table 13, and that volume control to pre-settlement levels is provided for the site as a whole.

Rule Policy 2.1.1 is to preserve natural infiltration, groundwater recharge and subsurface flows that support groundwater dependent resources including lakes, streams, wetlands, plant communities, and drinking water supplies. According to the Memorandum Providing Background on and an Explanation of Amendments to the Brown's Creek Watershed District Rules (2018), among the 2016 BCWD Plan goals supported by this are to:

- Protect and maintain the quantity and quality of groundwater recharge, and
- Maintain or restore (where needed) pre-settlement recharge conditions in the watershed

These goals are met by the entire project site stormwater management plan meeting the pre-settlement standard.

The rule standard of setting peak rate and volume control at a pre-settlement level is meant to protect sensitive high-value downstream resources (BCWD Rules SONAR, 2007). The implications of increasing stormwater volume leaving a site at individual point locations are extending periods of saturation of soils along watercourses leading to erosion and sediment deposition, downcutting, disconnection from floodplain, as well as increasing flood risk to upstream and downstream resources and landowners (Rule 7.3.5). There are no watercourses being discharged to, and the ditch conveyances are fully stabilized and not susceptible to volume related erosion, therefore flood risk to upstream and downstream resources and landowners are the focuses of this variance analysis.

The applicant's variance request states that "Discharge volume increases over pre-settlement in areas where no impervious surface is proposed and volume control measures weren't feasible simply because the current landscape is not in a pre-settlement condition" and that "In drainage areas with development activity, some have increased volume and others have reduced volume depending on the suitability of the landscape for volume reduction practices." Two (2) discharge points have volumes that exceed the existing runoff volumes (BCT2, and BCT3) as outlined below.

- BCT2 - This discharge point collects drainage from three subcatchments including Area 6-1C, Area 6-1B and Area 6-1D. One of these subcatchments has new impervious coverage associated with the building pad as well as a rate control pond (Area 6-1B). A significant portion of the area is being converted to native vegetation; however, this area is downstream of the rate control pond where infiltration is infeasible due to soil conditions (Refer to Figure 3).
- BCT3 - This discharge point collects drainage from three subcatchments including Area 6-2B, 6-2C, and Area 6-2A. One of these subcatchments has new imperious coverage associated with the building pad. In addition, there are two rate control ponds in this drainage area that discharge to the native vegetation area (Refer to Figure 4).

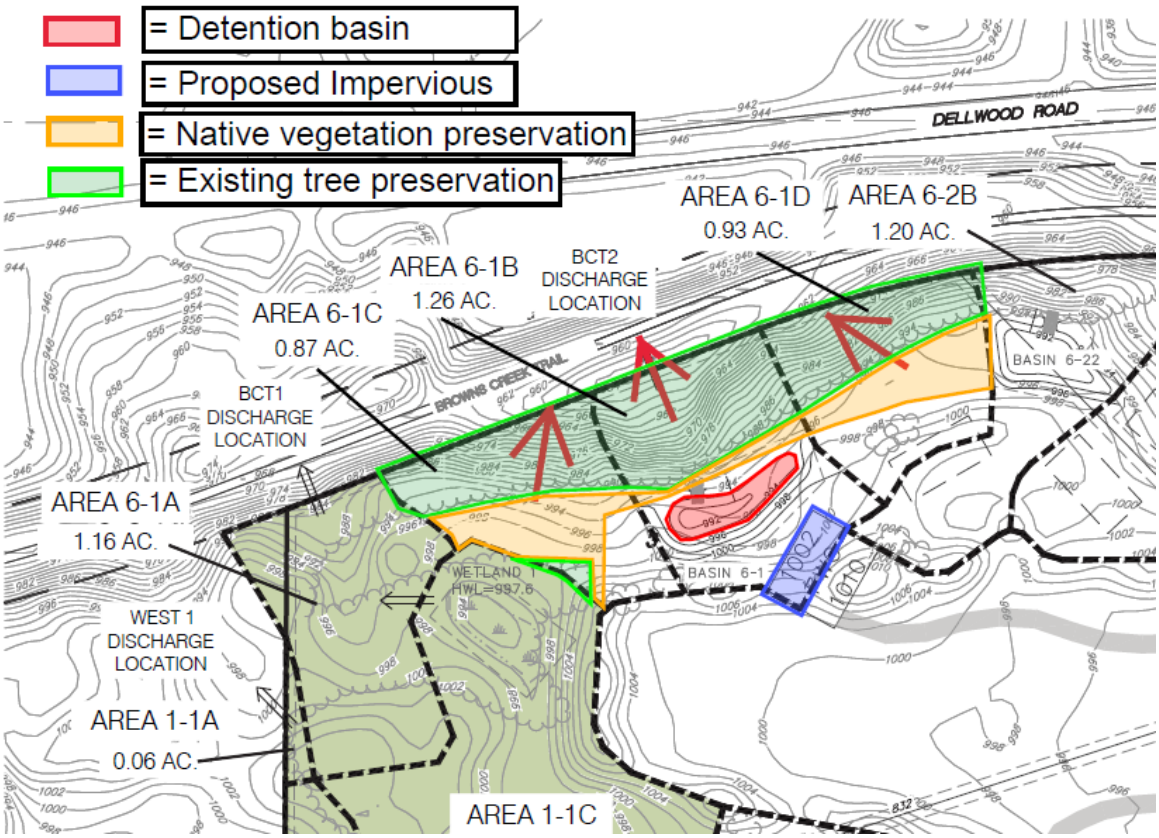

Figure 3 – Proposed discharge to BCT2

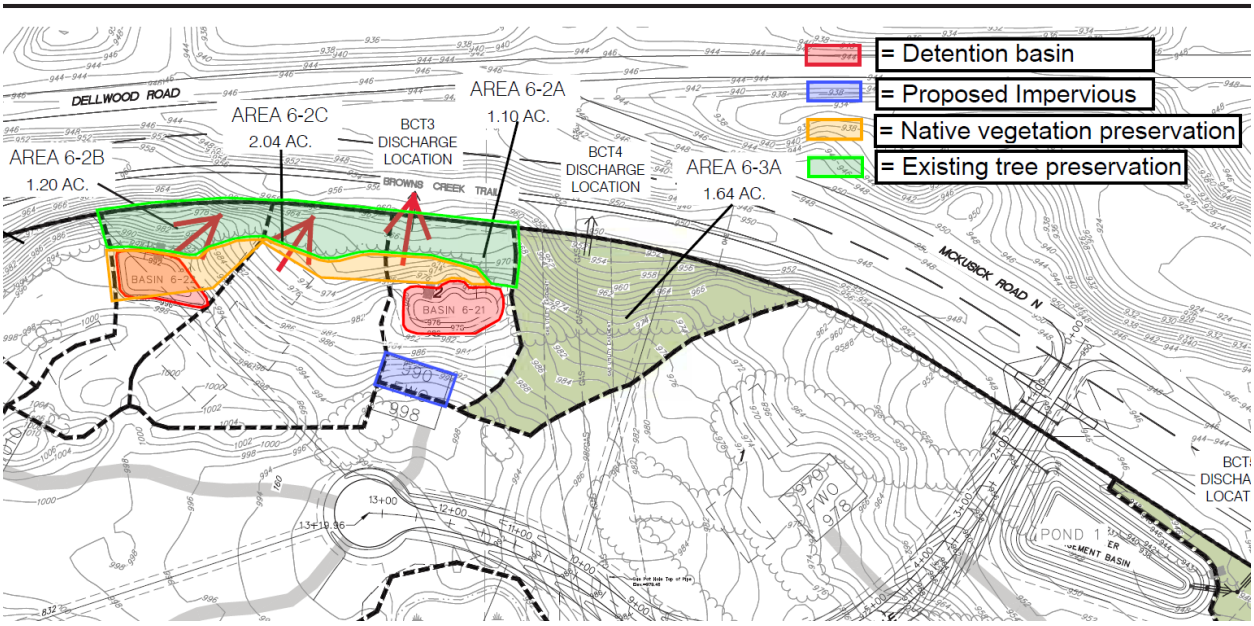

Figure 4 – Proposed discharge to the BCT3

Table 13 – Existing to Proposed 2-Year Discharge Volume Comparison

Discharge Point	Existing Runoff Volume [cf]	Proposed Runoff Volume [cf]	Difference [cf]	Volume Reduction Provided [cf]	Volume Change [cf]
West 1	155	142	-13	0	-13
West 2	799	799	0	0	0
SUB-TOTAL ***(discharges to private properties)***			***-13***	***0***	***-13***
BCT1	2,574	2,574	0	1,103	-1,103
BCT2	8,079	8,481	402	0	**402***
BCT3	12,455	13,658	1,203	0	**1,203***
BCT4	6,221	3,891	-2,330	0	-2,330
BCT5	32,225	53,721	21,496	27,205	-5,709
BCT6	16,803	22,479	5,676	11,795	-6,119
BCT7	5,718	5,588	-130	0	-130
SUB-TOTAL ***(discharges to Brown's Creek Trail)***			***26,317***	***40,103***	***-13,786***
N. 88th Ditch	0	0	0	749	-749
S. 88th Ditch	1,969	8,804	6,835	12,130	-1,357
SUB-TOTAL ***(discharges to south Mckusick ditch and across north to wetland complex.)***			***6,835***	**12,879**	***-2,106***
East 1	3,891	7,906	4,015	7,906	-3,891
East 2	0	0	0	10,784	-10,784
SUB-TOTAL ***(discharges to private property)***			***4,015***	***18,690***	***-14,675***
West 3	815	815	0	0	0
West 4	4,990	4,990	0	0	0
West 5	3,298	3,298	0	2,004	-2,004
SUB-TOTAL ***(discharges to private property)***			***0***	***2,004***	***-2,004***
South 1	1,298	1,298	0	0	0
SUB-TOTAL ***(discharges to private property)***			***0***	**0**	**0**
TOTAL FOR ENTIRE SITE			**37,167**	**73,676**	**-32584**

The subtotals shown in Table 13 indicate locations of common drainage to a downstream resource, e.g., wetland or property. The BCWD engineer finds that there is sufficient data and analysis to support the board's granting the variance from the volume control requirement since the stormwater management plan demonstrates that more volume control is being provided at each of the subtotaled discharge locations than what is currently happening under existing conditions. While two of the discharge points along the vegetated swale (conveyance system) along Brown's Creek State Trail are increasing in volume from existing conditions, there are multiple discharge points along the same conveyance system that discharge less than existing conditions, so that the net discharge at the most downstream end is less than existing conditions overall by 13,786 cubic feet. Given that the net volume being discharged to the vegetated swale is less than existing conditions, there will be no impact to the vegetated swale. Additionally, there will be no impact to the downstream wetland system (as articulated under Rule 2.0). As a result of these evaluations, the BCWD engineer supports the board's granting a variance to the volume control requirement in this instance. Further, the total volume being mitigated via stormwater infiltration, stormwater reuse and evapotranspiration is greater than the volume currently leaving the site in total which also meets the District's goals for groundwater recharge and runoff reduction.

