

Memorandum

To: Riley-Purgatory-Bluff Creek Watershed District Board of Managers and District Administrator
From: Barr Engineering Co.
Subject: Engineer's Report Summarizing August 2022 Activities for September 14, 2022 Board Meeting
Date: September 1, 2022

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 August 2022.

General Services

- a. Met with Administrator Jeffery and staff Bakkum on August 1st to work on drafting 2023 budget and workplan.
- b. Met virtually with Administrator Jeffery and staff Bakkum on August 9th to discussion grant opportunities and plan for the August 18th TAC meeting.
- c. Participated in the July 27th meeting with the Administrator Jeffery and City of Chanhassen to discuss coordination of the city's street reconstruction projects with the Lotus Lake subwatershed assessment.
- d. Prepared a presentation for and participated in the August 18th Technical Advisory Committee meeting to present information on past rule making revisions related to linear projects and solicited ideas on alternative stormwater compliance for linear projects. The following are several key takeaways from the TAC
 - i. Maximize flexibility and provide options
 - ii. Status Quo was not supported
 - iii. Little support for Cost Cap (i.e., Set a cap on stormwater management costs as a percentage of the overall project)
 - iv. Support for Off-site (i.e., applicant identifies off-site locations to implement water quality/quantity practices to provide equivalent protections), Regional (i.e., the road authority and RPBCWD partner to identify, design, and construct regional BMPs within subwatersheds. These practices then have credits from which the road authority can withdraw to meet stormwater management criteria), and Fee In-lieu (i.e., Permittee pays a fee to RPBCWD. RPBCWD studies, designs and implements the BMP to address roadway modification)
 - v. More details are needed on an alternative compliance framework
- e. Reconvened with Administrator Jeffery on August 22nd to discuss the key takeaways from the TAC meeting and strategize on building out alternative compliance options.
- f. Assisted staff Bakkum with a Clean Water Fund (CFW) grant application for the Upper Riley Creek Ecological Enhancement project.

- g. Work with Staff Forbes to develop an updated webmap for the new RPBCWD website. The purpose of the interactive map is to allow visitors to the website to determine if they live within RPBCWD and where runoff from their property drains to.
- h. Participated in the August 3rd 2023 budgeting workshop with the Board of Managers meeting
- i. Participated in the August 3rd regular Board of Managers meeting.
- j. Participated in the August 11th continuation of the August regular Board of Managers meeting.
- k. Prepared Engineer's Report for engineering services performed during August 2022.

Permitting Program

- a. *Permit 2021-062: The Ellie:* The project proposes to redevelop 6.40 acres of land that currently comprise seven single family residences on Lincoln Lane in Eden Prairie into a four story 245-unit apartment. The applicant proposes four subsurface stormwater infiltration/detention chamber facilities, pervious asphalt in the parking stalls and green roof to provide water quality treatment, rate control, and volume abstraction. Reviewed draft maintenance declaration, reviewed in-situ infiltration testing results, and worked with the applicant to address the conditions of approval.
- b. *Permit 2022-010 Suite Living of Eden Prairie* -The project proposed to redevelop the single-family home site at 9360 Hennepin Town Road, Eden Prairie into a new assisted living facility and associated parking, driveway entrance, landscaping, and stormwater improvements. Two subsurface facilities and a rainwater harvesting system for irrigation will provide water quality treatment, rate control, and volume abstraction. Worked with applicant to address conditions of approval. The City of Eden Prairie has request some design revisions to the proposed BMP that will require review by RPBCWD to ensure continued compliance with RPBCWD requirements.
- c. *Permit 2022-039 Taco Bell Reconstruction Minnetonka* – The project proposes a demolition and reconstruction of a Taco Bell restaurant and associated parking areas at 15110 MN-7 in Minnetonka. The project proposes the use of an underground infiltration system to provide stormwater quality, volume, and rate control. Reviewed infiltration testing and worked with applicant to address conditions of approval.
- d. *Permit 2022-045 Eden Prairie Multi-Family-* The project proposes constructing a 5-story, multi-family building with site improvements that include both surface and underground parking areas, utilities, stormwater management, landscaping and site amenities at the NW Quadrant of Valley View Road and Topview Road in Eden Prairie. Met virtually with the applicant to discuss review comments, variance requirements for wetland fill, regulatory timelines. Reviewed revised July 27th submittal which completed the application and provided review comments. Applicant requested a permit review timeline extension because of unanticipated concerns raised by the City of Eden Prairie.
- e. *Permit 2022-046 Dakota Retail-* The proposed redevelopment consists of improving site access, adding parking stalls, landscaping, and replacing the existing pond with an underground stormwater management BMP located at 190 Lake Drive East in Chanhassen. Responded to applicant question about conditional approval.

