



Financial Services Audit Committee Communication

Date: September 21, 2018

To: Great Lakes Water Authority Audit Committee

From: Andrew Sosnoski, Manager, Construction Accounting & Financial Reporting

Re: FY 2018 Construction Work-in-Progress Report through June 30, 2018

Background: The quarterly construction work-in-progress (CWIP) provides information and analysis related to the execution of the Great Lakes Water Authority capital improvement program (CIP).

Analysis: The attached documents summarize the FY 2018 CWIP activity and provides a detailed snapshot to inform decision makers and stakeholders.

Proposed Action: Receive and file report.



**Construction Work-in-Progress Quarterly Report
(Unaudited, Pre-close)**

As of June 30, 2018

For questions, please contact:

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Prepared 9.18.2018

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September 21st, 2018

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 June 30, 2018. While KPI's now being released monthly are at a summary level, the information in this report presents a detailed snapshot to inform decision makers and stakeholders. This is important as we and approach the implementation of the FY 2019–2023 Capital Improvement Plan (CIP).

During the development of the FY 2019-2023 CIP plan, the FY 2018 CIP was reforecast to align with anticipated spend. The FY 2018 realignment has been reflected in this report.

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:

Percent of Spend Compared to Budget and Capital Improvement Plan (CIP) Requests: 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 status or financial activity. This table may be used to revisit priorities, workload, and phasing.

Budget Amendments / Allowance & Program Analysis: This information identifies the specific usage and the reallocation of allowance and program budgets to CIP projects

Financial Information

All project amounts are unaudited and are “pre-close”. This means that direct contractor costs are generally included in these totals with most pay estimates entered through June 30, 2018. 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
- ✓ 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.

Direct Labor Capitalization – Technology solutions have been procured to improve direct labor capture accuracy, timeliness and ease in which labor costs are captured. This solution named *BigTime*, was successfully launched on the previously anticipated date of July 1, 2018.

Indirect Labor Capitalization – An effort to identify and capture indirect labor related to the capital process remains underway.

WATER SYSTEM

Percent of Spend Compared to Annual Budget and Capital Improvement Plan (CIP) Requests

The rate of spend of is a key performance indicator. The development of the FY 2019-2023 CIP included a realignment of projected spend for FY 2018 and forward to accurately forecast planned spend. The Water system spend is 92.4% of the FY 2018 realigned budget. While the ratios for FY 2017 of 37.9% and for FY 2018 of 33.6% are lower than a simple benchmark of 80% the FY 2019 CIP Net Budget is funded at 100% and anticipated to achieve spending in full. Numerous project designs have already and/or will soon complete that will allow for increased construction spend to occur in FY 2019. The effort associated with the development of new spend projections and ongoing effort of monitoring spend are anticipated to result in 100% spend in FY19.

Water System Projects	FY 2017 Original Plan and Budget	FY 2017 Activity	FY 2017 Activity as a Percentage of Budget	FY 2018 Amended Budget	FY 2018 Pre-Close Activity (Unaudited)	FY 2018 Pre-Close as a Percent of Budget (Unaudited)
FY 2017 CIP Project Requests @ 100%	\$ 130,232,000	\$ 39,483,833	30.3%			
FY 2017 CIP Net Budget (approx. 80% of request)	104,185,600	39,483,833	37.9%			
FY 2018 CIP Project Requests @ 100%				\$ 137,655,000	\$ 37,013,482	26.9%
FY 2018 CIP Net Budget (approx. 80% of request)				110,124,000	37,013,482	33.6%
FY 2018 CIP Realigned Forecast as per 2019 CIP				40,043,000	37,013,482	92.4%

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 2018 to date, **five projects account for \$16.5 million or 44.6% 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 per CIP (Life of Projects)	Life-to-Date Through June 30, 2017	FY 2018 Requested Budget Per Realigned CIP	FY 2018 Pre-Close Activity (Unaudited)	FY 2018 Pre-Close as a Percent of Spend (Unaudited)
Project 114001- Springwells WTP 1958 Filter Rehabilitation	\$ 77,422,000	\$ 82,884,422	\$ 7,281,000	\$ 6,425,152	17.4%
Prebifurcation budget not included in CIP 114001	6,500,000				
Total Project Budget	<u>\$ 83,922,000</u>				
Project 114003-Water Production Flow Metering Improvements at NE, SW, and SPW WTP Total	12,900,000	184,952	704,000	3,259,862	8.8%
Project 114015-Emergency Grating Replacement at Springwells WTP	2,500,000	253,623	2,763,213	2,483,374	6.7%
Project 115004-Water Works Park WTP Chlorine System Upgrade	9,690,000	370,797	672,000	2,155,956	5.8%
Project 116002- PA, SW and NE Raw Water Tunnel Improvements	32,400,000	10,401	3,625,000	2,167,584	5.9%
Selected Projects as a Percentage of the Total	<u>\$ 141,412,000</u>	<u>\$ 83,704,195</u>	<u>\$ 15,045,213</u>	<u>\$ 16,491,928</u>	44.6%
Total			<u>\$ 40,043,000</u>	<u>\$ 37,013,482</u>	100.0%

The following analysis provides brief highlights related to these projects.

Project 114001 – Springwells Water Treatment Plant 1958 Filter Rehabilitation

Water System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017	FY 2018 Requested Budget Per Realigned CIP	FY 2018 Pre-Close Activity (Unaudited)	FY 2018 Pre-Close as a Percent of Spend (Unaudited)
Project 114001- Springwells WTP 1958 Filter Rehabilitation	\$ 77,422,000	\$ 82,884,422	\$ 7,281,000	\$ 6,425,152	17.4%
Prebifurcation budget not included in CIP 114001	6,500,000				
Total Project Budget	<u>\$ 83,922,000</u>				

Project Engineer/Manager: Grant Gartrell

Manager: Grant Gartrell

Total Construction and Construction Assistance Budget: \$77,422,000

Timeline: To be completed by November 2018

FY 2018 Last Pay Estimate Processed: June 30, 2018

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 continues with the installation of new stop logs and guides in the 1930 weir chamber, renovation of the laboratory and offices in the administration building, installation of new heating, ventilating and air-conditioning equipment in the administration building, rehabilitation of elevators in the switch house, store house and boiler house buildings, and construction of the 1958 breezeway.

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

Additional Construction Accounting & Financial Reporting Team Comments: Total project budget per the Board approved CIP schedule does not include the historical, pre-fiscal year 2017 budget for the design contract CS-1425 nor the allocation of the Water Treatment Plant Allowance to fund CS-200 the Owner’s Representative (RPR) consultant contract. The design contract has a total budget amount of \$6,500,000.

FY 2018-2022 CIP Page VI-3 for Project 114001 – Springwells Water Treatment Plant 1958 Filter Rehabilitation

CIP Number: CIP 917
Title: SPRINGWELLS WATER TREATMENT PLANT 1958 FILTER REHABILITATION AND AUXILIARY FACILITIES

Classification: 114: Water > Treatment Plants & Facilities > Springwells
Managing Dept: Water Eng
RC Score: NA
Contract No.: CS-1425, SP-563
Significance: Rehabilitation of Springwells WTP 1958 Filters and 1930s failed filters to provide the WTP with a renovated capacity of 295 MGD
Location: Springwells WTP
Driver: N/A - Active
Explanation: N/A - Active

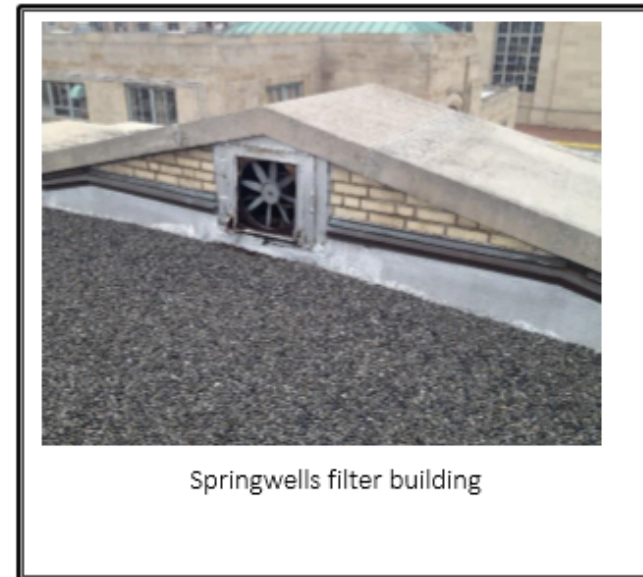
Preliminary Scope of Work:

This project includes the study, design (CS-1425) and construction assistance 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.

Challenges: N/A - Active

Initial Project Cost Estimates (in \$1000s)

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
S/D/C A	Active	1/18/2008	1/18/2018	\$0	\$353	\$95	\$0	\$0	\$0	\$0	\$0	\$95	\$448
C	Active	7/8/2013	3/14/2018	\$56759	\$20000	\$215	\$0	\$0	\$0	\$0	\$0	\$215	\$76974
Totals				\$56759	\$20353	\$310	\$0	\$0	\$0	\$0	\$0	\$310	\$77422



Springwells filter building

*Budget Amendment 6094 for RPR Services increases planned CIP from \$310,000 to \$1,200,000

Project 114003-Water Production Flow Metering Improvements at NE, SW and SPW WTP

Water System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017	FY 2018 Requested Budget Per Realigned CIP	FY 2018 Pre-Close Activity (Unaudited)	FY 2018 Pre-Close as a Percent of Spend (Unaudited)
Project 114003-Water Production Flow Metering Improvements at NE, SW, and SPW WTP Total	12,900,000	184,952	704,000	3,259,862	8.8%

Project Engineer/Manager: Jorge Nicolas

Manager: Grant Gartrell

Total Budget: \$12,900,000

Timeline: July 31, 2019

FY 2018 Last Pay Estimate Processed: June 30, 2018

Key Contracts/Vendors: CON-133 Lakeshore Global Corporation

Project Description: Rehabilitate the existing water production meters at Northeast, Southwest and Springwells Water Treatment Plants.

Purpose: Rehabilitation of the meters will provide direct measurement of finished water flows that are pumped out of the plants to the transmission system. The rehabilitated flow meters will improve the accuracy and reliability of measuring water production flows from these water treatment plants.

Status: Construction work is currently being performed at the Northeast and Southwest Water Treatment Plants. Two new flow meters were installed at Southwest plant. Substantial completion for Southwest delayed to November 16, 2018 due to discovery of a damaged 72" main that must be repaired as soon as possible. A Construction Change Directive is in process and work on the 72" main repair. Substantial completion for the Northeast Water treatment plant is August 31, 2018. Four new 66" gate valves were installed and four flow meters rehabilitated at Northeast plant, other miscellaneous work is underway. Work on Springwells plant to start soon after Northeast plant substantial completion.