RECOMMENDED CONDITIONS OF THE PERMIT:

The following is a summary of the remaining tasks necessary to bring the project into compliance with the BCWD Rules in all respects other than where variances are requested as discussed above:

1. Demonstrate that the plan has received preliminary plat approval (BCWD Rule 1.3a).
2. Address all stormwater management conditions (Conditions 2-1 to 2-6).
3. Address all erosion control conditions (Condition 3-1).
4. Address all buffer conditions (Condition 4-1 & 4-2).
5. Address all financial assurance requirements (Condition 9-1).
6. Replenish the Permit fee deposit to $5,100 ($52,551.38 Review Fees to Date + $5,100 = $57,651.38) (BCWD Rule 8.0). If the permit fee deposit is not replenished within 60 days of receiving notice that such deposit is due, the permit application or permit shall be deemed abandoned and all prior approvals shall be revoked and collection proceedings shall begin on unpaid balances.
7. Provide the required financial assurances (BCWD Rule 9.0):
    a. Total grading or alteration assurance 18.0 acres ($36,000).
    b. Stormwater management facilities assurance ($X).

STIPULATIONS OF APPROVAL:

1. Note that the permit, if issued, will require that the applicant notify the District in writing at least three business days prior to commencing land disturbance. (BCWD Rule 3.3.1)
2. To ensure that construction is carried out according to the approved plan, provide verification that construction standards have been met for all infiltration basins and pretreatment swales. This includes but is not limited to confirmation that infiltration basin sub-cut reaches soil material reflected in the geotechnical report and that the vegetation establishment procedures have been followed per the landscaping/restoration plan. This can be achieved by scheduling a BCWD inspection during the excavation of the basins,

independent geotechnical engineer observation and note of confirmation, or well-documented photographic evidence by the onsite engineer along with collected survey elevations of the basins.

3. Provide the District with As-built record drawings showing that the completed grading and stormwater facilities conform to the grading plan.

BROWN'S CREEK WATERSHED DISTRICT
455 HAYWARD AVE N
OAKDALE, MN
55128
651.330.8220
WWW.BCWD.ORG

MEMORANDUM

TO: Brown's Creek Watershed District Board
FROM: Karen Kill
RE: Brown's Creek Restoration Project Expansion
DATE: June 12, 2024

Background/Issue

BCWD has contracted and begun work on the Brown's Creek restoration project from McKusick Road to just downstream of the Brown's Creek State Trail. Through the public outreach materials, adjacent property owners Jody & Pat Rooney have contacted the district expressing interest in expanding the buckthorn and other woody removals and replacement with native, beneficial vegetation onto their property. The BCWD contractor is not expected to work east of Neal Ave until later in July, so the timing would still be possible under the current restoration work.

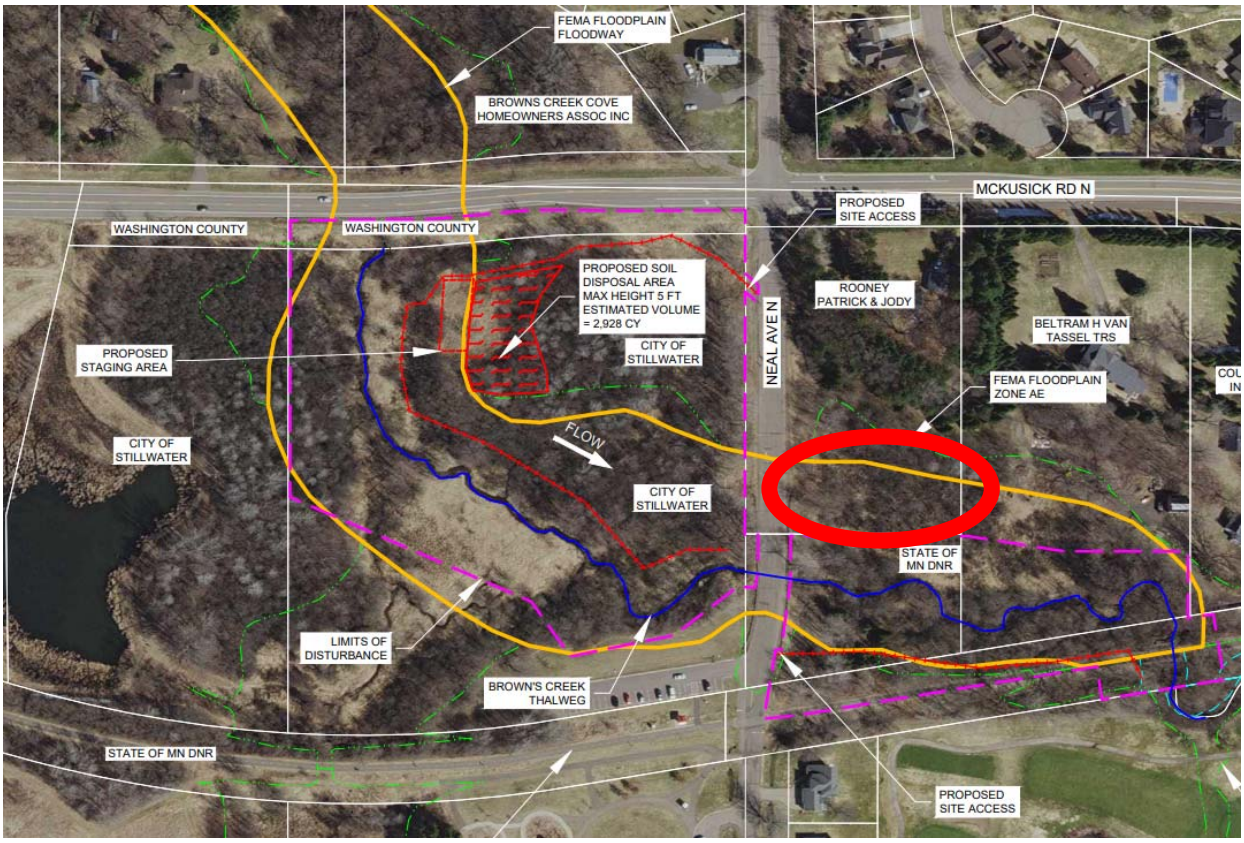

Fig 1 – Brown's Creek restoration project area – Rooney property for potential inclusion in red circle

The next steps will be to get direction from the managers. If interested, staff would conduct a site visit to access the area and coordinate with the Rooney's to determine the exact area of restoration.

Requested Action

- Authorize the administrator to enter into an agreement with Jody and Patrick Rooney for vegetation removal and replanting with native vegetation.
- Authorize a change order with Geomorphic Restoration not to exceed $5,000 from 947-0022

Dedicating an Irrevocable Term License, and
Committing to Convey a Maintenance Easement

Between Patrick Rooney and Jody Rooney and
Brown's Creek Watershed District

This agreement is made by and between Patrick Rooney and Jody Rooney, individuals married to each other (together, Rooneys), and Brown's Creek Watershed District, a special purposes governmental entity of the State of Minnesota with purposes and powers set forth at Minnesota Statutes chapters 103B and 103D (BCWD), for purposes of conveyance by Rooneys to BCWD of temporary and ongoing property rights necessary for construction and maintenance of a creek-improvement project.

RECITALS

A. Rooneys are the owners in fee simple of 3.3 acres of certain real property at 13033 McKusick Road North in the City of Stillwater, Washington County, designated by county property identification number 20 030 20 32 0021(the Rooney Property).

B. Whereas Brown's Creek Watershed District has an approved and adopted watershed resources management plan in fulfillment of Minnesota Statutes section 103B.231 including policies committing BCWD to the improvement of the water quality and ecological integrity of Brown's Creek and its tributaries, including maintaining a viable cold-water fishery and maintaining the hydrology and geomorphology of Brown's Creek and its tributaries required for stream equilibrium and health, and the capital improvements program in the plan includes creek-restoration projects addressing impairments of Brown's Creek for turbidity and fish-bioassessments identified in the Brown's Creek Total Maximum Daily Load Plan (2012) and the Brown's Creek Thermal Study (2016), including improvement of reaches categorized as having degraded stream channel geomorphology by addressing lack of buffer, stream width, overhanging banks, and profile and alignment;

C. Whereas at the direction of the BCWD Board of Managers to address the impairments and improve the ecological health of Brown's Creek, the BCWD staff and engineer developed a conceptual design for restoration of roughly 2,000 feet of the creek from McKusick Road just upstream of Brown's Creek Park to just downstream of the Brown's Creek State Trail in Stillwater, and the design includes:

- reconnection of cutoff meanders, pattern adjustments to increase stream sinuosity, and grade control to reconnect the floodplain adjacent to the creek;
- reconnect the floodplain and remove invasive species from the bank and upstream areas along the reach;
- bank shaping and selective tree thinning to promote herbaceous understory growth;
- restoration of fish habitat with rock riffles and pools to increase spawning opportunities and provide stable refuge for macroinvertebrates;

- establishment and maintenance of vegetation; and
- improved access to the creek from Brown's Creek State Trail.

(Altogether, the elements listed here constitute and are referred to as "the Project" for purposes of this agreement.) The Project will also include the development and implementation of a plan for post-construction maintenance and repair of the Project (the Maintenance Plan).

D. Whereas the Project includes work on the Rooney Property, among others, and the Rooneys have agreed to provide rights to access and use the Rooney Property to facilitate implementation and maintenance of the Project; and

E. Construction of the Project will benefit Rooneys by improving the health of vegetation on and stabilizing the Rooney Property, securing it against loss from erosion, and benefitting the public generally by mitigating risk of flooding and improving the ecological health of the creek and wildlife habitat. The parties acknowledge in executing this agreement that sufficient mutual consideration is exchanged under the terms hereof, and that this agreement sets forth obligations that are duly binding on the parties.

