

Engineer's Report

September 11, 2019

Normandale Lake Water Quality Improvement Project:

Restoration work required of Rachel Contracting at the Normandale Lake drawdown project has been completed. A final change order (Change Order #7) has been prepared to document several project changes and reconcile final bid item quantities. Upon approval of Change Order #7, the final contract price will be \$389,428.47, which is \$10,455.97 higher than the original contract price. A copy of Change Order #7 is included following the Engineer's Report.

Rachel contracting has submitted two payment applications. Pay application 9 for \$12,834.50 covers the restoration work completed since July 2019. Pay application 10 for \$9,831.53 covers release of the project retainage. Barr is recommending approval of pay applications #9 and #10.

An aquatic plant survey was conducted on Normandale Lake on June 20th, 2019. Results from the survey indicate significant reductions in the abundance of curly-leaf pondweed as compared with 2018. However, the extent of the remaining curly-leaf population warrants proceeding with the herbicide treatment in spring of 2020, as planned, to further reduce the presence of the invasive plant. A second aquatic plant survey was conducted in August; results will be available in the upcoming month. District and Barr staff plan to meet with staff from MnDNR in November to discuss the planned herbicide treatment. In the meantime, Barr will begin preparation of the Lake Vegetation Management Plan (LVMP), a requirement of MnDNR permitting.



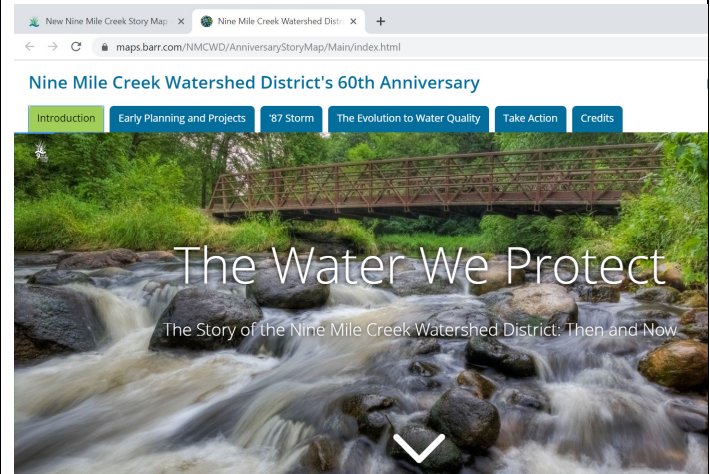
Photo of restoration area at the creek inlet on the north side of Normandale Lake. A contractor hired by the City of Bloomington recently installed a memorial park bench in the area disturbed and partially restored by Rachel Contracting as part of installation/removal of the temporary weir in the creek channel (photo from September 10, 2019). The City of Bloomington will complete the restoration efforts in this area.



Photo of Normandale Lake looking west toward the Bush Lake ski jump (September 10, 2019).

Nine Mile Creek Watershed District 60th Anniversary Story Map:

The final Story Map was recently made public online prior to the 60th anniversary events scheduled for this summer. Barr staff will continue to track map functionality and monitor website traffic.



Edina Stream Stabilization Project: Phase II of the project reached substantial completion at the end of October 2018. The substantial completion deadline was December 31, 2018 so the project was completed ahead of schedule. Barr worked on a maintenance plan to establish clear roles for the District and the City of Edina for addressing future maintenance needs. A draft of the maintenance plan was provided to Administrator Anhorn in early August. Coordination with Administrator Anhorn and work on the maintenance plan has continued. This month, other miscellaneous work was completed, including working on final easement documents and meeting with landowners to answer questions after high flow events. The contractor also seeded areas that were graded to improve drainage in early July.



Stabilized and vegetated shoreline on winding stretch of creek at Reach 11 (June 25, 2019).



Vegetated shoreline along the creek at Reach 1 (June 25, 2019).

Lake Cornelia and Lake Edina Water Quality Improvements:

Barr has completed the Use Attainability Analyses (UAAs) for North and South Lake Cornelia and Lake Edina. The report was accepted by the Board of Managers at the July 17th NMCWD regular board meeting. Upon manager request, the report was submitted to contacts at MDNR, MPCA, BWSR, and Hennepin County to solicit feedback on the proposed management strategies for the three lakes.