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 2018-2022 CIP Page VI-17 for Project 114003-Water Production Flow Metering Improvements at NE, SW and SPW WTP

CIP Number: CIP 1264

Title: WATER PRODUCTION FLOW METERING IMPROVEMENTS AT NE, SW, AND SPW WTP

Classification: 114: Water > Treatment Plants & Facilities > Springwells

Managing Dept: Water Eng

RC Score: 41.4

Contract No.: NA

Significance: Existing water production flow meters need to be rehabilitated to place back into reliable and accurate service. Once completed, accurate flow measurement from these plants will answer non-revenue water questions.

Location: Springwells, Northeast and Southwest WTP

Driver: 7 - Financial

Explanation: Not provided.

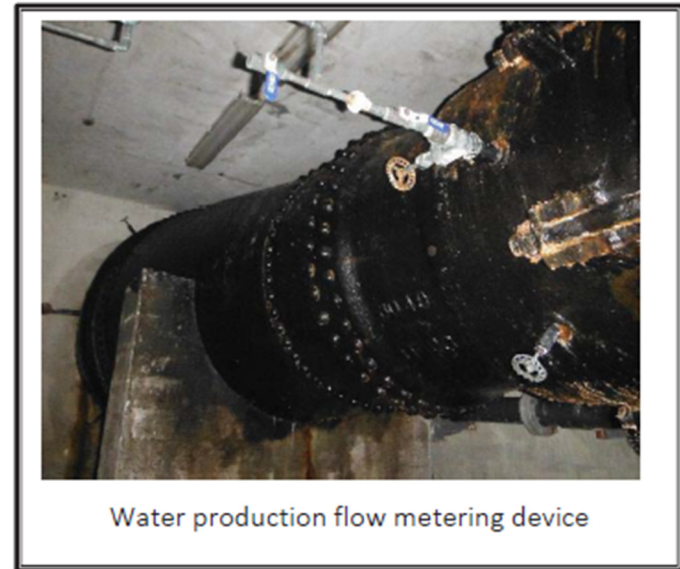
Preliminary Scope of Work:

Water production metering is needed at the Water Treatment Plants to manage non-revenue and provide estimates of usage for non-wholesale customers.

Challenges: Removing and replacing existing meters in original piping requires isolation using existing yard piping and valving. Condition of existing pipe and valves needs to be adequately addressed in the final design documents and coordinated with operations.

Initial Project Cost Estimates (in \$1000s)

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
C	Not Yet Started	NA	NA	\$0	\$1000	\$8800	\$2100	\$1000	\$0	\$0	\$0	\$11900	\$12900
Totals				\$0	\$1000	\$8800	\$2100	\$1000	\$0	\$0	\$0	\$11900	\$12900



Water production flow metering device

Project 114015 – Emergency Grating Replacement at Springwells WTP

Water System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017	FY 2018 Requested Budget Per Realigned CIP	FY 2018 Pre-Close Activity (Unaudited)	FY 2018 Pre-Close as a Percent of Spend (Unaudited)
Project 114015-Emergency Grating Replacement at Springwells WTP	2,500,000	253,623	2,763,213	2,483,374	6.7%

Project Manager/Manager: Erich Klun

Manager: Grant Gartrell

Total Budget: \$3,245,186.00 (including Change Order No. 1)

Timeline: The contract time was extended by 210 calendar days and now ends on November 27, 2018 due to increased scope costing \$745,186 per Change Order No. 1 approved by the Board of Directors on April 25, 2018.

FY 2018 Last Pay Estimate Processed: June 30, 2018

Key Contracts/Vendors: SCP-DB-112 Barton Malow Company

Project Description: The base scope of the contract involves replacement of grating and supports in the low lift pumping station at elevation 42.0 feet and replacement of the low lift station sump pumps. Change Order No. 1 added the replacement of select high lift header piping steel supports in the high-lift header vault, replacement of a steel reinforced concrete column in the basement of the administration building, and replacement of hatch covers at an outdoor vault near the drainage pump house at the site.

Purpose: Replace grating, supports, columns, and hatch covers that are significantly deteriorated and are in danger of failure. Replace sump pumps in the low lift station that are not reliable and protect the low lift station from flooding.

Status: The base scope of the contract is complete in the low lift station and contractor is proceeding with the additional scope added via Change Order No. 1 totaling \$745,186 as detailed in project description above.

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 2018-2022 CIP Page VI-71 for Project 114015 – Emergency Grating Replacement at Springwells

CIP Number: CIP 1412
Title: EMERGENCY GRATING REPLACEMENT AT SPRINGWELLS WTP

Classification: 114: Water > Treatment Plants & Facilities > Springwells
Managing Dept: WSO Engineering

RC Score: NA

Contract No.: NA

Significance: Original grating and supporting structural steel dating back to 1930 has deteriorated to the point where operator, consultant and contractor safety at Springwells is severely compromised. Additionally, structural failure could result in lost water production at Springwells.

Location: Springwells Water Treatment Plant

Driver: 1 – Condition

Explanation: Failure of structural components could injure personnel and/or take Springwells out of commission

Preliminary Scope of Work:

Refer to the RFP and proposals received. The scope is very well defined, and the winning proposal is very well authored. It involves a lot of demolition and replacement of deteriorated grating and structural steel at five (5) locations at Springwells, the bulk of which is in the Low Lift Station.

Challenges: Maintaining operations through execution of the work.

Initial Project Cost Estimates (in \$1000s)

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
D	New	NA	NA	\$0	\$250	\$250	\$0	\$0	\$0	\$0	\$0	\$250	\$500
C	New	NA	NA	\$0	\$250	\$1750	\$0	\$0	\$0	\$0	\$0	\$1750	\$2000
Totals				\$0	\$500	\$2000	\$0	\$0	\$0	\$0	\$0	\$2000	\$2500



Deteriorated support beams holding up Low Lift Station Dewatering and Sump Pumps at Elev. 42'-0" (left). Deteriorated grating and access ship's ladder in Low Lift Station - Looking down at Elev. 50'-0" and 42'-0" from Elev. 62'-0" (right).

Project 115004 – Water Works Park WTP Chlorine System Upgrade

Water System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017	FY 2018 Requested Budget Per Realigned CIP	FY 2018 Pre-Close Activity (Unaudited)	FY 2018 Pre-Close as a Percent of Spend (Unaudited)
Project 115004-Water Works Park WTP Chlorine System Upgrade	9,690,000	370,797	672,000	2,155,956	5.8%

Project Engineer/Manger: Todd King

Manager: Grant Gartrell

Total Budget: \$9,690,000

Timeline: The project involves the complete replacement of the chlorine disinfection system at Water Works Park. The project began January 2018, is currently under construction, and has a substantial completion target date of January 10, 2020. Final completion is scheduled for April 10, 2020. Currently the project is running ahead of schedule at 37 percent complete versus an elapsed time of 22 percent, per contract timeline.

FY 2018 Last Pay Estimate Processed: June 30, 2018

Key Contracts/Vendors: CON-208 Detroit Contracting Inc. Design: SCP-CS-1721 CDM Smith Inc.

Project Description: The Water Works Park Chlorine System has experienced numerous issues with leaks and unreliable service. The project was initiated to replace the entire system with chlorine equipment that had been demonstrated effective at the other four water treatment plants.

Purpose: Replace the existing system that poses risks to human health and the environment. The leaks of highly hazardous chlorine gas pose unacceptable risks to GLWA staff and potentially the public.

Status: Project is proceeding ahead of schedule.

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 2018-2022 CIP Page VI-70 for Project 115004 – Water Works Park WTP Chlorine System Upgrade

CIP Number: CIP 1410

Title: WATER WORKS PARK WTP CHLORINE SYSTEM UPGRADE

Classification: 115: Water > Treatment Plants & Facilities > Water Works Park

Managing Dept: WSO Engineering

RC Score: NA

Contract No.: NA

Significance: WWP Chlorine System suffered a major leak in 2014. Since that time, additional leaks and maintenance issues have occurred on a more frequent basis. Due to the toxicity of chlorine gas, this project is a high priority to protect worker safety and the general public.

Location: Water Works Park

Driver: 5 – Public Health & Safety

Explanation: The current system is experiencing leaks and must be replaced as soon as practicable.

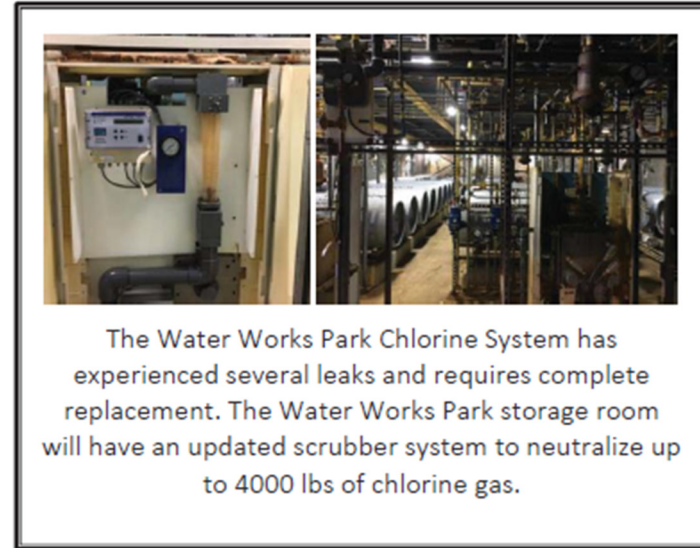
Preliminary Scope of Work:

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.

Initial Project Cost Estimates (in \$1000s)

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
D	New	7/8/2016	1/25/2018	\$0	\$290	\$200	\$200	\$0	\$0	\$0	\$0	\$400	\$690
C	New	NA	NA	\$0	\$0	\$500	\$8500	\$0	\$0	\$0	\$0	\$9000	\$9000
Totals				\$0	\$290	\$700	\$8700	\$0	\$0	\$0	\$0	\$9400	\$9690



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

Water System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017	FY 2018 Requested Budget Per Realigned CIP	FY 2018 Pre-Close Activity (Unaudited)	FY 2018 Pre-Close as a Percent of Spend (Unaudited)
Project 116002- PA, SW and NE Raw Water Tunnel Improvements	32,400,000	10,401	3,625,000	2,167,584	5.9%

Project Engineer/Manger: Todd King

Manager: Grant Gartrell

Total Budget: \$32,400,000

Timeline: The detailed investigation and preliminary design work under this contract is scheduled to be completed by March 2019. Once the preliminary design is complete, the vendor will submit a guaranteed maximum price (GMP) for the construction of the raw water tunnel rehabilitation and improvements work which is tentatively scheduled to be completed by 2021.

FY 2018 Last Pay Estimate Processed: June 30, 2018

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 substantial deterioration in the form of cracking and ovality have been observed.

Status: The contract started on January 29, 2018. The project kickoff workshop has been conducted and the vendor is currently preparing its implementation and safety plans for entering the raw water tunnels to conduct a detailed inspection. The results of the detailed inspection will be used to prepare the preliminary design documents for the project.