NOW, THEREFORE, in consideration of the foregoing recitals, which are incorporated into and made a part of this agreement, and other good and valuable consideration, and to facilitate the Project for the benefit of the public, the parties agree as follows:

1. Approval of design and plans. BCWD has contracted with the BCWD engineer, Emmons & Olivier Resources Inc., for the preparation of a design and plans for the Project, attached hereto and incorporated herein as Exhibit A. By their signature hereunder, Rooneys approve the plans and design in Exhibit A. BCWD makes no warranty to the Rooneys regarding the BCWD engineer's or another third party's performance in design, construction or construction management for the Project.

Commented [MW1]: This will need to include the plans for the Rooney property.

2. License

a. **Grant of license**. Rooneys hereby grant and convey to BCWD, its contractors, agents, successors and assigns, an irrevocable term license over, under, upon and across that portion of the Rooney Property shown and labeled "Construction Area" on Exhibit B, attached hereto and incorporated herein, for purposes of access to and construction on the Rooney Property to construct the Project (the License). The License includes the right of ingress and egress and to pass over and through the Construction Area on foot and using motorized equipment for staging of construction, construction and implementation of the Project and the right to plant, install stabilization techniques, alter existing grades and perform grading and filling within the Construction Area necessary to achieve the intended purposes of the Project. The rights granted hereby include the right to lay and maintain temporary utilities across or above the

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surface of the Construction Area for purposes of implementation and construction of the Project.

b. **Restrictions on Rooneys' use of the Construction Area.** During the term of the License, Rooneys will not use the Construction Area in any manner that would damage or interfere with the Project. Specifically, any grading, filling or alteration of the surface of the Construction Area by any party other than BCWD, its contractors, agents, successors or assigns, or the construction of any hard-surfaced areas, fences, sheds, structures or similar improvements within the Construction Area is prohibited. Rooneys may use and enjoy the Rooney Property and the Construction Area for all purposes, but such use and enjoyment is subject to the restrictions stated herein and the temporary right of BCWD to use the same for the purposes herein expressed.

c. **No public access or use.** No right of access or use of the Rooney Property is granted to the general public by this License.

3. Property Condition. On completion of construction of the Project, BCWD will restore the Rooney Property to materially the same condition as existed prior to the commencement of construction, except to the degree that the Rooney Property is improved by the Project. In the event the Rooney Property is damaged by the activities of BCWD or its contractors, agents or assigns pursuant to the exercise of any of BCWD's rights under this agreement, BCWD will promptly repair or restore the Rooney Property to the extent reasonably practicable or to a condition agreed to by BCWD and Rooneys. BCWD will repair, seed or plant disturbed or damaged areas with vegetation suitable for Rooneys' intended uses of the Rooney Property.

4. BCWD's ongoing specific rights and duties. In addition to its rights and responsibilities for fulfillment of the terms of this agreement as provided herein, BCWD has rights and duties as follows:

a. BCWD will contract with the BCWD engineer for construction oversight and otherwise manage the implementation of the Project in accordance with the design and plans in Exhibit A.

b. BCWD acknowledges that the conduct of the Project on the Rooney Property is potentially hazardous, and BCWD is aware of and knowledgeable about the risks inherent in conducting work on the Rooney Property, including risks of unknown conditions on the Rooney Property. BCWD assumes all risks of conducting Project work on the Rooney Property, including risk of injury from slips, falls, exposure to hazardous materials, objects or persons falling on persons, equipment failure, injury from sharp equipment, improperly administered first aid, lightning strikes or drowning. BCWD recognizes that Rooneys make no representations as to whether the Rooney Property is safe, and BCWD acknowledges the hazards and risks associated with conduct of the Project on the Rooney Property and chooses to assume them.

c. In contracting for the construction of the Project, BCWD will require that:

   i. The contractor restrict all of its activities to the Construction Area of the Rooney Property as specified in section 3 herein.

   ii. The contractor name the Rooneys as an additional insured for general liability with primary and noncontributory coverage and provide a certificate showing same prior to start of construction.

   iii. The contractor indemnify, defend and hold harmless the Rooneys from any and all actions, costs, damages and liabilities of any nature arising from the contractor's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty, or a subcontractor's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty owed by the contractor to BCWD.

   iv. The contractor extend all warranties applicable to the Rooney Property to the Rooneys.

   v. The contractor assess the need for and obtain all permits and other regulatory approvals applicable to the Project on behalf of BCWD and the Rooneys.

d. BCWD will notify Rooneys at least 10 calendar days prior to commencement of construction of the Project on the Rooney Property, and within 10 days of substantial completion of construction. (For purposes of this agreement and the Project generally, "substantial completion" is defined as completion of all elements of the Project as described herein for the intended purposes of the Project, except establishment and maintenance of vegetation, and implementation of the Maintenance Plan, as described in paragraph 5c herein, all of which will continue after substantial completion.)

e. BCWD will provide Rooneys with as-built drawings of the portion of the Project on the Rooney Property and a draft Maintenance Plan within 60 days of substantial completion of construction.

f. BCWD will commence performance or contract for the performance of maintenance of the Project on receipt of the executed Maintenance Easement and approval of a draft of the Maintenance Plan, as specified and defined in paragraphs 5b and 5c, respectively, herein. As between BCWD and Rooneys, BCWD will retain responsibility for establishment of vegetation and implementation of the Maintenance Plan.

g. Until substantial completion of the Project, if BCWD, in its judgment, should decide that the Project is infeasible, BCWD, at its option, may declare the agreement rescinded and annulled. If BCWD so declares, all obligations herein, performed or not, will be void and, if land-disturbing activities for the Project

Commented [MW3]: It would be good not to include these, since they would require further amendment of the contract.

Commented [MW4]: Delete (given that nothing is going to be built on Rooney property)?

have commenced, BCWD will return the Rooney Property materially to its prior condition or to a condition agreed to in writing by Rooneys and BCWD.

5. **Rooneys' ongoing specific rights and duties.** In addition to its rights and responsibilities for fulfillment of the terms of this agreement as provided herein, Rooneys have rights and duties as follows:

   a. Rooneys will cooperate with efforts undertaken by BCWD and its contractors to obtain permits and approvals needed for the Project, and by their execution below Rooneys authorize BCWD to apply for such permits and approvals on their behalf.

   b. *Commitment to execute maintenance easement.* When BCWD notifies the Rooneys of substantial completion of construction of the Project and provides Rooneys with final construction drawing(s) of the portions of the Project on the Rooney Property, Rooneys will attach the final construction drawing(s) provided by BCWD and execute a maintenance easement substantially in the form attached to and incorporated herein as Exhibit C (the Maintenance Easement). The Maintenance Area, as defined in the Maintenance Easement, will not extend outside of the Construction Area as shown in Exhibit B, and the Maintenance Area defined in the Maintenance Easement will encompass no greater area than that described as the Construction Area in this license, as shown in Exhibit B.

   c. *Review and approval of the Maintenance Plan.* In accordance with paragraph 5b, BCWD will timely provide a draft of the Maintenance Plan to Rooneys for their cooperation in the development of the Maintenance Plan. In addition, Rooneys will have 60 days from receipt to review and approve the final draft Maintenance Plan submitted in accordance with paragraph 4e herein. Failure to act within the specified time will constitute approval. Rooneys' approval will not be unreasonably withheld.

6. **Costs.** As between the parties, BCWD will be responsible for all costs of design, specification, construction, construction oversight and management for the Project, and development and implementation of the Maintenance Plan. Rooneys will dedicate the License and the Maintenance Easement pursuant to the terms of this agreement at no cost to BCWD. In addition, the parties each will bear their own incidental costs of determination and completion of their responsibilities and exercise of their rights hereunder.

7. **Insurance**. BCWD will require its contractors, agents, successors and assigns to carry commercial general liability coverage for injury to or death of a person or persons and for damage to property caused by the performance of the Project. Rooneys will remain solely responsible for maintaining liability and other insurance for their own use of and authority over the Rooney Property.

8. Term. The License granted hereunder will expire two years from the date of execution of this agreement or on recordation in the office of the Washington County Recorder by BCWD of the Maintenance Easement, whichever occurs sooner. Rooneys may revoke the License prior to its expiration only on written concurrence of BCWD. All other rights, obligations and duties hereunder will survive termination of the License, including but not limited to Rooneys' obligation under paragraph 6b hereunder.

9. Delivery of Notices. All notices required or permitted under this agreement will be in writing and will be deemed delivered when personally delivered, delivered by documented courier delivery or mailed by United States registered or certified mail, return receipt requested, at the address below or to such other address as a party may designate by a written notice to the other.

If to Rooneys: Patrick and Jody Rooney
13033 McKusick Road North
Stillwater, MN

If to BCWD: Brown's Creek Watershed District
Attn: Administrator
455 Hayward Ave North
Oakdale, MN 55128
KKill@mnwcd.org
651-330-8220

10. Severability. If any one or more of the provisions of this agreement, or the applicability of any such provision to a specific situation, is held invalid or unenforceable, such provision will be modified to the extent necessary to make it or its application valid and enforceable, and the validity and enforceability of all other provisions of this agreement and all other applications of any such provision will not be affected thereby.

11. Venue; governing law. Venue for any adjudication arising from this agreement will be in the district court of Washington County, Minnesota, and the agreement will be construed and governed by the laws of the State of Minnesota.

12. No waiver of immunity. No provision of this agreement will be interpreted as a waiver of any statutory or common-law immunity by or limitation of liability available to BCWD, all such immunities and limitations being expressly reserved by BCWD.

IN WITNESS WHEREOF, the undersigned have executed this agreement with the intent to be legally bound by its terms as of the date this agreement is fully executed by both parties.

Rooneys

_____ Date: _____

By Jody Rooney

_____ Date: _____

By Patrick Rooney

Brown's Creek Watershed District

_____ Date: _____

By Karen Kill
Its administrator

Approved as to form and execution

_____

BCWD counsel

EXHIBIT A

Project Design & Plans

EXHIBIT B

Site Plan – Construction Area

EXHIBIT C

Maintenance Easement

[MAINTAIN 3-INCH MARGIN]

MAINTENANCE EASEMENT
On the Rooney Property at 13033 McKusick Road North
Washington County, Minnesota

THIS EASEMENT is granted by Patrick Rooney and Jody Rooney, individuals married to each other (together, Rooneys) to the Brown's Creek Watershed District, a special purposes district of the State of Minnesota with powers set forth at Minnesota Statutes chapters 103B and 103D (BCWD).