- f. *Permit 2022-053 Fox Hill Drive* - The project proposes to split the existing lot at 581 Fox Hill Dr. in Chanhassen into four lots. The project will also result in an additional outfall to Lotus Lake. The proposed project triggers RPBCWD's floodplain management, erosion prevention and sediment control, wetland and creek buffer, waterbody crossing and structures, and stormwater management rules. Responded to applicant question about review comments. Reviewed the applicant revised August 15th submittal. On August 30th provided review comments and informed the applicant the application remains incomplete because of missing soil boring information at one of the proposed BMPs. Applicant informed RPBCWD that because the City of Chanhassen has raised concerns about the tree removals for the project they will be working toward alleviating City concerns prior to addressing RPBCWD comments.
- g. *Permit 2022-059: 23-43-C Pond Dredging and Infrastructure Improvements* – The City of Eden Prairie proposes to remove accumulated sediment from basin 23-43-C (Pond C) to remove pollutants and restore treatment capacity of the basin and remove nutrients, pollutants, and contaminants. The city also plans to replace the deteriorated corrugated metal arch culvert connecting upgradient Pond 23-43-A (Pond A) to Pond C with a concrete arch culvert. Pond A and Pond C together are classified by the state as Public Waters Wetland 1008W. The project triggers RPBCWD floodplain management, erosion prevention and sediment control, wetland and creek buffers, and waterbody crossing and structures rules. Reviewed August 16th submittal and drafted the permit review report for consideration at the boards September 14th meeting.
- h. *Permit 2022-060: Groveland Elementary* – The proposed project proposes to expand an existing trail into a drive lane to facilitate additional car stacking during school pick-up activities. The project triggers RPBCWD erosion prevention and sediment control rule and the stormwater management rule. Reviewed August 4th submittal and provided review comments and incomplete notification on August 19th. The application is incomplete because of missing erosion control plan, stormwater modeling, and geotechnical report.
- i. *Permit 2022-061: Eliason Shoreline Stabilization* – In 2020, the applicant installed riprap and filter material to stabilize the shoreline of his property along Lotus Lake without receiving a permit from Riley Purgatory Bluff Creek Watershed District (RPBCWD) or the state Department of Natural Resources. The project is located at the residence at 7420 Chanhassen Road in Chanhassen. RPBCWD staff issued a notice of probable violation (NOPV) on February 11, 2020 for the placement of riprap without a permit. In March of 2021, RPBCWD revised Rule F to allow maintenance of shoreline stabilizations in their present form without needing to demonstrate need or assess erosion intensity. The applicant withdrew the prior permit application (2020-041) and submitted the current application for an after-the-fact permit to qualify for consideration under the revised Rule F provisions for maintenance of the riprap. Reviewed August 6th submittal and drafted the permit review report for consideration at the boards September 14th meeting
- j. *Permit 2022-063: Erhart Farm Waterbody Crossing* – The applicant is seeking an after-the-fact permit for the construction of a bridge spanning the watercourse connecting Wetland 2 and Wetland 3 within the Erhart Farm development. The project triggers RPBCWD floodplain management, erosion prevention and sediment control, wetland and creek buffers, and waterbody crossing and structures rules. Reviewed August 8th submittal and drafted the permit review report for consideration at the boards September 14th meeting.