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 2018-2022 CIP Page VI-55 for Project 116002 - PA, SW and NE Raw Water Tunnel Improvements

CIP Number: CIP 1327

Title: PENNSYLVANIA, SPRINGWELLS AND NORTHEAST RAW WATER SUPPLY TUNNEL IMPROVEMENTS BASED ON CONTRACT CS-1623 INSPECTION RESULTS

Classification: 116: Water > Treatment Plants & Facilities > General Purpose

Managing Dept: Water Eng

RC Score: 64.4

Contract No.: DB-150

Significance: Project critical to production at Springwells WTP during repurposing of Northeast WTP as recommended by the 2015 WMPU. Contract CS-1623 identified problem areas on the raw water supply system that compromised the system's ability to meet demands during the repurposing of Northeast WTP.

Location: Springwells, Northeast, & Pennsylvania raw water tunnels

Driver: 1 - Condition

Explanation: Failure of the affected raw water tunnels could impact as much as 50% of the GLWA customers.

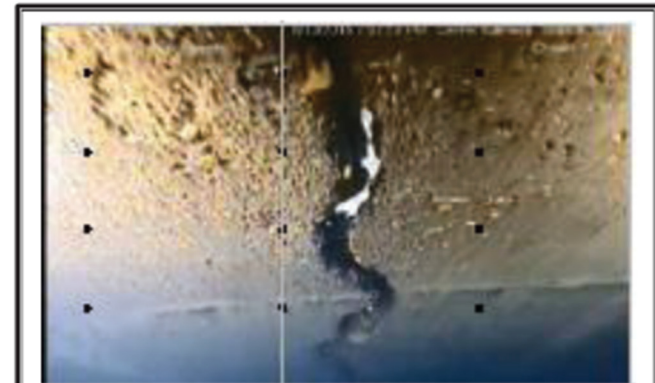
Preliminary Scope of Work:

The scope of work is to conduct supplemental investigations to design the repairs for the sections of tunnel identified in CS-1623 as having structural concerns. Three areas were identified with the highest concern being a portion of the Springwells Tunnel near the Springwells WTP.

Challenges: The tunnels are approximately 80 feet below the surface of the Detroit River. This poses challenges for assessing the extent of damage to the structures, as well as repair. Dewatering the tunnels to repair them will create extensive stresses that must be considered prior to performing the work.

Initial Project Cost Estimates (in \$1000s)

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
DB	Not Yet Started	NA	NA	\$0	\$500	\$2000	\$10000	\$15000	\$4900	\$0	\$0	\$31900	\$32400
Totals				\$0	\$500	\$2000	\$10000	\$15000	\$4900	\$0	\$0	\$31900	\$32400



Crown cracks are especially concerning in the Springwells Raw Water Tunnel

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.

The CWIP Rollforward provides a project status for each item.

Future Year:	Project that was included in the CIP with no expenditures (F)
Active:	Project in which procurement process has been initiated and expenditures incurred (A)
Pending Close:	Project that has no projected expenditures for the current fiscal year and has reached substantial completion (PC)
Closed:	Project that has been closed and capitalized (C)

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. The following projects have been identified for FY 2018 capitalization:

- CIP 111002 CIP 111005 CIP 114001 CIP 114015 CIP 115002 CIP 122014
- CIP 122015 CIP 170103 CIP 170105 CIP 170107 CIP 170502 CIP 170701
- CIP 361001

\$150.6 million is in CWIP as of June 30, 2018 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.

Status	Project Count	Total Project Estimated Budget	Percent of Total
Future	23	134,605,000	12%
Active	76	966,814,000	83%
Pending Close	12	65,919,000	5%
Closed	3	2,041,000	0%
Grand Total	114	1,169,379,000	100%

**Great Lakes Water Authority
Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward
Unaudited, Pre-Close Activity For the Fiscal Year Ended June 30, 2018**

CIP #	Brief Description	Funding Source	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited)							FY 2018 Activity (Unaudited), Pre-Close	Transfers Out of CWIP	Unaudited, Pre-Close CWIP Balance, June 30, 2018
						Construction: (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)	Capital Allocation: Benefits (601997)			
004430	Project 004430-DWSD: Contract Replacement Water Main	B	A	-	75,804										75,804
007412	Project 007412- Water Main Repairs shared service with DWSD	SRF	A		536,930	2,854,044							2,854,044		3,390,974
111001	Project 111001-Energy Management: Lake Huron Water Treatment Plant Low Lift Pumping Improvements	B	F	5,700,000	-										-
111002	Project 111002 LHWTP Backflow Replacement	B	A	7,902,000	309,471	1,594,085	97,646			13,577	5,380		1,710,688		2,020,159
111003	Project 111003-Evaluation of Flocculation Improvement Alternatives at the LHWTP	B	F	125,000	-										-
111004	Project 111004-Electrical Tunnel Rehabilitation at Lake Huron WTP	B	A	5,600,000	-		62,215			337	133		62,685		62,685
111005	Project 111005-Miscellaneous Concrete Improvements at the Lake Huron WTP	B	PC	923,000	754,581					2,010	804		2,813		757,395
111006	Project 111006-Replacement of Filter Instrumentation and Raw Water Flow Metering Improvements at Lake Huron WTP	B	A	24,630,000	253,138		481,140			342	136		481,618		734,756
111007	Project 111007-Lake Huron WTP-Raw Sludge Clarifier and Raw Sludge Pumping System Improvements	B	A	7,133,000	9,332		274,362			212	84		274,657		283,989
112001	Project 112001-Yard Piping Replacement at Northeast Water Treatment Plant	B	A	800,000	-	256,582	41,648			8,325	3,314		309,868		309,868
112002	Project 112002-Low Lift Pumping Plant Caisson Rehabilitation at Northeast WTP	B	A	1,775,000	163,085										163,085
113001	Project 113001-Southwest Water Treatment Plant, Sludge Treatment & Waste Wash water Treatment Facilities	B	A	49,380,000	39,885										39,885
113002	Project 113002-High Lift Pump Discharge Valve Actuators Replacement at Southwest WTP	B	A	2,120,000	115,027		105,941			20,373	8,106		134,420		249,447
113003	Project 113003-Replacement of Butterfly Valves and Sluice Gates for Rapid Mix Chamber at Southwest WTP	B	F	2,940,000	-										-
113004	Project 113004-Residual Handling Facility's Decant Flow Modifications at Southwest WTP	B	A	5,509,000	141,675		37,157			14,024	5,574		56,756		198,431
114001	Project 114001-Springwells Water Treatment Plant 1958 Filter Rehabilitation and Auxiliary Facilities	B	A	\$ 78,312,000	\$ 82,884,422	\$ 5,333,025	\$ 867,897		\$ 100,380	\$ 88,739	\$ 35,111		6,425,152	(22,781,291)	66,528,283
114002	Project 114002-Springwells Water Treatment Plant - Low Lift and High Lift Pump Station	B	A	86,000,000	22,480		467,939			6,626	997		475,562		498,042

**Great Lakes Water Authority
Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward
Unaudited, Pre-Close Activity For the Fiscal Year Ended June 30, 2018**

CIP #	Brief Description	Funding Source	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited)							FY 2018 Activity (Unaudited), Pre-Close	FY 2018 Transfers Out of CWIP	Unaudited, Pre-Close CWIP Balance, June 30, 2018
						Construction: (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)	Capital Allocation: Benefits (601997)			
114003	Project 114003-Water Production Flow Metering Improvements at NE, SW, and SPW WTP	B	A	12,900,000	184,952	3,019,631	186,236				39,897	14,098	3,259,862		3,444,814
114004	Project 114004-Miscellaneous Concrete Improvements at Springwells WTP	B	A	998,000	-	30,463	32,814				7,153	2,276	72,706		72,706
114005	Project 114005-Administration Building Improvements at Springwells WTP	B	F	2,000,000	-								-		-
114006	Project 114006-Replacement of Rapid Mix Units at Springwells WTP 1958 Process Train	B	A	1,250,000	104,286		120,856				14,296	5,668	140,820		245,106
114007	Project 114007-Powdered Activated Carbon System Improvements at Springwells WTP	B	F	2,900,000	-								-		-
114008	Project 114008-1930 Sedimentation Basin Sluice Gates, Guides & Hoists Improvements at Springwells WTP	B	F	7,500,000	-								-		-
114009	Project 114009-Springwells Water Treatment Plant Service Area Redundancy Study	B	A	450,000	193,332								-		193,332
114010	Project 114010-Yard Piping Improvements at Springwells WTP	B	F	25,000,000	-								-		-
114011	Project 114011-Steam, Condensate Return, and Compressed Air Piping Improvements at Springwells WTP	B	A	6,250,000	279,784		172,181				15,492	5,572	193,245		473,029
114012	Project 114012-Springwells Water Treatment Plant 1930 Filter Building-Roof Replacement	B	A	3,000,000	-	1,122,212					952	378	1,123,542		1,123,542
114013	Project 114013-Springwells Reservoir Fill Line Improvements	B	A	7,914,000	119,663		87,756				7,002	1,099	95,856		215,519
114014	Project 114014-Springwells WTP Underground Fire Protection Loop Improvements	B	F	3,289,000	-								-		-
114015	Project 114015-Emergency Grating Replacement at Springwells WTP	B	A	2,500,000	253,623	2,430,349	31,750				18,217	3,058	2,483,374	(2,523,156)	213,840
115001	Project 115001-Yard Piping, Valves and Venturi Meters Replacement at Water Works Park	B	A	53,900,000	8,977		655,460				12,298	4,892	672,649		681,626
115002	Project 115002-Miscellaneous Concrete and Road Improvements at Waterworks Park WTP	B	PC	3,036,000	1,951,164	16,102	9,676				4,750	1,900	32,428	(1,983,592)	(0)
115003	Project 115003-Comprehensive Condition Assessment at Waterworks Park WTP	B	A	575,000	-		430,024				6,995	2,587	439,606		439,606

**Great Lakes Water Authority
Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward
Unaudited, Pre-Close Activity For the Fiscal Year Ended June 30, 2018**

