



Legislation Text

File #: 2022-045, Version: 1

Contract No. 2002915
Redesign of Circular Scum System and
Scum Concentration Facility

Agenda of: February 23, 2022

Item No.: **2022-045**

Amount: \$2,240,403.00

TO: The Honorable
Board of Directors
Great Lakes Water Authority

FROM: Suzanne R. Coffey, P.E.
Interim Chief Executive Officer
Great Lakes Water Authority

DATE: February 1, 2022

RE: **Contract No. 2002915**
Redesign of Circular Scum System and Scum Concentration Facility
Vendor: Arcadis of Michigan, LLC.

MOTION

Upon recommendation of Navid Mehram, Chief Operating Officer - Wastewater Operating Services, the Board of Directors (Board) of the Great Lakes Water Authority (GLWA), authorizes the Interim Chief Executive Officer (ICEO) to **enter into Contract No. 2002915, “Redesign of Circular Scum System and Scum Concentration Facility” with Arcadis of Michigan, LLC., at a cost not to exceed \$2,240,403.00 for a duration of 1,825 Days;** and authorizes the ICEO to take such other action as may be necessary to accomplish the intent of this vote.

BACKGROUND

The Water Resource Recovery Facility (WRRF) at the Great Lakes Water Authority (GLWA) utilizes primary treatment to meet effluent limits required in its National Pollutant Discharge Elimination System (NPDES) permit. The GLWA WRRF facility operates 12 rectangular clarifiers with 90 million gallons per day (MGD) and 6 circular clarifiers with 180 MGD capacity that provide primary treatment. Part of the primary treatment process is to remove floatable fats, oils, and grease (FOG) or scum from the wastewater stream. The primary circular clarifiers and primary rectangular clarifiers each have an independent scum collection, conveyance, and disposal systems.

For the circular clarifiers, the scum is removed from the surface of each clarifier with skimmers, attached to a collector arm that radiate out from the tank's center drive. As the scum collector arm rotates, it pushes the accumulation of material on the surface of the water onto either one of two dewatering beaches (metal ramps) that drain away excess water while directing the scum into one of two scum collection troughs. From each scum trough, a flight conveyor (an endless chain) pulls the scum up an inclined ramp into a scum building. The scum is then dropped into a grinder that reduces solids within the scum and minimizes the chance of damaging pumps or clogging lines. The scum is then conveyed to the concentrator, where the scum is decanted (buoyant material rise to the surface) from which it flows by gravity into the scum holding tank. From the holding tank, it is pumped outside to a portable container for off-site disposal. Each clarifier has two (2) scum troughs, two (2) conveyors, and two (2) associated scum houses. With the exceptions of the first and last scum houses (for Clarifiers 13 and 18), each scum house serves a conveyor from two (2) clarifiers.

The operations of the scum system are complex and troublesome. The GLWA operations team is looking to simplify the process, optimize the asset for scum operations to provide maximum reliability for the system.

JUSTIFICATION

The scum collection and handling system for the primary circular settling tanks, which include tank beaches, heaters, conveyors, grinders, hoppers, storage tanks, classifiers, pumps, valves, electrical, instrumentation, and controls have exceeded their useful life. The system experiences many interruptions from frequent failures.

The Redesign of Circular Scum System and Scum Concentration Facility is intended to improve the reliability of the scum collection, conveyance, and storage systems at the primary circular clarifiers at the GLWA Water Resource Recovery Facility (WRRF).

FINANCIAL PLAN IMPACT

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

Funding Source: Sewer Construction Fund

Cost Center: Wastewater

Expense Type: Construction (5421-892211.000-617950-211009)

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

Fiscal Year

FY 2022 Plan	\$208,000.00
FY 2023 Plan	958,000.00
FY 2024 Plan	458,000.00
FY 2025 Plan	366,000.00
FY 2026 Plan	366,000.00
FY 2027 Plan	366,000.00
FY 2028+ Plan	371,000.00
Financial Plan Estimate	3,093,000.00
Proposed Contract Award	<u>\$2,240,403.00</u>
Estimating Variance	\$852,597.00

The amounts above are per Draft 2 of the FY2023-2027 CIP Plan. A budget amendment will be prepared to adjust the Capital Reserves to allow for alignment of planned spending.

COMMITTEE REVIEW

This item was presented to the Operations and Resources Committee at its meeting on February 9, 2022. 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.