One of the recommended management strategies is to conduct an alum treatment of Lake Cornelia (North and South basins) to reduce the release of phosphorus from lake bottom sediments. Barr completed a feasibility study in July for conducting an alum treatment in the fall of 2019. A public hearing on the proposed alum treatment project was held prior to the NMCWD’s August 21st regular board meeting.



Reflection of trees on the water surface in North Lake Cornelia.

Following the August 21, 2019 meeting, Barr prepared a Request for Quotes (RFQ), in consultation with NMCWD staff and legal counsel. The RFQ was distributed to several alum application contractors on August 30, 2019. Cost quotes are due to the NMCWD on Tuesday, September 17, 2019.

Barr has prepared a scope of work for a preliminary engineering/feasibility study to further evaluate the other water quality improvement practices recommended in the UAA study.

Discovery Point Building Addition: In mid- to late-August, Barr staff updated site grading, stormwater management, and landscaping drawings to reflect the proposed Discovery Point building addition designed by LHB. The updated construction drawings, as well as an updated stormwater management submittal, were included in LHB’s late-August submittal to the Eden Prairie planning commission.

Next steps for the project include review and comment by the Eden Prairie planning commission in late-October, and City Council review in December and January. Additional revisions to the site grading, stormwater, and landscaping plans may be required throughout the city review process.

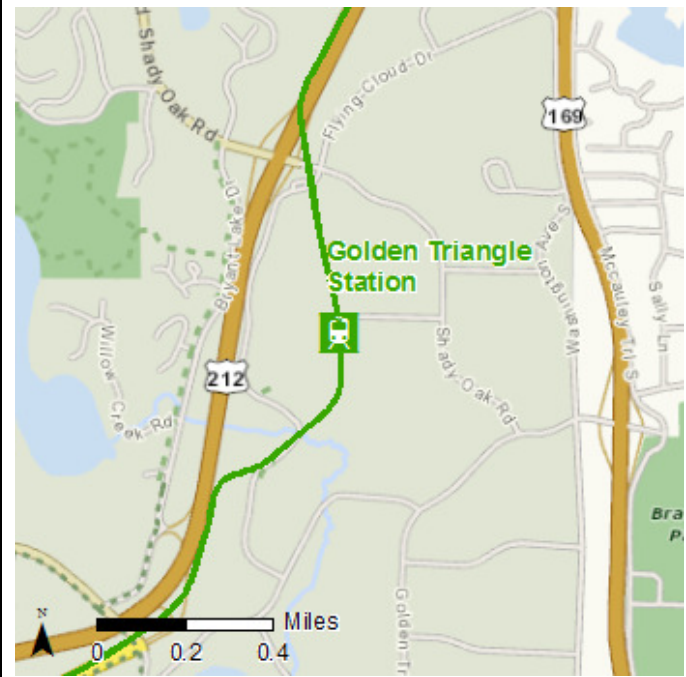
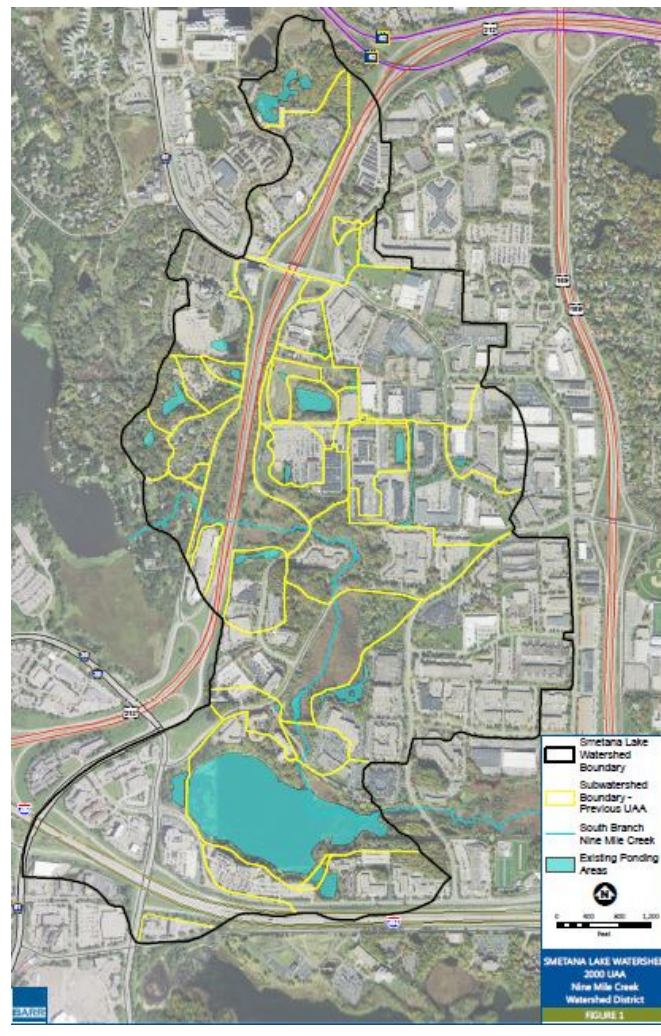
BMP Retrofits on Nonprofit Sites- Final Design and Construction:

Due to high prices on the quotes that were solicited in June, project construction in 2019 has been postponed and quotes will be requested again over the winter. Pending continued interest in participation by the property owners, the 2020 construction project will include all BMP retrofit sites. At the August 21, 2019 meeting, the NMCWD Board approved an amended scope of services to complete bid-ready construction documents for all six BMP sites in the fall and to go out for bid again mid-winter. Stakeholder engagement will begin again upon further development of the construction plans this fall.

District Office (Discovery Point): The District recently hired Landbridge Ecological to perform management of the restoration areas at Discovery Point including weed eradication, as well as maintenance of the planted areas near the building, including the overflow parking area. The contractor began the maintenance work on 8/29 and will follow-up with an additional mowing and touch-up weeding activities prior to winter. Barr has been assisting District staff in coordinating with Landbridge Ecological to assess the site and perform the management activities. Barr staff met with Landbridge on site to ensure they thoroughly understand the expectations (aesthetics, ecological restoration, native plants, budgets and reporting, etc.) of the District and are prepared to act as a groundskeeper with intimate knowledge of the site.

Smetana Lake Use Attainability Analysis Update: Barr has begun 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. Work on the project over the past month has included updating the P8 watershed model to include Best Management Practices (BMPs) that have been constructed in the watershed since the original study in 2003. In upcoming weeks, Barr staff will be developing the in-lake model using outputs from the Smetana Lake P8 watershed model and upstream P8 watershed models (Bryant Lake and Lake Minnetoga).

A meeting to share preliminary study results with stakeholders is tentatively planned for this fall.

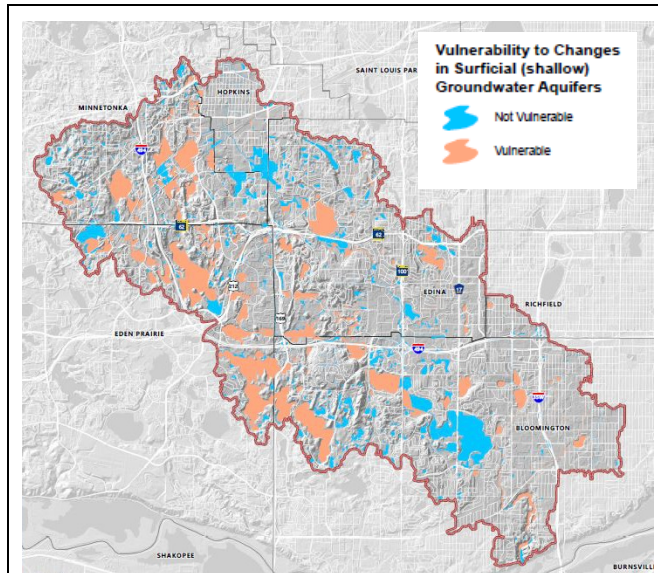


Smetana Lake is a shallow lake just north of I-494 and east of Highway 212 in Eden Prairie. The lake is located along the South Fork of Nine Mile Creek downstream of Bryant Lake. The Smetana Lake watershed (shown as black outline in the image to the left) encompasses much of the Golden Triangle area, which is generally the area between Interstate 494 and U.S. Highways 212 and 169. The image above (source: Metropolitan Council) shows the general alignment of the Southwest Light Rail through the Smetana Lake watershed, as well as the location of the planned Golden Triangle Station. Significant redevelopment is expected in this area in the near future as a result of construction of the Southwest Light Rail.

