

PROJECT PLAN SUMMARY

Rehabilitation of the 7 Mile Sewer System



Detroit, Michigan

April 24, 2024





1.0 Introduction

The purpose of this Project Plan Summary is to provide an overview of the Great Lakes Water Authority (GLWA) Rehabilitation of the 7 Mile Sewer System Project. The following sections provide a project summary, project needs and proposed improvements, environmental evaluations, estimated user cost impact, and proposed project schedule. The formal Project Plan document is in process and will be presented under separate cover.

2.0 Project Summary

The Great Lakes Water Authority (GLWA) wastewater conveyance system consists of over 180 miles of large diameter collector and interceptor sewers which convey wastewater flows from member communities outside of Detroit to the Water Resource Recovery Facility (WRRF) located in southwest Detroit.

As part of the Rehabilitation of the 7 Mile Sewer System project, rehabilitation of several large diameter combined sewers including Segments 1, 2, and 3 of the 7 Mile Sewer, the East 7 Mile Relief Sewer, and the West 7 Mile Relief Sewer are planned to be rehabilitated. These five sewers comprise the 7 Mile Sewer System and are located along 7 Mile Road extending from Five Points Street to the west and the Grand Trunk Railroad to the east throughout the City of Detroit.

The 7 Mile Sewer System transports dry and wet weather flow to other GLWA assets including the Seven Mile Sewer Retention Treatment Basin (RTB) Facility and other large diameter sewers that transport flow to the WRRF. The East and West 7 Mile

Relief Sewers allow several large collector sewers to relieve and overflow into the relief sewers preventing negative upstream hydraulic impacts such as basement flooding.

3.0 Project Needs

The current condition of portions of the 7 Mile Sewer System is very poor with risk of failure. Maintaining and repairing the sewers is necessary in continuing to allow the sewers to convey flow to the GLWA WRRF and provide relief to other components of the regional conveyance system.

Structural rehabilitation of the sewers will also extend their service lives by an additional 25 to 30 years and allow them to continue to provide positive impacts to the system.

4.0 Proposed Improvements

This sewer rehabilitation project consists of repairing five separate combined sewers located along 7 Mile Road in Detroit, Michigan. Sewer repairs are proposed to consist of the following:

- Debris/sludge removal.
- Manhole frame and cover replacement.
- Spot repairs consisting of deep concrete repair, open joint repair, epoxy crack repair, tuckpointing, deteriorated brick repair, chemical grouting of leaks, removal of mineral deposits and roots, and rough tap repairs.
- In-depth structural repairs within Segment 3 of the 7 Mile Sewer.



As previously mentioned, rehabilitation of the 7 Mile Sewer System will extend the service lives of the sewers and allow them to continue to provide relief to other components of the regional conveyance system during wet weather events. Multiple structural repair alternatives were considered during the study phase of this project. The repair options were evaluated to minimize construction costs, minimize disruptions to the ground surface, traffic, adjacent utilities, and the environment.

5.0 Environmental Evaluation

Throughout the design of this project, the engineering team has evaluated environmental impacts that could occur from the operation of this project. The review included cultural and historical resources in the project area and the natural environment which includes air quality, wetlands, sensitive floodplains and high-risk erosion areas, rivers and surface waters, recreational facilities, agricultural resources, and the presence of rare and endangered species of plants and animals. It has been determined that any negative environmental impacts are short-term and will be limited to the anticipated 2-year construction phase of the project.

The majority of the construction work will be below ground, although some work at the ground surface is planned, such as manhole frame and cover replacements, will take place at the ground surface. Excavation methods for manhole frame and cover replacements will be developed to minimize any disturbances to the area.

Short-term environmental impacts such as increased noise or dust and potential traffic disruption will be minimized by limiting the contractor working hours and the development of soil erosion and sedimentation plans and traffic control plans as necessary.

The location of the project extends along 7 Mile Road primarily through commercial areas. The project site does not extend throughout any floodplains, wetlands, or endangered species areas. Therefore, it is not expected that large amounts of environmental disturbance will be caused during construction. No long-term negative impacts are expected to occur from this project.

6.0 Estimated User Cost Impact

This proposed project is anticipated to directly or indirectly impact 640,510 wastewater customers in the GLWA service area. The estimated total project cost of \$30,000,000 will be incorporated into the regional system revenue requirement and allocated to all member partners through the Sewer charges methodology process. GLWA serves approximately 2.9 million residents in approximately 1.16 million households. The estimated cost per household has been determined to be approximately \$1.63.

7.0 Proposed Implementation Schedule

Proposed Project Schedule	
Design Notice to Proceed	June 2021
30% Design	April 2023
60% Design	April 2023
90% Design	March 2024
Bid Due	November 2024
Construction Notice to Proceed	April 2025
Construction Final Completion	July 2027