- k. *Permit 2022-065 Round Lake Building Improvements* – The project proposes construction of a new recreation building in the same location as the existing building, modifications to sidewalks, gathering spaces, underground utilities, as well as re-routing the existing storm sewer and an infiltration basin. The project triggers RPBCWD erosion prevention and sediment control rule and the stormwater management rule. Reviewed August 16th submittal and provided review comments on August 31th. T
- l. Met virtually with Administrator Jeffery, City of Eden Prairie and ISG to discuss the city plans for improvements at Round Lake Park. The purpose was to have early discussion about regulatory requires.
- m. Met with Administrator Jeffery, staff Nicklay, and Counsel Welch on August 3rd to discussion status and path forward for permit violations and work without permits.
- n. Participated in a August 9th virtual meeting with Administrator Jeffery, City of Eden Prairie, MN DNR, and Hennepin County about shoreline work conducted at 15252 Boulder Pointe Road on Red Rock Lake without a permit. This was first notice in early 2022 and RPBCWD has been working with the property owner's engineer to design a acceptable resolution. The meeting discussed the need for the DNR to issue a restoration order for the vegetation disturbed within the lake and RPBCWD/City to continue to work on having the shoreline restored.
- o. Miscellaneous preapplication calls from applicant with questions about rule applicability and criteria.

Data Management/Sampling/Equipment Assistance

- a. Prepared, loaded, and verified 43 RMB laboratory (RMB) reports.
- b. Prepared lake, creek, and pond data collected in February, March, May and June 2022 that was collected with the Survey123 mobile application.
- c. Worked on electronic submittal of relevant 2021 creek and lake data to the MPCA in the agency's data specific format.

Task Order 6: WOMP Station Monitoring

Purgatory Creek Monitoring Station at Pioneer Trail

- a. No activity in July.

Purgatory Creek Monitoring Station at Valley View Rd

- b. Storm event sampling.
- c. Maintenance - troubleshoot modem connection issues.
- d. Utility and lab invoice review and approvals.

Task Order 24B: Silver Lake Water Quality Improvement Project

- a. Coordinate and finalize contract development with district legal counsel.

- b. Communicate schedule with selected contractor (Prairie Restorations, Inc. (PRI)). PRI and sub are tentatively planning to perform remaining site and restoration work September 19-21, 2022.

Task Order 25: Duck Lake Raingardens

- a. Prepared final payment application. Request for final payment is in the packet for consideration. This will close out the project.

Task Order 28B: Rice Marsh Lake (RM_12a) Water Quality Improvement Project

- a. Substantial Completion was reached on August 11, 2022 commencing the three year vegetation establishment period.
- b. Application for Payment #5 will be presented at the September Board meeting. This Pay App includes released retainage for all costs to date with the exception of \$500 withholding.



Soil Amendment Profile B – facing east (8-12-22)



Rain Garden by Dakota Ln – facing south (8-12-22)



Soil Amendment Profile A – facing north (8-12-22)

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

- a) Barr provided draft substantial completion form to Administrator Jeffery on August 2nd for review. Administrator Jeffery returned signed form on August 11th, and the finalized form was signed by Sunram
- b) Representatives from Cardno (now Stantec) visited the site on August 18th for routine inspection and August 23rd to complete mowing and watering. They noted that they may complete a light herbicide application in a few weeks to treat invasive species. Stantec staff noted that some of the area that had been seeded and planted with plugs was mowed, and Barr contacted Bearpath to let them know that the area should generally not be mowed lower than 8 inches. Bearpath noted the concern for future maintenance/mowing.



Photo of south site, looking upstream at remeander Photo of north site, looking downstream

Task Order 30B: Pioneer Trail Wetland Restoration Project

- a. Substantial Completion was reached on July 26, 2022 commencing the three year vegetation establishment period.
- c. Application for Payment #5 will be presented at the September Board meeting. This Pay App includes released retainage for all costs to date with the exception of \$500 withholding.