Groundwater/Surface-Water Interaction Study and Assessment of Surface Water Vulnerability to Changes in the Groundwater System: Barr is evaluating how groundwater and surface water interact across the Nine Mile Creek watershed and then will use that data to identify surface waters and wetlands that may be particularly sensitive to changes in the groundwater system.

Understanding how changes in the groundwater system may affect surface water levels, stream flow, and water quality is an important component of long-term planning and protection of water resources in the Nine Mile Creek watershed. How connected, or disconnected, surface waters are to the groundwater system affects how they may respond to seasonal changes (drought), long-term climate change, or anthropogenic stresses (groundwater pumping).

Barr has completed the assessment for groundwater and surface water interaction and the vulnerability of surface waters to changes in the groundwater system. This analysis included approximately 2000 lakes, ponds, wetlands, and stream reaches across the District. Results of the study were presented to the NMCWD Board of Managers at the September 4, 2019 special meeting. A draft report will be completed within the next month.

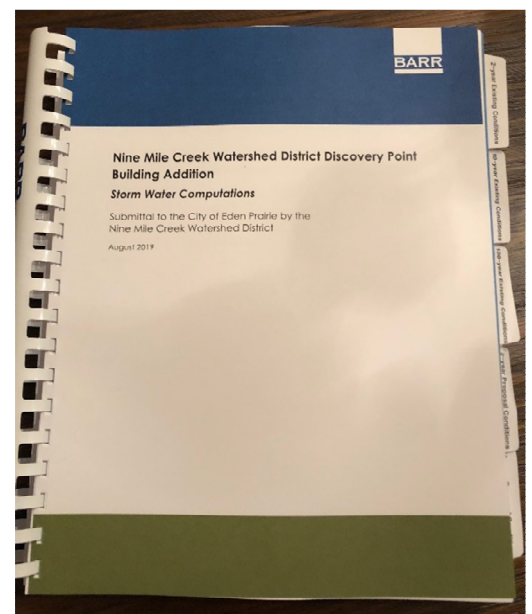


This map shows the vulnerability of waterbodies throughout the watershed to the changes in surficial (shallow) groundwater aquifers.

Bush Lake Outlet Project: No new activities.

Discovery Point Building Addition: In mid- to late-August, Barr staff updated site grading, stormwater management, and landscaping drawings to reflect the proposed Discovery Point building addition designed by LHB. The updated construction drawings, as well as an updated stormwater management submittal (see image to right), were included in the District's late-August submittal to the Eden Prairie planning commission.

Next steps for the project include review and comment by the Eden Prairie planning commission in late-October, and City Council review in December and January. Additional revisions to the site grading, stormwater, and landscaping plans may be required throughout the city review process.



Pentagon Park Stormwater Management (in partnership with the cities of Edina and Bloomington): No new activities.

Regional Stormwater Volume Reduction Opportunity Study: No new activities.

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

- Reviewing report of additional sediment release in the Southwest LRT MTA-MTA-11 wetland, providing comments, and requesting status update from contractor on restoration plans.
- Conducting wetland delineation site review and submitting WCA Notice of Decision for wetland boundary and type approval at Birch Island Road quiet zone project site in Eden Prairie.
- Reviewing MNRAM for Ebert site in Edina, suggesting edits, and determining NMCWD wetland classification.
- Conducting wetland delineation site review and MNRAM review for United Properties parking ramp in Eden Prairie and submitting WCA Notice of Application.
- Conducting site review for unpermitted wetland fill at 6282 Industrial Drive in Eden Prairie. Communicating with TEP members and preparing status summary.
- Reviewing MNRAM information for 7800 Picture Drive in Bloomington, evaluating NMCWD wetland classification, and providing comments.
- Responding to questions from Westwood regarding Liberty Plaza in Eden Prairie.
- Responding to question regarding recommended seed mix for Braemar branch of Nine Mile Creek restoration of sediment release.