

## Memorandum

**To:** Riley-Purgatory-Bluff Creek Watershed District Board of Managers and District Administrator  
**From:** Barr Engineering Co.  
**Subject:** Engineer's Report Summarizing March 2022 Activities for April 6, 2022 Board Meeting  
**Date:** March 30, 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 March 2022.

### General Services

- a. Assist with the capital improvement sections in the 2021 annual report and addressing manager comments in a staff meeting on March 22<sup>nd</sup>.
- b. Assist Interim Administrator Jeffry and staff Bakkum with 2021 budget reconciliation
- c. Took part in a March 11<sup>th</sup> meeting to develop duties related to the wetland program for the green corps member application
- d. Participated in a March 15<sup>th</sup> meeting with Interim Administrator Jeffery and staff Maxwell to discuss 2022 monitoring locations in support of potential capital projects, grants opportunities and potential rule revisions.
- e. Met virtually with Interim Administrator Jeffry and Counsel Welch on March 18<sup>th</sup> to discuss challenges with current regulatory program, simplification ideas, and areas for potential improved resource protection.
- f. Took part in a March 23<sup>rd</sup> meeting with Interim Administrator Jeffery and UMN to discuss the potential for graduate students to conduct field monitoring at the St Hubert project site. Several students will be monitoring the performance of the project during April.
- g. Participated in the March 2<sup>nd</sup> regular Board of Managers meeting.
- h. Participated in the March 17<sup>th</sup> continuance of regular Board of Managers meeting.
- i. Prepared Engineer's Report for engineering services performed during March 2022.

### Permitting Program

- a. *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 11<sup>th</sup> 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.

- b. *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. Reviewed March 18th revised submittal and drafted the permit review report for consideration at the board's April 6<sup>th</sup> meeting.
- c. *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 revised materials received on March 14<sup>th</sup>. The application is considered complete with the March 14<sup>th</sup> submittal and review comments were sent on March 30<sup>th</sup>. Outstanding review comments are related to meeting rate control, water quality and wetland protection criteria.
- d. *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. Reviewed revised materials received on March 18<sup>th</sup> and provided review comments on March 28<sup>th</sup>.
- e. *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. Reviewed the March 8<sup>th</sup> and 18<sup>th</sup> submittal, provided review comments, and drafted the permit review report for consideration at the board's April 6<sup>th</sup> meeting.
- j. *Permit 2021-088 Pioneer Trail Reconstruction* – The project proposes the reconstruction of Pioneer Trail to the east of Flying Cloud Road, a bituminous trail on the north side of the roadway, sanitary sewer, storm sewer, and watermain improvements. Provided guidance on modeling and potential BMP alternatives to achieve compliance with RPBCWD's water quality and abstraction requirements in response to the applicant's engineer's emails and March 24<sup>th</sup> meeting with the city of Eden Prairie.
- k. *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. Reviewed revised March 17<sup>th</sup> submittal materials and drafted the permit review report for consideration at the board's April 6<sup>th</sup> meeting.
- l. *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. The initial permit

- package was submitted on February 17, 2022 with the associated permit fee deposit received on February 24, 2022. Reviewed materials for completeness and informed the applicant the submittal was incomplete because of missing wetland protection evaluation, MnRAMs, and floodplain analysis and provided review comments on March 8, 2022. Started reviewing revise submittal materials received on March 22<sup>nd</sup>.
- m. *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. Reviewed the initial submittal materials received on February 24<sup>th</sup> for completeness and provided review comment on March 11. A detailed review of the initial submittal items resulted in the application being incomplete with review comments that were provided on March 21<sup>st</sup>.
  - n. *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. Although the project decreases the total impervious surface area on the site overall, the addition of new impervious surface triggers stormwater quality, volume, and rate control requirements. Reviewed initial submittal materials received on March 7<sup>th</sup> as well as informed the applicant the submittal was incomplete and provided review comments on March 16<sup>th</sup>.
  - o. *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. The project proposed the expansion of the existing stormwater pond on the property to provided quality and rated control. Although expansion of the existing stormwater pond can provide water quality and rate control benefits, it does not provide volume abstraction as required by the rules. Participated in several phone calls with the applicant and their engineer to explain the stormwater requirements. Reviewed initial submittal materials received on March 7<sup>th</sup> as well as informed the applicant the submittal was incomplete and provided review comments on March 16<sup>th</sup>.
  - f. Miscellaneous preapplication calls from applicant with questions about rule applicability and criteria.

