

Memorandum

To: Riley-Purgatory-Bluff Creek Watershed District Board of Managers and District Administrator
From: Barr Engineering Co.
Subject: Engineer's Report Summarizing January 2022 Activities for February 2, 2022 Board Meeting
Date: January 27, 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 January 2022.

General Services

- a. Participated in a January 4th virtual brainstorming meeting with Interim Administrator Jeffry, Manager Crafton, and Dr. Ann Marie Journey about soil health and community resiliency.
- b. Coordination discussion with Interim Administrator Jeffry and Counsel Welch to compile information to begin developing a draft agreement term sheet to share with Chanhassen for the upper Riley Creek ecological enhancement project.
- c. Continued developing a list of ideas, applicant concerns, and considerations for regulatory program guidance and potential revisions. Met with Interim Administrator Jeffery and staff Bakkum on January 20th to discuss ideas, timeline, and process for potential rule revisions if deemed necessary.
- d. Participated in the January 25th meeting with President Ziegler, Interim Administrator Jeffery, and Counsel Smith to discuss upcoming February 2nd agenda.
- e. Took part in the January 27th RPBCWD summit discussing fisheries and plant management in the Riley and Purgatory Creek watershed. There were 22 attendees representing RPBCWD staff, the cities in the district, DNR, Three River Parks District, Carver County, UofM, consultants, and herbicide applicator. Key takeaways include burial rate in Riley has pushed alum into sediment 6-7 cm, Lake Susan alum treatment could be done concurrently with stream stabilization, low flows in creek significantly impacted water quality in creeks, Eurasian watermilfoil (EWM) has increased in Lake Riley necessitating future management, Lake Susan curly-leaf pondweed (CLP) density increasing and presents opportunity to treat CLP, future alum application of planned second dose is likely needed over a larger area of Lotus Lake to increase effectiveness and longevity, vegetation management in Mitchell and Red Rock Lakes will need close coordination with cities and DNR, and potential treatment in Staring. Need additional discussions about shallow lake health based on reference lakes and emerging metrics/goals for measuring success.
- f. Participated in the January 5th regular Board of Managers meeting.
- g. Prepared Engineer's Report for engineering services performed during January 2022.

- h. Miscellaneous discussions and coordination with Interim Administrator Jeffery about regulatory program application and potential revisions, grant opportunities, budget reconciliation, and upcoming Board meeting 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 approved in March 2020. The applicant fulfilled the conditions of approval, the permit was issued on July 14, 2021, and construction is underway. The applicant indicated infiltration testing completed during construction indicates the infiltration rates are much lower than used in the design. As a result, the applicant will be pursuing a design revision to reflect the restrictive infiltration rates and is pursuing rainwater harvest and reuse. During a January 24th meeting, the applicant indicated that due the negligible infiltration on the site achieving the water quality criteria also appears challenging. We discussed several BMP ideas (filtrations, proprietary BMPs, reuse, etc) and the potential next phase of the development involving townhome construction. The applicant will likely be submitting a request for permit modification to reflect the negligible infiltration, rainwater reuse and proposed townhomes.
- b. *Permit 2021-016: Duck Lake Road reconstruction:* The project includes full reconstruction of Duck Lake Road from Duck Lake Trail to Mallard Court in Eden Prairie, MN. Met with Interim Administrator Jeffery and City of Eden Prairie Public Works Director, City Engineer, and project engineer on January 12th to discuss a permit revision for the outlet to Duck Lake. The city intends to hold-off on making a modification request until after additional discussion are held with the DNR relative to the residents' support for restored outlet elevation.
- c. *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 December 30th and provided review comment on January 7, 2022. With the revised materials, the application remains incomplete because the project will result in fill below the 100-yr floodplain of Mitchell Lake (triggering Rule B) and involves grading below the OHW (triggering Rule F). No supporting materials to demonstrate compliance with these rules have been provided.
- d. *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 four infiltration basins and two ponds to provide stormwater quantity, volume, and rate quality control. Reviewed January 4th revised submittal and provided review comments on January 14th. Participated in a conference call with the applicant's engineer on January 26th to discuss review comments.
- 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. The project proposes construction of four underground detention systems and seven infiltration pipes to provide stormwater quantity, volume, and rate quality control. Reviewed revised December 30th submittal materials and provided review comments on January 14th informing the applicant

