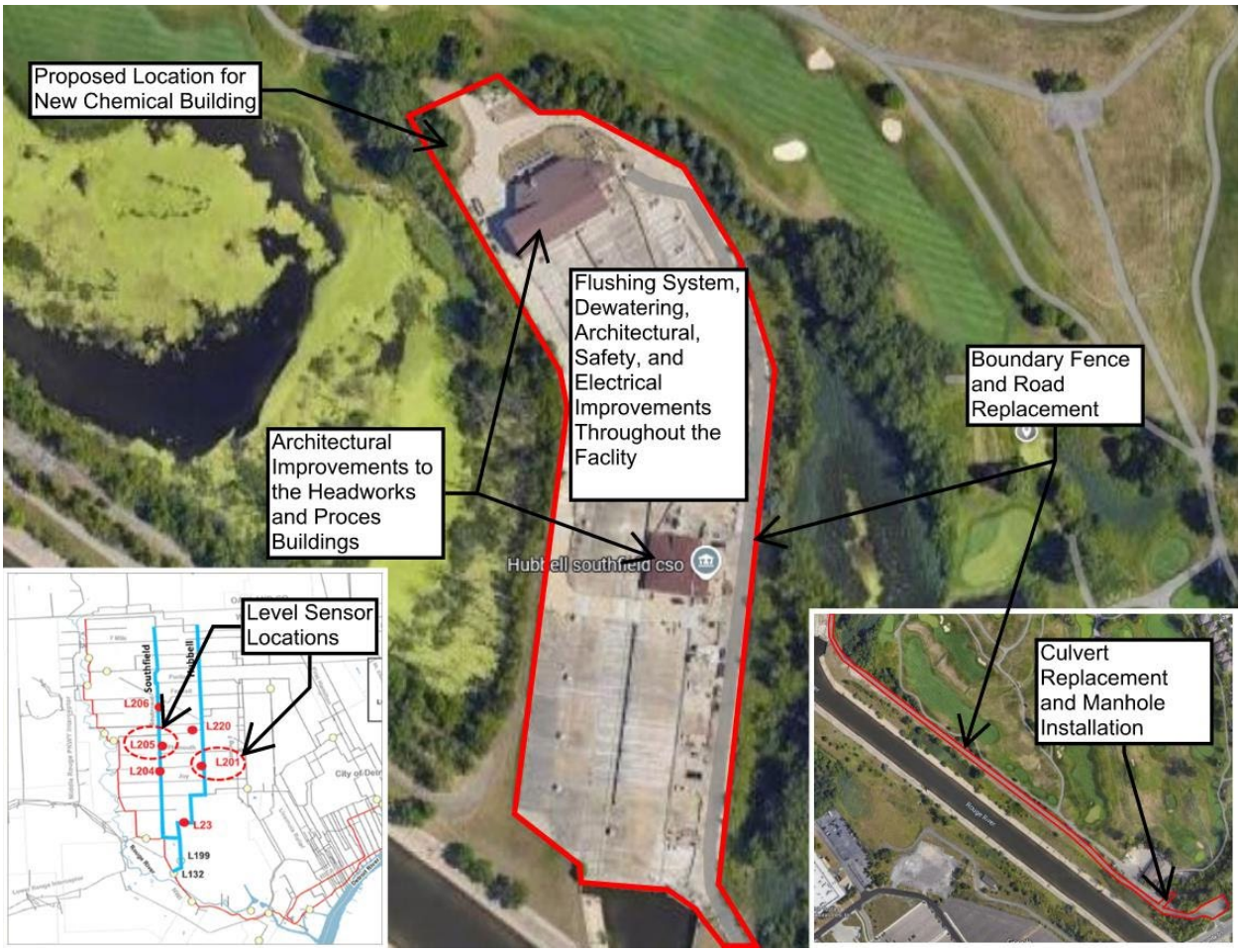
GLWA
Great Lakes Water Authority

HUBBELL-SOUTHFIELD CSO FACILITY IMPROVEMENTS
CIP: 273001
ITA: 918-0716
2026 CLEAN WATER STATE REVOLVING FUND PROJECT PLAN SUMMARY