WITNESS:

A. Rooneys own in fee simple certain real property consisting of 4.6 acres of land, more or less, at 13033 McKusick Rd North in the City of Stillwater, Washington County, legally described as:

(the Rooney Property).

B. BCWD has undertaken a construction project reconnecting floodplain, stabilizing eroded and eroding creek banks, reshaping banks, constructing in-stream riffles and pools, thinning tree cover to improve habitat and prevent erosion, removing invasive species and replacing with native vegetation, and improving access to the creek on public property from the Brown's Creek State Trail (the Project). The Project has been constructed on city-owned land, county right-of-way, state property (including along Brown's Creek State Trail), and on the Rooney Property, benefitting Rooneys by stabilizing and improving the Rooney Property and securing against soil loss from erosion, and will contribute to the realization of the public purposes for which BCWD was established;

Commented [MW5]: Needed from Rooneys.

(Washington County public:) Section 20 Township 030 Range 020 PT NW1/4-SW1/4 BEING THAT PT OF W 315FT OF NW1/4-SW1/4 LYING NLY OF NLY R/W LN OF BN RR FORMERLY NP RR CO EXC PT NW1/4-SW1/4 BEING PRCL #1 WACO HWY R/W PLAT 85 ALSO EXC THAT PT LYING SLY OF FOLL DESC LN:COM AT NW COR SD NW1/4-SW1/4 THN S00DEG01'56"W ALG W LN SD NW1

C. BCWD has requested and Rooneys have agreed to grant to BCWD an easement over the Rooney Property providing BCWD with the right to access and use the Rooney Property to maintain the Project after construction.

NOW, THEREFORE, for one dollar and other good and valuable consideration, the sufficiency of which the parties hereby acknowledge, the parties agree as follows:

1. Grant of Easement. Rooneys hereby grant and convey to BCWD, its contractors, agents, successors and assigns a perpetual easement over, under, upon and across that portion of the Rooney Property delineated and labeled on Exhibit 1, attached hereto and incorporated herein (the Maintenance Area), for purposes of access for maintenance of the Project in accordance with the Maintenance Plan developed for and approved by the Rooneys as part of the Project. The easement includes the right of ingress and egress and to pass over and through the Maintenance Area on foot and using motorized equipment to conduct maintenance of the Project, including the right to inspect, monitor, reconstruct and otherwise maintain the Project on the Rooney Property, including but not limited to correction of erosion and structural problems observed to ensure stability of the Maintenance Area, maintenance or replacement of plantings; seeding and reseeding to maintain ecological health and function; removal of invasive species and weeds as necessary to achieve the intended purposes of the Project. The rights granted hereby include the right to lay and maintain temporary utilities across or above the surface of the Maintenance Area for purposes of maintenance of the Project.

2. Restrictions on Rooneys' Use of Maintenance Area. Rooneys will not use the Maintenance Area or permit the construction of any improvements within the Maintenance Area in any manner that would damage or interfere with the function or physical structure of the Project. Specifically, Rooneys will not alter or allow alteration of any grade-control structures or any filling or grading of land or construction of structures within the Maintenance Area to ensure the Project continues to protect water quality and moderate flow in the creek. Weeds may be hand-pulled or spot-treated with herbicide according to instructions on the herbicide label. Rooneys will not mow or otherwise disturb vegetation, apply fertilizer to, or dispose of yard or other waste in the Maintenance Area.

3. No Public Access or Use; Rooneys' Reserved Rights. No right of access or use is granted to the general public to the Rooney Property by this easement. Rooneys may use and enjoy the Maintenance Area for any purposes and engage in or allow others to engage in all activities or uses and enjoy all rights accruing from their ownership of the Rooney Property, subject to the restrictions stated herein and the right of BCWD to use the Maintenance Area for the purposes herein expressed. Rooneys retain the right to sell or transfer all or part of the Rooney Property subject to the easement. Rooneys will inform all others who exercise any right on the Rooney Property by or through Rooneys of the requirements and constraints imposed by the easement, and will take any other steps as necessary to ensure that the terms of the easement are met.

4. Conduct of the Project Maintenance; Property Condition. All activity by BCWD on the Rooney Property will be conducted in a safe and workmanlike manner at BCWD's sole cost. In the event the Maintenance Area or Rooney Property is damaged by the activities of BCWD or its contractors, agents or assigns pursuant to the exercise of any of BCWD's rights under the easement, BCWD will promptly repair or restore the Rooney Property to the extent reasonably practicable. BCWD will repair, seed or plant disturbed or damaged areas with vegetation suitable for the intended uses of the Rooney Property.

5. Inspection and Enforcement. BCWD representatives, agents and contractors may enter the Maintenance Area at reasonable times to monitor activities on and uses of the Maintenance Area. In acting under this paragraph, BCWD will not unreasonably interfere with Rooneys' use and quiet enjoyment of the Rooney Property. BCWD may act to prevent or remedy all activities and uses of the Maintenance Area not consistent with the terms of the easement. BCWD will remain responsible for its legal fees and related expenses for any unlawful action taken by BCWD, its employees, agents or contractors.

6. Notice. BCWD may access the Maintenance Area and undertake work in accordance with and under the terms of the easement at any time, but after completion of construction of the Project, BCWD will notify Rooneys by telephone or email at least 24 hours prior to commencement of any exercise of BCWD's further rights under the easement.

7. Regulatory Authorities Not Affected. The easement does not replace or diminish the regulatory authority of BCWD or any other public body, as may apply to the Rooney Property or any activity within it.

8. Insurance. Rooneys remain solely responsible for maintaining liability and other insurance for its own uses of and authority over the Rooney Property.

9. Running with the Land. This easement, rights and privileges hereby granted, the restrictions and obligations hereby imposed, and the agreements contained in this easement will be easements, restrictions and covenants running with the land in perpetuity and will inure to the benefit of and be binding on the parties hereto and their respective heirs, successors and assigns including but not limited to all subsequent owners of any portion of the Rooney Property and all persons claiming under them.

10. Notices. Except as otherwise specifically provided herein, all notices required or permitted under this easement will be in writing and will be deemed delivered when personally delivered, delivered by documented courier delivery or mailed by United States registered or certified mail, return receipt requested, at the address appearing below or to such other address as each party may designate by a written notice to the other.

If to Rooneys: Jody & Patrick Rooney
13033 McKusick Road
Stillwater MN 55082

If to BCWD: Brown's Creek Watershed District
Attn: Administrator
455 Hayward
Oakdale MN 55128
KKill@mnwcd.org

11. Severability. If any one or more of the provisions of this easement, or the applicability of any such provision to a specific situation, will be held invalid or unenforceable, such provision will be modified to the extent necessary to make it or its application valid and enforceable, and the validity and enforceability of all other provisions of this agreement and all other applications of any such provision will not be affected thereby.

12. Governing Law; Venue. This easement will be construed and governed by the laws of the State of Minnesota. Venue for any action taken under or related to the Easement will be in the district court of Washington County, Minnesota.

13. No Waiver of Immunity. No provision of this easement will be interpreted as a waiver of any statutory or common law immunity from or limitation of liability available to BCWD, all such immunities and limitations being expressly reserved by BCWD.

14. Recording. BCWD may, at its expense, record and rerecord this easement.

{Signature page follows.}

IN WITNESS WHEREOF, the undersigned execute this easement, intending to be legally bound.

Rooneys

_____ Date: _____
By Jody Rooney

_____ Date: _____
By Patrick Rooney

STATE OF MINNESOTA
COUNTY OF WASHINGTON

This instrument was acknowledged before me this ____ day of _____, 202__, by Jody Rooney and Patrick Rooney, individuals married to each other.

_____
Notary Public

Brown's Creek Watershed District

_____ Date: _____
By Karen Kill
Its administrator

STATE OF MINNESOTA
COUNTY OF WASHINGTON

This instrument was acknowledged before me this ___ day of _____, 202__, by Karen Kill, as administrator of the Brown's Creek Watershed District, a special purposes district of the State of Minnesota with powers set forth at Minnesota Statutes chapters 103B and 103D, on behalf of the district.

_____
Notary Public

Drafted by:
Smith Partners PLLP – MJW
250 Marquette Avenue South, Suite 250
Minneapolis Minn 55401

EXHIBIT 1

Maintenance Area

CONSENT AND SUBORDINATION

, an [STATE OF INCORPORATION] corporation, the holder of a mortgage dated, filed for record with the office of the recorder of Washington County, Minnesota, on _____, as document no. _____, hereby consents to the recording of the easement to which this consent and subordination is attached and agrees that its rights in the property affected by the easement will be subordinated thereto.

IN WITNESS WHEREOF, _____, a [STATE OF INCORPORATION] corporation, has caused this consent and subordination to be executed this _____ day of _____, 20___.

_____
a [STATE OF INCORPORATION] corporation

By:_____

Its:_____

STATE OF MINNESOTA)
)ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 20__, by _____, as _____ of _____.

_____
Notary Public

memo

Project Name |	BCWD 2024 H&H Model Update Phase 2	**Date** |	6/6/2024
To / Contact info |	BCWD Board of Managers		
Cc / Contact info |	Karen Kill / BCWD Administrator		
From / Contact info |	Ryan Fleming, PE & Alec Olson		
Regarding |	Scope of Services for Phase 2 of the BCWD H&H Model Update		

Background

The Brown's Creek Watershed District hydrologic and hydraulic (H&H) model has been maintained as a "living model" since 2004, meaning the model is updated when new information such as hydraulic structure survey and land altering development data becomes available. Since the last major update to the model in 2015, several changes within the watershed have occurred which require updating the model to provide the most accurate assessment of rainfall runoff characteristics and impacts in the watershed. These updates ensure the model contains the latest information available to assess existing conditions to provide technical assistance to communities and developers within the BCWD.

