

## Memorandum

**To:** Riley-Purgatory-Bluff Creek Watershed District Board of Managers and District Administrator  
**From:** Barr Engineering Co.  
**Subject:** Engineer's Report Summarizing February 2024 Activities for March 13, 2024 Board Meeting  
**Date:** March 7, 2024

The purpose of this memorandum is to provide the Riley-Purgatory-Bluff Creek Watershed District (RPBCWD) Board of Managers and the District Administrator with a summary of the activities performed by Barr Engineering Co., serving in the role of District Engineer, during February 2024.

### General Services

- a. February 2 agenda setting meeting with Administrator Jeffery, President Pedersen, counsel Welch, and counsel Smith.
- b. Met virtually with Administrator Jeffery, staff Nicklay, and Counsel Welch on February 7 and 20 to discuss actions on notice of probable violation locations, Upper Bluff Creek cooperative agreement, upper Riley Creek draft cooperative agreement and property rights discussions, and upcoming Lotus Lake subwatershed capital projects.
- c. Participated in the February 7 regular Board of Managers.
- d. Participated in a February 7 meeting with Administrator Jeffery and Eden Prairie Public Schools to discuss a potential water reuse system at the EP high school to provide a regional best management practice for reconstruction projects on the campus.
- e. Participate in the Riley Purgatory Creek summit on February 8 with District staff, agencies, cities, UofM, and consultants to discuss 2023 monitoring results, herbicide treatments, and plans for 2024. The discussion was led by staff Maxwell.
- f. Participated in the February 12 special audit and finance committee meeting.
- g. Participated in the February 20 preconstruction meeting with Administrator Jeffery, city of Chanhassen, and Peterson companies for the enhancement to the Lake Susan Park Pond reuse intake feature.
- h. Met with Administrator Jeffery and Staff Maxwell on February 28 to discuss the potential in-lake treatment for Lotus Lake in 2024 as well as the city of Eden Prairie request to partner on an in-lake alum treatment of Round Lake.
- i. Prepared Engineer's Report for engineering services performed during February 2024.
- j. Miscellaneous discussions with Administrator Jeffery about grant opportunities, budgeting, task order development, CIP timing and process, permits, EHAP, meeting preparations, and ongoing studies.

## Permitting Program

- a. *Permit 2023-045 Avienda Rowhomes* – This applicant proposes construction of Phase 3 of the Avienda development which involves construction of 53 row homes (three- and four-units per building) with driveways and patios, private roads, utilities, and stormwater management facilities. The stormwater management system includes 2 tree trenches, a bioretention basin, rainwater harvest and reuse system, a manufactured treatment device, and modifying two existing stormwater facilities on the site to provide runoff volume abstraction, water quality treatment, and rate control. Notified applicant of the conditional approval at the February 7, 2024 regular meeting of the Board of Managers.
- b. *Permit 2023-067 TH101 Rehabilitation and Creek Crossing Modification* – The proposed project includes bituminous mill and overlay of TH101, ADA Improvements, trail reclamation/rehabilitation, signal revisions, drainage preservation work and modifications to an existing culvert that conveys Purgatory Creek under the roadway. The project triggers RPBCWD floodplain management rule, erosion prevention and sediment control rule, creek and wetland buffer rule, dredging and sediment removal rule, and waterbody crossing and structures rule. Reviewed revised submittal and draft the permit report for consideration at the March 13 managers meeting.
- c. *Permit 2023-077 Enclave at Manor Road* - This applicant proposes construction with driveways and patios, utilities, and stormwater management facilities. The stormwater management system includes vegetated swales, preservation of natural areas, and a bioretention basin site to provide runoff volume abstraction, water quality treatment, and rate control. Reviewed revised submittal received on February 7. The application remains incomplete because of missing engineers opinion of probable cost.
- d. *Permit 2023-079 Grace Church Playground* - This applicant proposes construction of a new playground for Grace Church in Eden Prairie. The stormwater management system will be provided by an infiltration basin to provide runoff volume abstraction, water quality treatment, and rate control. Notified applicant of the conditional approval at the February 7, 2024 regular meeting of the Board of Managers and worked with applicant on the maintenance declaration.
- e. *Permit 2024-003 Asian Market Parking* – The applicant proposes to expand the parking lot at Asia Mall in Eden Prairie. The existing stormwater pond to the east will be replaced with underground storage facility to provide rate, volume and water quality control for the project. In addition to the lot, a turn lane along Technology Dr is also proposed. The project triggers RPBCWD floodplain management rule, erosion prevention and sediment control rule, and stormwater management rule. Reviewed the February 20, 2024 revised and provided review comments to the applicant indicating the application was incomplete due to missing the 1-year storm event analysis for the wetland protection assessment.
- f. *Permit 2024-004 Clear Spring Elementary Parking* – The applicant proposes the construction of a new parking lot. The proposed new parking lot will include the construction of new underground storm chambers for rate, volume, and water quality control. Reviewed revised submittal and drafted the permit report for consideration at the March 13 managers meeting.
- g. *Permit 2024-005 Lake Ann Preserve and Park Improvements* – The proposed project includes the reconstruction and expansion of the Greenwood Shores Park parking lot and the construction of bituminous trails and three boardwalk crossings. The applicant proposes two