CIP #	Brief Description	Funding Source	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited)						FY 2018 Activity (Unaudited), Pre-Close	FY 2018 Transfers Out of CWIP	Unaudited, Pre-Close CWIP Balance, June 30, 2018	
						Construction: (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)				Capital Allocation: Benefits (601997)
115004	Project 115004 Water Works Park WTP Chlorine System Upgrade	B	A	9,690,000	370,797	2,013,343	134,720				5,929	1,964	2,155,956		2,526,753
116001	Project 116001-Miscellaneous Improvements to Raw Water Tunnels, Shafts and Related Structures	B	F	2,500,000	-										-
116002	Project 116002-Pennsylvania, Springwells and Northeast Raw Water Supply Tunnel Improvements based on Contract CS-1623 Inspection Results	B	A	32,400,000	10,401	2,162,622	-				3,554	1,408	2,167,584		2,177,985
116003	Project 116003-Genesee and Lapeer County Transmission System Improvements	B	F	6,800,000	-										-
122001	Project 122001-Parallel 42-Inch Main in 24 Mile Road from Rochester Station to Romeo Plank Road	B	A	30,008,000	32,570,891	862,447	130,751				1,232	488	994,917		33,565,809
122002	Project 122002-Replacement of Five (5) PRV Pits of Treated Water Transmission System	B	A	2,220,000	1,696,488		147,675				241	95	148,011		1,844,499
122003	Project 122003-New Waterworks Park to Northeast Transmission Main	B	A	130,000,000	19,372		1,612,428				16,647	6,557	1,635,632		1,655,004
122004	Project 122004-96-Inch Main Relocation, Isolation Valves Installations, and New Parallel Main	B	A	139,000,000	459,919		630,667				28,794	10,371	669,832		1,129,751
122005	Project 122005-Transmission System Water Main Work - Replacement of Schoolcraft Water Main	B	A	14,550,000	-						3,960	-	3,960		3,960
122006	Project 122006-Transmission System Water Main Work-Wick Road Parallel Water Main	B	A	19,350,000	23,300										23,300
122007	Project 122007-Design and Construction of a new Newburgh Road 24" Main along Newburgh Road between Cherry Hill and Glenwood Avenue	B	F	4,000,000	-										-
122009	Project 122009-Water System Improvements in Joy Road from Southfield Road to Trinity	B	A	8,423,000	106,881										106,881
122010	Project 122010-Water Main Replacement within the City of Detroit - Joy Rd from Greenfield to Schaefer and Davison Ave from Linwood to Livernois	B	F	3,128,000	-										-
122011	Project 122011-Park-Merriman Water Main-Final Phase	B	A	4,000,000	-		156,338						156,338		156,338
122012	Project 122012-36-inch Water Main in Telegraph Road	B	A	7,061,000	8,125,683	1,086,849	160,123				32,466	12,880	1,292,318		9,418,001
122013	Project 122013-Lyon Township Transmission Main Extension Project	B	F	29,800,000	-										-

Water System Construction Work-in-Progress Quarterly Report

As of June 30, 2018

**Great Lakes Water Authority
Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward
Unaudited, Pre-Close Activity For the Fiscal Year Ended June 30, 2018**

CIP #	Brief Description	Funding Source	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited)							FY 2018 Activity (Unaudited), Pre-Close	FY 2018 Transfers Out of CWIP	Unaudited, Pre-Close CWIP Balance, June 30, 2018
						Construction: (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)	Capital Allocation: Benefits (601997)			
122014	Project 122014-48-Inch Water Main Installation at Vining and Wick Roads in Romulus	B	A	4,535,000	3,839,433	110,084	61,341			161	64	171,651		4,011,084	
122015	Project 122015-30-Inch Water Main	B	PC	2,327,000	2,345,314	115,459						115,459	(2,460,774)	(0)	
132001	Project 132001-Wick Road Station Rehabilitation	B	A	13,702,000	85	129,995				123	49	130,168		130,253	
132002	Project 132002-Replacement of Switchgear at Joy Road Pumping Station	B	C	612,000	-							-		-	
132003	Project 132003-Isolation Gate Valves for Line Pumps for West Service Center Pumping Station	B	A	1,521,000	66,236	71,404				750		72,154		138,390	
132004	Project 132004-Hydraulic Surge Control for North Service Center Pumping Station	B	A	2,800,000	75,075	129,540				7,266	2,890	139,696		214,771	
132005	Project 132005-Energy Management: Evaluate Alternatives and Recommend Corrective Actions to Improve Power Factors (PF) at Various GLWA Booster Pumping Stations	B	F	250,000	-							-		-	
132006	Project 132006-Pressure and Control Improvements at the Electric, Ford Road, Michigan, and West Chicago Water Booster Pumping Stations	B	A	3,000,000	7,524	146,307				5,455	2,174	153,937		161,460	
132007	Project 132007-Energy Management: Freeze Protection Pump Installation at Imlay Pumping Station	B	A	1,000,000	-					6,569	2,601	9,170		9,170	
132008	Project 132008-Needs Assessment Study for all Water Booster Pumping Stations	B	A	1,700,000	33,385	857,618				19,538	2,009	879,164		912,550	
132009	Project 132009-Study Phase Services for Proposed East Service Center Booster Pumping Station and Reservoir	B	A	500,000	10,313							-		10,313	
132010	Project 132010-West Service Center/Duval Rd Division Valve Upgrades	B	A	11,800,000	-	(23,023)						(23,023)		(23,023)	
132011	Project 132011-Energy Management: West Service Center (WSC) VFD Installation	B	F	3,334,000	-							-		-	
132012	Project 132012- Ypsilanti Pumping Station Improvements	B	A	-	-					2,613	1,035	3,648		3,648	
161001	Project 161001-Comprehensive Water Master Plan Update	B	PC	290,000	-							-		-	
170011	Project 170011-Miscellaneous Heating Improvements Southwest WTP	B	C	563,000	-	3,916						3,916		3,916	
170100	Project 170100-Allowance: WTP/Pump Station	B	A	76,877,010	-							-		-	
170101	Project 170101-Master Specs	B	C	300,000	-							-		-	

Water System Construction Work-in-Progress Quarterly Report

As of June 30, 2018

**Great Lakes Water Authority
Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward
Unaudited, Pre-Close Activity For the Fiscal Year Ended June 30, 2018**

CIP #	Brief Description	Funding Source	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited)						FY 2018 Activity (Unaudited), Pre-Close	FY 2018 Transfers Out of CWIP	Unaudited, Pre-Close CWIP Balance, June 30, 2018	
						Construction: (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)				Capital Allocation: Benefits (601997)
170102	Project 170102-Water Production Plant Flow Metering Improvements at NE, SP & SW WTP	B	A	1,989,000	269,071		63,830				1,644	651	66,126		335,197
170103	Project 17103-Belle Isle Water Supply Intake and Ice Boom Improvements	B	A	369,150	6,243	262,885	15,552				1,373	544	280,353		286,596
170104	Project 170104-Orion and Newburgh Pumping Stations Improvements	B	A	2,590,000	164,615	125,700	44,975				22,004	7,048	199,727		364,343
170105	Project 170105-Phosphoric Acid and Heating System and NE-WTP	B	PC	1,804,620	1,949,623	(22,519)	6,389				1,646	653	(13,831)	(1,935,792)	0
170106	Project 170106- Phosphoric Acid Tank Replacement LHWT	B	F	575,000											-
170107	Project 170107- Belle Isle Water Supply Intake Lagoon Main Entrance Bridge Pile Restoration	B	PC	358,500	12,041	259,431	15,346				8,234	3,293	286,304	(298,344)	0
170108	Project 170108- Adams Road Water Isolation Gate	B	A	1,092,500	625										625
170109	Project 170109-Inspection of Raw Water Intakes and Tunnels	B	A	2,076,120	2,920,548		131,744				1,392	557	133,693		3,054,241
170110	Project 170110- WWP WTP Raw Water Smapling Improvements	B	A	535,600							2,095	831	2,926		2,926
170113	Project 170113-Water Plant Automation	B	A	1,610,000	12,933										12,933
170117	Project 170117-Instrument Air Compressor Systems Replacement at NE-WTP	B	PC	230,000	226,483									(226,483)	0
170118	Project 170118-1958 Sedimentation Basin	B	C	866,000	-										-
170119	Project 170119- Belle Isle Water Supply Intake Lagoon	B	F	115,000											-
170120	Project 170120-Phosphoric Acid Feed System Improvements at Southwest WTP	B	A	207,500	87,031		27,337				11,677	4,643	43,658		130,688
170200	Project 170200-As Needed Construction Materials, Environmental Media and Special Testing Services, Construction Inspection, and Other Technical Services	B	A	-	-										-
170201	Project 170201- Job Order Contract for Construction, Environmental, Speical Testing, Inspection and Other Technical Services	B	A	1,500,000							1,152	457	1,609		1,609
170300	Project 170300-Water Treatment Plant Automation Program	B	A	5,890,000	-										-
170301	Water Plant Automation	B	A				1,363,814						1,363,814		1,363,814
170400	Project 170400-Water Transmission Improvement Program	B	A	45,666,500											-
170401	Project 170401-Emergency Bypass Around Ypsilanti Station	B	PC	1,150,000	373,858	(356,767)	(11,592)		(250)	(3,585)	(1,435)	(373,628)	(230)	-	
170402	Project 170402-Emergency Manned Visual Inspection 84-Inch Transmission Main	B	A	163,500	121,400		34,620						34,620		156,020

**Great Lakes Water Authority
Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward
Unaudited, Pre-Close Activity For the Fiscal Year Ended June 30, 2018**

CIP #	Brief Description	Funding Source	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited)							FY 2018 Transfers Out of CWIP	Unaudited, Pre-Close CWIP Balance, June 30, 2018
						Construction: (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)	Capital Allocation: Benefits (601997)		
170403	Project 170403-Lapeer County Chlorine Booster Station	B	PC	3,020,000	579,723	(579,723)						(579,723)	-	-
170500	Project 170500-Transmission System Valve Assessment and Rehabilitation/Replacement	B	A	-	-							-	-	-
170502	Project 170502-Transmission System Valve Assessment and Rehabilitation/Replacement	B	A	15,330,000		3,429,582				653	259	3,430,494		3,430,494
170600	Project 170600-Water Transmission Main Asset Assessment Program	B	A	10,626,000	-							-	-	-
170701	Project 170701-Booster Station & Reservoirs Program Management	B	PC	11,975,000	12,913,885	62,814						62,814	(12,976,698)	0
170800	Project 170800-Reservoir Inspection, Design and Rehabilitation at Imlay Station, Adams Station, Haggerty Stations, LH-WTP, SP-WTP and SW-WTP	B	A	11,000,000	-							-	-	-
170900	Project 170900-Suburban Water Meter Pit Rehabilitation and Meter Replacement	B	A	20,500,000	-							-	-	-
171501	Project 171501 Roof Replacement various Water Facilities	B	A	-							50,420	50,420		50,420
331001	Project 331002-Roofing Replacement	B	F	11,500,000	-							-	-	-
351001	Project 351001-Water Facility Lighting Renovations	B	F	2,799,000	-							-	-	-
361001	Project 361001-Consolidated Process Control Systems	B	PC	4,237,000	146,482	166,250						166,250	(312,732)	(0)
361002	Project 361002-Data Control Reliab/Avail Improvements	B	A	2,851,000	16,080							-	-	16,080
361003	Project 361003-SCADA Radio Network Upgrade	B	PC	3,484,000	467,427							-	-	467,427
380401	Project 380400-As-Needed CIP Implementation Assistance and Related Services	B	A	-	105,339	(105,339)						(105,339)	-	-
380500	Project 380500-Department-Wide General Engineering Services on an As-Needed Basis	B	A	-	-							-	-	-
380501	Project 380501-Department-Wide General Engineering Services on an As-Needed Basis	B	A	5,260,000	132,282	(132,282)						(132,282)	-	-
380600	Project 380600-General Engineering Services	B	A	-	-							-	-	-
380601	Project 380601-General Engineering Services	B	A	8,014,000	157,971							-	-	157,971
380701	Project 380701-Engineering Services for Concrete Testing, Geotechnical Soil Borings and Services	B	A	2,556,000	115,418	(12,572)						(12,572)	-	102,846
380800	Project 380800-Geotechnical and Related Services on an As-Needed Basis	B	A	2,573,000	-							-	-	-
380801	Project 380801-Geotechnical and Related Services on an As-Needed Basis	B	A	-	82,476							-	-	82,476

