

Memorandum

To: Riley-Purgatory-Bluff Creek Watershed District Board of Managers and District Administrator
From: Barr Engineering Co.
Subject: Engineer's Report Summarizing September 2022 Activities for October 5, 2022 Board Meeting
Date: September 29, 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 September 2022.

General Services

- a. Participated in a virtual meeting with Prinsco on September 7th, piping and underground stormwater chamber product vender, to discuss information needed by permit applicants to demonstrate equivalency between a Prinsco underground stormwater chamber versus and ADS system.
- b. Update 2023 budgeting spreadsheet per Administrator Jeffery direction.
- c. Met with Administrator Jeffery on September 13th to discuss future grant opportunities and regulatory refinements.
- d. Met virtually with City of Eden Prairie and Administrator Jeffery to discuss the District's climate resilience hydrologic and hydraulic modeling on September 13th. Modeling results were shared and discussed the need for city data prior to beginning a prioritization effort.
- e. Met with Administrator Jeffery and Counsel Welch on September 27th to discuss Bearpath (aka Middle Riley Creek) project status and cooperative agreement amendment, Upper Riley Creek term sheet and cooperative agreement development, and potential revision to the stormwater regulatory program to incorporate additional flexibility for linear projects.
- f. Worked with Staff Forbes to finalize an updated webmap for the new RPBCWD website.
- g. Participated in the September 14th and October 5th agenda setting meetings.
- h. Participated in the September 7th workshop with the Board of Managers meeting
- i. Participated in the September 14th regular Board of Managers meeting.
- j. Participated in the September 23rd continuation of the September regular Board of Managers meeting.
- k. Prepared Engineer's Report for engineering services performed during September 2022.

Permitting Program

- a. *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. Reviewed and provided comments a several version of a draft declaration..
- b. *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. We are awaiting the re-submittal from the applicant.
 - c. *Permit 2022-060: Groveland Elementary* – The proposed 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 September 12th submittal and provided review comments and incomplete notification on September 20th. The application is remains incomplete because submittal does not account for all land-disturbing activity on the site since January 1, 2015.
 - d. *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 ad sediment control, wetland and creek buffers, and waterbody crossing and structures rules. Informed the applicant of the Board's September 14th conditional approval and reviewed the draft maintenance declaration.
 - e. *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. Answered questions from the applicant related to regulated impervious surfaces..
 - f. *Permit 2022-068 Kiwatchi Subdivision* – The project proposes the subdivision of an existing single family home parcel into four parcels and the construction of three new single family homes. The project triggers RPBCWD erosion prevention and sediment control rule, and the stormwater management rule. Reviewed August 22nd submittal and informed the applicant on September 12th that the project was incomplete due to missing permit fee, no wetland protection analysis, and no engineer's opinion of probable costs.
 - g. *Permit 2022-069 921 Carver Beach Road* – The project proposes construction of a new single family home on a lot that was recently subdivided, thus it does not qualify as an existing single family home lot. The project triggers RPBCWD erosion prevention and sediment control rule, creek and wetland buffer, and the stormwater management rule. Reviewed August 26th submittal and informed the applicant on September 16th that the project was incomplete due to missing permit fee, no infiltration testing or justification, missing wetland information, no wetland protection analysis, and no engineer's opinion of probable costs.
 - h. *Permit 2022-070 Schutrop Addition* – The project proposes construction of a new single family home on a lot to be subdivided from an existing single family home parcel, thus it does

- not qualify as an existing single family home lot. The project triggers RPBCWD erosion prevention and sediment control rule, creek and wetland buffer, and the stormwater management rule. Reviewed September 7th submittal and informed the applicant on September 12th that the project was incomplete due to no infiltration testing or justification, missing stormwater models in there native format, no wetland protection analysis, and no engineer's opinion of probable costs.
- i. Participated in a September 9th virtual meeting with MNDOT and MN DNR about the repair for the Lotus Lake branch of Purgatory Creek crossing at Highway 101. MNDOT is proposing the extension of the existing crossing to stabilize a slope failure along the east side of 101. The work would also include removal of sediment from the creek. Participated in a follow-up meeting with MNDNR (Areas Fisheries, Area Hydrologist, and DNR/MNDOT liaison) on September 12th to coordinated permitting requirement.
 - j. Preapplication meeting with Xcel Energy and Administrator Jeffery on September 12th about construction of a service center in Chanhassen. The proposed activities would trigger RPBCWD rules B, C, D, G and J.
 - k. In response to permit applicants' requests, drafted permit review timeline extension emails for Administrator Jeffery's consideration/use for 2021-088 Pioneer Trail Reconstruction and 2022-045 Eden Prairie Multi-Family.
 - l. Miscellaneous preapplication calls from applicant with questions about rule applicability and criteria.

