



**BUSINESS OF THE CITY COUNCIL
CITY OF MERCER ISLAND**

**AB 6295
July 5, 2023
Consent Agenda**

AGENDA BILL INFORMATION

TITLE:	AB 6295: Basin 40 Cured-In-Place-Pipe Sewer Lining Project Phase 2 Bid Award	<input type="checkbox"/> Discussion Only <input checked="" type="checkbox"/> Action Needed: <input checked="" type="checkbox"/> Motion <input type="checkbox"/> Ordinance <input type="checkbox"/> Resolution
RECOMMENDED ACTION:	Award the Basin 40 Cured-In-Place-Pipe Sewer Lining Project Phase 2 construction contract to Insta-Pipe, Inc.	

DEPARTMENT:	Public Works
STAFF:	Patrick Yamashita, City Engineer Clint Morris, Capital Division Manager Christopher Marks, Utilities Engineer
COUNCIL LIAISON:	n/a
EXHIBITS:	1. Project Location Map
CITY COUNCIL PRIORITY:	n/a

AMOUNT OF EXPENDITURE	\$ 2,080,934
AMOUNT BUDGETED	\$ 2,140,026
APPROPRIATION REQUIRED	\$ n/a

EXECUTIVE SUMMARY

The purpose of this agenda bill is to award a public works contract for the construction of the Basin 40 Cured-In-Place-Pipe (CIPP) Sewer Lining Project Phase 2.

- The Basin 40 CIPP Sewer Lining Phase 1 project began in Q3 2021 to systematically eliminate sources of infiltration and inflow (I/I) using the trenchless technology of ultra-violet (UV) cured-in-place-pipe (CIPP) lining.
- With Phase 1 completed, Phase 2 of the project will install more than 12,000 linear feet of UV CIPP liner into existing 8-inch, 10-inch, and 12-inch diameter sewer mains within Sewer Basin 40. See Exhibit 1 for project location.
- Three bids were received and the lowest bid is \$1,681,845. Estimated project expenditures are within the current available budget and no appropriation is needed.
- This work is included in the 2023-2024 Capital Budget and is funded through the Sewer Fund.
- Construction will begin in Q3 2023 with project completion estimated for Q1 2024.

BACKGROUND

Construction of most of Mercer Island's sanitary sewer system occurred in the 1950s and 1960s. The sewer collection system takes advantage of the Island's topography by relying heavily on gravity flow as it meanders from the top of the Island down to the shoreline, where it enters the City's "Lake Line", before being transported to King County's treatment facility in Renton. The City's sewer collection system is separate and distinct from the City's stormwater collection system.

Given the sewer system's age, groundwater seepage (infiltration) and stormwater runoff (inflow) – known collectively as infiltration and inflow (I/I) – are prevalent in the sanitary sewer. Infiltration is caused from cracks, joint failures, or other openings within the pipeline. Inflow comes from a direct connection into the sewer system, such as roof drain downspout connections into side sewers, leaky manhole covers, or unknown storm drain cross-connections. Once I/I enters the sewer, this water must be transported and treated.

Sewer Basin 40 is located in and around the Mercerwood neighborhood and is one of the oldest portions of Mercer Island's sewer collection system, with construction occurring in the 1950s. Pipes in this area were inspected in 2018 using closed circuit television (CCTV) equipment and were identified as having a high presence of I/I as well as some minor structural pipe defects.

The trenchless technology of cured-in-place-pipe (CIPP) lining is an efficient and cost-effective way to reduce I/I from aging pipes and restore their structural integrity. The method involves pulling a fiberglass and resin impregnated liner into the existing sewer main, pressurizing the liner to form a tight fit, and then curing the liner using UV light. This construction process has minimal disturbance to properties and roads, since very little excavation is required. The primary access for the lining occurs through existing sewer manholes.

The project was divided into two phases to allow the easier Phase 1 work to proceed to construction while Phase 2 work obtained the necessary environmental permits. In December 2022, the City Council approved construction of Phase 1 ([AB 6191](#)). The work areas were primarily located in the area bound by SE 40th Street, 96th Avenue, and SE 41st Street. More than 4,000 feet of existing 8-inch sewer mains were lined in February, March, and April of 2023 for a total cost of \$625,392. This final cost is below the approved Phase 1 project budget of \$765,418. The \$140,026 of savings will be used to supplement the budget for the Phase 2 project.

