



## MEMORANDUM

**To:** CCBWQA Board of Directors  
**CC:** Jane Clary, Wright Water Engineers, CCBWQA Technical Manager  
**From:** Elysa Loewen, Pollution Abatement Project Manager  
**Date:** November 20, 2025  
**Subject:** SEMSWA Water Quality Pond Retrofit Project – Project Summary

### Project Background:

The Project was a retrofit of an existing extended detention basin (EDB) located along Windmill Creek at Jordan Road and East Briarwood Avenue. The pond serves as a regional water quality facility for 395 tributary acres of upstream development that has an existing watershed imperviousness of 39.1% and a projected future imperviousness of 80.0% according to the Major Drainageway Plan for Cherry Creek Southwest Tributaries (WWE, July 2024). The pond is located approximately 2 miles upstream of the confluence of Cottonwood Creek in the Cherry Creek State Park and is approximately 4 +/- stream miles upstream of the reservoir (Figure 1).

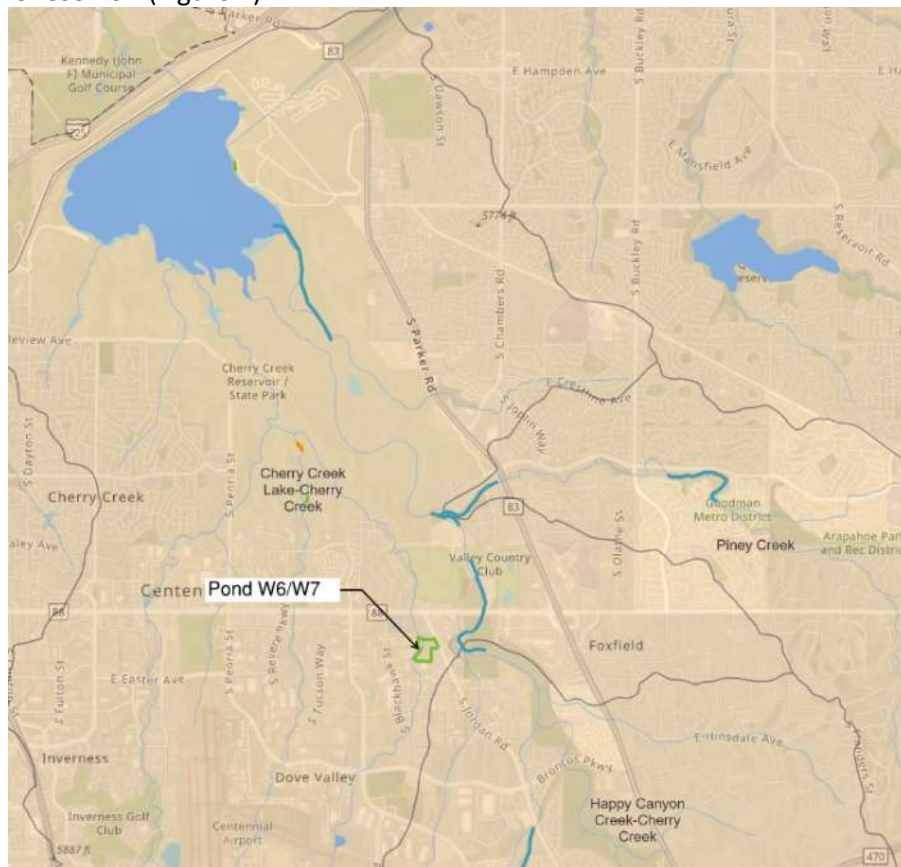


Figure 1: Project Vicinity Map

## **Existing Conditions**

The project was identified for retrofit needs to help effectively maintain and improve sediment removal in the pond. This project addressed issues with the facility's micropool. As shown in photos of the existing pond (Figures 2 & 3), frequent prolonged ponding of stormwater is present at the outlet structure preventing effective sediment removal and maintenance and standing water.