Water System Construction Work-in-Progress Quarterly Report

As of June 30, 2018

**Great Lakes Water Authority
Water System Construction Work-in-Progress (CWIP) FY 2018 Rollforward
Unaudited, Pre-Close Activity For the Fiscal Year Ended June 30, 2018**

CIP #	Brief Description	Funding Source	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited)							FY 2018 Activity (Unaudited), Pre-Close	FY 2018 Transfers Out of CWIP	Unaudited, Pre-Close CWIP Balance, June 30, 2018	
						Construction: (616900)	Contractual Engineering Services (617950)	Capitalized Interest (703115)	Other Expenses (617900)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Personnel (601995)	Capital Allocation: Benefits (601997)				
380900	Project 390900-General Engineering Services	B	A	1,513,000	-											
380901	Project 380901- General Engineering Services	B	A	-	74,791		(74,791)						(74,791)			
381000	Project 381000-Energy Management: Electric Metering Improvement Program	B	A	3,000,000	-											
Total # of Projects and Dollars				112	\$ 1,169,379,000	\$ 159,099,050	\$ 26,488,861	\$ 9,807,631	\$ (11,592)	\$ -	\$ 100,130	\$ 465,201	\$ 163,251	\$ 37,013,482	\$ (45,499,092)	\$ 150,613,440
FY 2018 - 2022 Water CIP Total (Page IV-2)					\$ 1,169,378,000	\$ 159,099,050							\$ 37,013,482			
Difference due to rounding					(1,000)											
Items to be reclassified to Capital Outlay FY 2018						287,488										
Total CWIP Reported on FY 2017 Financial Statements						159,386,538										

Funding Source
B- Bonds
SRF - State Revolving Funds

CIP Allowance and Program Summary

Within the FY 2018 – 2022 CIP, GLWA has developed budgets for allowances and programs that provide GLWA flexibility in capital development and improvements.

Allowances are established to provide funding related to unanticipated pipeline and equipment failures that require immediate repair and rehabilitation to continuously meet level of service requirements. Allowances can also be allocated to projects with anticipated or actual spend in excess of CIP budget.

Programs are established to provide funding related to specific capital improvements that are system specific, reoccurring, and vary from year to year.

Below are the allowances and programs within the Water System.

Allowance

170100: Water Treatment Plant / Pump Station Allowance

Programs

170200: As Needed Construction Materials, Environmental Media and Special Testing, Construction Inspection, and Other Technical Services

170300: Water Treatment Plant Automation Program

170400: Water Transmission Improvement Program

170500: Transmission System Valve Rehabilitation and Replacement Program

170600: Water Transmission Main Asset Assessment Program

170700: Reservoirs Inspection, Repair and Rehabilitation Program

170800: Reservoir Inspection, Design and Rehabilitation at Imlay Station, Adams Station, Haggerty Station, LH-WTP, SPW-WTP and SW-WTP

170900: Suburban Water Meter Pit Rehabilitation and Meter Replacement

Great Lakes Water Authority
Board Approved CIP Allowance/Program Summary
Allowance: 170100 Water Treatment / Pump Station

CIP#	Contract Number	Description	Current Year Budget Amendment	Board /Administrative Approved	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170100		Water Treatment / Pump Station Allowance			19,650,000	20,000,000	20,000,000	10,000,000	10,000,000
		Lake Huron Treatment Plant Mechanical Improvements	9410	Board	(381,000)	(579,000)			
112002	CON-215	Low Lift Chaisson Rehabilitation at NEWTP	6857	Administrative	(247,000)	(195,000)	0	0	0
114001	CS-200	Resident Project Representative and O&M for SP-564	6904	Administrative	(890,000)	0	0	0	0
114013	SCP-CS-038	Professional Engineering Services Springwell WTP	6905	Administrative	(207,000)	(172,500)	(34,500)	0	0
170011	SCP-SW-011	Miscellaneous Heating Improvements at Southwest WTP			0	0	0	0	0
170101	SCP-CS-1630	Water Transmission Pipeline Improvements			0	0	0	0	0
170102	SCP-CS-1656	Water Production Plant Flow Meter	6859	Administrative	(105,000)	0	0	0	0
170103	SCP-CON-094	Belle Isle Ice Boom Replacement & Reinforcement Upgrade			0	0	0	0	0
170104	CON-225	Orion Pumping Station Improvements	6923	Board	(500,000)	(1,800,000)	0	0	0
170105	SCP-NE-017	Phosphoric Acid and Heating System Improvements			0	0	0	0	0
170106	SCP-LH-398	Phosphoric Acid Tank Replacement LHWT			0	0	0	0	0
170107	SCP-DWS-059	Belle Isle Water Intake Bridge Improvements	6862	Administrative	(358,500)	0	0	0	0
170108	SCP-DWS-063	Adams Rd Water Booster Isolation Gate	6900	Administrative	(192,500)	0	0	0	0
170109	SCP-CS-1623	Inspection of Three Water Intakes	6864	Board	(500,000)	(3,000)	0	0	0
170110	CON-153	WWPWP Raw Water Sampling Improvements			0	0	0	0	0
170117	SCP-NE-007A	Instrument Air Compressor NEWTP			0	0	0	0	0
170118	SCP-SP-009	Sedimentation Basin Sludge Removal			0	0	0	0	0
170119	SCP-CS-1685	Belle Isle Water Supply Intake Lagoon			0	0	0	0	0
170120	SCP-CS-1692	Acid and Chlorine Feed Improvements SWWP			0	0	0	0	0
		Available Balance			16,269,000	17,250,500	19,965,500	10,000,000	10,000,000

Great Lakes Water Authority
Board Approved CIP Allowance/Program Summary
Program: 170200 As Needed Construction Materials, Environmental Media and Special Testing Services
Construction Inspection, and other Technical Services

CIP#	Contract Number	Description	Current Year Budget Amendment	Board /Administrative Approved	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170200		As Needed Materials and Services			500,000	500,000	500,000	0	0
Available Balance					500,000	500,000	500,000	0	0

Great Lakes Water Authority
Board Approved CIP Allowance/Program Summary
Program: 170300 Water Treatment Plant Automation

CIP#	Contract Number	Description	Current Year Budget Amendment	Board /Administrative Approved	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170300		Water Treatment Plant Automation Program			1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
170113	CS-108	Water Plant Automation Needs Assessment	6867	Board	(1,090,000)				
Total		Available Balance			410,000	1,500,000	1,500,000	1,500,000	1,500,000

Great Lakes Water Authority
Board Approved CIP Allowance/Program Summary
Program: 170400 Water Transmission Improvement

CIP#	Contract Number	Description	Current Year Budget Amendment	Board /Administrative Approved	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170400		Water Transmission Improvements Program			10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
170402	PO# 0004292	84" Transmission Water Main Assessment in Troy							
170403	GLWA-DBW-070	Lapeer County Chlorine Booster Stations	6932	Board	(2,900,000)	(120,000)			
Available Balance					7,100,000	9,880,000	10,000,000	10,000,000	10,000,000

Great Lakes Water Authority
Board Approved CIP Allowance/Program Summary
Program: 170500 Transmission System Valve Rehabilitation and Replacement

CIP#	Contract Number	Description	Current Year Budget Amendment	Board /Administrative Approved	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170500		Transmission System Valve Assessment and Rehabilitation / Replacement			2,930,000	3,100,000	3,100,000	3,100,000	3,100,000
170502	CON-181	Transmission System Valve Assessment and Rehabilitation and Replacement	6977	Board	(2,930,000)	(3,100,000)	(3,100,000)	(870,000)	
Available Balance					0	0	0	2,230,000	3,100,000

Great Lakes Water Authority
Board Approved CIP Allowance/Program Summary
Program: 170600 Water Transmission Main Asset Assessment

CIP#	Contract Number	Description	Current Year Budget Amendment	Board /Administrative Approved	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170600		Water Transmission Main Asset Assessment Program			2,626,000	2,000,000	2,000,000	2,000,000	2,000,000
		Available Balance			2,626,000	2,000,000	2,000,000	2,000,000	2,000,000

Great Lakes Water Authority
Board Approved CIP Allowance/Program Summary
Program: 170700 Reservoirs Inspection, Repair and Rehabilitation

CIP#	Contract Number	Description	Current Year Budget Amendment	Board /Administrative Approved	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170700		Booster Stations and Reservoirs Inspection, Rehabilitation and Inspection Repair Program			88,000				
170701	DWS-874	Booster Stations & Reservoirs Inspection	N/A		(88,000)	0	0	0	0
		Available Balance			0	0	0	0	0

Great Lakes Water Authority
Board Approved CIP Allowance/Program Summary
Program: 170800 Reservoir Inspection, Design and Rehabilitation at Implay Station, Adams Station
Haggerty Station, LH-WTP, SPW-WTP and SW-WTP

CIP#	Contract Number	Description	Current Year Budget Amendment	Board /Administrative Approved	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170800		Reservoir Inspection, Design and Rehabilitation at Implay Station, Adams Station, Haggerty Station, LH-WTP, SP-WTP and SW-WTP Program			3,300,000	2,550,000	2,550,000	2,550,000	
Available Balance					3,300,000	2,550,000	2,550,000	2,550,000	0

Great Lakes Water Authority
Board Approved CIP Allowance/Program Summary
Program: 170900 Suburban Water Meter Pit Rehabilitation and Meter Replacement

CIP#	Contract Number	Description	Current Year Budget Amendment	Board /Administrative Approved	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
170900		Suburban Water Meter Pit Rehabilitation and Meter Replacement Program			4,000,000	4,000,000	4,000,000	4,000,000	4,000,000
Available Balance					4,000,000	4,000,000	4,000,000	4,000,000	4,000,000

Budget Amendment Reporting

Scope: Budget amendments seek to properly allocate funds from the allowance and programs within the Capital Improvement Plan (CIP) for the budgeted years by the reallocation of funds from the budgeted allowance or programs level to the actual project level.

Process: Steps are listed below.