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

- a. Prepared, loaded, and verified data from 2018-2021 collected from the Purgatory Creek Monitoring Station at Valley View Rd (P4.6). The data is now available in the EQUIS Enterprise database for download.
- b. Reviewed and corrected data in the EQUIS Enterprise database after communication with the district.

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

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

- a. Communications with MCES for 2022 monitoring effort and transition to RPBCWD staff.

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

- b. 2020- 2021 Data review and QA/QC (Quality Assurance & Quality Control).
- c. Data entry into the EQUIS database.
- d. Prepare for 2022 monitoring season.
- e. Review and approve MCES Lab invoice for Qtr. 4, 2021.

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

- a. No action in March
- 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. All winter work is completed at this time.
- b. The grading of the rain garden, soil amendments, and final restoration will occur in spring 2022.

### **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 late April or early May.
- 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.

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

- a. All winter work is completed at this time and final restoration will occur in spring 2022.
- b. Responded to questions from the contractor about the vegetation restoration schedule and developed a draft change order to adjust timeline after communications with Interim Administrator Jeffery.

### **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.

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- b. Continued preparations for field data collection once weather conditions are suitable (early spring 2022, tentatively scheduled for the week of April 11<sup>th</sup>). 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. City of Eden Prairie staff submitted remaining as-built files requested for the Purgatory Creek subwatershed. Barr staff began reviewing the files and incorporating information into the stormwater models.
- b. This month staff completed initial model calibration simulations for 2 rainfall events from 2021. The updated model results are being compared to measurements collected at temporary water level monitoring stations that RPBCWD staff installed in stormwater ponds, wetlands, and lakes during the summer of 2021.
- c. Next month staff anticipate completing model calibration and beginning model validation simulation of a 2014 rainfall event.
- d. Next month staff will continue discussing model simulation results with City of Eden Prairie staff to establish consensus that the model is accurately simulating observed water levels within the Riley and Purgatory Creek watersheds.
- 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. Continued to expand the analysis to assess upstream wetland and land use impacts based on the Board's authorization at the January 5<sup>th</sup> meeting.
- b. Conducted a functional assessment of stream restoration options on reach 5 using a brief version of the Stream Quantification Tool (SQT) developed for the Minnesota stream mitigation program
- c. Assessed wetland restoration benefits for sediment and phosphorus removal using the P8 model and the Wetland Restoration Effectiveness Tool (WRET) for the wetland at the far upstream end of Bluff Creek (Reach B5a-B5b)
- d. Revised recommendations for stream reach B5c and B5a, including analysis of potential for wetland restoration in the Reach B5a.
- e. Finalized draft report and shared with Interim Administrator Jeffery and Staff Maxwell for review and comment.

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

- a. Reviewed laboratory data for Lake Riley and Lake Susan.
- b. Completed sediment analysis for Lake Riley and Lake Susan.
- c. Preparing Lake Sediment Analysis Technical Memorandums.

### **Task Order 038: Temporary Interim Administrator**

- a. Held weekly staff team meetings on March 1<sup>st</sup> and 8<sup>th</sup> to discuss workloads, progress on various projects and programs, HR items, staff needs from the administrator and board, upcoming activities, and foreseeable needs to improve district functionality.
- b. Developed agenda and packet materials March 2<sup>nd</sup> meeting
- c. Attend March 4<sup>th</sup> Governance Committee meeting
- d. Work with legal counsel on items for March 2<sup>nd</sup> agenda
- e. Miscellaneous discussions and coordination with staff and legal counsel about contract review, regulatory program, administrator authorization for specific permit issuances, groundwater grant program, financials, aquatic vegetation management (including DNR grant), green corps member application, and upcoming Board meeting agenda.
- f. Routine day-to-day operational activities including but not limited to respond to email inquiries, invoice processing, HR related discussions with staff, contract review, etc.