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infiltration basins and one biofiltration basin to provide stormwater rate control, volume abstraction, and water quality control. The project triggers RPBCWD floodplain management rule, erosion prevention and sediment control rule, creek and wetland buffer rule, waterbody crossing and structures rule, and stormwater management rule. Met virtually with the applicant on February 5, 13 and 29 to discuss design adjustments to meet stormwater management requirements, incomplete submittal comments, and the waterbody crossing and structures requirements. Reviewed revised submittal and drafted the permit report for consideration at the March 13 managers meeting.

- h. Miscellaneous preapplication calls, emails and meetings with future applicants with questions about rule applicability and criteria. Also answering questions from existing permit applicants about how to address comments provided during the review process and conditions of approval.

#### **Data Management/Sampling/Equipment Assistance**

- a. Worked with MPCA on the 2022 and 2023 data submission.

#### **Task Order 6: WOMP Station Monitoring**

##### ***Purgatory Creek Monitoring Station at Pioneer Trail***

- a. No activity.

##### ***Purgatory Creek Monitoring Station at Valley View Rd***

- a. Download and review data.
- b. Site visits for routine maintenance and checks on ice conditions.

#### **Task Order 24B: Silver Lake Water Quality Improvement Project**

- a. Vegetation maintenance contract is underway through December 2025.

#### **Task Order 28B: Rice Marsh Lake (RM\_12a) Water Quality Improvement Project**

- a. The year vegetation establishment period is in process.

#### **Task Order 29B: Middle Riley Creek (Reach R3) Stabilization Project Design**

- a. No site inspections took place in January 2024  
Ongoing vegetation management will continue through July 15, 2025.

#### **Task Order 30B: Pioneer Trail Wetland Restoration Project**

- a. The three-year vegetation establishment period is in process.

#### **Task Order 032B: Upper Riley Creek Ecological Enhancement Project**

- a. Working with Administrator Jeffery and RPBCWD legal on revisions to a draft cooperative agreement with the city of Chanhassen.
- b. Met with Administrator Jeffery to coordinate private property owner communications and

agreement process.

- c. RPBCWD permit is planned for submittal after plans have been updated and property owner easements are in process in summer 2024.
- d. Because property owner coordination, some permitting, the incorporation of the proposed decant facility, and project bidding remains to be complete, Barr will coordinate with Administrator Jeffery to develop a request for additional engineering and permitting budget in early 2024:

#### **Task Order 033: Wetland Assessment – Phase 1**

- a. Met with District staff to discuss finalizing report.
- b. Continued drafting Phase 1 report to define ecosystem services and describe methodology for assessing each service.
- c. Continued data analysis for final report.

#### **Task Order 036B: Upper Bluff Creek Reach 5 Design**

- a. Site survey is being completed during the week of March 4.
- b. Draft Cultural Resources Assessment was completed at the end of February and will be shared with Administrator Jeffery in early March.
- c. Phase 1 ESA is almost complete, awaiting the User Questionnaire to be filled out by Administrator Jeffery.
- d. Riffle design at the outlet of the City's proposed Galpin Boulevard culvert replacement is underway.

