



**Construction Work-in-Progress Quarterly Report  
(Unaudited)**

**As of March 31, 2019**

**For questions, please contact:**

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June 21<sup>st</sup>, 2019

## To Our Stakeholders:

The contents of this report represent the financial presentation of construction work-in-progress activity for the Great Lakes Water Authority (GLWA) as of March 31, 2019. The information in this report presents a detailed snapshot and is important as we track the execution of the FY 2020–2024 Capital Improvement Plan (CIP) and look to inform decision makers as we prepare the FY 2021–2025 CIP.

As we continue to refine this report to better communicate pertinent information to inform decision makers and stakeholders, content and formatting may be changed. With the Board approval of the FY 2020–2024 CIP after the preparation of the last quarterly report, updates have been made to this report replacing FY 2019–2023 CIP project screenshots, values and other pertinent information with those of the current plan.

## Report Contents and Organization

This report is divided into two sections: one for the Water System and one for the Wastewater System as identified in the table of contents. Each section includes analysis and reporting of the following:

*Executive Summary:* Presentation of spend information is necessary to report our progress on CIP projects.

*Analysis of Projects with Largest Percent of Spend and Otherwise Noteworthy Projects:* A combination of commentary and analysis provides further insight into risk factors and project status. An excerpt from the CIP for each of the selected projects follows the commentary as further background information.

*Construction Work-in-Progress Rollforward:* This table provides a list of all projects in the CIP along with financial activity. This table may be used to revisit priorities, workload, and phasing.

*Spending Plan Amendment Summary:* The award of CIP contracts and the related execution thereof may result in deviations from the amount and timing of planned spend. Spending plan amendments are prepared to fund the related increase or decrease with either an adjustment to Capital Reserve or Program / Allowance accounts to amend the board approved fiscal year planned spend accordingly and to inform decision makers in the development of future Capital Improvement Plans.

### Financial Information

All project amounts are unaudited. This means that direct contractor costs are generally included in these totals with most pay estimates entered through March 31, 2019. There may, however, be some pay estimates that lag. The totals do not include indirect overhead.

### Budget vs. Plan

Generally, GLWA's CIP projects span two or more fiscal years. The GLWA Board of Directors adopts a biennial "budget" and a five-year capital improvement "plan".

- ✓ The adopted **budget** relates to operations and maintenance expense, annual fixed commitments such as debt service, and incremental adjustments to reserves. The budget provides authority to spend within defined amounts. The budget is also referred to as the "revenue requirement" for the utility.
- ✓ The CIP "budget" for the same biennial budget period above is based on the first two years of the CIP. Funding for these projects are established in the financial plan through a combination of bond proceeds and Improvement & Extension fund reserves
- ✓ After contracts are awarded at amounts variant from the CIP plan and more reliable anticipated spend data becomes available, the amended budget for the current fiscal year may increase or decrease by way of "Capital Reserve" budget amendments.
- ✓ The five-year capital improvement **plan** is a rolling plan that is updated at an administrative tracking level as projects move from estimated to actual bid numbers. An updated mid-cycle CIP would be presented to the Board for approval if the prioritization strategy was revised and/or the plan was in need of material revisions.

## **Future Enhancements**

This report presents information that is readily available. Currently under development are enhancements that will provide the opportunity for improved CWIP reporting.

*Monthly Capital Spend Projections* – Implementation of an integrated master schedule of projects utilizing Primavera P6 is underway. The integrated master schedule, which is intended to be updated monthly, will provide a monthly snapshot of cost and schedule information related to the execution of projects as compared to our plan. In addition to an increased visibility to project status and spend, this joint effort with our engineering partners will also allow for improved accuracy of our Key Performance Indicator on rate of spending and more reliable communication with Treasury regarding monthly capital spend projections to allow for investment optimization.

*Look Ahead Reporting* – By way of the integrated master schedule, communication of planned scope development timing, planned durations for RFB/RFP solicitations as well as any planned design or construction starts/finish dates may be presented for a desired look ahead period.

## WATER SYSTEM

### Executive Summary

The rate of spend is a key performance indicator. The development of the FY 2019-2023 and related CIP budget for FY 2019 were based on anticipation of FY 2019 activity resulting in 100% of planned spend. The Water System spend for the period ending March 31, 2019 is 92.3% of the FY 2019 prorated board approved CIP spend and 82.7% of the FY 2019 amended spend. Detailed analysis behind the reasons and projects for which planned spend is amended from \$66,038,000 to \$73,707,885 is provided in the subsequent Spending Plan Amendment Summary section of this report. Numerous project designs have already and or will soon complete that will allow for the increased rate of construction spend to continue in FY 2019 and beyond.

Water System Projects	FY 2018 Amended Budget	FY 2018 Activity	FY 2018 as a Percent of Budget	FY 2019 Budget	FY 2019 Prorated (Nine Months)	FY 2019 Activity (Nine Months) (Unaudited)	FY 2019 as a Percent of Prorated Budget (Nine Months) (Unaudited)
FY 2018 CIP Project Requests	\$ 137,655,000	\$ 37,013,482	26.9%				
FY 2018 CIP Realigned Forecast as per 2019 CIP	40,043,000	37,013,482	92.4%				
FY 2019 Board Approved CIP Spend				\$ 66,038,000	\$ 49,528,500	\$ 45,692,978	92.3%
FY 2019 Amended Spend				73,707,885	55,280,914	45,692,978	82.7%

It should be noted that these interim reports have been prepared on a modified cash basis. This means that expenses may lag in vendor invoice receipt and posting. Known expenses, material in nature, have been accrued.

### Analysis of Projects with Largest Percent of Spend and Otherwise Noteworthy Projects

Of the total Water System Construction Bond spend for FY 2019 to date, **four projects account for \$20.7 million or 45.3% of the total spend.** Those projects are summarized in the following table. An analysis of each project and its related CIP summary follow the table. Note that the last page of this report provides a Glossary of Acronyms.

Water System Projects	Total Project Budget Estimate From FY 2020 - 2024 CIP	Life-to-Date Through June 30, 2018	FY 2019 Amended Spend	FY 2019 Activity (Unaudited)	FY 2019 as a Percent of Spend (Unaudited)
<b>Project 111002 - LH WTP Miscellaneous Mechanical HVAC Improvements</b>	\$ 8,324,000	\$ 1,864,811	\$ 3,666,000	\$ 4,203,246	<b>9.2%</b>
<b>Project 114001- Springwells WTP 1958 Filter Rehabilitation</b>	97,288,000	89,309,574	4,452,000	6,176,972	<b>13.5%</b>
<b>Project 115004- Water Works Park Water Treatment Plant Chlorine System Upgrade</b>	8,771,000	2,526,753	3,124,000	2,871,088	<b>6.3%</b>
<b>Project 116002- PA, SW and NE Raw Water Tunnel Improvements</b>	30,090,000	2,177,985	9,042,000	7,461,553	<b>16.3%</b>
<b>Selected Projects as a Percentage of the Total</b>	<u>\$ 144,473,000</u>	<u>\$ 95,879,123</u>	<u>\$ 20,284,000</u>	<u>\$ 20,712,859</u>	<b>45.3%</b>
<b>Total</b>			<u><b>\$ 72,786,474</b></u>	<u><b>\$ 45,692,978</b></u>	<b>100.0%</b>

The following analysis provides brief highlights related to these projects.

**Project 111002 – LH WTP Miscellaneous Mechanical HVAC Improvements**

Water System Projects	Total Project Budget Estimate From FY 2020 - 2024 CIP	Life-to-Date Through June 30, 2018	FY 2019 Amended Spend	FY 2019 Activity (Unaudited)	FY 2019 as a Percent of Spend (Unaudited)
<b>Project 111002 - LH WTP Miscellaneous Mechanical HVAC Improvements</b>	\$ 8,324,000	\$ 1,864,811	\$ 3,666,000	\$ 4,203,246	<b>9.2%</b>

**Project Engineer/Manager:** Brian VanHall

**Manager:** Grant Gartrell

**Total Budget:** \$8,324,000

**Timeline:** May 2020

**FY 2019 Last Pay Estimate Processed:** March 20, 2019

**Key Contracts/Vendors:** CON-212 Detroit Contracting, Inc.

**Project Description:** Replacement of existing heating, ventilating and air-conditioning systems with new, energy efficient mechanical HVAC systems.

**Purpose:** The existing heating and cooling systems at Lake Huron are beyond their life expectancy and no longer cost effective to maintain and are not energy efficient. The new heating and cooling systems will be optimized based on plant use and using new energy efficient equipment. The existing dehumidifiers are no longer effective at removing moisture from the pipe gallery and the environment has ideal conditions for increasing the rate of corrosion of the process water piping. The new dehumidifier will be more efficient and will control humidity below conditions ideal for corrosion and the new technology is easier to service. New fans will be installed in the filter gallery to reduce the humidity levels during the summer.

**Status:** The project is proceeding in accordance with the established schedule. The rooftop fans in the filter gallery and FRP ducting have been installed. Three rollup doors have been installed. Construction work over the summer includes installation of new dehumidifiers, boilers, water-cooled heat pump, stair enclosures and remaining hydronic piping and is on track to be finished before the 2019-2020 winter. The new

### Project 111002 – LH WTP Miscellaneous Mechanical HVAC Improvements

HVAC units for the VFD room (RTU-3), Chlorine rooms (GH&V-1A/B) and high-lift electrical room (RTU-1/2) have been installed and will be commissioned this summer.


**Additional Project Manager Comments:** There are no additional comments to provide at this time.

**Additional Construction Accounting & Financial Reporting Team Comments:** The construction phase projected FY 19 spend of \$4,825,000.00 with a planned budgeted spend of \$3,666,000.00 creates a \$1,159,000.00 variance due to project acceleration. This project has been fully budgeted for in total over the life of the project.