The 2024 budget recommendation memorandum (presented & reviewed in July 2023) included several tasks associated with updating the BCWD's H&H model to assist in planning and policy decisions toward drafting the next generation of the watershed management plan. Some of the proposed updates rely upon datasets for which the release date has been delayed. Due to the effort and duration required to update the model, a phased approach is required ahead of the data availability to keep in step with the watershed management plan timeline.

Phase 1 of the 2024 H&H Model update was approved by the Board in October of 2023, and completed earlier in 2024. It consisted of the following updates:

1. Update climatology and precipitation data:
    a. Updated climatology and rainfall data library to include the growing season data collected at the BCWD's weather station, as well as recent complete year data at nearby bias-corrected gauges using as-it-happened radar data to ready the model for multi-year continuous simulations.
2. Update model hydraulics:
    a. Review of as-builts of thirty developments with significant changes and addition of these developments to the BCWD H&H model.
3. Drainage survey at 13015, 13093, and 13131 Keystone Ave N, Hugo, MN[1]

[1] Task 3 of Phase 1 was not anticipated during the budget planning process in July 2023, though it is tangentially related to the model, as it may be used in a future model update, the primary objective was to understand the drainage in this area, the residents' concerns, and collaborate with Washington County.

Scope of Services

As previously mentioned, some of the proposed updates relied upon datasets that were not yet available at the time that Phase 1 of the update began, namely the updated, higher resolution MN state LiDAR elevation, and the land cover data prepared by the University of Minnesota Remote Sensing and Geospatial Analysis Laboratory. The new higher resolution LiDAR data is now available, and the University of Minnesota has predicted the land cover data to become available in June 2024 at the earliest.

Prior to release of the land cover data, the following tasks may commence, and the data can be processed in preparation for that release. If release of the land cover data does not occur within a timeframe to coincide with the watershed management plan, alternative options for updating the model will be presented. These may include using the 2011-2014 land cover dataset, which would be an update from the 2008 Farm Service Agency aerial photography currently used in the model.

The following is a scope of services to conduct Phase 2 of updating the BCWD H&H model.

1. As-Built Hydraulic Updates

Since completion of Phase 1, the BCWD has received as-built documentation for hydraulic structures in the following permits. Because these permits resulted in significant hydraulic and land cover changes, or due to their proximity to flood prone areas, it is recommended they be added to maintain the model's useful function for simulating current conditions and for maintaining an up-to-date inventory of hydraulic structures throughout BCWD.

- Ponds at Heifort Hills (16-03)
- Trunk Highway 36 & Manning Interchange (20-08)[2]
- White Pine Ridge (20-12)
- Caribou Coffee (22-10)

2. Process LiDAR Data

The current model drainage areas are based on the 2011 LiDAR data. In early 2024, new higher resolution LiDAR data has become available that can be used to refine drainage divides and storage throughout the model. However, the raw LiDAR data needs to be processed into a digital elevation model (DEM) before it can be used as input in model. Typically, the Minnesota Geospatial Advisory Council 3D Geomatics (3DGeo) Data Acquisition Committee processes the raw LiDAR data into a DEM and releases it to the public on the MN Lidar Hub website. However, the committee has indicated that the digital elevation model (DEM) for Washington County will not be available until later this year. As such, EOR proposes processing the raw LiDAR data into a DEM in-house so that the higher resolution data can be used to update the model to current conditions. Processing of the LiDAR was

[2] The model includes the hydraulic structures that were proposed for Permit 20-08. These will be updated with the as-built information, including updating the pond storage volume reflected in the survey data.

not anticipated when EOR drafted the budget recommendations in July of 2023, however this task is anticipated to take 21 staff hours to complete including coordination with 3DGeo, quality control review, and documentation.

3. Update Subcatchment Boundaries

The 2011 LiDAR data that the current subcatchment boundaries are based on is believed to be relatively accurate, therefore large changes in the subcatchment boundaries in rural areas are not anticipated using the 2024 LiDAR elevation data. This will be confirmed by running a statistical comparison of the two datasets along the current boundaries to identify areas to focus our review. However, many subcatchments in the model will need to be adjusted to account for changes that have occurred since 2011, including new developments which the new LiDAR data will reflect. These areas will be the primary focus of the subcatchment update.

Many of the BCWD reports and studies refer to the current subcatchment areas and names, therefore the revised subcatchments will be defined to the same resolution, and discharge locations, as are currently defined in the model.

4. Update Waterbody Storage, Depressions, & Overland Channels

The current model includes DNR public waters and BMPs that were installed as of 2014 using the 2011 2-foot contour data (smoothed lines based on 3-meter square resolution). EOR proposes using the new sub-meter LiDAR data to refine storage throughout the model. The new higher resolution data will better define flood storage in the landscape (closed depressions), and around the waterbodies in the watershed. The benefits of these refinements include:

- An improved understanding of areas in the watershed that do, and do not contribute runoff to the waterbodies and watercourses.
- More refined flood footprints and mapping near infrastructure.

5. Calibration Data Review, Gap Identification, Selection, & Processing

Model calibration and validation is a process where model results are compared to observed data within the watershed and model parameters are adjusted to ensure the model predicts flows similar to observed conditions. Calibration is required with any major model update to correct for uncertainties inherent in the input data and in the model calculation methods. A well calibrated model increases confidence in the results from which policy and project related decisions are made.

Model calibration and validation will be included in a future scope of work, once the data becomes available and we are able to review and strategize using it for model hydrology parameterization.

A required step for model calibration is review of recent precipitation, streamflow, and waterbody level observed data to identify gaps and determine the best years for calibration and validation. This will be conducted in preparation for calibration and validation once updated land cover data has been made available and is included in the model. EOR will choose one warm season period for calibration, and two warm season periods for validation (a wet year and a dry year). As flooding and extreme precipitation events may be of interest in policy making decisions, periods with large volume events, or series of events will also be considered for calibrating the model. The selected observed datasets

will be formatted as time series files that are readable in the SWMM model for comparison to the modeled data.

Task and Cost Breakdown

Below is a summary of hours and costs for Phase 2 of the model update.

Table 1: Phase 2 Task and Cost Summary

Task	Description	Estimated Hours	Estimated Cost
1	As-Built Hydraulic Updates (4 permits)	34	$5,115
2	Process LiDAR Data into DEMs	21	$3,435
3	Update Subcatchment Boundaries	46	$6,722
4	Update Waterbody Storage & Channels	50	$7,510
5	Calibration Data Review & Processing	24	$3,588
Totals		**175**	**$26,370**

Alignment with 2023 Budget Recommendations & Next Steps

When the H&H model update was proposed in 2023, it was under the assumption that all necessary data would be available prior to the initiation of the project. Consequently, a phased approach was not initially anticipated. However, as detailed in the Background section, circumstances necessitated the adoption of a phased approach. This has implications for budget tracking, as it deviates from the original budgetary recommendations. To provide clarity on the remaining tasks, an outline of the subsequent steps is provided below.

Table 2: Phase Alignment with 2023 Budget Recommendations

Phase	July 2023 Budget Recommendation	2024 Scopes of Work	Notes
1	$48,065	$43,400	Includes $4,840 – Keystone survey & map
2	$14,981	$26,370	Includes $8,549 – LiDAR Process, Addn'l 4 permit as-builts
3	$24,491	$31,156 (estimated)	Includes balance of 2023 budget & unanticipated task amounts above
Totals	**$87,537**	**$100, 926**	**$100,926 includes $13,389 of unanticipated tasks above**

Next Steps - Phase 3 of the H&H model update will include:

- Parameterize model hydrology using updated land cover and soil data
- Growing season model calibration and validation
- Model event running (rainfall events and continuous simulations to be determined)
- Scoping of alternative additional model enhancements such as incorporating groundwater, extreme rainfall/climate change prediction events, storm transposition

Based on our current projections and understanding of the tasks outlined above, we maintain that it is reasonable to anticipate that the associated costs will align with the estimates provided for Phase 3 in the 2024 scopes of work listed above.

Requested Action

Consider approval of scope of services for not to exceed cost of $27,303, as outlined in Table 1 above, from account #923-0000.

2024 WORKSHOPS ON WATER

A THREE-PART SERIES FOR LOCAL LEADERS

Calling all city council members, county commissioners, planning commissions, watershed supervisors, and other community leaders!

Join us this year for a series of workshops focused on practical approaches to protecting and restoring our water resources in the Lower St. Croix watershed. We invite community leaders from both Minnesota and Wisconsin to attend.

This is a chance to deepen your understanding of water concerns in our area, develop strategies for common challenges, and access new resources that will benefit your community and our waterways.

Aboard the Grand Duchess

1 16TH ANNUAL ST. CROIX RIVER WORKSHOP ON THE WATER

Mon., June 24, 5-8pm, on the Grand Duchess out of Hudson, WI
Dive into an evening of fun and learning in this floating workshop on the beautiful St. Croix River.

- **5-5:30pm:** Boat departs. Enjoy food and networking.
- **5:45-6pm:** Keynote presentation by Daniel Peterson, Supervisory Park Ranger with the St. Croix National Scenic Riverway
  (*Participants divide in two groups and flip-flop at the break)*
- **6-6:40pm:** Session 1
  Kay Lutze (WI DNR), Matt Bauman & Dan Scollan (MN DNR)
  - St. Croix Riverway rules refresher
  - Dealing with sticky issues and variance requests
- **7-7:40pm:** Session 2
  Maggie Karschnia (UMN/Sea Grant) & Jay Michels (EOR Inc.)
  - Better Site Design for development and redevelopment
  - Resources for you – Community Assistance Package
- **8pm:** Boat returns to dock

TiiGavo on Big Marine Lake

Your ticket includes dinner and a cash bar. $30 per person.
Register at https://tinyurl.com/2024stcroixwow.

Elleholm Barn on Little Lake

Jackson Meadow in Marine

2 CONSERVATION DEVELOPMENT INNOVATION TOUR

Wed., Aug 7, 1-4pm in northern Washington County

Join the Washington Water Consortium for a driving tour by bus to visit three innovative examples of conservation development and permanent land protection. Tour stops will include:

- **Jackson Meadow** - a cluster style, conservation development in an upland area of Marine on St. Croix that features 190 acres of protected habitat.
- **TiiGavo** - a conservation development on Big Marine Lake in Scandia that features a shared community boat dock, raingardens and water quality treatment basins.
- **Kelly Farms** - 3000+ acres of private land permanently preserved through partnership with Trust for Public Land, MN DNR and Washington County Land and Water Legacy Program.