#### **Task Order 037: Sediment Analysis**

- a. Finalized sediment P saturation calculations.
- b. The Lake Susan and Lake Susan wetland memos will be delivered together by the end of March 2024.

#### **Task Order 039A: Lotus Lake Water Quality Project – Preliminary Engineering**

- a. Present draft feasibility study report to RPBCWD managers at February Meeting
- b. Coordinate meeting with District Administrator to discuss next steps

#### **Task Order 040: Alum Application on Lotus Lake**

- a. Draft memo was delivered to the District Administrator in early June 2023.
- b. Working with District staff to determine next steps, including presentation at the March 13 managers meeting.

#### **Task Order 41: Chanhassen Decant Facility**

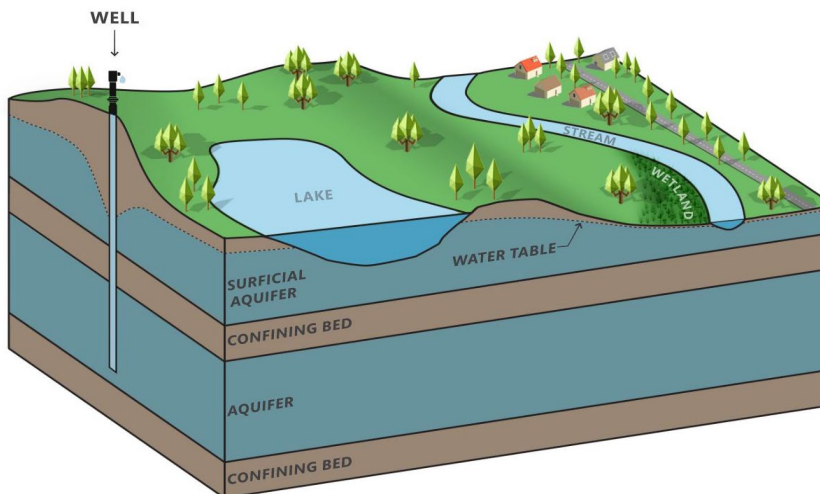
- a. Prepared "Bone Yard" alternative layouts, taking into consideration site constraints and

potential required variances.

- b. Performed survey of "Bone Yard".
- c. Prepared for geotechnical investigation of "Bone Yard".

#### **Task Order 43: Ecosystem Health Action Plan**

- a. Conducted biweekly meetings with District staff to discuss plan components and track project progress.
- b. Developed a spreadsheet of potential actions the District can take to improve ecosystem function. These suggested actions were the results of the TAC workshop series. The actions will be presented to the Board and CAC at the March 11 workshop to prioritize the most important and feasible actions to be taken moving forward.
- c. Completed the third chapter of the EHAP which addresses ecosystem function impairment and potential recovery. District staff is reviewing this chapter.
- d. Development of graphics such as this showing the relationship between surface water and groundwater.
- e. Preparation for the March 11<sup>th</sup> Board/CAC EHAP workshop.



Water bodies interact with surficial aquifers (ground water) through water inflow and outflow. Impervious surfaces and compacted soil within the watershed impedes stormwater infiltration reducing the amount of cool, clean water that reaches water bodies through groundwater.

#### **Task Order 44: Lake Susan Park Pond Reuse Intake Modification**

- a. Conducted the preconstruction meeting on February 20
- b. Reviewed submittal for the concrete wet well structure