**FY 2020-2024 CIP Page VIII-3 for Project 111002 – LH WTP Miscellaneous Mechanical HVAC Improvements**

**CIP Number:** 111002

**Project Title** Lake Huron Water Treatment Plant, Miscellaneous Mechanical HVAC Improvements

<p><b>Project Status</b> Active</p> <p><b>Class Lvl 1</b> Water</p> <p><b>Class Lvl 2</b> Treatment Plants and Facilities</p> <p><b>Class Lvl 3</b> Lake Huron</p> <p><b>Location</b> Saint Clair County</p> <p><b>Project Engineer/Manager</b> Todd King</p> <p style="text-align: center;"><b>Manager</b> Grant Gartrell</p> <p><b>Project Significance</b> Existing heating, ventilating and air-conditioning systems Lake Huron are 40 years old and are either not operable or energy-inefficient. Thus, replacement with new, energy efficient mechanical HVAC systems is needed.</p> <p><b>Scope of Work</b> The work includes replacement of the existing Natural Gas-Fired hot water boilers, back flow preventers, and dehumidification units with related accessories.</p> <p><b>Challenges</b> Heating system modifications will be seasonally dependent.</p>	<input type="checkbox"/> Innovation <input type="checkbox"/> Water MP Right Sizing <input type="checkbox"/> Reliability/Redundancy <input type="checkbox"/> NEWTP Repurposing  <input type="checkbox"/> Project New To CIP	 <p>The photo shows the condition of the heating system hot water piping.</p>
<p><b>Project Score</b> <span style="border: 1px solid black; padding: 5px 20px;"><b>77</b></span></p>		

**Project Expenses Compared to Previous CIP Versions (All figures are in \$1,000's)**

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		270	1,030	3,130	3,050	422			0	0	7,902
2019	0	309	781	3,666	3,873	13				0	8,642
2020	0	0	2,020	4,422	1,882	0	0	0	0	0	8,324

**Project 114001 – Springwells Water Treatment Plant 1958 Filter Rehabilitation**

Water System Projects	Total Project Budget Estimate From FY 2020 - 2024 CIP	Life-to-Date Through June 30, 2018	FY 2019 Amended Spend	FY 2019 Activity (Unaudited)	FY 2019 as a Percent of Spend (Unaudited)
<b>Project 114001- Springwells WTP 1958 Filter Rehabilitation</b>	97,288,000	89,309,574	4,452,000	6,176,972	<b>13.5%</b>

**Project Engineer/Manager:** Grant Gartrell

**Manager:** Grant Gartrell

**Total Project Budget:** \$97,288,000

**Timeline:** To be completed by November 2019

**FY 2019 Last Pay Estimate Processed:** March 2019

**Key Contracts/Vendors:** SP-563 Walsh Construction; CS-1425 & CS-200 CDM Michigan

**Project Description:** Installation of new filter media, underdrains, filter valves and rate controllers; replace the existing filter control console and hydraulic controls at Springwells Water Treatment Plant.

**Purpose:** Rehabilitation of both filter trains to restore filtration capacity and sustain the useful service life of the process treatment infrastructure.

**Status:** Construction nears completion for the renovation of the laboratory and offices in the administration building, including installation of new heating, ventilation and air-conditioning equipment, the 1958 breezeway, constant-level washwater reservoir fill control valves, and the replacement of the phosphoric acid feed system. The installation began on the vertical turbine high-pressure water boosting pump and 8 hours continuous operation was accomplished, successfully. The booster pump’s performance operation test is to be scheduled, shortly. Work on the upgrade of the plant’s distribution control system and related instrumentation serving both the 1930 and 1958 filters and chemical feed systems already began and is forecasted to be completed up to/in September 2019. The sampling pumps have been replaced requiring some minor modifications to enhance their operability and alleviate the maintenance requirements. The compressed air systems have been implemented and tested and again some final slight modifications are required. The key final steps include startup and commissioning of the

### **Project 114001 – Springwells Water Treatment Plant 1958 Filter Rehabilitation**

dehumidification, ventilation and heating systems for the 1930 and 1958 filter bays and galleries are ongoing. The overall operation demonstration testing of the reconstructed 1958 filters will be performed right after completion of the control systems' upgrade.


**Additional Project Manager Comments:** There are no additional comments to provide at this time.

**Additional Construction Accounting & Financial Reporting Team Comments:** There are no additional comments to provide at this time.

**FY 2020-2024 CIP Page VIII-21 for Project 114001 – Springwells WTP 1958 Filter Rehabilitation and Auxiliary Facilities**

**CIP Number:** 114001

**Project Title** Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities Improvements

<b>Project Status</b> Active	<input type="checkbox"/> Innovation <input type="checkbox"/> Water MP Right Sizing <input type="checkbox"/> Reliability/Redundancy <input type="checkbox"/> NEWTP Repurposing  <input type="checkbox"/> Project New To CIP	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <b>Project Score</b>    <span style="font-size: 1.2em; font-weight: bold;">62.2</span> </div>	 Springwells filter building
<b>Class Lvl 1</b> Water			
<b>Class Lvl 2</b> Treatment Plants and Facilities			
<b>Class Lvl 3</b> Springwells			
<b>Location</b> Wayne County - Outside Detroit			
<b>Project Engineer/Manager</b> Khader Hamad			
<b>Manager</b> Grant Gartrell			
 <b>Project Significance</b> Reconstruction of the 40 filters and 19 filters at the Springwells 1958 and 1930 filter plants, respectively has provided 295 MGD of reliable filtration capacity at the Springwells Water Treatment Plant. The existing mechanical HVAC, dehumidification, electrical, instrumentation, and controls systems serving the 1958 filters have also been upgraded to make them more reliable and efficient. Likewise, the existing mechanical HVAC and dehumidification system serving the 1930 filter building was replaced with new again to provide reliability and efficiency. The existing elevators at the facility have been replaced with new and upgraded to bring them into compliance with current building codes and safety standards. The administration building offices and laboratory have been improved architecturally, including new HVAC and lighting systems.			
 <b>Scope of Work</b> This project includes the study, design (CS-1425) and construction assistance (CS-1425 and CS-200) of improvements to the Springwells WTP that includes the replacement of Phosphoric Acid Feed System, rehabilitation of the 1958 Filters, rehabilitation of failed 1930s Filters, Update of Operation and Maintenance Manuals, and addition of polymer systems and controls. Provide construction services to furnish and install new filter media, underdrains, filter valves, and rate controllers; replace the existing filter control consoles, hydraulic control valves with electric control valves, enclosures; add appurtenances to enable automatic backwashing of the filters; provide a Filter Aid Polymer System to the 1930 and 1958 filter complexes; Programmable Logic Controller-based controls for automatic control of the polymer system; install a local instrumentation and controls system.			
 <b>Challenges</b> Completion of the			

**Project Expenses Compared to Previous CIP Versions (All figures are in \$1,000's)**

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018	56,759	20,353	310						0	0	77,422
2019	0	82,682	7,281	3,501						0	93,464

**FY 2020-2024 CIP Page VIII-22 for Project 114001 – Springwells WTP 1958 Filter Rehabilitation and Auxiliary Facilities**

**CIP Number:** 114001

**Project Title** Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities Improvements

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2020	0	0	89,310	7,978	0	0	0	0	0	0	97,288

**Project 115004 – Water Works WTP Chlorine System Upgrade**

Water System Projects	Total Project Budget Estimate From FY 2020 - 2024 CIP	Life-to-Date Through June 30, 2018	FY 2019 Amended Spend	FY 2019 Activity (Unaudited)	FY 2019 as a Percent of Spend (Unaudited)
<b>Project 115004- Water Works Park Water Treatment Plant Chlorine System Upgrade</b>	8,771,000	2,526,753	3,124,000	2,871,088	<b>6.3%</b>

**Project Engineer/Manager:** Michael Dunne

**Manager:** Grant Gartrell

**Total Budget:** \$8,771,000

**Timeline:** Summer 2020

**FY 2019 Last Pay Estimate Processed:** March 31, 2019

**Key Contracts/Vendors:** CON-208 Detroit Contracting Inc.

**Project Description:** Replace gas chlorine evaporators, feeders, and related electrical, instrumentation and controls as well as install new heating and ventilation equipment in an adjacent electrical room.

**Purpose:** The existing gas chlorine evaporators and feeders required replacement with new.

**Status:** The new evaporators, feeders, electrical, instrumentation, and controls equipment are installed, started and are currently in the performance demonstration testing period. Record documentation such as as-constructed documentation and operation and maintenance manuals are being prepared.

**Additional Project Manager Comments:** There are no additional comments to provide at this time.

**Additional Construction Accounting & Financial Reporting Team Comments:** There are no additional comments to provide at this time.

**FY 2020-2024 CIP Page VIII-40 for Project 115004 – WWP WTP Chlorine System Upgrade**

**CIP Number:** 115004

**Project Title** Water Works Park Water Treatment Plant Chlorine System Upgrade

**Project Status** Active

**Class Lvl 1** Water

**Class Lvl 2** Treatment Plants and Facilities

**Class Lvl 3** Water Works Park

**Location** City of Detroit

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

**Project New To CIP**

**Project Score** 84



The Water Works Park Chlorine System has experienced several leaks and requires complete replacement. The Water Works Park storage room will have an updated scrubber system to neutralize up to 4000 lbs. of chlorine gas

**Project Engineer/Manager** Todd King

**Manager** Grant Gartrell

**Project Significance** WWP Chlorine System has experienced numerous leaks and has compromised the safety of plant

**Scope of Work** Demolition and replacement of all mechanical systems, equipment and piping related to chlorine transport, vaporization and application. New chlorine system will be able to meet current dose rates and be able to meet future loadings estimated for WWP after the Northeast WTP treatment system is taken off line.

**Challenges** It will be critical for the contractor to phase the work to provide ongoing chlorine application during the retrofit.

**Project Expenses Compared to Previous CIP Versions (All figures are in \$1,000's)**

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		290	700	8,700					0	0	9,690
2019	0	371	672	3,124	2,878	4				0	7,049
2020	0	0	2,527	4,196	2,047	1	0	0	0	0	8,771

**Project 116002 – PA, SW and NE Raw Water Tunnel Improvements**

Water System Projects	Total Project Budget Estimate From FY 2020 - 2024 CIP	Life-to-Date Through June 30, 2018	FY 2019 Amended Spend	FY 2019 Activity (Unaudited)	FY 2019 as a Percent of Spend (Unaudited)
<b>Project 116002- PA, SW and NE Raw Water Tunnel Improvements</b>	30,090,000	2,177,985	9,042,000	7,461,553	<b>16.3%</b>

**Project Engineer/Manger:** Nicholas Hoffman

**Manager:** Grant Gartrell

**Total Budget:** \$33,090,000

**Timeline:** Remote operated vehicle (ROV) and diver inspection on the raw water tunnels was completed December 2018, as part of the contractors detailed investigation and preliminary design task. These results were presented to GLWA at the 30% design workshop in January 2019. Workshop included results of geotechnical, ROV and diver inspections as well as conceptual alternatives and conceptual costs for each of the three (3) respected alternatives. Basis of design report and 30% design will be submitted May 3, 2019 as part of Task 8, the vendor will then submit a guaranteed maximum price (GMP) for the construction of the raw water tunnels rehabilitation and improvement work which is tentatively scheduled to be complete 2021.

**FY 2019 Last Pay Estimate Processed:** March 31, 2019

**Key Contracts/Vendors:** DB-150 / Ballard Marine Construction

**Project Description:** This is a progressive design build project delivery that involves the detailed inspection, design and construction of the improvements to the Pennsylvania, Northeast and Springwells raw water tunnels.

