

Memorandum

To: Riley-Purgatory-Bluff Creek Watershed District Board of Managers and District Administrator
From: Barr Engineering Co.
Subject: Engineer's Report Summarizing April 2022 Activities for May 4, 2022 Board Meeting
Date: April 28, 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 April 2022.

General Services

- a. Assist Interim administrator Jeffery with providing capital improvement project information to auditors (e.g., project manuals, publication affidavits, contracts, etc.).
- b. Participated in an April 7th meeting with Interim Administrator Jeffery and staff to discuss action items from the April 6th Board of Managers meeting as well as a meeting with Counsel Welch outlining resolution development.
- c. Met virtually with Interim Administrator Jeffery on April 14th, April 22nd, and April 28th to discuss challenges with current regulatory program, simplification ideas, and areas for potential improved resource protection.
- d. Took part in an April 28th meeting with Interim Administrator Jeffery and Eden Prairie School District to strategized with about a potential partnership between RPBCWD and Eden Prairie Schools to improve overall resource protection by taking a holistic look at all the school districts campuses in advance of reacting on a regulatory basis. This opportunity was identified during permitting discussions with the applicant for projects at Eden Prairie High School and Oak Point Elementary (2022-017 and 2022-018).
- e. Participated in the April 6th regular Board of Managers meeting.
- f. Participated in the April 18th continuance of regular Board of Managers meeting.
- g. Prepared Engineer's Report for engineering services performed during April 2022.
- h. Participated in the April 27th meeting with Interim Administrator Jeffery, President Ziegler, and Counsel Smith to discuss upcoming May 4th agenda.

Permitting Program

- a. *Permit 2018-016: Avienda:* This project involves a mixed-use regional development in the southwest quadrant of the intersection of Lyman Boulevard and Powers Boulevard in Chanhassen Minnesota. A permit modification was conditionally approved in March 2020 and June 2020. The applicant fulfilled the conditions of approval, the permit was issued on July 14, 2021, and construction is underway. Reviewed permit modification request related

- to low infiltration capacity and the expansion of the permit to include Phase 2 (Avienda Townhomes). Drafted the permit review report for consideration at the board's May 4th meeting.
- b. *Permit 2021-041 Guidarini Residence Shoreline:* This permit involves grading and construction of two retaining walls on a residential property adjacent to Mitchell Lake. The applicant submitted revised materials on February 11th and indicated that the project was revised such that no grading will be done within the OHW or 100-yr floodplain of Mitchell Lake. The revised design results in only needing approval under RPBCWD's erosion control rule. Worked with Interim Administrator Jeffery on administrative permit issuance.
 - c. *Permit 2021-063 Reserve at Autumn Woods-* The project proposes the construction of an 87-lot development West of Audubon Road and south of Autumn Wood Drive in Chaska. The project proposes construction of three infiltration basins and one pond to provide stormwater quantity, volume, and rate quality control. Participated in an April 19th virtual meeting with Interim Administrator Jeffery and the applicant to discuss the Board's April 18th permit deny and the potential avenue to request a reconsideration.
 - d. *Permit 2021-078 Mattson Shoreline -* The project proposes stabilization of 90 feet of shoreline along Lotus Lake at 469 Pleasant View Rd in Chanhassen. The proposed project triggers RPBCWD's floodplain management, erosion prevention and sediment control, and shoreline streambank stabilization rules. Reviewed the April 20th revised submittal and drafted the permit review report for consideration at the board's May 4th meeting.
 - e. *Permit 2021-079 Tonka-Woodcroft Improvements-* The project proposes full reconstruction of the streets within the Tonka-Woodcroft neighborhood, an area south of Minnetonka Boulevard and between Larchwood Drive, Steele Street and Hillside Terrace in Minnetonka. The project proposes over 36 acres of land-disturbing activities. Reviewed the April 12th revised submittal and drafted the permit review report for consideration at the board's May 4th meeting.
 - f. *Permit 2021-084 Chick-fil-a Chanhassen-* The project proposed the construction of an expanded Chick-fil-a restaurant drive-thru and parking lot area near Rich Marsh Lake in Chanhassen. The project proposes the use of an existing underground detention system and vegetated swale to provide stormwater quality, volume, and rate control. Answered applicant's questions related to review comments and compliance with water quality criteria.
 - g. *Permit 2021-085 7851 Park Drive Expansion –* The project proposes an expansion of the outside gravel storage area and addition of a second driveway access at Lakeshore Equipment at 7851 Park Drive in Chanhassen. The outside storage area will be expanded by approximately 10,467 square feet. The applicant proposes construction of a stormwater filtration/detention swale to provide stormwater quantity, volume, and rate quality control. Participated in several phone calls with the applicant and their engineer to explain the stormwater requirements. Work with applicant to revise the maintenance declaration for the proposed work.
 - i. *Permit 2022-002 ISD 276 New Vantage/Momentum Building-* The project proposes the construction of a new building, parking lot and utilities near Clear Springs Elementary School in Minnetonka. The project proposes construction an underground infiltration system and using the existing stormwater pond to provide stormwater quantity, volume, and rate quality