We will begin and end at the Brookside Bar & Grill in Marine. This tour is FREE but please register at https://tinyurl.com/stcroixconservtour.

On the St. Croix River

3 WORKSHOP ON LAND & WATER

Mon., Sept. 30, 6-8pm at Elleholm Barn in Center City, MN

Join us in the barn for an evening of fun and learning with community leaders from Minnesota and Wisconsin. This is the final workshop in the St. Croix River learning series.

Learn strategies for protecting lakes, rivers, and wildlife habitat in small communities and rural areas of the Lower St. Croix Watershed. During this workshop, participants will learn about tools available to help small communities guide where and how development happens, as well as strategies for promoting conservation in rural and agricultural areas.

Topics will include:

- Strategies and approaches available to communities to help guide development and sustainable resource management
- Promoting conservation in rural and agricultural areas
- Showcasing local and regional ag producer efforts to adopt conservation practices

This is a free workshop but please register so we know how much food to order. Register at https://tinyurl.com/stcroixwowland.

Sunset on Forest Lake

Learn more and register at www.lsc1w1p.org/workshops-for-local-leaders

These workshops are offered in partnership by the East Metro Water Education Program (EMWREP) Lower St. Croix Watershed Partnership, National Park Service, Minnesota DNR, Wisconsin DNR Polk County, St. Croix County, Washington County, Chisago SWCD, Isanti SWCD, Washington CD Carnelian-Marine-St. Croix WD, and Middle St. Croix WMO.

You're Invited!

Management Plan Update Kickoff Meeting

BROWN'S CREEK WATERSHED DISTRICT

Join us July 9th from 4:00-6:00 pm at the Stillwater Public Library Margaret Rivers B Room

BCWD is beginning an update of the ten-year management plan that guides all implementation activities in the watershed district. Your participation will make this a stronger plan to improve and preserve natural resources. We want to hear from you!

Light refreshments will be provided.

RSVP appreciated but not required: cblake@mnwcd.org

More info: bcwd.org

Project Name |	BCWD Permit Program	**Date** |	06/05/2024
To / Contact info |	BCWD Board of Managers		
Cc / Contact info |	Karen Kill, District Administrator		
From / Contact info |	John Sarafolean, EOR		
Regarding |	May Permit Inspection Update		

Background

BCWD has an on-going permit review process in support of the District Rules. Developments within the District Jurisdictional Boundary are reviewed for compliance with the Rules and conditions of the permit. This memo documents inspections from 05/01/2024 through 06/05/2024.

Inspection of Existing Permits

Project Name	Permit ID	Date	Grade
White Oaks Savanna Development	17-01	05/17/2024	A
		06/04/2024	A
Gonyea at WPR	22-02	06/04/2024	C
WOS Lot 106 Wiechmann	22-11	05/17/2024	B
		06/04/2024	A
WOS Lot 109 Benjamin Mohammed	22-24	05/17/2024	B
		06/04/2024	B
WOS lot 113 Miller Duis	22-25	05/17/2024	B
		06/04/2024	B
WOS Lot 114 Tweden	23-02	05/17/2024	A
		06/04/2024	A
WOS Lot 118 Villa Rococo	23-07	05/17/2024	B
WOS Lot 122 Freiroy	23-11	05/17/2024	A
		06/04/2024	B
Sandhill Shores (Lakes of Stillwater Phase 3)	23-13	05/17/2024	B
		06/04/2024	D
WOS Lot 102 Mensah	23-15	05/17/2024	B
		06/04/2024	B
WOS Lot 124 PennyLane	23-18	05/17/2024	B
		06/04/2024	D
Schuster Residence	24-02	05/17/2024	A
WOS Lot 120 Hilgert	24-03	05/17/2024	B

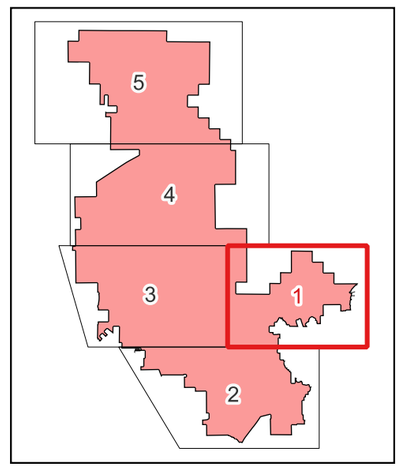
WOS Lot 120 Hilgert	24-03	06/04/2024	C
Swager Residence	24-05	05/17/2024	A

Explanation of Grades:

Permit 23-13, Sandhill Shores (Lakes of Stillwater Phase 3): The inspection grade for this site is due to failing perimeter control silt fence that is allowing sediment to be transported offsite into the adjacent buffer area for the wetland to the southeast of the project site. After email correspondence with the PM onsite, the perimeter control and sediment accumulation along it is going to be addressed on 06/06/2024. I will be following up with the PM onsite on 06/07/2024 to make sure the problems have been addressed.

Permit 23-18, WOS PennyLane: The inspection grade for this site is due to failed perimeter control silt fence that is protecting a development infiltration basin at the White Oaks Savanna Development. Sediment is eroding, transporting by swales along the driveway, and overwhelming the perimeter control allowing sediment to transport into the infiltration basin. After correspondence with the builder, he is going to address the sediment erosion and perimeter control issues on 06/07/2024.

Permit No.	Applicant/Permit Name	Status
15-07	Brown's Creek Cove	Active
16-03	The Ponds at Heifort Hills	Active
17-01	White Oaks Savanna	Active
17-04	The Lakes of Stillwater	Active
17-17	Westridge	Active
18-02	Heifort Hills Estates	Active
18-04	Boutwell Farm	Active
18-05	Heritage Ridge	Active
18-06	Nottingham Village	Active
20-05	Neal Avenue Reconstruction	Active
20-12	White Pine Ridge	Active
21-07	Brown's Creek Cove Lot 11	Active
21-08	Brown's Creek Cove Lot 14	Active
21-09	Westridge B1L1	Active
21-13	Marylane Gateway	Active
21-14	Heritage Ridge (lot 3)	Active
21-15	Schwartz Residence	Active
21-21	Millbrook West Park	Active
22-02	White Pine Ridge, remaining lots	Active
22-03	Westridge, remaining lots	Active
22-05	13290 Boutwell Rd N	Active
22-06	Heritage Ridge Lot 2	Active
22-08	Boutwell Farm, remaining lots	Active
22-14	Cahill Residence (Heritage Ridge Lots 5/6)	Active
22-15	13199 Dellwood Rd	Active
22-18	Stillwater Oaks	Review
22-23	Ferguson Residence (Heritage Ridge Lot 4)	Active
22-30	CSAH 5 Phase 2	Active
23-09	Kirn Residence	Active
23-13	Sandhill Shores (Phase III of Lakes at Stillwater)	Active
23-14	Wiskow Berm	Active
23-16	Brock Residence	Review
23-17	Sundance Stillwater	Pending
24-05	Swager Residence	Active
24-06	Rutherford Elementary	Review
24-09	CSAH 5 Phase 3	Review



Active Permit
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Under Review
BCWD Political Boundary

BCWD Permit Sites
June 5th, 2024

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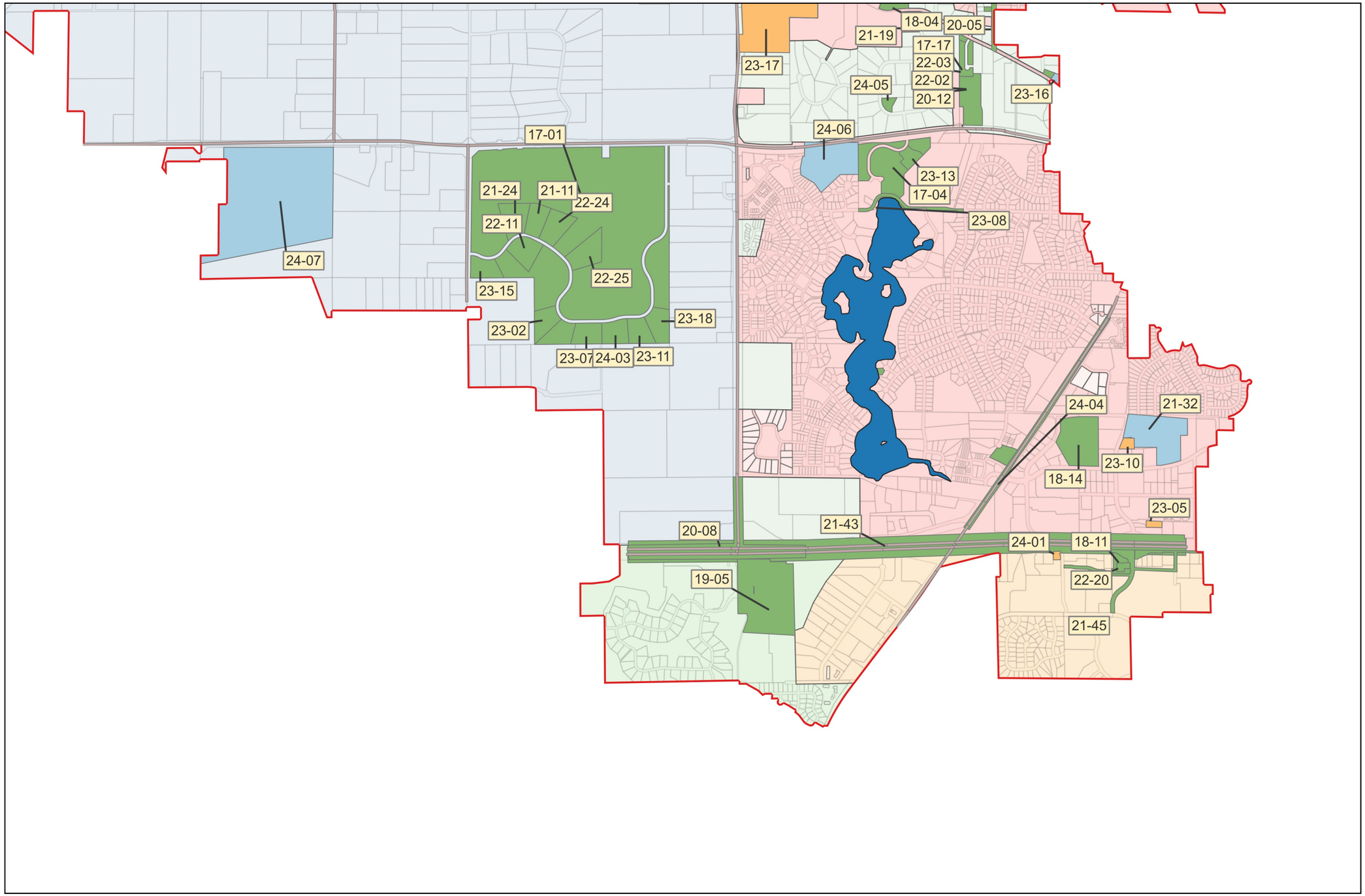
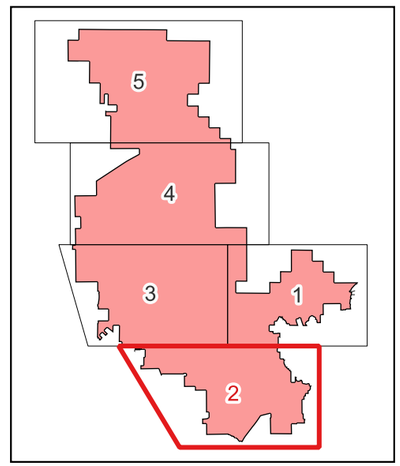