**Purpose:** Rehabilitate sections of the Pennsylvania, Northeast and Springwells raw water tunnels where cracking, sediment infiltration or any degree of ovality has been observed by ROV or diver operations.

## **Project 116002 – PA, SW and NE Raw Water Tunnel Improvements**

**Status:**

DB-150 started in January 2018. The geotechnical investigation for the repair areas for all three tunnels has been completed. The supplemental diver inspection, coring, and crack mapping for the Pennsylvania, Springwells and Northeast tunnels has been completed. Three conceptual alternatives were developed that included: (1) repair in the wet; (2) dewatering and repair in the dry; and (3) construct bypass tunnels to facilitate repair. Based on the presented results at the 30% design workshop, GLWA collectively selected alternative 1- repair in the wet, referencing minimal water plant production restrictions, risk mitigation and order-of-magnitude cost for the selected alternative. Basis of design report and 30% repair in the wet design will be delivered in May, with construction scheduled for low demand season in October 2019.

**Additional Project Manager Comments:** Independent support is being provided to GLWA by FK Engineers (CS-187). Basis of design report and 30% design deliverable will be made available to the Board upon request after submission.

**Additional Construction Accounting & Financial Reporting Team Comments:** There are no additional comments to provide at this time.

**FY 2020-2024 CIP Page VIII-41 for Project 116002 – PA, SW and NE Raw Water Tunnel Improvements**

CIP Number: 115005

Project Title WWP WTP Building Ventilation Improvements

<b>Project Status</b> Active	<input type="checkbox"/> Innovation <input type="checkbox"/> Water MP Right Sizing <input type="checkbox"/> Reliability/Redundancy <input type="checkbox"/> NEWTP Repurposing
<b>Class Lvl 1</b> Water	
<b>Class Lvl 2</b> Treatment Plants and Facilities	
<b>Class Lvl 3</b> Water Works Park	
<b>Location</b> City of Detroit	<input checked="" type="checkbox"/> <b>Project New To CIP</b>
<b>Project Score</b> <span style="border: 1px solid black; padding: 5px 20px;">76</span>	
<b>Project Engineer/Manager</b> Mike Dunn <b>Manager</b> Terry Daniel	
<p><b>Project Significance</b> Design and construction of ventilation system improvements for certain chemical storage rooms and the ozone generator and destruct rooms at the Water Works Park Water Treatment Plant to improve employee and visitor safety.</p>	

**Project Expenses Compared to Previous CIP Versions (All figures are in \$1,000's)**

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2020	0	0		7	507	3,907	650	0	0	0	5,071

## Construction Work-in-Progress Rollforward

The purpose of the construction work-in-progress (CWIP) rollforward is to analyze the current year activity for each project in relation to the overall capital improvement program as well as the project portfolio overall.

As part of our project life cycle review the CA&FR team identifies when it is appropriate for projects to be capitalized. Projects are to be capitalized when they have been completed in totality or are inclusive of identifiable assets that have been placed in service. Five projects have been 2019 capitalized in Q3. The following projects have been identified and planned for Q4 capitalization:

<u>Project</u>	<u>Contract</u>	<u>Description</u>
113004	CON-247	Raw Water Sampling Modifications at Southwest WTP
114001	SP-563	Springwells Water Treatment Plant 1958 Filter Rehabilitation and Auxiliary Facilities
114003	CON-133	Water Production Flow Metering Improvements at NE, SW, and SPW WTP
122001	WS-681	Parallel 42-Inch Main in 24 Mile Road from Rochester Station to Romeo Plank Road

**\$167.3** million is in CWIP as of March 31, 2019 as shown in the table beginning on the next page.

The order of the report on the subsequent pages is in ascending order by CIP project number.

**Great Lakes Water Authority  
Water System Construction Work-in-Progress (CWIP) FY 2019 Rollforward  
Unaudited Activity For the Fiscal Year Ended March 31, 2019**

Project	Project Name	Total Project Budget		FY 2019		FY 2019 Activity through March 31, 2019	CWIP Balance, March 31, 2019 (Unaudited)	Life To Date Capitalization through March 31, 2019	Life to Date Activity through March 31 2019	Life to Date Activity / Total Project Estimate
		Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	Board Approved CIP Spend	FY 2019 Amended Spend					
4430	DWSD: Contract Replacement Water Main	\$ -	\$ 75,804	\$ -	\$ -	\$ (75,804)	\$ -	\$ -	\$ -	0%
7412	SRF WS-693 Water System Improvements	-	3,390,974	-	-	-	3,390,974	-	3,390,974	0%
111001	Energy Management: Lake Huron Water Treatment Plant Low Lift Pumping Improvements	52,388,000	-	-	-	11,794	11,794	-	11,794	0%
111002	LHWTP Backflow Replacement	8,324,000	1,864,811	3,666,000	3,666,000	4,203,246	6,068,057	155,348	6,223,405	75%
111004	Electrical Tunnel Rehabilitation at Lake Huron WTP	4,749,000	62,685	414,000	2,728,786	1,980,876	2,043,561	-	2,043,561	43%
111006	Replacement of Filter Instrumentation and Raw Water Flow Metering Improvements at Lake	10,789,000	734,756	43,000	43,000	42,433	777,189	-	777,189	7%
111007	Lake Huron WTP-Raw Sludge Clarifier and Raw Sludge Pumping System Improvements	9,799,000	283,989	212,000	212,000	345,649	629,639	-	629,639	6%
111008	LHWTP Architectural Programming - Lab	300,000	-	-	-	-	-	-	-	0%
111009	Lake Huron WTP-35 MGD HLP, Flow Meters	26,106,000	-	-	-	13,112	13,112	-	13,112	0%
112002	Low Lift Pumping Plant Caisson Rehabilitation at Northeast WTP	1,565,000	472,953	831,000	831,000	526,550	999,503	-	999,503	64%
112003	NE WTP High Lift Pumping Electrical	62,234,000	-	-	-	-	-	-	-	0%
112005	Northeast Water Treatme	813,000	-	-	-	9,200	9,200	-	9,200	1%

## Water System Construction Work-in-Progress Quarterly Report

As of March 31, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend	FY 2019 Amended Spend	FY 2019 Activity through March 31, 2019	CWIP Balance, March 31, 2019 (Unaudited)	Life To Date Capitalization through March 31, 2019	Life to Date Activity through March 31 2019	Life to Date Activity / Total Project Estimate
112006	Northeast Water Treatme Southwest Water Treatment Plant, Sludge Treatment & Waste Wash water Treatment	2,718,000	-	-	-	-	-	-	-	0%
113001	Facilit	-	39,885	-	-	(39,885)	-	-	-	0%
113002	High Lift Pump Discharge Valve Actuators Replacement at Southwest WTP	5,432,000	249,447	1,157,000	1,238,000	1,202,052	1,451,498	-	1,451,498	27%
113003	Replacement of Butterfly Valves	148,286,000	-	-	-	108	108	-	108	0%
113004	Residual Handling Facility's Decant Flow Modifications at Southwest WTP	898,000	198,431	1,054,000	1,054,000	612,025	810,456	-	810,456	90%
113006	SW WTP Chloring Scrubber	7,032,000	-	-	-	-	-	-	-	0%
113007	Architectural and Building Mechanical	37,336,000	-	-	-	-	-	-	-	0%
114001	Springwells Water Treatment Plant 1958 Filter Rehabilitation and Auxiliary Facilities	97,288,000	66,571,119	3,501,000	4,452,000	6,176,972	72,748,091	22,738,455	95,486,546	98%
114002	Springwells Water Treatment Plant - Low Lift and High Lift Pump Station	114,816,000	498,042	1,433,000	1,433,000	1,388,847	1,886,889	-	1,886,889	2%
114003	Water Production Flow Metering Improvements at NE, SW, and SPW WTP	7,105,000	3,444,814	2,506,000	2,813,000	2,346,236	5,791,051	-	5,791,051	82%
114005	Springwells WTP Admin Building Improvements	8,125,000	-	30,000	26,610	8,635	8,635	-	8,635	0%

## Water System Construction Work-in-Progress Quarterly Report

As of March 31, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend	FY 2019 Amended Spend	FY 2019 Activity through March 31, 2019	CWIP Balance, March 31, 2019 (Unaudited)	Life To Date Capitalization through March 31, 2019	Life to Date Activity through March 31 2019	Life to Date Activity / Total Project Estimate
	Replacement of Rapid Mix Units at Springwells									
114006	WTP 1958 Process Train Powder Activated	1,124,000	176,992	1,284,000	1,284,000	763,525	940,517	-	940,517	84%
114007	Carbon Systems	3,938,000	-	-	-	-	-	-	-	0%
	1930 Sedimentation Basin Sluice Gates, Guides & Hoists Improvements at									
114008	Springwells WTP	17,125,000	-	424,000	424,000	39,717	39,717	-	39,717	0%
	Springwells Water Treatment Plant Service									
114009	Area Redundancy Study	311,000	311,129	-	-	-	311,129	-	311,129	100%
	Yard Piping									
114010	Improvements	110,650,000	-	-	-	1,128	1,128	-	1,128	0%
	Steam, Condensate Return, and Compressed Air Piping Improvements									
114011	at Springwells WTP	24,989,000	473,029	1,406,000	3,066,452	28,352	501,381	-	501,381	2%
	Springwells Water Treatment Plant 1930 Filter Building-Roof									
114012	Replacement	3,912,000	1,123,542	2,420,000	2,420,000	2,787,606	-	3,911,148	3,911,148	100%
	Springwells Reservoir Fill									
114013	Line Improvements	4,732,000	332,385	2,469,000	2,469,000	867,121	1,199,506	-	1,199,506	25%
	Springwells WTP Underground Fire Protection Loop									
114014	Improvements	-	-	-	-	315	315	-	315	0%
	Emergency Grating Replacement at									
114015	Springwells WTP	3,466,000	203,833	11,000	556,186	628,907	(2,533,164)	3,365,903	832,740	24%
114016	Springwells Water Treatm	862,000	-	-	-	-	-	-	-	0%
114017	Springwells Water Treatm	2,328,000	-	-	-	-	-	-	-	0%

