



Legislation Details (With Text)

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Title: Proposed Change Order No. 1
Contract No. GLWA-DB-226
Repair and Rehabilitation of Detroit River Interceptor (DRI) from Alter Road to Water Resource Recovery Facility (WRRF)
CIP #222002 / BCE Score: 65.4

Sponsors: Cheryl Porter, Todd King

Indexes: Water Operations

Code sections:

Attachments:

| Date | Ver. | Action By | Action | Result |
|------------|------|------------------------------------|--------------------------|--------|
| 12/19/2019 | 1 | Board of Directors | Approved | Pass |
| 12/11/2019 | 1 | Operations and Resources Committee | Recommended for Approval | Pass |

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Agenda of: December 19, 2019
Item No: **2019-426**
Amount: Original Contract Price \$19,845,500.00
Proposed Change Order No. 1 28,148,335.00
New Contract Total \$47,993,835.00

TO: The Honorable
Board of Directors
Great Lakes Water Authority

FROM: Sue F. McCormick
Chief Executive Officer
Great Lakes Water Authority

DATE: December 3, 2019

RE: Proposed Change Order No.1
Contract No. GLWA-DB-226

Repair and Rehabilitation of Detroit River Interceptor (DRI) from Alter

Road to Water Resource Recovery Facility (WRRF)
Vendor: Jay Dee Contractors, Inc.

MOTION

Upon recommendation of Cheryl Porter, Chief Operating Officer - Water and Field Services, the Board of Directors (Board) of the Great Lakes Water Authority (GLWA), authorizes the Chief Executive Officer (CEO) to **enter into Contract No. GLWA-DB-226 Change No. 1 “Repair and Rehabilitation of Detroit River Interceptor (DRI) from Alter Road to Water Resource Recovery Facility (WRRF)” with Jay Dee Contractors, Inc., at an increased cost of \$28,148,335.00 for a total cost not to exceed \$47,993,835.00;** and authorizes the CEO to take such action as may be necessary to accomplish the intent of this vote.

BACKGROUND

The GLWA Conveyance System consists of a network of sewers which collect and transfer wastewater to three major interceptors that direct flow to treatment at the Water Resource Recovery Facility (WRRF). There are three major interceptors: the Detroit River Interceptor (DRI), North West Interceptor (NWI) and North Interceptor East Arm (NIEA). The DRI Runs parallel to the Detroit River and is approximately 13 miles long with a pipe diameter that varies from 8 feet to 16 feet. The DRI carries about 36% of the total flow to WRRF. NWI runs parallel to the Rouge River. The pipe sizes are up to 13.5 feet and it carries about 35% of the flow. NIEA is 15 miles long and works as a relief to the DRI. The pipe size varies from 12 feet to 17.5 feet in diameter and it carries about 29% of the flow.

The DRI is the oldest of the three interceptors. The growth of the auto industry from 1900-1930 caused the Detroit population to spike from 285,000 to over 1.5 million people during these three decades. Because of this rapid increase in population growth, sewage disposal became a major issue along the Detroit River. This led to the construction of the DRI in 1927. The purpose of the DRI was to bring the majority of Detroit’s sewage to a common point to prevent newly constructed sewers from discharging directly into the river. It also allowed the sewage to be discharged further downriver from the water supply inlet.

The need and original scope for the DB-226 project was based on work performed under previous DWSD contracts and GLWA contracts CON-149, CS-068, and CON-183. Inspections were performed utilizing the National Association of Sewer Service Companies (NASSCO) pipeline assessment and certification program (PACP) industry standard and used to form the basis of the repair work. The work was divided into four reaches: Reach 1 - Alter Road to Meldrum Road - about 3.8 miles; Reach 2 Not-in-Contract (NIC) - Meldrum Road to West of McDougal Street - about 2.2 miles; Reach 2 - West of McDougal Street to Rivard Street - about 1 mile; Reach 3 - Rivard Street to WRRF - about 6 miles.