APRIL, 2025

WADE TRIM



Proposed Improvements

The Great Lakes Water Authority (GLWA) operates the Hubbell-Southfield Combined Sewer Overflow (CSO) Facility located at 16540 Rotunda Dr, Dearborn, MI 48120. CSO facilities are installed to decrease pollution during wet weather events that exceed the capacity of the sanitary sewer systems. The Hubbell-Southfield CSO is one of nine GLWA CSO treatment facilities. It has a 22-million-gallon (MG) storage capacity and a design flow capacity of 2,200 cfs. The facility began operation in 1999, and various improvements have been completed since then. The tributary area to Hubbell-Southfield CSO comprises approximately 14,400 acres in the City of Dearborn and the west side of the City of Detroit. The facility discharges to the Northwest Interceptor with overflows discharging to the Rouge River. The goals of this project are to bring the facility up to current codes/standards, standardize equipment, improve operations, strengthen operational reliability, improve safety, and ease maintenance.

To keep the Hubbell-Southfield CSO safe and functioning at a high level of effectiveness, the project includes the following improvements:

- Improvements to the facility's flushing system including the replacement of a flushing pump, piping, and a new flushing valve; a new magnetic flow meter; and structural modifications to the basin floor

that include the installation of flushing lane curbs. An existing river gate will be replaced and a screen installed to allow for use of surface water to provide for source of flushing water.

- The dewatering system improvements include four new dewatering pumps; two new ball valves; and piping upgrades.
- Chemical storage that holds disinfectant is being expanded with a new 20,000-gallon tank enclosed in a new chemical storage building. The chemical feed and transfer system used to treat the water is being upgraded with new transfer pumps and TRC analyzers along with associated piping, strainers, and instrumentation and control systems.
- The electrical system upgrades include new Motor Control Centers and new electrical wiring. A new computer control system with two new remote level sensors is also included.
- Site improvements include fencing replacement, stormwater culvert repair, and driveway paving upgrades.
- Architectural improvements include minor upgrades in the existing Headworks and Process Buildings, improvements to a walkway in the Headworks Building, and new access hatches into the basin.

Summary of Project Needs

The Hubbell-Southfield CSO Facility's primary function is to adequately treat any wet weather overflows prior to discharge to the receiving water body or return captured water to the Wastewater Resource Recovery Facility (WRRF) for further treatment. A facilities assessment identified future capital improvements to the disinfection and flushing systems, electrical and instrumentation equipment, and site features. Additional condition assessments and studies were conducted to evaluate the alternatives and confirm the project improvements.

Major goals of the Hubbell-Southfield CSO Facility Improvements Project include:

- Bring the facility up to current codes and standards, where possible
- Standardizing equipment, where possible
- Improve the operational reliability of the facility
- Improve process effectiveness and efficiency in flushing and disinfection systems
- Reduce the number of process shutdowns due to maintenance and equipment failures
- Improve worker safety

Potential Alternatives

A needs assessment grouped findings into fourteen areas which are included in this Hubbell-Southfield CSO Improvements Project. Multiple alternatives were considered to provide the best and most cost-effective solutions in each of these areas.

"No Action" and Regional Alternatives

The "No Action" alternative was determined to be unacceptable for all areas based on the existing condition of the various treatment processes and was not evaluated further. This alternative would not address the identified needs and put the ability to meet the NPDES Permit at risk, now and in the future.

A Regional Alternative in the context of this Project Plan is not applicable. GLWA operates the regional CSO treatment facilities that receive combined sewer flows from several counties in the region. The function and

capacity added to the system by the CSO facilities cannot be achieved by connecting with another system.