## Water System Construction Work-in-Progress Quarterly Report

As of March 31, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend	FY 2019 Amended Spend	FY 2019 Activity through March 31, 2019	CWIP Balance, March 31, 2019 (Unaudited)	Life To Date Capitalization through March 31, 2019	Life to Date Activity through March 31 2019	Life to Date Activity / Total Project Estimate
115001	Yard Piping, Valves and Venturi Meters Replacement at Water Works Park	53,580,000	681,626	968,000	968,000	763,625	1,445,251	-	1,445,251	3%
115003	Comprehensive Condition Assessment at Waterworks Park WTP	855,000	439,606	262,000	262,000	36,168	475,774	-	475,774	56%
115004	Water Works Park WTP Chlorine System Upgrade	8,771,000	2,526,753	3,124,000	3,124,000	2,871,088	5,397,841	-	5,397,841	62%
115005	WWP WTP Building Ventil	5,071,000	-	-	-	-	-	-	-	0%
116002	Pennsylvania, Springwells and Northeast Raw Water Supply Tunnel Improvements based on Parallel 42-Inch Main in 24 Mile Road from Rochester Station to Romeo Plank Road	30,090,000	2,177,985	9,042,000	9,042,000	7,461,553	9,639,538	-	9,639,538	32%
122001	Replacement of Five (5) PRV Pits of Treated Water Transmission System	33,566,000	33,565,809	-	-	(324,592)	33,241,216	-	33,241,216	99%
122002	New Waterworks Park to Northeast Transmission Main	2,648,000	1,844,499	-	641,494	940,863	362	2,785,001	2,785,362	105%
122003	96-inch Main Relocation, Isolation Valves Installations, and New Parallel Main	133,272,000	1,655,004	1,372,000	1,882,701	825,009	2,480,013	-	2,480,013	2%
122004	Replacement Schoolcraft Watermain	132,666,000	1,129,751	1,797,000	1,797,000	646,717	1,776,468	-	1,776,468	1%
122005		18,062,000	3,960	50,000	50,000	96,222	100,182	-	100,182	1%

## Water System

### Construction Work-in-Progress Quarterly Report

As of March 31, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend	FY 2019 Amended Spend	FY 2019 Activity through March 31, 2019	CWIP Balance, March 31, 2019 (Unaudited)	Life To Date Capitalization through March 31, 2019	Life to Date Activity through March 31 2019	Life to Date Activity / Total Project Estimate
122006	Transmission System Water Main Work-Wick Road Parallel Water Main	31,918,000	126,146	1,743,000	1,743,000	234,553	360,699	-	360,699	1%
122007	Design and Construction of a new Newburgh Road 24" Main along Newburgh Road between Ch	5,239,000	-	653,000	653,000	-	-	-	-	0%
122009	Water System Improvements in Joy Road from Southfield Road to Trinity	107,000	106,881	-	-	-	106,881	-	106,881	100%
122011	Park-Merriman Water Main-Final Phase	8,203,000	156,338	955,000	1,055,000	145,377	301,715	-	301,715	4%
122012	36-inch Water Main in Telegraph Road	9,573,000	9,418,001	3,000	130,187	568,283	-	9,986,284	9,986,284	104%
122013	Lyon Township Transmission Main Extension Project	54,426,000	-	-	-	12,262	12,262	-	12,262	0%
122016	Downriver Transmission Loop	37,197,000	-	-	-	19,786	19,786	-	19,786	0%
122017	7 Mile/Nevada Transmissi	20,500,000	-	-	-	-	-	-	-	0%
132001	Wick Road Station Rehabilitation	165,000	130,253	-	-	-	130,253	-	130,253	79%
132003	Isolation Gate Valves for Line Pumps for West Service Center Pumping Station	1,814,000	138,390	1,229,000	1,576,744	75,036	213,426	-	213,426	12%
132004	Hydraulic Surge Control for North Service Center Pumping Station	215,000	214,771	-	-	-	214,771	-	214,771	100%
132006	Pressure and Control Improvements at the Electric, Ford Road, Michigan, and West Chica	2,929,000	161,460	245,000	245,000	121,190	282,651	-	282,651	10%

## Water System Construction Work-in-Progress Quarterly Report

As of March 31, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend	FY 2019 Amended Spend	FY 2019 Activity through March 31, 2019	CWIP Balance, March 31, 2019 (Unaudited)	Life To Date Capitalization through March 31, 2019	Life To Date Activity through March 31 2019	Life to Date Activity / Total Project Estimate
132007	Energy Management: Freeze Protection Pump Installation at Imlay Pumping Station	2,160,000	9,170	38,000	44,800	77,423	86,593	-	86,593	4%
132008	Needs Assessment Study for all Water Booster Pumping Stations	1,677,000	912,550	1,178,000	1,178,000	525,173	1,437,722	-	1,437,722	86%
132009	Study Phase Services for Proposed East Service Center Booster Pumping Station and Rese	-	10,313	-	-	(10,313)	-	-	-	0%
132010	West Service Center/Duval Rd Division Valve Upgrades	37,136,000	-	-	240,890	286,864	286,864	-	286,864	1%
132012	Ypsilanti PS Improvements	9,861,000	3,648	93,000	93,000	12,044	15,692	-	15,692	0%
132014	Adams Road Booster Pumping Improvements	5,674,000	-	-	-	-	-	-	-	0%
132015	Newburgh BPS	12,169,000	-	-	-	-	-	-	-	0%
132016	North Service Center BPS Improvements	24,920,000	-	-	-	-	-	-	-	0%
132017	North Service Center BPS - On-Site & Off	5,076,000	-	-	-	-	-	-	-	0%
132018	Schoolcraft BPS	10,564,000	-	-	-	-	-	-	-	0%
132019	Wick Road BPS - Switchgear	5,569,000	-	-	-	-	-	-	-	0%
132020	Franklin BPS - Isolation Gate Valves	10,109,000	-	-	-	-	-	-	-	0%

## Water System Construction Work-in-Progress Quarterly Report

As of March 31, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend	FY 2019 Amended Spend	FY 2019 Activity through March 31, 2019	CWIP Balance, March 31, 2019 (Unaudited)	Life To Date Capitalization through March 31, 2019	Life to Date Activity through March 31 2019	Life to Date Activity / Total Project Estimate
132021	Inlay BPS - Replace VFDs, Pumps & Motors	12,109,000	-	-	-	-	-	-	-	0%
132022	Joy Road BPS - Replace Reservoir Pumps	6,109,000	-	-	-	-	-	-	-	0%
132023	Project Cancelled	-	-	-	-	326	326	-	326	0%
132024	Project Cancelled	-	-	-	-	654	654	-	654	0%
132025	Northwest Booster Station	5,500,000	-	-	-	971	971	-	971	0%
170100	Allowance: WTP/Pump Station	39,811,000	-	4,296,000	-	-	-	-	-	0%
170102	Water Production Plant Flow Metering Improvements at NE, SP & SW WTP	-	335,197	-	-	19,168	354,365	-	354,365	0%
170103	Belle Isle Water Supply Intake and Ice Boom Improvements	-	-	-	-	3,278	3,278	286,596	289,874	0%
170104	Orion and Newburgh Pumping Stations Improvements	-	364,343	-	2,167,000	1,490,890	1,855,233	-	1,855,233	0%
170108	DWS-063 Adams Road	-	625	-	-	-	625	-	625	0%
170109	Inspection of Raw Water Intakes and Tunnels	-	3,054,241	-	3,000	43,567	3,097,808	-	3,097,808	0%
170110	Raw Water Sampling Improvements	-	2,926	-	-	-	2,926	-	2,926	0%
170117	Instrument Air Compressor Systems Replacement at NE-WTP	-	226,483	-	-	-	-	226,483	226,483	0%
170120	Phosphoric Acid Feed System Improvements at Southwest WTP	-	130,688	-	460,000	410,321	541,009	-	541,009	0%
170121	Franklin PS Valve Rehab	-	-	-	1,000,000	13,607	13,607	-	13,607	0%
170122	Meter Pit at Brownstown Township	-	-	-	159,000	133,306	133,306	-	133,306	0%

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend	FY 2019 Amended Spend	FY 2019 Activity through March 31, 2019	CWIP Balance, March 31, 2019 (Unaudited)	Life To Date Capitalization through March 31, 2019	Life to Date Activity through March 31 2019	Life to Date Activity / Total Project Estimate
	As Needed Construction Materials, Environmental Media and Special									
170200	Allowance	1,618,000	-	472,000	472,000	-	-	-	-	0%
170201	Construction & Environmental Testing	-	1,609	-	93,310	79,624	81,233	-	81,233	0%
	Water Treatment Plant									
170300	Automation Program	7,740,000	-	61,000	-	-	-	-	-	0%
170301	Water Plant Automation	-	1,376,747	-	296,225	20,448	1,397,194	-	1,397,194	0%
	Water Transmission									
170400	Improvement Program	110,656,000	-	1,000,000	1,000,000	-	-	-	-	0%
	Emergency Bypass									
170401	Around Ypsilanti Station	-	-	-	-	77,659	77,659	-	77,659	0%
	Emergency Manned									
170402	Visual Inspection 84-Inch Transmission Main	-	156,020	-	-	-	156,020	-	156,020	0%
	Transmission System									
170500	Valve Assessment and Rehabilitation/Replacem ent Program	36,704,000	-	4,000,000	-	-	-	-	-	0%
	Transmission System									
170502	Valve Assessment and Rehabilitation/Replacem e	-	248,175	-	4,000,000	3,356,109	3,604,284	3,182,318	6,786,602	0%
	Water Transmission									
170600	Main Asset Assessment Program	48,500,000	-	2,501,000	2,501,000	-	-	-	-	0%
	Reservoir Inspection, Design and									
170800	Rehabilitation Program	59,164,000	-	472,000	-	-	-	-	-	0%
	Reservoir Inspection, Design and									
170801	Rehabilitation	-	-	-	489,500	210,076	210,076	-	210,076	0%

## Water System Construction Work-in-Progress Quarterly Report

As of March 31, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend	FY 2019 Amended Spend	FY 2019 Activity through March 31, 2019	CWIP Balance, March 31, 2019 (Unaudited)	Life To Date Capitalization through March 31, 2019	Life to Date Activity through March 31 2019	Life to Date Activity / Total Project Estimate
170900	Suburban Water Meter Pit Rehabilitation and Meter Replacement Program	43,797,000	-	4,613,000	-	-	-	-	-	0%
170901	Suburban Water Meter Pit Rehabilitation and Meter Replacement	-	-	-	4,613,000	438,880	438,880	-	438,880	0%
171000	LH - WTP Sanitary Improvements Program	-	-	45,000	45,000	-	-	-	-	0%
171100	NE - WTP Sanitary Improvements	-	-	75,000	75,000	-	-	-	-	0%
171200	SW - WTP Sanitary Survey Improvements Program	-	-	6,000	6,000	-	-	-	-	0%
171300	WWP - WTP Sanitary Improvements Program	-	-	45,000	45,000	-	-	-	-	0%
171400	Energy Management Program	5,787,000	-	-	-	-	-	-	-	0%
171500	Roof Replacement - Var Water Facilities Program	6,707,000	-	-	-	-	-	-	-	0%
171501	Roof Replacement - Var Water Facilities	-	50,420	111,000	111,000	63,275	113,695	-	113,695	0%
331001	<b>Roof Replacement - Var Water Facilities</b>	5,425,000	-	-	-	-	-	-	-	0%
351001	Water Facility Lighting Renovations	500,000	-	1,172,000	1,172,000	5,941	5,941	-	5,941	1%

