# **Engineer's Report**

March 11, 2020

# Normandale Lake Water Quality Improvement Project:

The NMCWD plans to conduct a whole lake herbicide treatment of Normandale Lake in the spring of 2020 to further reduce the curly-leaf pondweed remaining following the winter of 2018-2019 lake drawdown. The proposed herbicide treatment will also include the upstream portions of Nine Mile Creek between Norman Center Drive and West 84<sup>th</sup> Street. The Minnesota Department of Natural Resources (DNR) recently completed a (draft) Lake Vegetation Management Plan (LVMP) for these areas, at the request of NMCWD, which authorizes a 5-year variance to perform herbicide treatments greater than 15% of the littoral area to control curly-leaf pondweed.

Barr developed a request for quotes for the 2020 herbicide treatment and distributed it to three potential service providers on February 27, 2020. Quotes are due on Friday, March 13, 2020. Assuming favorable quotes are received, we will be seeking Board approval to award the contract at the March 18, 2020 Board meeting.

Barr also prepared and submitted an application to DNR for an aquatic vegetation control permit. After ice-out, a pre-treatment aquatic plant delineation survey will be conducted in the proposed treatment areas and provided to DNR prior to their issuance of the aquatic vegetation control permit.

A public meeting to discuss the proposed herbicide treatment is being held at the City of Bloomington City Hall on Wednesday, March 11, 2020.

#### **Edina Stream Stabilization Project:**

Barr staff completed the as-built drawings for Phases I and II.

**Discovery Point Restoration**: Barr reviewed and provided guidance for the management plan submitted by Landbridge Ecological for the Discovery Point restoration areas for 2020. Invasive plan management and guided establishment of the prairie and woodland seedings of 2018 and 2019 will continue through 2020.

**Discovery Point Building Addition**: Barr attended the pre-bid meeting to inform the potential bidders of the site access and erosion control requirement. Bid opening has been delayed by the architect to potentially secure more bids. Barr will be developing landscaping and site restoration plans over the coming months which will include a rain garden to capture roof runoff and updated native-centric plantings in conjunction with the addition. This work will represent Phase 2 of the project, to be bid under a separate contract, which will begin immediately after building construction is complete. Building construction is currently set for spring and summer 2020. Landscaping is likely to begin late summer into early fall 2020.



The proposed herbicide treatment areas are outlined in green in the above figure.

#### Lake Cornelia and Lake Edina Water Quality Improvements:

## **Aluminum Treatment**

HAB Aquatic Services Inc. will be conducting the alum treatment of North and South Lake Cornelia between May 10, 2020 and May 31, 2020. There are no additional updates at this time.

#### Lake Cornelia and Lake Edina Water Quality Improvements:

## **Feasibility Study**

At the September 18, 2019 regular meeting, the Board approved a scope of work for Barr to complete a preliminary engineering/feasibility study to further evaluate the other water quality improvement practices recommended in the UAA study for Lake Cornelia and Lake Edina. The feasibility study includes the following tasks:

#### Task Description of Task

- **1A** Stormwater Treatment BMP in Rosland Park- Conceptual Design Evaluation
- **1B** Stormwater Treatment BMP in Rosland Park- Feasibility Analysis/Preliminary Design
- 2A High-level Evaluation of Other Stormwater Treatment/Phosphorus Reduction BMPs in the Lake Cornelia and/or Lake Edina Watershed
- **3** Curly-leaf Pondweed Management
- **4A** Promoting a Healthy Predator Fish Population
- **4B** Evaluating Other Fishery Management Strategies
- 5 Final Report, Presentation, and Public Hearing

Task 1B- Barr has continued to refine the conceptual design of the proposed filtration treatment vault. We participated in a conference call with the DNR on February 12, 2020 to discuss regulatory considerations associated with the proposed concept, which includes pumping water from Swimming Pool Pond to the stormwater BMP. As part of this discussion, DNR staff described the permitting requirements under the preliminary assumption that the water level in Swimming Pool Pond would not be pumped more than 0.5 feet below the normal water level. DNR staff indicated they would likely require submittal of modeling information to estimate the amount of water pumped annually and provide information to help characterize potential impacts to adjacent properties from lowered water levels due to pumping. Following the conference call, Barr has been working on developing a simplified continuous XP-SWMM model of Lake Cornelia and the upstream waterbodies (including Swimming Pool Pond). The continuous model, based on 35 years of precipitation data, will be used to help evaluate how much of the water that flows through Swimming Pool Pond will be diverted to the BMP for treatment and to help characterize the potential impacts of fluctuating water levels on upstream riparian landowners.