- 1) Properly identify projects that utilize funds from the allowance or programs
- 2) Reallocate the funds from the budgeted allowance or programs level through a journal entry
- 3) Attach documents that support the reallocation (CIP funding request, contract transmittal, or change orders)
- 4) Create, review, and approve budget amendment journal entry

Water - Summary Budget Amendments

CIP Project	FY 2018					FY 2018
	Original Budget	Q1 Amendments	Q2 Amendments	Q3 Amendments	Q4 Amendments	Amended Budget
111001						
Project 111001-Energy Management: Lake Huron Water Treatment Plant Low Lift Pumping Improvements	\$ 2,500,000	\$ -	\$ -	\$ -	\$ (2,500,000)	\$ -
111002						
Project 111002 LHWTP Backflow Replacement	1,030,000	-	-	381,000	(630,000)	781,000
111003						
Project 111003-Evaluation of Flocculation Improvement Alternatives at the LHWTP	125,000	-	-	-	(125,000)	-
111004						
Project 111004-Electrical Tunnel Rehabilitation at Lake Huron WTP	1,000,000	-	-	-	(882,520)	117,480
111005						
Project 111005-Miscellaneous Concrete Improvements at the Lake Huron WTP	323,000	-	-	-	(323,000)	-
111006						
Project 111006-Replacement of Filter Instrumentation and Raw Water Flow Metering Improvements at Lake Huron WTP	600,000	-	-	-	43,000	643,000
111007						
Project 111007-Lake Huron WTP-Raw Sludge Clarifier and Raw Sludge Pumping System Improvements	50,000	-	-	-	372,000	422,000
112001						
Project 112001-Yard Piping Replacement at Northeast Water Treatment Plant	800,000	-	-	-	(800,000)	-
112002						
Project 112002-Low Lift Pumping Plant Caisson Rehabilitation at Northeast WTP	1,183,000	247,000	-	-	(1,360,000)	70,000
113001						
Project 113001-Southwest Water Treatment Plant, Sludge Treatment & Waste Wash water Treatment Facilities	1,793,000	-	-	-	(1,793,000)	-
113002						
Project 113002-High Lift Pump Discharge Valve Actuators Replacement at Southwest WTP	160,000	-	-	-	26,000	186,000
113004						
Project 113004-Residual Handling Facility's Decant Flow Modifications at Southwest WTP	3,100,000	-	-	-	(2,935,000)	165,000
114001						
Project 114001-Springwells Water Treatment Plant 1958 Filter Rehabilitation and Auxiliary Facilities	310,000	890,000	-	-	6,081,000	7,281,000
114002						
Project 114002-Springwells Water Treatment Plant - Low Lift and High Lift Pump Station	1,500,000	-	-	-	(1,037,000)	463,000

Water - Summary Budget Amendments

CIP Project	FY 2018					FY 2018
	Original Budget	Q1 Amendments	Q2 Amendments	Q3 Amendments	Q4 Amendments	Amended Budget
114003						
Project 114003-Water Production Flow Metering Improvements at NE, SW, and SPW WTP	8,800,000	-	-	-	(8,096,000)	704,000
114006						
Project 114006-Replacement of Rapid Mix Units at Springwells WTP 1958 Process Train	875,000	-	-	-	(752,000)	123,000
114008						
Project 114008-1930 Sedimentation Basin Sluice Gates, Guides & Hoists Improvements at Springwells WTP	1,200,000	-	-	-	(1,200,000)	-
114009						
Project 114009-Springwells Water Treatment Plant Service Area Redundancy Study	-	-	-	-	145,000	145,000
114011						
Project 114011-Steam, Condensate Return, and Compressed Air Piping Improvements at Springwells WTP	3,450,000	-	-	-	(3,000,000)	450,000
114012						
Project 114012-Springwells Water Treatment Plant 1930 Filter Building-Roof Replacement	-	-	-	-	486,000	486,000
114013						
Project 114013-Springwells Reservoir Fill Line Improvements	3,300,000	207,000	-	-	(3,326,000)	181,000
114014						
Project 114014-Springwells WTP Underground Fire Protection Loop Improvements	380,000	-	-	-	(380,000)	-
114015						
Project 114015-Emergency Grating Replacement at Springwells WTP	2,000,000	-	-	-	763,213	2,763,213
115001						
Project 115001-Yard Piping, Valves and Venturi Meters Replacement at Water Works Park	5,500,000	-	-	-	(5,088,000)	412,000
115002						
Project 115002-Miscellaneous Concrete and Road Improvements at Waterworks Park WTP	-	-	-	-	9,676	9,676
115003						
Project 115003-Comprehensive Condition Assessment at Waterworks Park WTP	375,000	-	-	-	(244,000)	131,000
115004						
Project 115004-Water Works Park WTP Chlorine System Upgrade	700,000	-	-	-	(28,000)	672,000
116001						
Project 116001-Miscellaneous Improvements to Raw Water Tunnels, Shafts and Related Structures	1,000,000	-	-	-	(1,000,000)	-

Water - Summary Budget Amendments

CIP Project	FY 2018					FY 2018
	Original Budget	Q1 Amendments	Q2 Amendments	Q3 Amendments	Q4 Amendments	Amended Budget
116002						
Project 116002-Pennsylvania, Springwells and Northeast Raw Water Supply Tunnel Improvements based on Contract CS-1623 Inspection Results	2,000,000	-	-	-	1,625,000	3,625,000
116003						
Project 116003-Genesee and Lapeer County Transmission System Improvements	400,000	-	-	-	(400,000)	-
122001						
Project 122001-Parallel 42-Inch Main in 24 Mile Road from Rochester Station to Romeo Plank Road	715,000	-	-	-	2,103,400	2,818,400
122002						
Project 122002-Replacement of Five (5) PRV Pits of Treated Water Transmission System	-	-	-	-	670,000	670,000
122003						
Project 122003-New Waterworks Park to Northeast Transmission Main	1,500,000	-	-	-	(195,000)	1,305,000
122004						
Project 122004-96-inch Main Relocation, Isolation Valves Installations, and New Parallel Main	1,500,000	-	-	-	(930,000)	570,000
122005						
Project 122005-Transmission System Water Main Work - Replacement of Schoolcraft Water Main	-	-	-	-	19,960	19,960
122006						
Project 122006-Transmission System Water Main Work-Wick Road Parallel Water Main	9,350,000	-	-	-	(9,334,000)	16,000
122007						
Project 122007-Design and Construction of a new Newburgh Road 24" Main along Newburgh Road between Cherry Hill and Glenwood Avenue	1,800,000	-	-	-	(1,794,000)	6,000
122010						
Project 122010-Water Main Replacement within the City of Detroit - Joy Rd from Greenfield to Schaefer and Davison Ave from Linwood to Livernois	1,106,000	-	-	-	(1,090,000)	16,000
122011						
Project 122011-Park-Merriman Water Main-Final Phase	1,800,000	-	-	-	(1,735,675)	64,325
122012						
Project 122012-36-inch Water Main in Telegraph Road	5,061,000	-	-	-	(2,724,878)	2,336,122
122013						
Project 122013-Lyon Township Transmission Main Extension Project	10,500,000	-	-	-	(10,500,000)	-

Water - Summary Budget Amendments

CIP Project	FY 2018					FY 2018
	Original Budget	Q1 Amendments	Q2 Amendments	Q3 Amendments	Q4 Amendments	Amended Budget
122014						
Project 122014-48-Inch Water Main Installation at Vining and Wick Roads in Romulus	-	-	-	-	410,512	410,512
122015						
Project 122015-30-Inch Water Main	-	-	-	-	398,000	398,000
122016						
Downriver Transmission Main Loop	-	-	-	-	-	-
132001						
Project 132001-Wick Road Station Rehabilitation	-	-	-	-	186,655	186,655
132003						
Project 132003-Isolation Gate Valves for Line Pumps for West Service Center Pumping Station	521,000	-	-	-	(374,000)	147,000
132004						
Project 132004-Hydraulic Surge Control for North Service Center Pumping Station	500,000	-	-	-	(343,000)	157,000
132005						
Project 132005-Energy Management: Evaluate Alternatives and Recommend Corrective Actions to Improve Power Factors (PF) at Various GLWA Booster Pumping Stations	125,000	-	-	-	(125,000)	-
132006						
Project 132006-Pressure and Control Improvements at the Electric, Ford Road, Michigan, and West Chicago Water Booster Pumping Stations	200,000	-	-	-	(94,000)	106,000
132007						
Project 132007-Energy Management: Freeze Protection Pump Installation at Imlay Pumping Station	200,000	-	-	-	(200,000)	-
132008						
Project 132008-Needs Assessment Study for all Water Booster Pumping Stations	1,200,000	-	-	-	(478,000)	722,000
132009						
Project 132009-Study Phase Services for Proposed East Service Center Booster Pumping Station and Reservoir	100,000	-	-	-	(100,000)	-
132010						
Project 132010-West Service Center/Duval Rd Division Valve Upgrades	4,200,000	-	-	-	(4,200,000)	-
132011						
Project 132011-Energy Management: West Service Center (WSC) VFD Installation	1,667,000	-	-	-	(1,667,000)	-
170100						

Water - Summary Budget Amendments

CIP Project	FY 2018					FY 2018
	Original Budget	Q1 Amendments	Q2 Amendments	Q3 Amendments	Q4 Amendments	Amended Budget
Project 170100-Allowance: WTP/Pump Station 170102	19,650,000	(3,000,000)	-	(381,000)	(14,926,000)	1,343,000
Project 170102-Water Production Plant Flow Metering Improvements at NE, SP & SW WTP 170103	-	105,000	-	-	(90,178)	14,822
Project 17103-Belle Isle Water Supply Intake and Ice Boom Improvements 170104	-	-	-	-	17,162	17,162
Project 170104-Orion and Newburgh Pumping Stations Improvements 170105	-	500,000	-	-	(500,000)	-
Project 170105-Phosphoric Acid and Heating System and NE-WTP 170107	-	-	-	-	6,389	6,389
Project 170107- Belle Isle Water Supply Intake Lagoon Main Entrance Bridge Pile Restoration 170108	-	358,500	-	-	(358,500)	-
Project 170108- Adams Road Water Isolation Gate 170109	-	192,500	-	-	(192,500)	-
Project 170109-Inspection of Raw Water Intakes and Tunnels 170120	-	500,000	-	-	(500,000)	-
Project 170120-Phosphoric Acid Feed System Improvements at Southwest WTP 170200	-	-	-	-	54,000	54,000
Project 170200-As Needed Construction Materials, Environmental Media and Special Testing Services, Construction Inspection, and Other Technical Services 170201	500,000	-	-	-	(514,000)	(14,000)
Project 170201- Job Order Contract for Construction, Environmental, Speical Testing, Inspection and Other Technical Services 170300	-	-	-	-	186,000	186,000
Project 170300-Water Treatment Plant Automation Program 170301	1,500,000	(1,090,000)	-	-	1,015,000	1,425,000
Water Plant Automation 170400	-	1,090,000	-	-	(1,090,000)	-
Project 170400-Water Transmission Improvement Program 170403	10,000,000	(2,900,000)	-	-	(6,871,000)	229,000
Project 170403-Lapeer County Chlorine Booster Station 170500	-	2,900,000	-	-	(2,900,000)	-