## Water System Construction Work-in-Progress Quarterly Report

As of March 31, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend	FY 2019 Amended Spend	FY 2019 Activity through March 31, 2019	CWIP Balance, March 31, 2019 (Unaudited)	Life To Date Capitalization through March 31, 2019	Life to Date Activity through March 31 2019	Life to Date Activity / Total Project Estimate
361002	Data Center Reliability/Availability Improvements	-	16,080	-	-	-	16,080	-	16,080	0%
380400	As-needed CIP Implementation Assistance and Related Services	-	-	803,000	803,000	-	-	-	-	0%
380600	General Engineering Services Allowance	95,000	-	276,000	276,000	-	-	-	-	0%
380601	Alfred Benesh:General Engineer	-	674	-	-	-	674	-	674	0%
380700	As-needed Engineering Services for Concrete Testing, Geotechnical Soil Borings, other Testing Services, and Related Services Allowance	620,000	-	477,000	477,000	-	-	-	-	0%
380701	Engineering Svc Concrete Testing, Soil Borings	-	-	-	-	71,830	71,830	-	71,830	0%
381000	Energy Management: Electric Metering Improvement Program	2,500,000	-	-	-	-	-	-	-	0%
<b>Total</b>		<b>\$ 1,888,664,000</b>	<b>\$ 141,885,761</b>	<b>\$ 66,038,000</b>	<b>\$ 73,707,885</b>	<b>\$ 45,692,978</b>	<b>\$ 167,303,920</b>	<b>\$ 74,799,006</b>	<b>\$ 242,102,926</b>	<b>13%</b>
					Net FY 2019 Spending Plan Amendments	\$ 7,669,885				

## **FY 2019 Spending Plan Amendment Summary**

The purpose of the Spending Plan Amendment Summary is to illustrate the amendments to the current fiscal year spend for each project with a spending plan amendment resulting in an amended spend amount or the use of allowance and program funding for a specific project necessitated by contract award.

The award of CIP contracts and the related execution thereof may result in deviation from the amount and timing of planned spend. Acknowledging the aforementioned deviation, spending plan amendments are prepared to fund the related increase or decrease either to or from the Capital Reserve to amend the board approved fiscal year planned spend accordingly and to inform decision makers in the development of future Capital Improvement Plans. Similar to the spending plan amendments prepared for the Capital Reserve, spending plan amendments are also prepared for contracts that are planned or funded by way of the CIP Program and Allowance accounts. As additional contracts are awarded and other project information becomes available additional spending plan amendments to the Capital Reserve will be prepared to amend the planned spend for FY 2019.

\$7.67 million of Capital Reserve spending plan amendments have been prepared as of March 31, 2019 as shown in the table on the next page along with spending plan amendments detailing the assignment of funding within Program and Allowance accounts.

The order of the report on the subsequent page is in ascending order by CIP project number.

**Great Lakes Water Authority**  
**Water System FY 2019 Spending Plan Amendment Summary - Due to Changes in Project Cost and/or Timing**  
**Unaudited Activity For the Fiscal Year Ended March 31, 2019**

<b>Project</b>	<b>Project Name</b>	<b>Capital Reserve</b>	<b>Program / Allowance</b>	<b>Grand Total</b>
111004	Electrical Tunnel Rehabilitation at Lake Huron WTP	\$ 2,314,786	\$ -	\$ 2,314,786
113002	High Lift Pump Discharge Valve Actuators Replacement at Southwest WTP	81,000	-	81,000
114001	Springwells Water Treatment Plant 1958 Filter Rehabilitation and Auxiliary Facilities	951,000	-	951,000
114003	Water Production Flow Metering Improvements at NE, SW, and SPW WTP	-	307,000	307,000
114005	Springwells WTP Admin Building Improvements	(3,390)	-	(3,390)
114011	Steam, Condensate Return, and Compressed Air Piping Improvements at Springwells WTP	1,660,452	-	1,660,452
114015	Emergency Grating Replacement at Springwells WTP	-	545,186	545,186
122002	Replacement of Five (5) PRV Pits of Treated Water Transmission System	641,494	-	641,494
122003	New Waterworks Park to Northeast Transmission Main	510,701	-	510,701
122011	Park-Merriman Water Main-Final Phase	100,000	-	100,000
122012	36-inch Water Main in Telegraph Road	127,187	-	127,187
132003	Isolation Gate Valves for Line Pumps for West Service Center Pumping Station	347,744	-	347,744
132007	Energy Management: Freeze Protection Pump Installation at Imlay Pumping Station	-	6,800	6,800
132010	West Service Center/Duval Rd Division Valve Upgrades	-	240,890	240,890
170100	Allowance: WTP/Pump Station	686,186	(4,982,186)	(4,296,000)
170104	Orion and Newburgh Pumping Stations Improvements	-	2,167,000	2,167,000
170109	Inspection of Raw Water Intakes and Tunnels	-	3,000	3,000
170120	Phosphoric Acid Feed System Improvements at Southwest WTP	-	460,000	460,000
170121	Franklin PS Valve Rehab	-	1,000,000	1,000,000
170122	Meter Pit at Brownstown Township	-	159,000	159,000
170201	Construction & Environmental Testing	-	93,310	93,310
170300	Water Treatment Plant Automation Program	235,225	(296,225)	(61,000)
170301	Water Plant Automation	-	296,225	296,225
170500	Transmission System Valve Assessment and Rehabilitation/Replacement Program	-	(4,000,000)	(4,000,000)
170502	Transmission System Valve Assessment and Rehabilitation/Replacement	-	4,000,000	4,000,000
170800	Reservoir Inspection, Design and Rehabilitation Program	-	(472,000)	(472,000)
170801	Reservoir Inspection, Design and Rehabilitation	17,500	472,000	489,500
170900	Suburban Water Meter Pit Rehabilitation and Meter Replacement Program	-	(4,613,000)	(4,613,000)
170901	Suburban Water Meter Pit Rehabilitation and Meter Replacement	-	4,613,000	4,613,000
<b>Grand Total</b>		<b>\$ 7,669,885</b>	<b>\$ -</b>	<b>\$ 7,669,885</b>

## WASTEWATER SYSTEM

### Executive Summary

The rate of spend is a key performance indicator. The development of the FY 2019-2023 and related CIP budget for FY 2019 were based on anticipation of FY 2019 activity resulting in 100% of planned spend. The Wastewater System spend for the period ending March 31, 2019 is 73.6% of the FY 2019 prorated board approved CIP spend and 72.9% of the FY 2019 amended spend. Detailed analysis behind the reasons and projects for which planned spend is amended from \$105,183,000 to \$106,081,010 is provided in the subsequent Spending Plan Amendment Summary section of this report. Numerous project designs have already and or will soon complete that will allow for the increased rate of construction spend to continue in FY 2019 and beyond.

Wastewater System Projects	FY 2018 Amended Budget	FY 2018 Activity	FY 2018 as a Percent of Budget	FY 2019 Budget	FY 2019 Prorated (Nine Months)	FY 2019 Activity (Nine Months) (Unaudited)	FY 2019 as a Percent of Prorated Budget (Nine Months) (Unaudited)
FY 2018 CIP Project Requests	\$ 160,746,000	69,567,318	43.3%				
FY 2018 CIP Realigned Forecast as per 2019 CIP	70,632,000	69,567,318	98.5%				
FY 2019 Board Approved CIP Spend				\$ 105,183,000	78,887,250	58,038,019	73.6%
FY 2019 Amended Spend				106,081,010	79,560,758	58,038,019	72.9%

**It should be noted that these interim reports have been prepared on a modified cash basis. This means that expenses may lag in vendor invoice receipt and posting. Known expenses, material in nature, have been accrued.**

### Analysis of Projects with Largest Percent of Spend and Otherwise Noteworthy Project

Of the total Wastewater System Construction Bond spend for FY 2019 to date, **four projects account for \$38.2 million or 65.9% of the total spend**. Those projects are summarized in the following table. An analysis of each project and its related CIP summary follow the table. Note that the last page of this report provides a Glossary of Acronyms.

Wastewater System Projects	Total Project Budget Estimate per FY 2020 - 2024 CIP	Life-to-Date Through June 30, 2018	FY 2019 Amended Spend	FY 2019 Activity (Unaudited)	FY 2019 as a Percent of Spend (Unaudited)
<b>Project 211001: Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery</b>	\$ 54,858,000	\$ 25,098,344	\$ 16,308,000	\$ 12,525,981	<b>21.6%</b>
<b>Project 212006: PC-797 Rouge River Outfall Disinfection and CS-1781 Oversight Consulting Services Contract</b>	48,033,000	26,440,608	15,817,000	13,845,800	<b>23.9%</b>
<b>Project 213007: WRRF Modification to Incinerator Sludge Systems at Complex-II</b>	20,049,000	2,329,474	6,883,404	6,659,314	<b>11.5%</b>
<b>Project 222002: Detroit River Interceptor (DRI) Evaluation and Rehabilitation</b>	49,071,000	2,647,174	3,508,010	5,232,607	<b>9.0%</b>
<b>Selected Projects as a Percentage of the Total</b>	\$ 172,011,000	\$ 56,515,600	\$ 42,516,414	\$ 38,263,702	<b>65.9%</b>
<b>Total</b>			<b>\$ 106,081,010</b>	<b>\$ 58,038,019</b>	<b>100%</b>

The following analysis provides brief highlights related to these projects.

**Project 211001—Rehabilitation of Primary Rectangular Clarifiers**

Wastewater System Projects	Total Project Budget Estimate per FY 2020 - 2024 CIP	Life-to-Date Through June 30, 2018	FY 2019 Amended Spend	FY 2019 Activity (Unaudited)	FY 2019 as a Percent of Spend (Unaudited)
<b>Project 211001: Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery</b>	\$ 54,858,000	\$ 25,098,344	\$ 16,308,000	\$ 12,525,981	<b>21.6%</b>

**Project Engineer/Manager:** Nicolas Nicolas

**Manager:** Philip Kora

**Total Project Budget:** \$54,858,000

**Timeline:** To be completed by May 2020 (Final Completion)

**FY 2019 Last Pay Estimate Processed:** March 31, 2019

**Key Contracts/Vendors:** PC-757 Toolles Contracting Group; CS-1484 Wade Trim; CS-1432A Alfred Benesch

**Project Description:** The Rehabilitation of Primary Rectangular Clarifiers Tanks, Drain Lines, Electrical/Mechanical Building, Pipe Gallery, and Replacement of Rake Arm assembly for Circular Primary Clarifiers 15 and 16 at the Water Resource Recovery Facility (WRRF).