- that the submittal remains incomplete. Met virtually with the applicants engineer to discuss review comments and potential design revisions on January 21st.
- f. *Permit 2021-082 Mister Car Wash* – The project proposes the redevelopment of an existing Bremer Bank site to a car wash building with associated parking, vacuum equipment, utilities, and landscaping. The developer proposes construction of an underground infiltration system to provide stormwater quantity, volume, and rate quality control. Received revised submittal on December 20th and the permit fee deposit on January 6th, 2022. Reviewed revised materials and drafted permit report for consideration at the board's February 2nd meeting.
 - g. *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. The city proposes the use of two existing infiltration basins and an existing pretreatment pond with new sump catch basins for pretreatment, as well as two proprietary stormwater filter devices, to provide stormwater quantity, volume, and rate quality control. Reviewed the December 17th, 2021 submittal and provided review comments on January 8th, 2022. The application is considered incomplete because of missing infiltration testing, evaluation of the wetland protection criteria for the downstream wetland.
 - i. *Permit 2022-003 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 January 20th submittal materials and provided review comments on January 26th informing the applicant that the submittal was incomplete due to missing geotechnical information and wetland protection analysis.
 - j. Coordinated with the city of Eden Prairie about RPBCWD regulatory requirements for the city's three upcoming 2022 water resources related projects (waterbody crossing at Sunnybrook Road, shore sock repair on a pond near Valleyview Road, and wetland weir replacement near Tartan Ct.)
 - k. Preapplication discussion with Ryan Company and city of Eden Prairie about a potential multi-family development in the NW quadrant of the intersection of Valleyview Road and Topview Road. The project will require compliance with erosion prevent and sediment control, wetland buffers, and stormwater management requirements.
 - l. Preapplication discussion with Minnetonka Schools about a new building near Clear Springs elementary. The project will require compliance with erosion prevent and sediment control, stormwater management requirements, and potentially floodplain management.
 - h. Miscellaneous preapplication calls from applicant with questions about rule applicability and criteria.
 - i. Miscellaneous conversations with Interim Administrator Jeffery about rule revision process, permit database status, which permits will be reviewed by staff versus Barr, and rule application.

Data Management/Sampling/Equipment Assistance

- a. Prepared, loaded, and verified 2021 data for Birch Island, McCoy, Mitchell, Red Rock and Round Lake collected by Eden prairie.
- 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. No activity.

Purgatory Creek Monitoring Station at Valley View Rd

- b. Review and approve MCES Lab invoice.

Task Order 24B: Silver Lake Water Quality Improvement Project

- a. Follow-up with Contractor to expedite next/final pay application request. Contractor has been non-responsive.

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

- a. Temporary stabilization was applied to the site in the form of hydro-mulch on January 13, 2022.
- b. Change Order 1, resulting in an additional \$1,445.93 added to the original Contract price, was approved for the installation of a monitoring access on one of the manholes used to enter the system to allow RPBCWD to monitor performance of both units. The work was completed with the installation of the stormwater treatment filtration systems.
- c. The grading of the rain garden, soil amendments, and final restoration will occur in spring 2022.
- d. Reviewed contractor's second application for payment and submitted recommendation memo to RPBCWD.

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

- a. Vegetative plantings will be installed at both sites in Spring 2022.
- b. Reviewed Sunram's third application for payment and submitted recommendation memo to RPBCWD.
- c. 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.

- b. Reviewing contractor's third application for payment.

Task Order 032B: Upper Riley Creek Ecological Enhancement Project

- a. Participated in the January 24th project kick-off meeting with Interim Administrator Jeffery and city of Chanhassen staff. Discussion included project overview, points of coordination, cooperative agreement, EAW, utility considerations, drone flights by city staff, permitting requirements, and city's assistance with data collection.
- b. Currently developing a scope of work for detailed design.

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. Reviewed Minnesota and Wisconsin approach for updating MnRAM and set meeting with staff to discuss.

Task Order 034: Lotus Lake Aquatic Vegetation Management Plan

- a. Worked with District staff to create map summaries and condition assessments
- b. Continued drafting Aquatic Vegetation Management Plan

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

- a. This month staff continued to add overland flow routes required to simulate surface inundation during the 500-year 24-hour duration event, in the locations where additional information has been added to the model.
- b. Staff have been updating the storm sewer system information in the Riley Creek model using as-built and record drawings provided by the City of Eden Prairie.
- c. This summary RPBCWD staff installed temporary water level monitoring stations in stormwater ponds and wetlands (in addition to the water levels that are measured in Lakes throughout the District). The water surface elevation measurements collected in 2021 will be used to identify rainfall events for model validation. This month staff began reviewing measurements provided by District staff. Next month, we will process rainfall data and begin the model validation simulations.
- d. Staff started preparation of the Interim Project Status report for the MPCA. The interim progress report is a required submittal per the grant agreement for the project. The report will be submitted to the MPCA in February.
- e. City of Eden Prairie staff anticipate providing as-built and record drawings containing additional storm sewer information for Purgatory Creek within the next month. When additional information is available, it will be imported into the District's stormwater model.
- f. This spring, staff will complete initial model validation simulations to verify that the models are still able to simulate measured water levels.

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- g. This summer, following model validation, staff will simulate design events and develop inundation maps to identify areas at risk of flooding.
- h. The schedule for this task order extends through 2022. In 2022, work will include model validation, 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. Starting to expand the analysis to include a large subwatershed assessment based on the Board's authorization at the January 5th meeting.