Optimum Performance Alternatives Approach

GLWA's approach to evaluating the Optimum Performance Alternatives and obtaining the Selected Alternative, was iterative and spanned multiple projects from 2021 to the present. Alternatives were evaluated based on the following:

1. Net Present Value (NPV) evaluation
2. Non-monetary evaluation that considered the following five benefits
   - Benefit #1 – Health and Safety
   - Benefit #2 – Water Quality and Compliance
   - Benefit #3 – Capacity Enhancement
   - Benefit #4 – Component Performance
   - Benefit #5 – O&M Ease
3. Best Value calculation based on the lowest NPV / Total Benefit ratio

With a few exceptions, the Best Value Alternative was selected. Exceptions were made to account for the importance of safety of operations and maintenance staff or due to cost considerations. The following table list the 14 areas included in the Hubbell-Southfield CSO Improvements Project.

Environmental Evaluation

Short-term impacts, such as air-born dust from heavy machinery cannot be avoided during construction of this proposed project. However, procedures to minimize dust and other air-born particles caused by construction will be required. Dust and soil deposits will be controlled through frequent watering and pavement sweeping. Soil erosion control measures will also be implemented as needed to reduce unwanted soil runoff.

Hubbell-Southfield CSO Basin Improvements Project Summary

Improvement Area	Description
HS-SCR-1	Screening Improvements
HS-DIS-1	Chemical Feed Utilizing Manifold Pump Distribution and Centrifugal Pumps
HS-DIS-2	Provide Flow-paced and TRC-paced Chemical Feed Control System
HS-DIS-3	Add a New Chemical Storage Tank
HS-FD-1	New Basin Flushing System with new surface water flushing source water gate and screen
HS-FD-2	Upgrade Basin Dewatering Pumps and Reinstall Sump Pumps and Fluidization System
HS-FD-3	Provide Equipment Access to Effluent Channel
HS-ELEC-1	Electrical Improvements
HS-I&C-1	I&C Improvements
HS-I&C-2	Control System Upgrade
HS-HVAC	Process and Headworks Building HVAC Upgrades
HS-SITE-1	Increase Flushing Water Pressure and Add Hose Bibs in Headworks Area
HS-SITE-2	Site Improvements to access drive, fence, and culvert
HS-ARCH-1	Minor upgrades in Process and Headworks Buildings

Estimated Project Costs

The project construction costs are summarized in the table below. These costs do not include project contingencies, and engineering.

Hubbell-Southfield CSO Basin Improvements Construction Cost Summary	
Improvement	Estimated Capital Cost
Civil/Site	$3,160,000
Demolition	$2,818,000
Architectural	$326,000
Structural	$6,493,000
Process	$18,179,000
HVAC/Plumbing	$635,000
Electrical	$7,440,000
I&C	$7,379,000
Subtotal	**$46,429,000**

The estimated total project cost of $67,482,000 will be incorporated into the regional system revenue requirement and allocated to member partners through the Sewer charges methodology process. GLWA serves approximately 2.8 million residents in approximately 1.2 million households. On a per household basis, this would equate to approximately $4.37 per year.

Estimated Project Cost Impact for the SRF Hubbell-Southfield CSO Facility Improvements Project	
Cost Category	Value
Estimated Construction Cost	$46,429,000
Contingency	$9,635,000
Engineering and Const. Admin.	$11,418,000
Total Cost of Project	$67,482,000
Total Present Worth	$85,655,000
Annualized Cost of Project (assuming SRF discount rate of 2.0% over 20 years)	$5,238,000
Service Area Households (City of Detroit and surrounding communities)	1,200,000
Illustrated, Estimated End User Impact	~ $4.37 per household basis per year

Proposed Implementation Schedule

The proposed schedule for the project plan and design and construction of the improvements is presented in the table below.

Proposed Implementation Schedule	
Project Activity	Project Milestone
Start Design	September 25, 2023
Project Plan Public Hearing	April 23, 2025
Submittal of Project Plan to EGLE	May 1, 2025
Complete Design	August 25, 2025
Start Construction	June 25, 2026
Complete Construction	December 24, 2029
Project Closeout	June 22, 2030