**Purpose:** To improve the operating and maintenance efficiencies that meets the regulatory National Pollution Discharge Elimination (NPDES) Permit and National Electrical code (NEC) requirements.

**Status:** Rehabilitation of primary rectangular clarifiers 9 through 12 and circular clarifiers 15 and 16 have been completed, commissioned and returned to operation. Rectangular primary clarifiers 7 and 8 were released for contract work on September 11, 2018. Rectangular primary clarifiers 5 and 6 were released for contract work on November 9, 2018. Rectangular primary clarifiers 5,6,7 and 8 are projected to be completed and commissioned by June of 2019.

**Additional Project Manager Comments:** As of March 31, 2019, 70.43% of contract time (Final Completion) has elapsed and 67% of funds have been spent (\$34,830,500 out of \$51,905,000).

**FY 2020-2024 CIP Page VIII-98 for Project 211001 – Rehabilitation of Primary Rectangular Clarifiers**

**CIP Number:** 211001

**Project Title** WRRF Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and

**Project Status** Active

**Class Lvl 1** Wastewater

**Class Lvl 2** WRRF

**Class Lvl 3** Primary Treatment

**Location** City of Detroit

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing
- Project New To CIP



Pipe Gallery

**Project Score**

**Project Engineer/Manager** Nicolas Nicolas  
**Manager** Philip Kora

**Project Significance** Rehabilitation for meeting NPDES Permit and NEC requirements

**Scope of Work** The work to be completed under this project will include installing ventilation and atmospheric control for the pipe gallery; providing new lights and emergency lights, etc.. This work also includes rehabilitation of 12 drain lines from rectangular clarifiers 3-12, circular clarifiers 16 and 16, installation of large manhole with sump pumps to collect drainage and discharge to clarifier, and concrete crack repairs, and rehabilitation work in Electrical/Mechanical Building.

**Challenges** N/A - Active

**Project Expenses Compared to Previous CIP Versions (All figures are in \$1,000's)**

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		10,848	12,097	20,990	7,968				0	0	51,903
2019	0	10,243	12,983	16,107	8,671	6,033				0	54,037
2020	0	0	25,098	18,724	7,982	3,054	0	0	0	0	54,858

**Project 212006-Rouge River Outfall Project**

Wastewater System Projects	Total Project Budget Estimate per FY 2020 - 2024 CIP	Life-to-Date Through June 30, 2018	FY 2019 Amended Spend	FY 2019 Activity (Unaudited)	FY 2019 as a Percent of Spend (Unaudited)
<b>Project 212006: PC-797 Rouge River Outfall Disinfection and CS-1781 Oversight Consulting Services Contract</b>	\$ 48,033,000	\$ 26,440,608	\$ 15,817,000	\$ 13,845,800	<b>23.9%</b>

**Project Engineer/ Manager:** Philip Kora and Darrel Field (PMA)

**Manager:** Philip Kora

**Total Project Budget:** \$48,033,000

**Timeline:** Substantial Completion was required by April 1, 2019 but has not yet been achieved.

**FY 2019 Last Pay Estimate Processed:** March 31, 2019

**Key Contracts/Vendors:** CS-1781- PMA Consultants and PC-797-CDM Construction

**Project Description/Purpose:** The Rouge River Outfall Disinfection Project (Phase 2) is MDEQ approved to provide chlorination and dechlorination to the Rouge River Outfall (RRO) effluent during wet weather events.

**Status:** The project was placed into full operation by March 29, 2019, meeting the NPDES permit requirement to provide disinfection and dechlorination of flows to the Rouge River Outfall by April 1, 2019. Initial operating results indicate satisfactory treatment of both dry and wet weather flows. Nevertheless, the project has not yet reached the Substantial Completion contract milestone because several items of work remain to be completed and demonstration testing has not yet been completed. The Contractor is working to complete these items with the intent of reaching Substantial Completion in the near future.

**Additional Project Manager Comments:** Excluding allowances, PC-797 base contract work was over 96.3% complete at the end of March 2019. Approximately \$4.136 million remains in Contract allowances after funding authorized Construction Change Directives (CCDs). The Contractor has provided notice of several additional change requests which have not yet been finalized or included in CCDs.

**Additional Construction Accounting & Financial and Reporting Team Comments:** There are no additional comments to provide at this time.

**FY 2020-2024 CIP Page VIII-112 for 212006 – Rouge River Outfall Project**

**CIP Number:** 212006  
**Project Title** WRRF Rouge River Outfall (RRO) Disinfection (Alternative)

<b>Project Status</b>	Active	<input type="checkbox"/> Innovation
<b>Class Lvl 1</b>	Wastewater	<input type="checkbox"/> Water MP Right Sizing
<b>Class Lvl 2</b>	WRRF	<input checked="" type="checkbox"/> Reliability/Redundancy
<b>Class Lvl 3</b>	Secondary Treatment & Disinfection	<input type="checkbox"/> NEWTP Repurposing
<b>Location</b>	City of Detroit	<input type="checkbox"/> Project New To CIP

**Project Score**



Plan view of RRO location

**Project Engineer/Manager** Darrel Field  
**Manager** Philip Kora

**Project Significance** Provide project oversight and design build services for alternative disinfection services to meet NPDES Permit requirements at existing Rouge River Outfall

**Scope of Work** The consultant shall provide comprehensive professional services for project oversight and Owner's representation for the PC-797 RRO Disinfection Progressive Design-Build Contract. The scope of work consists of completing basis of design, design and construction services to develop and implement a solution that will result in 100% disinfection of wet weather flow discharged from WRRF to Detroit River outfall and Rouge River Outfall in order to meet NPDES Permit requirements.

**Challenges** N/A - Under Procurement

**Project Expenses Compared to Previous CIP Versions (All figures are in \$1,000's)**

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018	729	6,530	15,800	15,520	9,020				0	0	47,599
2019	0	6,873	20,619	15,817	4,157					0	47,466
2020	0	0	26,441	17,009	4,583	0	0	0	0	0	48,033

**Project 213007–Modifications to Incinerator Sludge Feed Systems in Complex II at WRRF**

Wastewater System Projects	Total Project Budget Estimate per FY 2020 - 2024 CIP	Life-to-Date Through June 30, 2018	FY 2019 Amended Spend	FY 2019 Activity (Unaudited)	FY 2019 as a Percent of Spend (Unaudited)
<b>Project 213007: WRRF Modification to Incinerator Sludge Systems at Complex-II</b>	\$ 20,049,000	\$ 2,329,474	\$ 6,883,404	\$ 6,659,314	<b>11.5%</b>

**Project Engineer/Manager:** Chris Breinling

**Manager:** Philip Kora

**Total Project Budget:** \$20,049,000

**Timeline:** To be substantially complete in July 2020

**FY 2019 Last Pay Estimate Processed:** March 31, 2019

**Key Contract/Vendor:** GLWA-CON-197 Weiss Construction; CS-060 Black & Veatch; CS-291 Alfred Benesch

**Project Description:** Modifications to Incinerator Sludge Feed Systems in Complex II at the Water Resource Recovery Facility (WRRF).

**Purpose:** The project purpose is to replace the belt conveyors that were significantly damaged during the March 2016 fire event. The project also includes replacement of a unit substation, motor control centers, and incinerator induced draft fan starters. New VFD-controlled dual shaft screw conveyors will replace outdated screw conveyors installed on all existing Complex II Incinerators, significantly improving incinerator feed control. Internal painting, instrumentation improvements, SFE strainers, and plumbing upgrades will improve sludge processing operations.

**Status:** Major restorative painting is approximately three quarters completed within Dewatering Complex II and Incineration Complex II. Structural steel placement for belt conveyor H is nearing completion, with belt conveyor K structural steel placement underway. The new unit substation went into service this month, with only the power factor cabinets needing to be connected. The remaining motor control centers, belt conveyors, auto strainers, and screw conveyors are planned for the remaining portion of calendar year 2019.


**Additional Project Manager Comments:** As of March 31, 2019, 35% of contract time (Final Completion) has elapsed and 38% of funds have been spent (\$6,646,723.10 out of \$18,631,083.00).

**Additional Construction Accounting & Financial and Reporting Team Comments:** There are no additional comments to provide at this time.

**FY 2020-2024 CIP Page VIII-121 for 213007 – WRRF Modification to Incinerator Sludge Feed Systems at Complex-II**

**CIP Number:** 213007

**Project Title** WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

<b>Project Status</b> Active	<input type="checkbox"/> Innovation <input type="checkbox"/> Water MP Right Sizing <input checked="" type="checkbox"/> Reliability/Redundancy <input type="checkbox"/> NEWTP Repurposing	
<b>Class Lvl 1</b> Wastewater		
<b>Class Lvl 2</b> WRRF		
<b>Class Lvl 3</b> Residuals Management		
<b>Location</b> City of Detroit		
<b>Project Engineer/Manager</b> Chris Breinling	<b>Project Score</b> <span style="border: 1px solid black; padding: 2px;">87.2</span>	<p align="center">Picture from left to right Sludge Conveyer G Damaged by Fire and Conveyer B in the Complex – II Dewatering Building and Fire Damaged Conveyer H in Complex-II Incinerators Building</p>
<b>Manager</b> Philip Kora		
<b>Project Significance</b>	GLWA have an ongoing study and design of sludge cake conveyance system improvements project after the March 4, 2016 fire incident in Complex –II Incinerators building. The construction of this project will provide a cleaner, fire resistant, reliable and safe sludge feed to the incinerators.	
<b>Scope of Work</b>	The restoration of sludge conveying capacity, which was lost due to the fire damage and to provide improved sludge conveyance from each dewatering facility to the incinerators. Replacement of 19 MCCs and Replacement of the Unit Substation EB-26 in Incineration Complex II.	
<b>Challenges</b>	Maintaining the sludge conveyance capacity to meet permit requirements during the construction of these improvements, will be the most significant challenge on this project.	

**Project Expenses Compared to Previous CIP Versions (All figures are in \$1,000's)**

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		1,500	9,600	7,822					0	0	18,922
2019	0		567	6,787	11,356	3,477				0	22,187
2020	0	0	871	7,159	8,711	3,308	0	0	0	0	20,049

**Project 222002–Detroit River Interceptor (DRI) Evaluation and Rehabilitation**

Wastewater System Projects	Total Project Budget Estimate per FY 2020 - 2024 CIP	Life-to-Date Through June 30, 2018	FY 2019 Amended Spend	FY 2019 Activity (Unaudited)	FY 2019 as a Percent of Spend (Unaudited)
<b>Project 222002: Detroit River Interceptor (DRI) Evaluation and Rehabilitation</b>	49,071,000	2,647,174	3,508,010	5,232,607	<b>9.0%</b>

**Project Engineer/Manager:** Mini Panicker

**Manager:** Biren Saparia

**Total Project Budget:** \$49,071,000

**Timeline:** To be substantially complete in July 2020

**FY 2019 Last Pay Estimate Processed:** February 28, 2019

**Key Contract/Vendor:** CON-183 Inland Waters Pollution Control (IWPC); DB-226 Jay Dee Contractors

**Project Description/Purpose:** There are two projects for the rehabilitation of Detroit River Interceptor (DRI) to bring back the structural integrity to acceptable levels.