- control. Provided review comments on the draft maintenance agreement prior to execution of the agreement.
- j. *Permit 2022-005 Cunningham 2nd Addition*- The project proposes to split a single-family home lot into two lots with the construction of two single-family homes and driveway entrances, landscaping, and stormwater improvements on both lots at 855 Pleasant View Road, Chanhassen. Proposed stormwater features include two biofiltration basins with elevated underdrain to promote infiltration. Participated in an April 15th meeting with the applicant and City of Chanhassen to discussion review comments. Reviewed submittal materials received on April 19th and drafted the permit review report for consideration at the board's May 4th meeting.
 - k. *Permit 2022-007 1441 Lake Lucy Lot Split*- The project proposes to split a single-family home lot into three lots with the construction of two additional single-family homes and associated parking, driveway entrances, landscaping, and stormwater improvements on an existing parcel (lot split). The project proposes construction of filtration basins and swales to provide stormwater quantity abstraction, rate control, and water quality treatment. Participated in an April 6th meeting with the applicant and City of Chanhassen to discussion review comments.
 - l. *Permit 2022-010 Suite Living of Eden Prairie* – The project proposes the redevelopment of an existing single family home site at 9360 Hennepin Town Road, Eden Prairie into a memory care and assisted living community residence. The project proposed the use of two underground filtration systems, as well as a rainwater reuse system to provide stormwater quality, volume, and rate control. Answered questions about review comments provided in March.
 - m. *Permit 2022-017 Oak Point Elementary Circulation Upgrades* – The site is the Oak Point Elementary School Campus at 13400 Staring Lake Parkway in Eden Prairie. The project proposed the removal of an existing parking lot and driveway south of Staring Lake Pkwy and the rehabilitation of the existing driveway and the addition of another lane to the driveway north of Staring Lake Pkwy. Coordinated with applicant on path forward given low infiltration rate testing results.
 - n. *Permit 2022-018 High School Stadium Improvements* – The site is the Eden Prairie High School Campus at 17185 Valley View Road in Eden Prairie. The project proposed to reconstruct the running track and rehabilitate concrete and bituminous sidewalks and track event areas surrounding the track. Coordinated with applicant on path forward given low infiltration rate testing results. Based on discussions it is our understanding that the applicant will revise the project scope to limit land-disturbing activities to rehabilitation of impervious areas, thus being exempt from stormwater requirements. Also strategized with the applicant' engineer on a larger holistic look at all Eden Prairie School District property to improve overall resource protection by proactively seeking partnership opportunities rather reactive to regulatory requirements on an individual project basis.
 - o. *Permit 2022-026 Chapel Hill Building Expansion* – Expansion of the existing school building and associated parking lot modifications at 306 West 78th Street in Chanhassen. A biofiltration basin with iron enhanced sand and underlying infiltration will provide storm water quantity, volume, and quality control. Reviewed submittal materials received on April 19th and drafted the permit review report for consideration at the board's May 4th meeting.

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- h. Met with Interim Administrator Jeffery and Staff Nicklay to define permit review responsibilities.
- i. Miscellaneous preapplication calls from applicant with questions about rule applicability and criteria.

Data Management/Sampling/Equipment Assistance

- a. Prepared, loaded, and verified four RMB Laboratory (RMB) reports.
- b. Prepared, loaded, and verified one Pace Analytical Laboratory (Pace) report.
- c. Prepared, loaded, and verified continuous data from 2018-2021 collected from the Purgatory Creek Monitoring Station at Valley View Rd (P4.6). The data is now available in the EQulS Enterprise database for download.
- d. Worked on electronic submittal of relevant 2021 creek and lake data to the MPCA in the agency's data specific format.
- e. Worked with RMB to correct format of electronic data deliverables (EDDs).

Task Order 6: WOMP Station Monitoring

Purgatory Creek Monitoring Station at Pioneer Trail

- a. Data QAQC (Quality Assurance & Quality Control) and entry into EQulS database.

Purgatory Creek Monitoring Station at Valley View Rd

- b. Data review and QA/QC.
- c. Data entry into the EQulS database.
- d. Prepare for 2022 monitoring season. Site visits to check on ice conditions. Test and program autosampler. Replace desiccants.
- e. Storm event sampling.