*Figure 2: Pond W6/W7 Aerial View - Pre Construction (Google Earth Imagery, 2023)*



*Figure 3: Pond W6/W7 Looking West - Preconstruction*

### **Summary of Improvements**

The project completed the following improvements as part of the retrofit:

- Construction of an approximately 380-cubic foot (15-cubic yard) concrete forebay at the pond's northeast outfall locations.
- Concrete trickle channel construction from the new proposed forebay to the outlet structure, and extension of the existing trickle channel from the south.
- Construction of maintenance access to the pond bottom and along the proposed and existing trickle channels that were eroding.
- Providing maintenance to the new and existing forebay to the south.
- Modified outlet structure to provide a confined micropool at the outlet structure and modification to the existing orifice plate and replacement of the trash rack to SEMSWA standards.

### **Construction**

Construction on the Pond W6/W7 retrofit project began in April 2025 and the project was completed by in August 2025, by L&M Enterprises.

### **Funding**

Construction was funded through partnership with Southeast Metro Stormwater Authority (SEMSWA). Design was funded separately by MHFD in 2021. The breakdown of construction project funding between SEMSWA and CCBWQA contributions is shown in the following table:

<b>Total Project Construction Expenditures:</b>	<b>SEMSWA Contribution</b>	<b>CCBWQA Contribution</b>
Construction*	\$333,107.66	\$100,000.00
Construction Support Services*	\$16,910.00	\$0
<b>Total Project Contribution (%) =</b>	<b>\$350,017.66 (77.8%)</b>	<b>\$100,000.00 (22.2%)</b>

\*Based on contracted values

### **Water Quality Benefits**

Based on review of available studies<sup>1</sup> for improved phosphorus removal efficiencies after similar facility retrofits, this project is estimated to remove 5.1 to 11.4 lbs/year.

In addition to the estimated pounds per year of phosphorus removal, a summary of the water quality benefits associated with these retrofits includes:

- Proposed improvements provide designated areas for sediment removal which result in removal rather than immobilization of sediment. This would reduce the risk of future scour or resuspension of sediment and subsequent release of phosphorus downstream of the facility.
- Improve and enable more effective maintenance to remove accumulated sediment entering the pond, by providing access and by reducing ponding water in the facility.
- Improvements would result in prolonged life of the facility and potentially a reduction in future maintenance costs/needs.

### **Summary**

**Water Quality Benefit of Phosphorous reduction** ≈ Estimated 5.1 to 11.4 pounds of phosphorous removed from the watershed per year.

**Total Construction Project Cost** = \$450,017.66

**Authority's Share** = \$100,000.00 (22.2%)

**Engineer:** RESPEC

**Contractor:** L&M Enterprises

### **Enclosure: Post Project Photos**



*Figure 3: Pond W6/7 –Outlet Structure with Concrete Micropool*



*Figure 4: Concrete forebay at Northeast Pond Inflow*



*Figure 5: Overall Pond Completed with Maintenance Access*



*Figure 6: New Concrete Trickle Channel*

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- <sup>i</sup> Clary, J., J. Jones, M. Leisenring, P. Hobson, and E. Strecker. 2021. International Stormwater BMP Database 2020 Summary Statistics. Project 4968. Alexandria, VA: The Water Research Foundation. Accessible at: [www.bmpdatabase.org](http://www.bmpdatabase.org).
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- Wright Water Engineers, Inc. 2009. Pond W-6/W-7 2008 Stormwater Monitoring Results. April 2009. Prepared for: Arapahoe County Water and Wastewater Authority.
- Wright Water Engineers, 2024. Major Drainageway Plan for Cherry Creek Southwest Tributaries July. Prepared for Mile High Flood District, SEMSWA and Cherry Creek Basin Water Quality Authority.
- Wright Water Engineers, 2025. DRAFT . Cherry Creek Reservoir Basin Stormwater Control Measure Effectiveness Study. Prepared for Cherry Creek Basin Water Quality Authority. January.