- CON-183 for the Emergency Rehabilitation of DRI in the Downtown area under the Ren-Cen Center
- DB-226 for the rehabilitation of DRI from Alter Rd. to the WRRF

**Status:**


- CON-183 is in the final stages with the construction to be completed by May 31, 2019. The revised final completion date of February 28, 2019 had to be extended since asphalt was not available until the plants reopened in the spring for the surface restoration of the Manholes.
- DB-226 is an SRF funded Design/Build project. The Guaranteed Maximum Price (GMP) is negotiated for Reach 1, Reach 2, and for the construction of 3 permanent shafts in Reach 3. The construction started on November 13, 2018 as per the SRF schedule. Debris removal, Connor Creek access shaft construction, and manhole modification are in progress currently in the Reach 1 area.

**Additional Project Manager Comments:** CON-183 final completion date was September 15, 2018, but actual field conditions and unavailability of DRI for work due to the system conditions including wet weather events, delayed the project. New final completion date is May 31, 2019.

**FY 2020-2024 Pages VIII-131 for 222002 – Detroit River Interceptor (DRI) Evaluation and Rehabilitation**

**CIP Number:** 222002

**Project Title** Detroit River Interceptor (DRI) Evaluation and Rehabilitation

<b>Project Status</b> Active	<input type="checkbox"/> Innovation <input type="checkbox"/> Water MP Right Sizing <input checked="" type="checkbox"/> Reliability/Redundancy <input type="checkbox"/> NEWTP Repurposing
<b>Class Lvl 1</b> Wastewater	
<b>Class Lvl 2</b> Field Services	
<b>Class Lvl 3</b> Interceptors	
<b>Location</b> City of Detroit	
<b>Project Engineer/Manager</b> Mini Panicker <b>Manager</b> Biren Saparia	
<b>Project Score</b> <span style="border: 1px solid black; padding: 2px 10px;"><b>65.4</b></span>	
 <p align="center">Visual inspection of a large sewer</p>	
<p><b>Project Significance</b> Evaluation of the existing condition of the Detroit River interceptor (DRI), and rehabilitation/replacement of portions based on the evaluation results are essential to optimize the transportation capacity of the GLWA collection system and to increase its service life.</p> <p><b>Scope of Work</b> Preliminary Scope of Work of the Project is as follows: Review the existing records, investigate the existing conditions , provide the necessary cleaning/rehabilitation/replacement to optimize the design capacity of the collection system and to minimize the inflow and infiltration into the collection system.</p> <p><b>Challenges</b> DRI may have flow control challenges for both inspection and rehabilitation. Recommendations from these inspections may reveal further need for cleaning, rehabilitation or replacement.</p>	

**Project Expenses Compared to Previous CIP Versions (All figures are in \$1,000's)**

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		321	10,000	5,000	5,000				0	0	20,321
2019	0	5	2,232	1,084	8,052	10,187	10,187	10,187	2,491	0	44,425
2020	0	0	2,647	9,424	10,000	10,000	10,000	1,000	1,000	5,000	49,071

## Construction Work-in-Progress Rollforward

The purpose of the construction work-in-progress (CWIP) rollforward is to analyze the current year activity for each project in relation to the overall capital improvement program as well as the project portfolio overall.

As part of our project life cycle review, the CA&FR team identifies when it is appropriate for projects to be capitalized. Projects are to be capitalized when they have been completed in totality or are inclusive of identifiable assets that have been placed in service. No projects have been identified for Q3 FY 2019 capitalization, but the following projects have been identified for Q4 capitalization:

<u>Project</u>	<u>Contract</u>	<u>Description</u>
260113	Multiple POs	WRRF Fire Remediation
260203	CON-068	Inspection of Collection System – Conner Creek
260301	CON-143	Roof Replacement of Complex II

Project 213002 - Rehabilitation of Central Offload Facility has been canceled and related project expenses have been expensed in April, 2019.

**\$204.2** million is in CWIP as of March 31, 2019 as shown in the table beginning on the next page.

The order of the report on the subsequent pages is in ascending order by CIP project number.

**Great Lakes Water Authority  
Wastewater System Construction Work-in-Progress (CWIP) FY 2019 Rollforward  
Unaudited, Pre-Close Activity For the Fiscal Year Ended March 31, 2019**

Project	Project Name	Total Project Budget		FY 2019		FY 2019		CWIP Balance, March 31, 2019 (Unaudited)	Life To Date		Life to Date Activity through March 31 2019	Life to Date Activity / Total Project Estimate
		Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	Board Approved CIP Spend	FY 2019 Amended Spend	Activity through March 31, 2019	Capitalization through March 31, 2019					
4824	DWSD- Rehab/Replacement Existing Sewer	\$ -	\$ 56,280	\$ -	\$ -	\$ -	\$ -	\$ 56,280	\$ -	\$ 56,280	0%	
211001	Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery	54,858,000	25,098,344	16,308,000	16,308,000	12,525,981	37,624,325	-	37,624,325	69%		
211002	Pump Station No. 2 Pumping Improvments	3,812,000	322,436	2,454,000	2,454,000	744,127	1,066,563	-	1,066,563	28%		
211004	Pump Station 1 Rack & Grit and MPI Sampling Station 1 Improvements	27,198,000	24,505,435	2,752,000	2,752,000	1,676,086	26,181,521	-	26,181,521	96%		
211005	Pump Station No. 2 Improvements	21,599,000	-	-	-	817	817	-	817	0%		
211006	Pump Station No. 1 Improvements	22,315,000	88	500,000	500,000	5,800	5,888	-	5,888	0%		
211007	Replacement of Bar Racks and Grit Collection System at Pump Station No. 2	17,836,000	-	7,000	7,000	293	293	-	293	0%		
211008	Rehabilitation of Ferric Chloride Feed systems at the Pump Station -1 and Complex B Sludge Lines	10,566,000	12,386	7,000	7,000	32,884	45,270	-	45,270	0%		

## Wastewater System

### Construction Work-in-Progress Quarterly Report

As of March 31, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend	FY 2019 Amended Spend	FY 2019 Activity through March 31, 2019	CWIP Balance, March 31, 2019 (Unaudited)	Life To Date Capitalization through March 31, 2019	Life to Date Activity through March 31 2019	Life to Date Activity / Total Project Estimate
211009	Rehabilitation of the Circular Primary Clarifier Scum Removal System	11,394,000	-	-	-	30	30	-	30	0%
212002	Study, Design, & Construction, Management Services for Modified Detroit River Outfall No. 2 - WRRF	-	10,818,870	-	-	-	10,818,870	-	10,818,870	0%
212003	Aeration System Improvements	16,682,000	11,850,544	2,719,000	2,569,000	4,086,229	15,936,773	-	15,936,773	96%
212004	Project Chlorination/Dechlorination Process Equipment Improvements	5,045,000	116,927	2,101,000	2,101,000	45,266	162,192	-	162,192	3%
212006	PC-797 Rouge River Outfall Disinfection and CS-1781 Oversight Consulting Services Contract	48,033,000	26,440,608	15,817,000	15,817,000	13,845,800	40,286,408	-	40,286,408	84%
212007	Rehabilitation of the Secondary Clarifiers	30,118,000	-	-	-	-	-	-	-	0%
212008	WRRF Rehabilitation of Intermediate Lift	20,833,000	-	-	-	-	-	-	-	0%
213002	Rehabilitation of Central Offload Facility*	16,179,000	982,301	6,447,000	4,947,000	60,384	1,042,685	-	1,042,685	6%
213004	Biosolids Dryer Facility at WRRF	-	-	23,000	23,000	25,747	25,747	2,408,470	2,434,216	0%
213005	Complex I Incinerators Decommissioning and Reusability	4,452,000	42,950	-	-	153,862	196,812	-	196,812	4%
213006	Improvements to Sludge Feed Pumps at Dewatering Facilities	3,726,000	4,856	-	-	-	4,856	-	4,856	0%

## Wastewater System Construction Work-in-Progress Quarterly Report

As of March 31, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend	FY 2019 Amended Spend	FY 2019 Activity through March 31, 2019	CWIP Balance, March 31, 2019 (Unaudited)	Life To Date	Life to Date	Life to Date
								Capitalization through March 31, 2019	Activity through March 31 2019	Activity / Total Project Estimate
213007	Construction of the Improved Sludge Conveyance and Lighting System at the WWTP	20,049,000	2,329,474	6,787,000	6,883,404	6,659,314	8,988,788	-	8,988,788	45%
213008	Rehabilitation of the Wet and Dry Ash Handling Systems	18,505,000	-	-	-	85	85	-	85	0%
213009	Phosphorous Recovery Facility at the WWRF	-	3,536	-	-	-	3,536	-	3,536	0%
214001	Relocation of Industrial Waste Division and Analytical Laboratory Operations	10,968,000	572,845	4,001,000	4,001,000	1,639,272	2,212,117	-	2,212,117	20%
216004	Rehabilitation of Various Sampling Sites and PS# 2 Ferric Chloride System at WWTP	5,576,000	439,040	551,000	784,000	63,881	502,920	-	502,920	9%
216006	Rehabilitation of the Screened Final Effluent (SFE) Pump Station and Secondary Water System	24,853,000	-	-	-	2,555	2,555	-	2,555	0%
216007	DTE Primary Electric 3rd Feed Supply Line to the WRRF	7,447,000	40,186	2,002,000	2,002,000	-	40,186	543,500	583,686	8%
216008	Rehabilitation of Screened Final Effluent (SFE) Pump Station	24,948,000	-	-	-	-	-	-	-	0%