Pioneer Trail wetland – facing north (7-27-22)



Pioneer Trail wetland – facing northwest (7-27-22)

Task Order 032B: Upper Riley Creek Ecological Enhancement Project

- a. Reviewed lab testing result for the sediment sampling at Lake Susan and the stormwater pond southeast of the City's public works facility. Because testing results indicate pond had contaminate levels greater than soil reference values (SRV) for reuse of the material in areas with residential land use and greater than the threshold for reuse the sediment as unregulated fill threshold, it is recommended the dredged sediment from the pond be disposed at a landfill. The sediment lake delta had concentrations below the SRVs and could be considered unregulated fill. Because the sediment delta in the lake appears to naturally have revegetated and has SRVs below the thresholds, it is recommended the material be left in place.
- b. Developed a P8 water quality model of the pond to assess the benefit of dredging materials from the pond to the original as-built condition, excavation deeper than the as-built, and modifying the outlet structure to increase the detention time. These results will be discussed with Administrator Jeffery and the City to determine the path forward.
- c. The existing PC-SWMMM model for Upper Riley is being modified using topographic survey information obtained as part of Task Order 032A.
- d. Barr is assembling high-level concept figures for the City of Chanhassen (Public Works and Engineers) decant bay options, as well as evaluating a second stormwater pond for maintenance and potential inclusion in the overall Upper Riley ecological enhancement plan.
- e. Advance the strabank restoration from a 30% to 60% level of design and incorporated RPBCWD and City comments from the 30% design meeting into the 60% design. The 60% design and cost estimate is planned for early September 2022.



"Boneyard" area being assessed for potential improvements near City of Chanhassen public works facility



No flow in Riley Creek adjacent to the public works facility

Task Order 033: Wetland Assessment – Phase 1

- a. Continued drafting Phase 1 report to define ecosystem services and describe methodology for assessing each service.
- b. Draft report expected to be delivered mid-October

Task Order 034: Lotus Lake Aquatic Vegetation Management Plan

- a. Completed data analysis and description of current conditions.
- b. Discussed stakeholder input process with the Administrator.
- c. Draft Aquatic Vegetation Management Plan is complete except for areas where stakeholder input is required.

Task Order 035: Eden Prairie Stormwater Model Update and Flood-Risk Area Prioritization

- a. This month staff met with Eden Prairie staff to review model calibration and validation results. The review included review of graphs comparing measured water levels to simulated water levels during three rainfall events. Following the discussion, Eden Prairie staff agreed that the model characterized measured water levels and could be used to simulate design rainfall events.
- b. Staff completed initial simulations of design events. The calibrated model will be used to simulate the 2-year, 10-year, and 100-year rainfall events. Inundation areas will be delineated for each design event and used to identify flood-prone areas.
- c. Next month staff will meet with Administrator Jeffery and City of Eden Prairie staff to review the inundation extents for the 100-year event and discuss the methodology for developing a prioritized list of flood-prone areas.
- d. The schedule for this task order extends through 2022. Later this year, work will include identification and prioritization of flood prone areas and documentation.

Task Order 036A: Bluff Creek Reach 5 Concept Design

- a. Presented plan at the August 3rd public hearing.

Task Order 037: Sediment Analysis

- a. Draft Lake Sediment Analysis Technical Memorandums for Lake Riley, Lake Susan, and Rice Marsh Lake to be delivered by mid-September.

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

- a. Prepare for, attend, and follow-up items from kickoff meeting with district and City of Chanhassen Staff on July 27, 2022. The city is interested in partnering with RPBCWD on the

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project and trying to identify opportunities to coordinate city street reconstruction projects with the implementation of the watershed BMPs to address water quality and flooding challenges.

- b. Update to basemaps for watershed BMP sites based on kickoff meeting conversation.
- c. Coordinate BMPs site visit in early-September with district and City of Chanhassen staff (anticipated week of Labor Day).