Data Management/Sampling/Equipment Assistance

- a. Prepared, loaded, and verified 16 RMB laboratory (RMB) reports.
- b. 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 September.

Purgatory Creek Monitoring Station at Valley View Rd

- b. Set station for storm event sampling
- c. Maintenance - troubleshoot modem connection issues/work with CenturyLink to correct issue.
- d. Utility and lab invoice review and approvals.
- e. File management – lab submission forms.
- f. Download and review data.
- g. Review of rating curve.

Task Order 24B: Silver Lake Water Quality Improvement Project

- a. Prairie Restorations, Inc. and subcontractor started work on September 26. It is anticipated this work will be completed within one week, pending dewatering of upper basin.

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

- a. District staff requested shrub planting to visually screen the new monitoring cabinet as shown below. A quote has been requested from Landbridge to support this effort alongside vegetation maintenance work yet to be completed this fall.



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



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

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

- a. Barr staff visited the site on September 9th and provided guidance to Sunram/Stantec staff re: invasive management. Stantec representatives indicated that they would mow the site as part of ongoing vegetation maintenance the week of September 12th.
- b. Representatives from Stantec plan to re-seed bare patches in October 2023.



Photo of south site, looking downstream at re-meander



Photo of north site, looking upstream

Task Order 30B: Pioneer Trail Wetland Restoration Project

- a. The three-year vegetation establishment period is in process
- b. Planting of live stakes and bare root shrubs will occur in October or early November



Pioneer Trail wetland – facing north (9-9-22)

Wetland outlet – facing southwest (9-9-22)

Task Order 032B: Upper Riley Creek Ecological Enhancement Project

- a. Provided 60% drawings, 60% cost estimate, stormwater pond LS-P3.16 modeled nutrient removal summary, and decant facility options to City of Chanhassen (Public Works and Engineers) and RPBCWD on September 2nd. Comments from City staff are anticipated the week of September 26th.
- b. The existing PC-SWMMM model for Upper Riley is being modified using topographic survey information obtained as part of Task Order 032A.
- c. Moving forward with further detailed design to incorporate into 90% drawings, planned for December 2023.



Wooden weir structure in "Hwy 5 tributary" circumvented by channel flows



Right bank erosion downstream of Hwy 5 culvert

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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 late-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 and Administrator Jeffery to review undated 100-year inundation extents. GoogleEarth files were created to allow staff to zoom into specific areas of interest and drop pins on locations where there were questions regarding the preliminary results. Eden Prairie staff are anticipated to complete their review in October, at which point Barr will proceed with developing detailed inundation mapping for rainfall events with different return periods.
- b. This month staff submitted a data request to Eden Prairie for GIS files to reference in the prioritization framework. These files include information such as emergency routes, locations of sanitary sewer lift stations, wells, and building outlines. In many instances cities maintain detailed files with site specific information. However, if the City is unable to provide some of these files, then publicly available information would be used instead. For example, if the City does not have a file for building outlines, then we would reference the County file or building outlines derived from LiDAR information.
- c. Next month staff will process GIS files to develop information needed to input into the prioritization framework. In November, staff anticipate meeting with Administrator Jeffery and City of Eden Prairie staff to review preliminary results of prioritized list 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 037: Sediment Analysis

- a. Data analysis completed.
- b. Designed Lake Susan Wetland sampling protocol.
- c. Draft Lake Sediment Analysis Technical Memorandums for Lake Riley, Lake Susan, and Rice Marsh Lake to be delivered by mid-October.

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

- a. Prepare for, attend, and follow-up items from September 8, 2022 site visit with RPBCWD, City of Chanhassen, and Barr staff. Site visits were conducted at each of the 4 BMP

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locations including discussion of water management needs as well as opportunities for habitat and ecological improvements.

- b. Begin development of BMP concepts for Lotus Lake sites,