Permit No.	Applicant/Permit Name	Status
17-01	White Oaks Savanna	Active
17-04	The Lakes of Stillwater	Active
17-14	Parkwood Townhomes	Active
17-17	Westridge	Active
18-04	Boutwell Farm	Active
18-11	Ridgecrest	Active
18-14	St. Croix Valley Recreation Center Expansion	Active
19-05	Central Commons	Active
20-05	Neal Avenue Reconstruction	Active
20-08	TH36 CSAH 15 Interchange	Active
20-12	White Pine Ridge	Active
21-09	Westridge B1L1	Active
21-11	Hegarty Residence (WOS Lot 107)	Active
21-24	Nepal Residence - WOS B1L3	Active
21-32	Lakeview EMS	Review
21-43	MnDOT TH-36	Active
21-45	Norell Avenue Improvements	Active
22-02	White Pine Ridge, remaining lots	Active
22-03	Westridge, remaining lots	Active
22-05	13290 Boutwell Rd N	Active
22-08	Boutwell Farm, remaining lots	Active
22-11	Wiechmann Residence	Active
22-19	Miller Flood Protection	Active
22-20	Popeyes OPH	Active
22-24	Benjamin-Mohammed Residence (WOS Lot 109)	Active
22-25	Miller-Duis Residence (WOS Lot 113)	Active
23-02	Tweden Residence	Active
23-05	Rocket Carwash	Pending
23-07	Villa Rococo Residence	Review
23-08	72nd St Improvement	Active
23-09	Kirn Residence	Active
23-10	Curio Dance Studio	Pending
23-11	Freiroy Residence	Active
23-13	Sandhill Shores (Phase III of Lakes at Stillwater)	Active
23-15	Mensah Residence	Active
23-16	Brock Residence	Review
23-17	Sundance Stillwater	Pending
23-18	WOS Lot 124 Heck Residence	Active
24-01	Take 5 Oil Change	Pending
24-03	WOS Lot 120 Hilgert Residence	Active
24-04	CSAH 5 Resurfacing	Active
24-05	Swager Residence	Active
24-06	Rutherford Elementary	Review
24-07	Elliot Crossing/ Indian Hills	Review



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Active Permit
Conditional Approval
Under Review
BCWD Political Boundary

BCWD Permit Sites
June 5th, 2024

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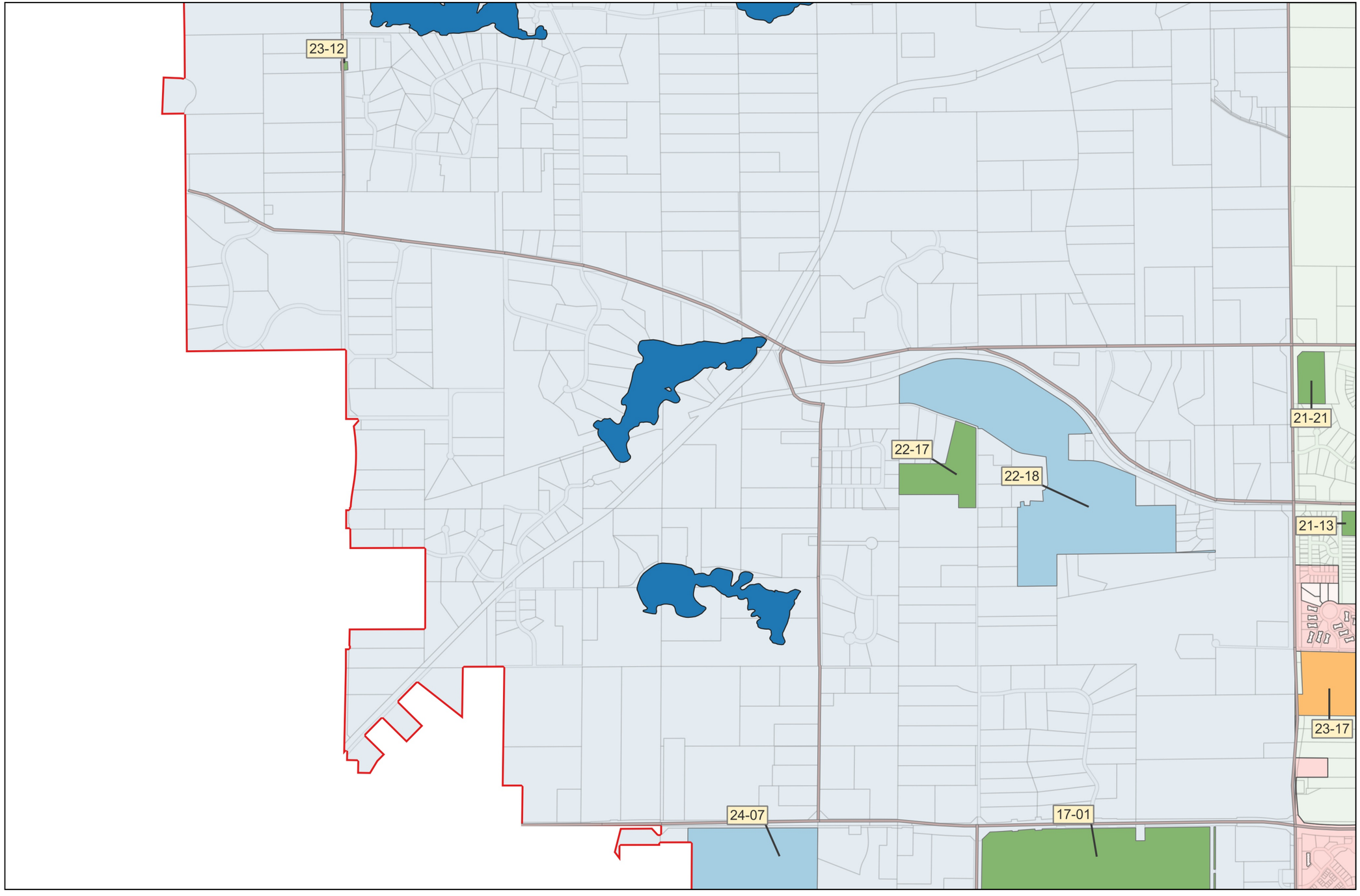
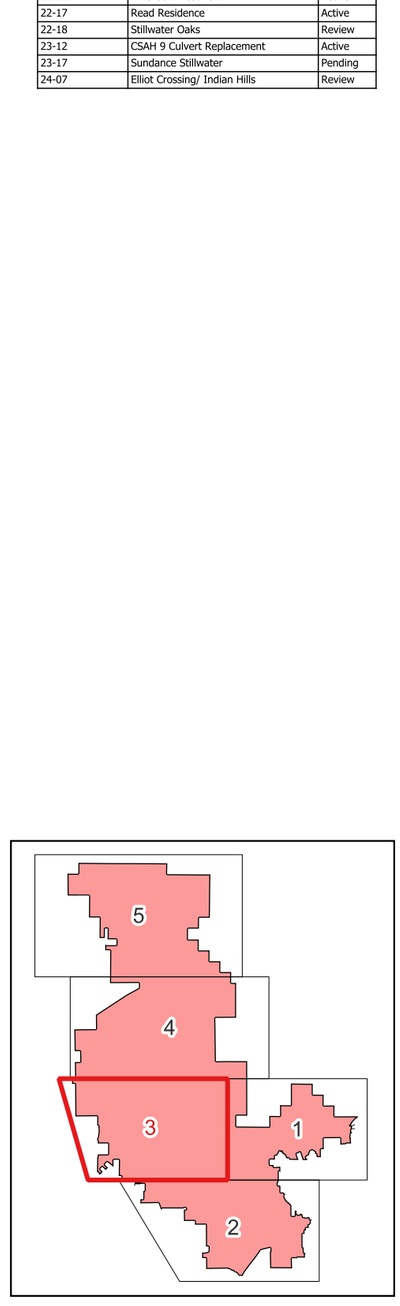
Permit No.	Applicant/Permit Name	Status
17-01	White Oaks Savanna	Active
21-13	Marylane Gateway	Active
21-21	Millbrook West Park	Active
22-17	Read Residence	Active
22-18	Stillwater Oaks	Review
23-12	CSAH 9 Culvert Replacement	Active
23-17	Sundance Stillwater	Pending
24-07	Elliot Crossing/ Indian Hills	Review