The original scope of work was estimated at approximately \$29 million based on the available information in 2017. The Contract was awarded to Jay Dee Contractors, Inc. for \$19.8 million and work began in May 2018. The work was broken into phases with each phase being authorized by

Contract Change Directive (CCD). Since the CCD cannot contractually authorize work above the contract upper limit, or extend the contract time, this Change Order 001 is being submitted to the Board to authorize additional work not anticipated at the time of contract award. This work is being funded through the State of Michigan Revolving Loan Fund (SRF Project No. 5655-01).

This change order will memorialize the second Guaranteed Maximum Price (GMP 2) negotiations for Reach 2 and will bring the project upper limit in line with all work envisioned for Reach 1, Reach 2, delays due to wet weather and high river, additional quantities above bid amounts and construction of the NIEA/DRI crossover tunnel. An allowance of \$9 million is included for work not in contract for Reach 2 and \$2.88 million is included as additional allowances for the work associated with the tunnel and work as a whole. Note that Reach 3 work (other than the crossover tunnel and shafts) will be the subject of a future change order and is not included in this recommendation. The overall work recommended for authorization is \$28.1 million which brings the overall contract upper limit to \$48.0 million. An additional request to the Board will be made for Reach 3 in the future. The current cost range for Reach 3 work is estimated at \$4 to \$14 million but is highly uncertain due to the lack of inspections.

JUSTIFICATION

The DRI is a critical component of the overall GLWA conveyance system, as it conveys approximately 55% of the Detroit drainage and 36% of the total GLWA flow to the WRRF. Maintaining a reliable and efficient DRI is a key factor in maintaining the GLWA wastewater conveyance system and also a major component of mitigating historical problems such as Combined Sewer Overflow (CSO) discharges to the Detroit River and residential basement flooding. Furthermore, major structural failures of large interceptors such as the DRI can create large sinkholes that cause major destruction to surface structures such as roads, homes, buildings, other utilities and other infrastructure.

A Closed Circuit Television (CCTV) inspection and (CCTV) Pipeline Assessment and Certification Program (PACP) inspection for several reaches of the Detroit River Interceptor DRI was completed in February to March of 2016. Several reaches of this inspection raised concerns due to high PACP ratings, indicating structural and corrosion issues within the interceptor. Stretches of the DRI had again manual entry inspections completed on them in December 2016 and January 2017 and, more recently, as part of DB-226.

The addition of the maintenance/crossover tunnel between NIEA and DRI will enable the inspection and repair of Reach 3 of the DRI. In addition, the crossover tunnel will provide enhanced flexibility to operate and maintain the system during dry weather conditions.

PROJECT MANAGEMENT STATUS

| | |
|-----------------------------|--------------------|
| Original Contract Time | 5 Years |
| Proposed Change Order No. 1 | 0 Days (no change) |

Final Completion Date May 24, 2023

PROJECT ESTIMATE

| | |
|-----------------------------|-----------------|
| Original Contract Price | \$19,845,500.00 |
| Proposed Change Order No. 1 | 28,148,335.00 |
| New Contract Total | \$47,993,835.00 |

FINANCIAL PLAN IMPACT

Summary: Sufficient funds are provided in the financial plan for this project.

Funding Source: Wastewater Construction Bond

Cost Center: Field Engineering

Expense Type: Construction (5421-892211.000-616900-222002)

Estimated Cost by Year and Related Estimating Variance: See table below.

Fiscal Year

| | |
|------------------------------|----------------------|
| FY 2020 Budget | \$10,000,000.00 |
| FY 2021 Budget | 10,000,000.00 |
| FY 2022 Budget | <u>10,000,000.00</u> |
| Financial Plan Estimate | \$30,000,000.00 |
| Proposed Contract Award | <u>47,993,835.00</u> |
| Negative Estimating Variance | (\$17,993,835.00) |

The negative estimating variance will be funded through capital reserves, if required. Please note that the DRAFT 2021 - 2025 Capital Improvement Plan includes a \$50,000,000 budget for contract DB-226. Therefore, capital reserves may not be needed.

COMMITTEE REVIEW

This item was presented to the Operations and Resources Committee at its meeting on December 11, 2019. The Operations and Resources Committee unanimously recommended that the GLWA Board adopt the resolution as presented.

SHARED SERVICES IMPACT

This item does not impact the shared services agreement between GLWA and DWSD.