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend	FY 2019 Amended Spend	FY 2019 Activity through March 31, 2019	CWIP Balance, March 31, 2019 (Unaudited)	Life To Date Capitalization through March 31, 2019	Life to Date Activity through March 31 2019	Life to Date Activity / Total Project Estimate
222001	Intercommunity Relief Sewer Modifications in Detroit Oakwood District	38,031,000	-	-	-	-	-	-	-	0%
222002	Detroit River Interceptor Evaluation and Rehabilitation	49,071,000	2,647,174	1,084,000	3,508,010	5,232,607	7,879,780	-	7,879,780	16%
222003	North Interceptor East Arm (NIEA) Evaluation and Rehabilitation	30,000,000	-	-	-	-	-	-	-	0%
222004	Collection System Valve Remote Operation Structures Improvements	87,033,000	-	1,019,000	1,019,000	-	-	-	-	0%
222005	Collection System Access Hatch Improvements	-	-	1,000,000	1,000,000	-	-	-	-	0%
222007	North Interceptor East Arm (NIEA) Evaluation and Rehabilitation from WRRF to Gratiot Ave. and Sylvester St.	-	-	4,000	4,000	-	-	-	-	0%
232001	Fairview Pumping Station - Replace Four Sanitary Pumps	30,442,000	1,550,604	12,094,000	11,985,000	213,352	1,763,956	-	1,763,956	6%
232002	Freud and Connor Creek Pump Station Improvements	162,429,000	5,052,490	1,192,000	1,192,000	446,224	5,498,715	57,734	5,556,449	3%
232003	Northeast Pump Station Improvements	31,500,000	-	-	-	-	-	-	-	0%
233002	Collection System In System Storage Devices(ISDs) Improvements	-	-	82,000	82,000	235	235	-	235	0%

## Wastewater System Construction Work-in-Progress Quarterly Report

As of March 31, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend	FY 2019 Amended Spend	FY 2019 Activity through March 31, 2019	CWIP Balance, March 31, 2019 (Unaudited)	Life To Date Capitalization through March 31, 2019	Life to Date Activity through March 31 2019	Life to Date Activity / Total Project Estimate
251002	Wastewater System Wide Instrumentation & Controls Software and Hardware Upgrade	-	-	877,000	877,000	71	71	-	71	0%
260100	Water Resource Recovery Facility (WRRF), Lift Station & Wastewater Collection System Allowance	34,038,000	-	1,100,000	1,003,596	-	-	-	-	0%
260113	Fire Remediation	-	19,233,711	-	-	-	19,233,711	-	19,233,711	0%
260200	Sewer and Interceptor Evaluation and Rehabilitation Program	192,164,000	-	10,601,000	2,000,000	-	-	-	-	0%
260201	Conveyance System Interceptor Rehab	-	8,912,692	-	8,601,000	3,596,616	12,509,308	-	12,509,308	0%
260202	Conveyance System Interceptor Rehab	-	-	-	-	11,392	11,392	-	11,392	0%
260203	Inland: Sewer Inspection	-	4,642,066	-	-	-	4,642,066	-	4,642,066	0%
260400	Sewage Meter Design, Installation, Replacement and Rehabilitation Program	-	-	1,700,000	1,700,000	-	-	-	-	0%
260500	CSO Outfall Rehab	89,188,000	-	507,000	-	-	-	-	-	0%
260502	CSO Outfall Rehab	-	8,799	-	507,000	3,233,639	3,242,437	-	3,242,437	0%
260503	Collection System Backwater Gates	-	-	-	-	760	760	-	760	0%

## Wastewater System

### Construction Work-in-Progress Quarterly Report

As of March 31, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend	FY 2019 Amended Spend	FY 2019 Activity through March 31, 2019	CWIP Balance, March 31, 2019 (Unaudited)	Life To Date	Life to Date	Life to Date
								Capitalization through March 31, 2019	Activity through March 31 2019	Activity / Total Project Estimate
260600	CSO Facilities Improvements	63,591,000	191,848	9,277,000	2,456,000	9,308	201,156	-	201,156	0%
260601	Oakwood Drain Valve Improvements	-	-	-	-	362,739	362,739	-	362,739	0%
260602	CSO Fire Alarm System Improvements	-	-	-	-	547,058	547,058	-	547,058	0%
260603	Conner Creek CSO Basin Rehab	-	243,224	-	6,821,000	2,637,262	2,880,486	-	2,880,486	0%
260604	Baby Creek CSO Rehab	-	45,791	-	-	141,669	187,460	-	187,460	0%
260605	CSO Facilities CA	-	-	-	-	14,511	14,511	-	14,511	0%
260606	Puritan Fenkell Roof Replacement	-	-	-	-	1,337	1,337	-	1,337	0%
260607	Lieb SDF Electrical Improvements	-	-	-	-	3,717	3,717	-	3,717	0%
260608	Seven Mile RTB - Roof Replacement	-	-	-	-	76	76	-	76	0%
260609	Seven Mile RTB - Parking Lot / Sitework	-	-	-	-	3,030	3,030	-	3,030	0%
260610	Baby Creek MAU Replacement	-	-	-	-	569	569	-	569	0%
260611	HVAC Improvements At Lieb SDF	-	-	-	-	4,424	4,424	-	4,424	0%
331002	Roofing Systems Replacement at GLWA Wastewater Treatment Plant, CSO Retention Treatment Basins (RTB) and Screening Disinfection Facilities (SDF)	9,709,000	-	286,000	286,000	5,177	5,177	-	5,177	0%
380400	As-needed CIP Implementation Assistance and Related Services	-	-	803,000	803,000	-	-	-	-	0%

## Wastewater System Construction Work-in-Progress Quarterly Report

As of March 31, 2019

Project	Project Name	Total Project Budget Estimate From FY 2020 - 2024 CIP	CWIP Balance July 1, 2018	FY 2019 Board Approved CIP Spend	FY 2019 Amended Spend	FY 2019 Activity through March 31, 2019	CWIP Balance, March 31, 2019 (Unaudited)	Life To Date Capitalization through March 31, 2019	Life to Date Activity through March 31 2019	Life to Date Activity / Total Project Estimate
380500	Department-wide General Engineering Services on an As-needed Basis	-	-	114,000	114,000	-	-	-	-	0%
380600	General Engineering Services Allowance	1,000	-	51,000	51,000	-	-	-	-	0%
380601	Alfred Benesh:General Engineer	-	632	-	-	3,832	4,464	-	4,464	0%
380900	General Engineering Services Allowance	-	-	916,000	916,000	-	-	-	-	0%
381000	Energy Management: Electric Metering Improvement Program	2,500,000	-	-	-	-	-	-	-	0%
<b>Total</b>		<b>\$ 1,246,689,000</b>	<b>\$ 146,166,135</b>	<b>\$ 105,183,000</b>	<b>\$ 106,081,010</b>	<b>\$ 58,038,019</b>	<b>\$ 204,204,154</b>	<b>\$ 153,093,645</b>	<b>357,297,799</b>	<b>29%</b>
					Net FY 2019 Spending Plan Amendments	\$ 898,010				

\* Project 213002 has been cancelled; project costs have been removed from Construction Work in Progress (CWIP) in April, 2019.

## **FY 2019 Spending Plan Amendment Summary**

The purpose of the Spending Plan Amendment Summary is to illustrate the amendments to the current fiscal year spend for each project with a spending plan amendment resulting in an amended spend amount or the use of allowance and program funding for a specific project necessitated by contract award.

The award of CIP contracts and the related execution thereof may result in deviation from the amount and timing of planned spend. Acknowledging the aforementioned deviation, spending plan amendments are prepared to fund the related increase or decrease either to or from the Capital Reserve to amend the board approved fiscal year planned spend accordingly and to inform decision makers in the development of future Capital Improvement Plans. Similar to the spending plan amendments prepared for the Capital Reserve, spending plan amendments are also prepared for contracts that are planned or funded by way of the CIP Program and Allowance accounts. As additional contracts are awarded, and other project information becomes available additional spending plan amendments to the Capital Reserve will be prepared to amend the planned spend for FY 2019.

\$.89 million of Capital Reserve spending plan amendments have been prepared as of March 31, 2019 as shown in the table on the next page along with spending plan amendments detailing the assignment of funding within Program and Allowance accounts.

The order of the report on the subsequent page is in ascending order by CIP project number.

**Great Lakes Water Authority**  
**Wastewater System FY 2019 Spending Plan Amendment Summary - Due to Changes in Project Cost and/or Timing**  
**Unaudited Activity For the Fiscal Year Ended March 31, 2019**

<b>Project</b>	<b>Project Name</b>	<b>Capital Reserve</b>	<b>Program / Allowance</b>	<b>Grand Total</b>
<b>212003</b>	Aeration System Improvements	\$ (150,000)	\$ -	\$ (150,000)
<b>213002</b>	Rehabilitation of Central Offload Facility	(1,500,000)	-	(1,500,000)
<b>213007</b>	Construction of the Improved Sludge Conveyance and Lighting System at the WWTP	-	96,404	96,404
<b>216004</b>	Rehabilitation of Various Sampling Sites and PS# 2 Ferric Chloride System at WWTP	233,000	-	233,000
<b>222002</b>	Detroit River Interceptor Evaluation and Rehabilitation	2,424,010	-	2,424,010
<b>232001</b>	Fairview Pumping Station - Replace Four Sanitary Pumps	(109,000)	-	(109,000)
<b>260100</b>	Water Resource Recovery Facility (WRRF), Lift Station & Wastewater Collection System Allowance	-	(96,404)	(96,404)
<b>260200</b>	Sewer and Interceptor Evaluation and Rehabilitation Program	-	(8,601,000)	(8,601,000)
<b>260201</b>	Conveyance System Interceptor Rehab	-	8,601,000	8,601,000
<b>260500</b>	CSO Outfall Rehab	-	(507,000)	(507,000)
<b>260502</b>	CSO Outfall Rehab	-	507,000	507,000
<b>260600</b>	CSO Facilities Improvements	-	(6,821,000)	(6,821,000)
<b>260603</b>	Conner Creek CSO Basin Rehab	-	6,821,000	6,821,000
<b>Grand Total</b>		<b>\$ 898,010</b>	<b>\$ -</b>	<b>\$ 898,010</b>

## Glossary of Acronyms

<b>ACRONYM</b>	<b>DEFINITION</b>	<b>ACRONYM</b>	<b>DEFINITION</b>
CCD	Construction Change Directive	NPDES	National Pollution Discharge Elimination System
CSO	Combined Sewer Overflow	RAS	Return Activated Sludge
CIPP	Cured in Place Pipe Lining	RRO	River Rouge Outfall
DCB	Detailed Cost Breakdown	RTB	Retention Treatment Basin
ESR	Equipment Shutdown Request	SDF	Screening and Disinfection Facility
HPO	High Purity Oxygen	SFE	Screened Final Effluent
ISDs	In System Storage Devices	SPW	Springwells Water Treatment Plant
IWC	Industrial Waste Control	VFD	Variable Frequency Drive
MCC	Motor Control Centers	WRRF	Water Resource Recovery Facility
MDEQ	Michigan Department of Environmental Quality	WTP	Water Treatment Plant
NAB	New Administration Building		
NIEA	North Interceptor East Arm		