Sketch of proposed BMP concept for a stormwater feature in Rosland Park to treat runoff prior to reaching Lake Cornelia.

Task 2A- Barr has also initiated work on evaluating additional stormwater treatment/phosphorus reduction BMPs in the Lake Edina watershed. At the February 4, 2020 meeting with NMCWD and City of Edina staff, two potential stormwater BMP retrofit sites were presented for feedback from city staff, including the Lynmar Basin (currently a turfed stormwater detention area) at Hazelton Road and Lynmar Lane and the Cornelia School Park located at 72<sup>nd</sup> Street and Cornelia Drive. Since the meeting, Barr has been developing high-level conceptual designs for retrofitting these two sites with infiltration-based stormwater BMPs.



Aerial image of the Lynmar Basin, located at Hazelton Road and Lynmar Lane in the Lake Edina watershed.



Aerial image of Cornelia School Park, located at 72<sup>nd</sup> Street and Cornelia Drive in the Lake Edina watershed.

Pentagon Park Stormwater Management: No new activities.

#### Regional Stormwater Volume Reduction Opportunity Study: No new activities.

#### **BMP** Retrofits on Nonprofit Sites- Final Design and Construction:

Contracting with Sunram Construction Co. is underway. The contractor will be provided a Notice to Proceed upon receipt of required documentation and project planning will begin. Construction will begin in the spring and continue through substantial completion after plant warranties are completed in summer 2021.

#### **Bush Lake Shoreline Vegetation Management:**

Since the early-2000s, when a pumped outlet was constructed on Bush Lake, the NMCWD has partnered in managing the vegetation along the shoreline to control invasive species and manage the healthy and diverse native plant community. The most recent three-year management contract with Landbridge Ecological has now expired. Barr is working with District staff, City of Bloomington staff, and Isaac Walton League volunteers to develop a new Request for Quotations that will secure a contractor through 2022.

**Smetana Lake Use Attainability Analysis Update:** Barr has completed updating the Smetana Lake Use Attainability Analysis (UAA) to assess current water quality and re-evaluate implementation recommendations from the original UAA study completed in 2003. Results of the study and management recommendations were presented to the NMCWD Board of Managers at the February 6, 2020 special meeting.

The draft report will be shared with the City of Eden Prairie in the upcoming month to solicit feedback.



#### Lower Valley Stabilization:

Work on the two maintenance and repair locations in the most downstream section of Nine Mile Creek in Bloomington has been substantially completed. In the past month, Barr's work on the project has included construction observation and review of project progress. Some additional grading work may be necessary in the spring.



Photo of installed vegetated geogrid along shoreline of Nine Mile Creek. This stabilization technique, also referred to as vegetated reinforced soil slope (VRSS), is often used in locations where the channel is confined and the streambanks are steep. (Photo from Feb. 6, 2020)



Live cuttings of water tolerant shrubs such as dogwood were installed between the soil pillows. The vegetation grows quickly and provides significant root structure to strengthen the bank. (Photo from Feb. 6, 2020)

#### Wetland Conservation Act (WCA) and NMCWD Wetland Rule Administration:

Work administering the WCA and NMCWD wetland rule in the past month included:

- Review restoration plans for SWLRT temporary wetland impacts and provide comments.
- Preparation and submittal of notice of decision for WCA no-loss activity approval at Douglas Corporation in Eden Prairie.
- Preparation and submittal of WCA notice of decision for wetland boundary and type approval at 6385 Old Shady Oak Road in Eden Prairie.
- Preparing 2019 WCA annual reporting form and submitting to BWSR.
- Miscellaneous program administration.