Phase 2 will reline the remaining Basin 40 pipe segments that are identified as having pipe fractures, cracks, active infiltration, infiltration stains, joint separations, and joint offsets, which are the primary sources of I/I. The benefits of eliminating I/I are two-fold: the City's sewer system capacity increases, and sewage treatment costs are reduced.

ISSUE/DISCUSSION

PROJECT DESCRIPTION

The Basin 40 CIPP Sewer Lining Project Phase 2 consists of installing more than 12,000 feet of CIPP into existing 8-inch, 10-inch, and 12-inch diameter sewer mains. The mains will be accessed from the existing network of sewer manholes. In addition, 113 service connection seals will be installed to waterproof the joint that connects the sewer mainline to side sewer laterals serving adjacent homes. These laterals are very common locations for I/I to occur.

Phase 2 construction quantities are roughly three-times that of Phase 1 and improvements span all of Basin 40. The project area is bounded by SE 40th Street, 90th Avenue SE, SE 44th Street, SE 42nd Place, and Lake

Washington, as shown on Exhibit 1. Because some of the segments are located within close proximity to Lake Washington, shoreline permits have been applied for and obtained. Some of these sewer segments adjacent to the shoreline pose additional challenges, including restricted vehicle access, steep terrain, and obstacles such as landscaping, fencing, and other improvements that have been built near or over the sewer manholes.

BID RESULTS

The project was advertised May 24, 2023, and three construction bids were received and opened on June 14, 2023. The lowest bid was received from Insta-Pipe, Inc. in the amount of \$1,681,845, approximately 10% below the engineer’s construction cost estimate. The following table shows the bid results.

COMPANY NAME	Bid amount + 10.1% sales tax
Insta-Pipe, Inc.	\$1,681,845
Iron Horse, LLC	\$1,917,603
Allied Plumbing & Pumps LLC DBA Allied Trenchless	\$2,623,936
Engineer’s Estimate	\$1,861,510

The apparent low bidder, Insta-Pipe, Inc. from Tumwater, Washington, has completed numerous CIPP lining projects for public agencies across the Pacific Northwest, including completion of Sewer Basin 40 Phase 1 for the City in 2023; a storm water lining project for the City in the summer of 2022; a sewer lining project for Whatcom County in 2022; and a lining project in 2020 for the City of Bellevue. Review of the Labor and Industries (L&I) website confirms Insta-Pipe is a contractor in good standing with no license violations, outstanding lawsuits, or L&I tax debt.

Based on the review of the Insta-Pipe, Inc. bid submittal and reference checks, staff has determined that Insta-Pipe is the lowest responsive bidder for this project. Staff recommends awarding the project to Insta-Pipe, Inc.

PROJECT BUDGET

Adding amounts for construction contingency, construction support services/inspection, and project management brings the total estimated cost of the project to \$2,080,934. Funds for design of both project phases were included in the 2021-2022 Capital Budget and are therefore not shown for Phase 2. Project costs are summarized in the table below.

BASIN 40 CIPP SEWER LINING PROJECT PHASE 2 PROJECT BUDGET	
Construction Contract	\$1,681,845
Construction Contingency - 10%	\$168,184
Construction Support Services	\$79,980
Project Management/Utility Team	\$30,925
Inspection Services	\$120,000
Total Project Cost	\$2,080,934
Approved Budget (2023-2024)	\$2,000,000
Phase 1 Unspent Budget	\$140,026
Total Budget Allocated for Project	\$2,140,026
Budget Remaining	\$59,092

The budget for this project is included in the 2023-2024 Capital Budget for \$2M from the Sewer Fund. This budget will be supplemented with the \$140,026 of unspent budget from Phase 1. Based on the low bid of \$1,681,845, this project can be constructed within that budget and does not need an appropriation.

NEXT STEPS

Construction is anticipated to begin in September of 2023 and should take approximately six months to complete. Contractors are still experiencing delays in obtaining materials due to supply chain demands and limitations. Staff will work closely with the contractor to manage the project timeline and work schedule.

Impacts to residents will be minor and may include periods of limited toilet flushing, restricted water use during liner installation, temporary construction noise, and temporary road closures to facilitate contractor equipment. These impacts will be mitigated through close contractor and project manager coordination and timely construction notifications to impacted residents.

RECOMMENDED ACTION

Award the Basin 40 Cured-In-Place-Pipe Sewer Lining Project Phase 2 to Insta-Pipe, Inc., in the amount of \$1,681,845, and authorize the City Manager to execute a contract with Insta-Pipe for the construction of the project.