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BCWD Political Boundary

BCWD Permit Sites
June 5th, 2024

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Author: Allison Mark
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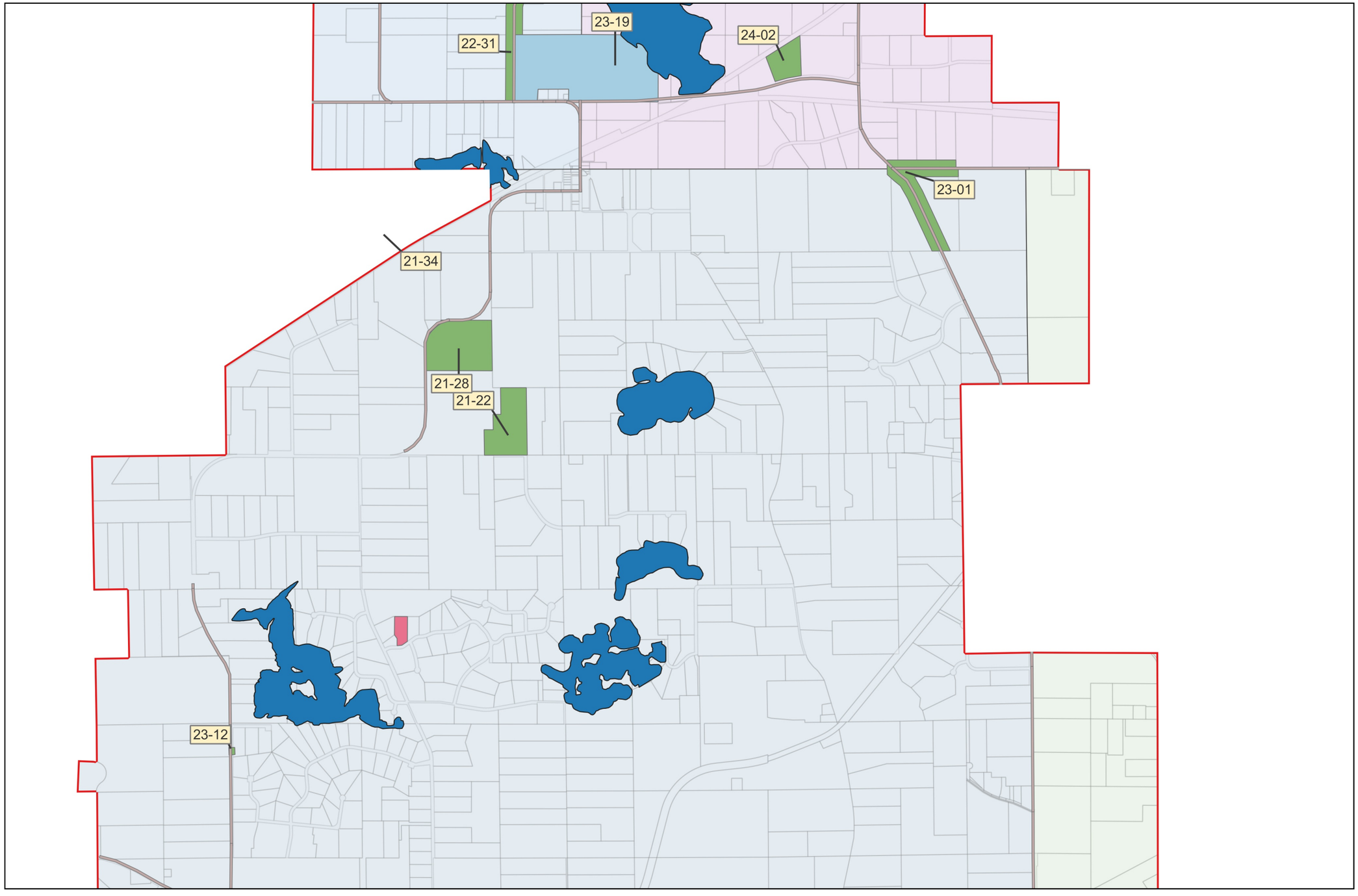
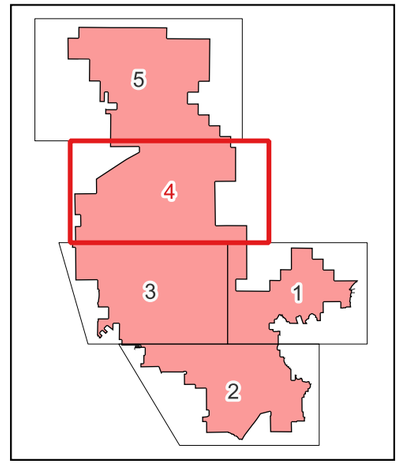
Permit No.	Applicant/Permit Name	Status
21-22	Bond Residence	Active
21-28	Guerrino Residence	Active
21-34	Fahey Residence	Active
22-31	County Road 57 Culverts	Active
23-01	County Road 61 Improvements	Active
23-12	CSAH 9 Culvert Replacement	Active
23-19	Liberty Academy Expansion	Review
24-02	Schuster Residence	Active





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June 5th, 2024

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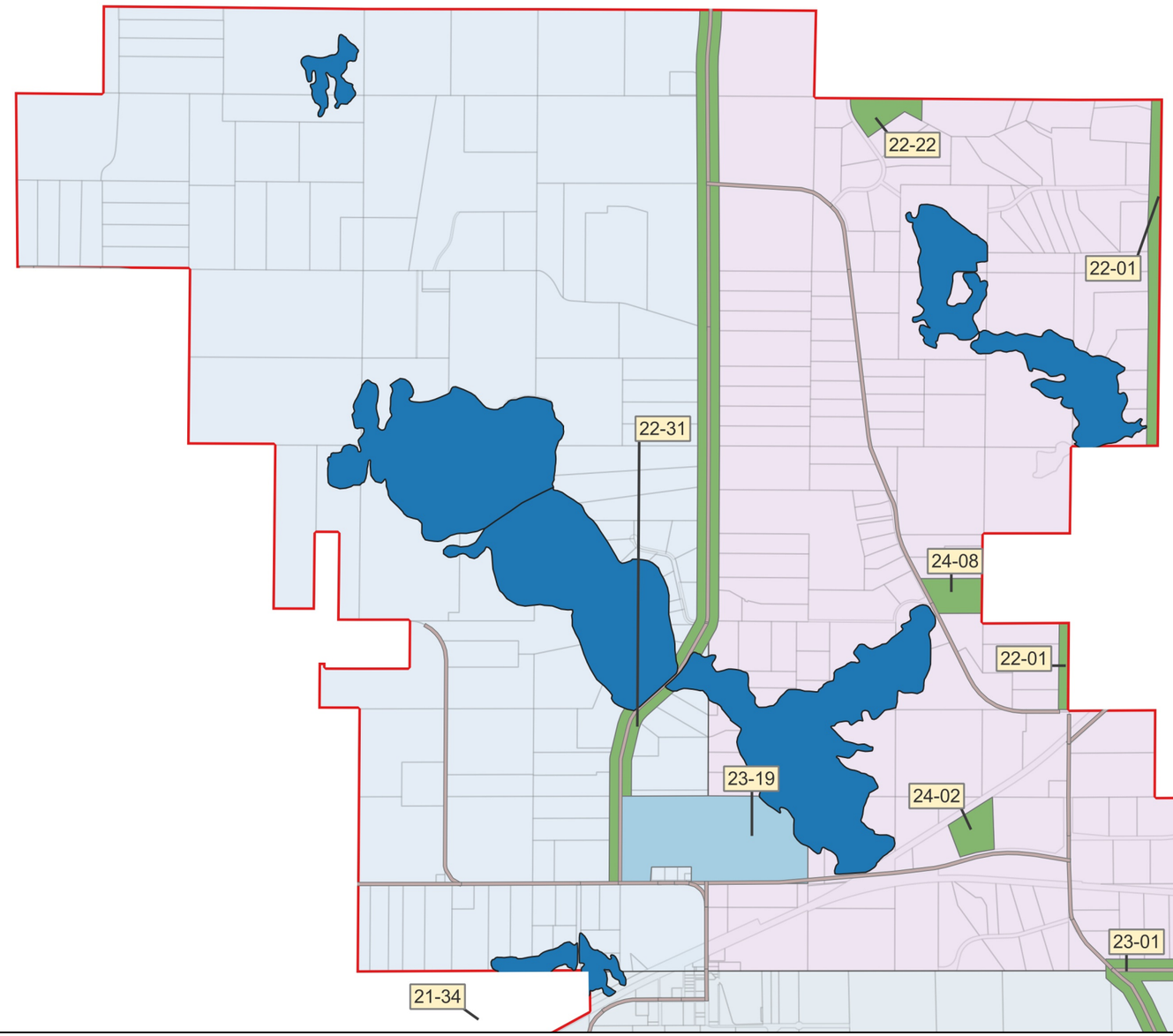
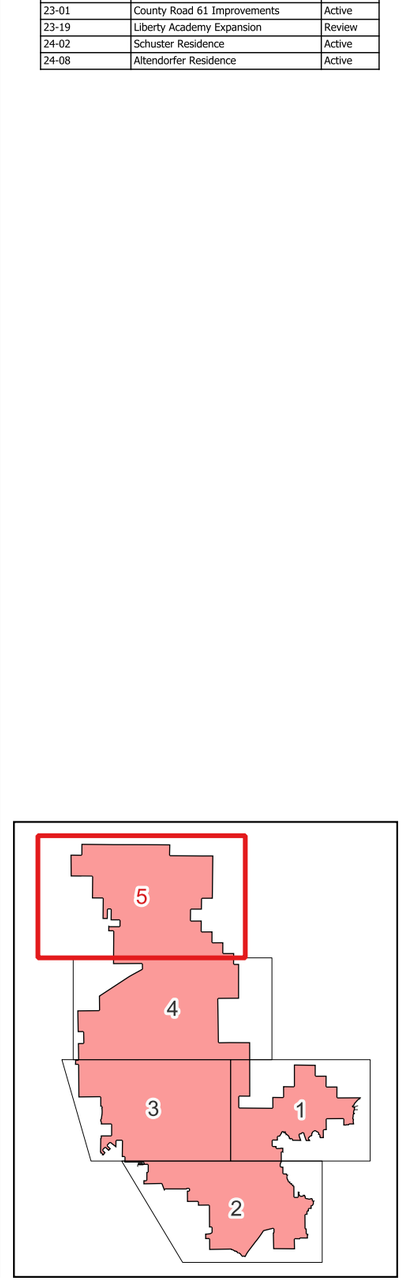
Permit No.	Applicant/Permit Name	Status
21-34	Fahey Residence	Active
22-01	CSAH 15 Culverts	Active
22-22	Fanberg Residence	Active
22-31	County Road 57 Culverts	Active
23-01	County Road 61 Improvements	Active
23-19	Liberty Academy Expansion	Review
24-02	Schuster Residence	Active
24-08	Altendorfer Residence	Active





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