Water - Summary Budget Amendments

CIP Project	FY 2018					FY 2018
	Original Budget	Q1 Amendments	Q2 Amendments	Q3 Amendments	Q4 Amendments	Amended Budget
Project 170500-Transmission System Valve Assessment and Rehabilitation/Replacement 170502	2,930,000	(2,930,000)	-	-	2,000,000	2,000,000
Project 170502-Transmission System Valve Assessment and Rehabilitation/Replacement 170600	-	2,930,000	-	-	(2,930,000)	-
Project 170600-Water Transmission Main Asset Assessment Program 170700	2,626,000	-	-	-	1,000	2,627,000
Booster Station and Reservoir Inspection 170701	-	-	-	-	1,417,000	1,417,000
Project 170701-Booster Station & Reservoirs Program Management 170800	88,000	-	-	-	(88,000)	-
Project 170800-Reservoir Inspection, Design and Rehabilitation at Imlay Station, Adams Station, Haggerty Stations, LH-WTP, SP-WTP and SW-WTP 170900	3,300,000	-	-	-	(3,261,000)	39,000
Project 170900-Suburban Water Meter Pit Rehabilitation and Meter Replacement 171100	4,000,000	-	-	-	(3,590,000)	410,000
NE Santuary Survey Improvements 331001	-	-	-	-	6,000	6,000
Project 331002-Roofing Replacement 351001	3,000,000	-	-	-	(3,000,000)	-
Project 351001-Water Facility Lighting Renovations 361001	933,000	-	-	-	(931,000)	2,000
Project 361001: Consolidated Process Control System Upgrades 361002	-	-	-	-	-	-
Project 361002: Data Center Reliability/Availability Improvements 361003	-	-	-	-	-	-
Project 361003: SCADA Radio Network Upgrade 380400	-	-	-	-	60,000	60,000
Project 380400: As-need CIP Implementation Assistance and Related Services NNB 380500	-	-	-	-	250,000	250,000
Project 380500: Bpartment-wiB General Engineering Services on an As-need Basis 380600	114,000	-	-	-	(114,000)	-
Project 380600: General Engineering Services 380700	336,000	-	-	-	(184,531)	151,470

Water - Summary Budget Amendments

CIP Project	FY 2018					FY 2018
	Original Budget	Q1 Amendments	Q2 Amendments	Q3 Amendments	Q4 Amendments	Amended Budget
Project 380700: As-need Engineering Services for Concrete Testing, Geotechnical Soil Borings, other Testing Services, and Related Services 380900	907,000	-	-	-	(860,796)	46,204
Project 380900: General Engineering Services 380901	772,000	-	-	-	(1,544,000)	(772,000)
Project 380901: CS-1481:Sigma Assoc: General Engineering 381000	-	-	-	-	765,611	765,611
Project 381000: Energy Management: Electric Metering Improvement Program	500,000	-	-	-	(500,000)	-
Grand Total	\$ 137,655,000	\$ -	\$ -	\$ -	\$ (97,612,000)	\$ 40,043,000

*Budget amendment entry for \$97,612,000 applied to CIP Reserve

WASTEWATER SYSTEM

Percent of Spend Compared to Annual Budget and Capital Improvement Plan (CIP) Requests

The rate of spend of is a key performance indicator. The development of the FY 2019-2023 CIP included a realignment of projected spend for FY 2018 and forward to accurately forecast planned spend. The Water system spend is 98.5% of the FY 2018 realigned budget. While the ratios for FY 2017 of 55% and for FY 2018 of 38.1% are lower than a simple benchmark of 80% the FY 2019 CIP Net Budget is funded at 100% and anticipated to achieve spending in full. Numerous project designs have already and/or will soon complete that will allow for increased construction spend to occur in FY 2019. The effort associated with the development of new spend projections and ongoing effort of monitoring spend are anticipated to result in 100% spend in FY19.

Wastewater System Projects	FY 2017 Original Plan and Budget (Twelve Months)	FY 2017 Activity	FY 2017 Activity as a Percent of Budget	FY 2018 Amended Budget	FY 2018 Pre-Close Activity (Unaudited)	FY 2018 Pre-Close Activity as a Percent of Budget (Unaudited)
FY 2017 CIP Project Requests @ 100%	\$ 128,973,000	56,788,123	44.0%			
FY 2017 CIP Net Budget (approx. 80% of request)	103,178,400	56,788,123	55.0%			
FY 2018 CIP Project Requests @ 100%				\$ 160,746,000	49,043,353	30.5%
FY 2018 CIP Net Budget (approx. 80% of request)				128,596,800	49,043,353	38.1%
FY 2018 CIP Realigned Forecast as per 2019 CIP				70,632,000	69,567,318	98.5%

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 Water System Construction Bond spend for FY 2018 to date, **four projects account for \$49.5 million or 71.2% 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 per CIP (Life of Projects)	Life-to-Date Through June 30, 2017 (Unaudited)	FY 2018 Requested Budget per Realigned CIP	FY 2018 Pre-Close Activity (Unaudited)	FY 2018 Pre-Close as a Percent of Spend (Unaudited)
Project 211001: Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery	\$ 51,903,000	\$ 10,243,275	\$ 12,986,310	\$ 13,124,165	18.9%
Project 212003: Aeration System Improvements	\$ 16,203,000	\$ 3,804,993	\$ 9,273,000	\$ 8,045,551	11.6%
Project 212006: PC-797 Rouge River Outfall Disinfection and CS-1781 Oversight Consulting Services Contract	\$ 47,599,000	\$ 6,872,993	\$ 20,619,000	\$ 19,567,615	28.1%
Project 260201: CON-149 Emergency Sewer Repair	\$ 14,880,000	\$ 90,500.00	\$ 7,751,000	\$ 8,822,192	12.7%
Selected Projects as a Percentage of the Total	\$ 130,585,000	\$ 21,011,761	\$ 50,629,310	\$ 49,559,523	71.2%
Total			\$ 70,632,000	\$ 69,567,318	100%

The following analysis provides brief highlights related to these projects.

Project 211001–Rehabilitation of Primary Rectangular Clarifiers

Wastewater System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017 (Unaudited)	FY 2018 Requested Budget per Realigned CIP	FY 2018 Pre-Close Activity (Unaudited)	FY 2018 Pre-Close as a Percent of Spend (Unaudited)
Project 211001: Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery	\$ 51,903,000	\$ 10,243,275	\$ 12,986,310	\$ 13,124,165	18.9%

Project Engineer/Manager: Nicolas Nicolas

Manager: Philip Kora

Total Project Budget: \$51,903,000

Timeline: To be completed by May 2020

FY 2018 Last Pay Estimate Processed: June 30, 2018

Key Contracts/Vendors: PC-757 Toolles Contracting Group

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 11 and 12 has been completed and returned to operation. Primary circular clarifier 15 rehabilitation has also been completed and returned to operation. Rehabilitation of primary rectangular clarifiers 9 and 10 is complete and the 30-day commissioning test is scheduled to begin in the week of 7/23/18. Circular clarifier 16 is undergoing contract rehabilitation work. Parts and equipment for four more clarifiers are being delivered to the site. Exploratory excavation is being conducted to determine locations of underground valves necessary to isolate seal water feed pipes to the pipe gallery so contract work on the seal water piping can proceed.

Additional Project Manager Comments: As of June 30, 2018, 51% of contract time (Final Completion) has elapsed and 43% of funds have been spent.

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

FY 2018-2022 CIP Page VI-73 for Project 211001–Rehabilitation of Primary Rectangular Clarifiers

CIP Number: CIP 291

Title: REHABILITATION OF PRIMARY CLARIFIERS RECTANGULAR TANKS, DRAIN LINES, ELECTRICAL/MECHANICAL BUILDING AND PIPE GALLERY

Classification: 211: Wastewater > WRRF > Primary Treatment

Managing Dept: WW Eng

RC Score: NA

Contract No.: PC-757

Significance: Rehabilitation for meeting NPDES Permit and NEC requirements

Location: WRRF

Driver: N/A - Active

Explanation: N/A - Active



Pipe gallery

Preliminary 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

Initial Project Cost Estimates (in \$1000s)

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
C	Active	TBD	TBD	\$0	\$10848	\$12097	\$20990	\$7968	\$0	\$0	\$0	\$41055	\$51903
Totals				\$0	\$10848	\$12097	\$20990	\$7968	\$0	\$0	\$0	\$41055	\$51903

Project 212003-Aeration System Improvements

Wastewater System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017 (Unaudited)	FY 2018 Requested Budget per Realigned CIP	FY 2018 Pre-Close Activity (Unaudited)	FY 2018 Pre-Close as a Percent of Spend (Unaudited)
Project 212003: Aeration System Improvements	\$ 16,203,000	\$ 3,804,993	\$ 9,273,000	\$ 8,045,551	11.6%

Project Engineer/Manager: Vinod Sharma

Manager: Philip Kora

Total Project Budget: \$15,985,000

Timeline: To be completed by September 2018

FY 2018 Last Pay Estimate Processed: June 30, 2018

Key Contracts/Vendors: CS-1498, CS-157-Metco Services, PC-796-Weiss Construction

Project Description: The Aeration System Improvements will improve the aeration system and provide necessary inter-connections.

Purpose: To increase the efficiency of oxygen used in the High Purity Oxygen (HPO) activated sludge process, reduce the risk of mechanical failures with the replacement/rehabilitation of the Influent and Return Activated Sludge(RAS) valves/pipeline would meet regulatory guidelines to comply with NPDES Permit.

Status: The rehabilitation work associated with Aeration Basin No. 3 is complete and the basin is put back into operation. The rehabilitation work associated with Aeration Basin No.2 is ongoing.

Additional Project Manager Comments: This project is behind schedule and a change order will be processed soon to extend the contract completion time by 180 calendar days.

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

FY 2018-2022 CIP Page VI-83 for Project 212003-Aeration System Improvements

CIP Number: CIP 1194

Title: AERATION SYSTEM IMPROVEMENTS

Classification: 212: Wastewater > WRRF > Secondary Treatment & Disinfection

Managing Dept: WW Eng

RC Score: NA

Contract No.: CS-1498, PC-796

Significance: Improve aeration system and provide necessary inter-connections

Location: WRRF

Driver: N/A - Under Procurement

Explanation: N/A - Under Procurement

Preliminary Scope of Work:

The scope of work includes study, design, and construction assistance for the oxygen baffle on Bay 10 of A1 & A2 decks, replacement of influent, Return Activated Sludge (RAS) piping, isolation gate and valves for decks Nos. 3 & 4, replace RAS and influent magmeters for Intermediate Lift Pumps (ILP) Nos. 3, 4 & 7. The work also includes replacement of influent gates and operators on Aeration Deck No. 1 & 2.

Challenges: N/A - Under Procurement

Initial Project Cost Estimates (in \$1000s)

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
S/D/CA	Active	2/21/2012	2/28/2018	\$0	\$106	\$97	\$16	\$0	\$0	\$0	\$0	\$113	\$219
C	Under Procurement	TBD	TBD	\$0	\$2242	\$11100	\$2642	\$0	\$0	\$0	\$0	\$13742	\$15984
Totals				\$0	\$2348	\$11197	\$2658	\$0	\$0	\$0	\$0	\$13855	\$16203



Project 212006-Rouge River Outfall Project

Wastewater System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017 (Unaudited)	FY 2018 Requested Budget per Realigned CIP	FY 2018 Pre-Close Activity (Unaudited)	FY 2018 Pre-Close as a Percent of Spend (Unaudited)
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Project 212006: PC-797 Rouge River Outfall Disinfection and CS-1781 Oversight Consulting Services Contract	\$ 47,599,000	\$ 6,872,993	\$ 20,619,000	\$ 19,567,615	28.1%
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Project Engineer/ Manager: Philip Kora and Darrel Field (PMA)

Manager: Philip Kora

Total Project Budget: \$47,599,000

Timeline: To be substantially complete by April 2019

FY 2018 Last Pay Estimate Processed: June 30, 2018

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 de-chlorination to the Rouge River Outfall (RRO) effluent during wet weather events.

