MINNEHAHA CREEK
WATERSHED DISTRICT
QUALITY OF WATER, QUALITY OF LIFE

Meeting: Policy and Planning Committee
Meeting date: 8/22/2024
Agenda Item #: 5.1
Item type: Staff Updates

Title: Project Planning Update: County Road 6 Pond Retrofit

Prepared by: Name: Kailey Cermak
Phone: 952.641.4501
kcermak@minnehahacreek.org

Purpose:
At the August 22, 2024, Minnehaha Creek Watershed District (MCWD) Policy and Planning Committee (PPC) meeting, MCWD staff will provide an overview and status report of the County Road 6 (CR-6) pond retrofit project, which looks to improve the pond's performance and further reduce phosphorus export to Long Lake through the implementation of a gravity sand filter bench and earthen berm. This update will generate a shared understanding of how project design has continued to advance, while considering property owner concerns and feedback.

Background:
In 1998, as a result of a Clean Water Partnership diagnostic study, MCWD constructed the County Road 6 Stormwater Pond (CR-6 pond or pond) to capture and treat 3,370 acres of runoff, reducing sediment and nutrient loading to impaired Long Lake, which sits just downstream of the pond. The 2.5-acre pond was designed to remove approximately 50% of the total phosphorus load, when considered in conjunction with Deerhill Pond, which was constructed upstream of the CR-6 pond in 1996. An easement, encompassing the pond and maintenance trail, was obtained from the private landowner to ensure that long-term maintenance, monitoring, and retrofits to the pond could occur.

Long Lake Creek Roadmap
Since 2018, MCWD, Long Lake Waters Association, and the cities of Long Lake, Medina, and Orono have been working together toward a common goal of addressing continued nutrient impairments in the Long Lake Creek Subwatershed. To support this mutual effort, MCWD obtained state grant funding in 2018 and led a subwatershed assessment to (1) provide a scientific understanding of the system, (2) identify cost-effective projects and strategies, and (3) develop an actionable roadmap for implementation for the municipal partners.
The roadmap identified 34 projects, prioritizing them using a three-tiered strategy: regional stormwater treatment, landscape projects, and internal load management. Constructing or enhancing regional stormwater facilities, like the CR-6 pond, was recommended as the top priority for its immediate and cost-effective impact on large drainage areas, with localized landscape projects to follow over time.

Supporting the Roadmap's inclusion of the CR-6 pond as a priority opportunity is the recent monitoring data that indicates the CR-6 pond has not been performing as originally designed. Despite being constructed 25 years ago, the pond has never been dredged and is currently approximately 12% full. Additionally, water quality sampling results show high phosphorus concentrations both entering and exiting the pond. These datapoints underscored the necessity to assess the CR-6 pond for potential retrofit opportunities to improve its effectiveness.

Feasibility and Project Identification
In 2023, MCWD contracted with Stantec to conduct a feasibility study to evaluate potential retrofit opportunities, focused on maximizing particulate phosphorus removal. Ultimately, a combination of a gravity sand filter bench and an earthen berm emerged as the most cost-effective solution. In total, these retrofits are projected to remove 52 to 73 pounds of total phosphorus annually with a cost-estimate of $738,000, which accounts for design and construction.

MCWD formally ordered the project in March 2024, and soon after, on May 9, 2024, awarded a contract with Stantec for engineering and design services. The project team officially kicked off design work at the end of May 2024.

Project Design:
Over the past three months, MCWD staff and Stantec have been actively refining our understanding of the site's existing condition, through wetland delineations, bathymetric mapping, and topographic surveys. Additionally, the team held a design charette field meeting to explore various design options, including the flexibility of filter bench footprints, access points, viewshed impacts, and the technical and regulatory constraints at play. This information has shaped early design layouts and associated scenario modeling to optimize design components.

In parallel, staff have maintained ongoing conversations with the property owner, who has raised concerns primarily related to the aesthetics of the project and maintenance access. These discussions have prompted the team to evaluate potential project alternatives or modifications, some of which would require expansion of the existing easement, an outcome the property owner supports. The alternatives explored to varying degrees include:

- Water quality project opportunities in the downstream wetland area
- An alternate maintenance route to the bench
- A vegetated filter media

Throughout this process, staff have remained focused on maximizing phosphorus reduction to downstream Long Lake while balancing other project considerations. Evaluating and understanding how each alternative and decision impacts phosphorus reductions, performance risk, upfront cost, and long-term operation and maintenance is crucial for advancing design, and ultimately, constructing a successful project. Stantec has provided staff with preliminary plan sets, costs, and associated tradeoffs for the considered alternatives as part of the 30% design phase.

At the August 22, 2024 PPC meeting, staff will provide a status report on 30% design and walk through key decisions relating to access and the filter media. Staff will also provide a look ahead at the remaining design steps and associated schedule.