Task Order 24B: Silver Lake Water Quality Improvement Project

- a. No activity in April
- b. Will be coordinating directly with Prairie Restorations to perform the 3 years of vegetation establishment and management activities, beginning in late Spring 2022.

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

- a. The grading of the rain garden, soil amendments, and final restoration will occur in spring 2022.
- b. Contractor has submitted seed mixes and vegetation establishment plan which are currently under review.

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

- a. Vegetative plantings will be installed at both sites in Spring 2022, tentatively planned for the second week of May. Barr responded to a submittal from Sunram for live cuttings and live stakes in late April.
- b. We continue to closely monitor the engineering services during construction budget which has been exhausted. Depending on the demand associated with remaining site restoration and vegetation establishment a future request for additional funding might be pursued. Barr will work with Interim Administrator Jeffery in the coming month to determine if additional construction administration budget is warranted.

Task Order 30B: Pioneer Trail Wetland Restoration Project

- a. Final restoration will occur in spring 2022.
- b. Change Order 1, which adjusts planting timeline for live stakes and bare root shrubs, was submitted to the Interim District Administrator on March 31st, 2022 for approval.
- c. Change Order 2 is being considered for the work to modify outlet flares and place small rock to prevent erosion.
- d. The wetland is currently filled with water due to biologs in the downstream channel holding back water. The Contractor will temporarily remove the biologs and open the draintile valve to draw down the wetland for spring planting.

Task Order 032B: Upper Riley Creek Ecological Enhancement Project

- a. The draft Environmental Assessment Worksheet (EAW) has been drafted and submitted to District staff for review and comment. Once approved by the district, it will be submitted to the City of Chanhassen for review, comment, and approval. Minnesota Rules 4410.4300, Subpart 27 require preparation of an EAW to assess potential project impacts since the project will alter more than one acre of Riley Creek, which is a Minnesota public water.
- b. Continued preparations for field data collection once weather conditions are suitable (early spring 2022, tentatively scheduled for the week of April 11th, rescheduled for early May due to weather). A brief site visit occurred on April 15th, with Barr staff walking the stream between Highway 5 and Park Drive. District staff have been invited to participate in this effort.
- c. Project design drawings are started, including surfaces generated from survey data obtained as part of Task Order 032A.
- d. As part of preliminary design, the existing PC-SWMMM model for Upper Riley is being modified using topographic survey information obtained as part of Task Order 032A.
- e. A 30% concept level design is planned to be submitted to the City of Chanhassen for coordination in June 2022, with a 60% design planned for late August 2022.

Task Order 033: Wetland Assessment – Phase 1

- a. Continued drafting Phase 1 report to define ecosystem services and describe methodology for assessing each service.

Task Order 034: Lotus Lake Aquatic Vegetation Management Plan

- a. Continued drafting Aquatic Vegetation Management Plan

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

- a. This month staff have focused on completing model calibration and validation. Model calibration includes simulating two rainfall events from the summer of 2021, and model validation includes simulating the June 2014 rainfall event. For all three events, model results are being compared to measured water levels in lakes, ponds, and at WOMP stations. For the 2014 event, the model results are also being compared to high water levels measured during the rainfall event. This month staff have been coordinating with City of Eden Prairie staff to confirm pond outlet information, lift station operating parameters, and discuss recent projects within the city that may have affected results. Staff have also been coordinating with RPBCWD Water Resources Coordinator regarding maintenance activities and records for locations that may impact simulation results.
- b. Staff continued to review as-built plans provided by the City of Eden Prairie for Purgatory Creek to verify that the model accurately characterizes the existing storm sewer system.
- c. Staff have started a final review of model parameters, tolerances, and settings to verify that the model updates have captured overland flow paths and can be used to simulate design events.
- d. Next month staff anticipate meeting with RPBCWD and City of Eden Prairie staff to review calibration and validation results. After getting consensus from city and RPBCWD staff that the model accurately characterizes existing conditions and simulates observed water surface elevations, the model will be used to simulate design rainfall events.
- e. This summer, following model validation, staff will simulate design events and develop inundation maps to identify areas at risk of flooding.
- f. The schedule for this task order extends through 2022. Later this year, work will include simulation of design events, inundation mapping, identification and prioritization of flood prone areas, and documentation.

Task Order 036A: Bluff Creek Reach 5 Concept Design

- a. Finalized draft report and shared with Interim Administrator Jeffery and Staff Maxwell for review and comment in late-March. The draft will be updated to once staff comments are received.

Task Order 037: Sediment Analysis

- a. Preparing Lake Sediment Analysis Technical Memorandums.