Capital Project	Project Phase (% Complete)								Comments
	Regional Analysis	Feasibility Study	Project Ordering	Design	Permitting	Construction	Substantial Completion	Final Completion	
<b>Bluff Creek</b>									
Bluff Creek Tributary Restoration	100%	100%	100%	100%	100%	100%	100%	100%	Project Closed-out and Final payment in October 2023
Pioneer Wetland Restoration	100%	100%	100%	100%	100%	100%	100%	50%	3-year vegetation management underway
Bluff Creek Reach 5 Restoration	100%	100%	100%	2%	2%				Coordinating survey collection, drafting cultural and environmental resources reviews
BT3	100%								
B4	100%								
B3	100%								
<b>Riley Creek</b>									
Lake Riley - Alum Treatment	100%	100%	100%	100%	100%	100%	100%	100%	
Rice Marsh Lake in-lake phosphorus load	100%	100%	100%	100%	100%	33%	33%	33%	The first of three alum doses applied in 2018
Rice Marsh Lake Water Quality Improvement Phase 1	100%	100%	100%	100%	100%	100%	100%	45%	Establishing O&M documents in cooperation with the city. 3-year vegetation management underway
Riley Creek Restoration (Reach E and D3) (aka Lower Riley Creek Restoration)	100%	100%	100%	100%	100%	100%	100%	100%	
Upper Riley Creek Stabilization (aka Upper Riley Creek Ecological Enhancement Project)	100%	100%	100%	99%	50%				DNR and USACE permit received. District permitting pending. Anticipate bidding in later summer after the decant facility is incorporated into the project as directed by the Administrator. Assisting staff with property access agreements (private and public)
Middle Riley Creek Restoration	100%	100%	100%	100%	100%	100%	100%	45%	3-year vegetation management underway
St. Hubert Water Quality Project	100%	100%	100%	100%	100%	100%	100%	45%	3-year vegetation management underway
Lake Susan Park Pond	100%	100%	100%	100%	100%	100%	100%	100%	
Susan In-Lake	100%								
LU-A1.10c	100%								
LU-A3.4	100%								
Lake Susan Park Pond Reuse Inlet Enhancement				100%	50%	5%			Contractor contract executed, city and district permits submitted, and reviewing shop drawings.
Chanhasen Decant Facility				20%					City and RPBCWD Administrator approved boneyard location and directed the design be rolled into the Upper Riley Creek Restoration Plans and specs for a single bidding.
<b>Purgatory Creek</b>									
Purgatory Creek Rec Area- Berm/retention area	100%			50%					
Lotus Lake in-lake phosphorus load control	100%	100%	100%	50%	100%	50%	50%	50%	The first of two alum doses applied in 2018. Second dose planned in fall 2024. Sediment memo to be discussed at March meeting
Silver Lake Water Quality BMP	100%	100%	100%	100%	100%	100%	100%	45%	3-year vegetation management underway
Scenic Heights Forest Restoration	100%	100%	100%	100%	100%	100%	100%	100%	
Hyland Lake in-lake phosphorus load control	100%	100%	100%	100%	100%	100%	100%	100%	Three Rivers Park took over project.
Duck Lake Watershed Load	100%	100%	100%	100%	100%	100%	100%	100%	
Duck Lake Road Partnership (aka bridge)			100%				100%	100%	Partnership project with Eden Prairie. RPBCWD limited to financial contribution. Construction is complete. RPBCWD has fulfilled 3 of 5 year financial contributions.
Lotus Lake Watershed Improvement Project (LL_1, LL_3, LL_7, LL_8)	100%	100%							Report Finalized and will be presented at February 2024 regular meeting
Staring Lake StL_21	100%								
Lotus Lake LL_9	100%								
Staring Lake StL_1	100%								
Red Rock Lake RRL_7	100%								
Staring Lake StL_17	100%								
Mitchell Lake ML_3	100%								
PC_1	100%								
PC_2	100%								
Kerber Ravine	100%	100%							Incorporated summary into Lotus Lake Water Quality project to assess impact with respect to other BMPs being considered.

<b>Ongoing Studies</b>									
Ecological Health Action Plan		75%							The 4 of 4 Advisory Panel workshops completed. Several sections of the report are drafted and under review by RPBCWD.
Lotus Lake LVMP		100%						100%	
Eden Prairie Climate Resilience Modeling		100%						100%	
Wetland Assessment Phase 1		95%						95%	
Sediment Analysis - Riley, Rice Marsh, Susan		95%							Lake Susan and Lake Susan wetland memos will be delivered together in early 2024.