Status: Current work efforts include the installation of equipment, piping, ductwork and wiring within both the new hypo building and the sampling building. Flow meters and diffusers are being installed in the primary effluent conduits. Diffuser installation has been completed at the RRO conduit and the east chlorine contact conduit. Site piping and electrical duct bank installation is continuing.

Additional Project Manager Comments: Significant contractor claims, and changes have been resolved including the phase I chlorine contact conduits dewatering and sludge removal issue, the GLWA 42" water main tie-in change, and addition of green infrastructure at the administration parking area.

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

FY 2018-2022 CIP Page VI-98 for 212006-Rouge River Outfall Project

CIP Number: CIP 1302
Title: ROUGE RIVER OUTFALL (RRO) DISINFECTION (ALTERNATIVE)
Classification: 212: Wastewater > WRRF > Secondary Treatment & Disinfection
Managing Dept: WW Eng
RC Score: NA
Contract No.: PC-797, CS-1781
Significance: Provide project oversight and design build services for alternative disinfection services to meet NPDES Permit requirements at existing Rouge River Outfall
Location: Rouge River Outfall
Driver: 3 – Regulatory (Environmental/Legal)



Explanation: In order to be in compliance with its NPDES permit, GLWA’s WRRF must provide disinfection to all effluent flows from the DRO and RRO by April 2019. Only the DRO currently has disinfection; this project will provide chlorination and de-chlorination for RRO effluent during wet weather events.

Preliminary 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

Initial Project Cost Estimates (in \$1000s)

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY2016 (Unaudited)	Projected Expenditures FY2017	Projected Expenditures FY2018	Projected Expenditures FY2019	Projected Expenditures FY2020	Projected Expenditures FY2021	Projected Expenditures FY2022	Projected Expenditures FY2023 & Beyond	2018-2022 CIP Total	Phase Total
S/D/C	Under Procure.	2/19/2016	12/31/2019	\$729	\$2690	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3419
CM	Under Procure.	TBD	TBD	\$0	\$1000	\$800	\$520	\$100	\$0	\$0	\$0	\$1420	\$2420
C	Not Yet Started	2/19/2016	12/31/2019	\$0	\$2840	\$15000	\$15000	\$8920	\$0	\$0	\$0	\$38920	\$41760
Totals				\$729	\$6530	\$15800	\$15520	\$9020	\$0	\$0	\$0	\$40340	\$47599

Project 260201-Emergency Sewer Repair

Wastewater System Projects	Total Project Budget per CIP (Life of Projects)	Life-to-Date Through June 30, 2017 (Unaudited)	FY 2018 Requested Budget per Realigned CIP	FY 2018 Pre-Close Activity (Unaudited)	FY 2018 Pre-Close as a Percent of Spend (Unaudited)
Project 260201: CON-149 Emergency Sewer Repair	\$ 14,880,000	\$ 90,500.00	\$ 7,751,000	\$ 8,822,192	12.7%

Project Engineer/Manager: Mini Panicker/Todd King

Manager: Biren Saparia

Total Project Budget: \$14,880,000

Timeline: Estimated Completion July 2019

FY 2018 Last Pay Estimate Processed: June 30, 2018

Key Contract/Vendor: Inland Waters CON-149

Project Description: Emergency repair/ rehabilitation/replacement of sanitary sewer mains, sewer manholes and sewer structures.

Purpose: To provide sewer inspections to locate defects and perform sewer lining and open cut repair of failed sewers for the in-place rehabilitation of sewers on an as needed basis.

Status: The rehabilitation of the Northwest Interceptor at Joy Rd and Trinity located in Detroit, Lynch Sewer in Detroit, and the Cured in Place Pipe Lining (CIPP) and EcoCasting of portions of the B-54 sewer outfall located at Warren & Pierson in Detroit are complete. Currently, the ongoing rehabilitation of Fox Creek Relief Sewer and Cadieux Sewer in Detroit are progressing.

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

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

FY 2018-2022 CIP Page VI-93 for 260201-Emergency Sewer Repair

CIP Number: CIP 1263

Title: SEWER AND INTERCEPTOR EVALUATION AND REHABILITATION PROGRAM

Classification: 2602: Wastewater > Programs > Programs

Managing Dept: WW Eng

RC Score: NA

Contract No.: CS-068, PO-005030

Significance: Evaluation of the existing condition of the sewers and interceptors, cleaning and rehabilitating are essential to optimize the transportation capacity of the GLWA collection system and to increase its life expectancy.

Location: Sewers and Interceptors

Driver: 1 - Condition

Explanation: Some sewers have sediment deposits that results in transportation capacity limitation. Some have deterioration.

Preliminary Scope of Work:

Provide CCTV and or sonar inspection of the GLWA Collection System Interceptors and Trunk Sewers to reveal the existing conditions as per the National Association of Sewer Service Companies' (NASSCO) Pipeline Assessment Certification Program (PACP) standards, evaluate the existing conditions, and provide the necessary cleaning/rehabilitation/replace to optimize the design capacity of the collection system and to minimize the inflow and infiltration into the collection system.

Challenges: Very large sewers and interceptors may have flow control challenges for both inspection and rehabilitation.

Initial Project Cost Estimates (in \$1000s)

Phase	Status	Start Date	End Date	Lifetime Actual Thru FY 2016 (Unaudited)	Projected Expenditures FY 2017	Projected Expenditures FY 2018	Projected Expenditures FY 2019	Projected Expenditures FY 2020	Projected Expenditures FY 2021	Projected Expenditures FY 2022	Projected Expenditures FY 2023 & Beyond	2018-2022 CIP Total	Phase Total
S,D,C	Not Yet Started	NA	NA	\$0	\$2464	\$2000	\$0	\$0	\$0	\$0	\$0	\$2000	\$4464
S,D,CA	Under Procure.	NA	NA	\$0	\$148	\$22	\$0	\$0	\$0	\$0	\$0	\$22	\$170
S	Not Yet Started	NA	NA	\$0	\$0	\$218	\$240	\$600	\$600	\$600	\$0	\$2258	\$2258
D	Not Yet Started	NA	NA	\$0	\$0	\$400	\$400	\$1000	\$1000	\$1000	\$0	\$3800	\$3800
C	Not Yet Started	NA	NA	\$0	\$0	\$5360	\$7360	\$18400	\$18400	\$18400	\$0	\$67920	\$67920
Totals				\$0	\$2612	\$8000	\$8000	\$20000	\$20000	\$20000	\$0	\$76000	\$78612



An example interceptor.

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.

The CWIP Rollforward provides a project status for each item.

Future Year:	Project that was included in the CIP with no expenditures (F)
Active:	Project in which procurement process has been initiated and expenditures incurred (A)
Pending Close :	Project that has no projected expenditures for the current fiscal year and has reached substantial completion (PC)
Closed:	Project that has been closed and capitalized (C)

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. The following projects have been identified for FY 2018 capitalization:

- CIP 213003 CIP 216007 CIP 260301
- CIP 213004 CIP 260301 CIP 361001
- CIP 215001 CIP 260113 CIP 361002
- CIP 260101 CIP 361003 CIP 232002

\$126.8 million is in CWIP as of June 30, 2018 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.

Status	Project Count	Total Project Estimated Budget	Percent of Total
Future	22	277,660,000	25%
Active	34	527,148,000	47%
Pending Close	1		
Closed	32	310,412,000	28%
Grand Total	89	\$ 1,115,220,000	100%

Great Lakes Water Authority
Wastewater Construction Work-on-Progress (CWIP) FY 2018 Rollforward
(Unaudited), Pre-Close Activity For the Fiscal Year End June 30, 2018

CIP #	Brief Description Description	Funding Source	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited) Pre-Close						FY 2018 Activity (Unaudited), Pre-Close	FY 2018 Transfers Out of CWIP	(Unaudited), Pre-Close CWIP Balance, as of June 30, 2018
						Construction (616900)	Contractual Engineering Services (617950)	Other Expenses (617900)	Capital Allocation: Salary & Wages-Direct (601995)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Employee Benefits (601997)			
4824	DWSD-Reha/Replacement Existing Sewer		PC	-	56,280	-	-	-	-	-	-	-	(56,280)	-
211001	Project 211001: Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery	SRF	A	51,903,000	10,243,275	12,725,967	188,222	-	150,211	-	59,765	13,124,165	1,701,631	25,069,071
211002	Project 211002: Pump Station No. 2 Pumping Improvements	SRF	A	3,533,000	108,416	141,688	42,517	-	21,347	-	8,468	214,021	-	322,437
211003	Project 211003: Rehabilitation of Primary Clarifiers: Moved to 211001	SRF	C	581,000	1,701,631	-	-	-	-	-	-	-	(1,701,631)	-
211004	Project 211004: Pump Station 1 Rack & Grit and MPI Sampling Station 1 Improvements	B	A	21,494,000	20,944,123	3,068,018	216,470	-	185,001	-	73,693	3,543,182	-	24,487,305
211005	Project 211005: Pump Station No. 2 Improvements	B	F	10,800,000	-	-	-	-	-	-	-	-	-	-
211006	Project 211006: Pump Station No. 1 Improvements	B	A	13,129,000	88	-	-	-	-	-	-	-	-	88
211007	Project 211007: Replacement of Bar Racks and Grit Collection System at Pump Station No. 2	B	F	9,667,000	-	-	-	-	-	-	-	-	-	-
211008	Project 211008: Rehabilitation of Ferric Chloric Feed systems at the Pump Station -1 and Complex B Sludge Lines	SRF	A	9,633,000	-	-	12,386	-	-	-	-	12,386	-	12,386
211009	Project 211009: Rehabilitation of the Circular Primary Clarifier Scum Removal System	B	F	10,480,000	-	-	-	-	-	-	-	-	-	-
212001	Project 212001: Returned Activated Sludge (RAS) Pumps, Influent Mixed Liquor System and Motor Control Centers (MCC) Improvements for Secondary Clarifiers	B	C	24,175,000	-	-	-	-	-	-	-	-	-	-
212002	Project 212002: Study, Design, & Construction, Management Services for Modified Detroit River Outfall No. 2 - WRRF	B	A	8,482,000	10,818,870	-	-	-	-	-	-	-	-	10,818,870
212003	Project 212003: Aeration System Improvements	SRF	A	16,203,000	3,804,993	7,766,819	171,416	-	76,767	-	30,549	8,045,551	-	11,850,544
212004	Project 212004: Chlorination/Chlorination Process Equipment Improvements	B	A	5,000,000	85,850	-	29,915	-	855	-	307	31,076	-	116,926
212005	Project 212005: WRRF Rouge River Outfall No. 2(RRO-2) Segment 1	SRF	C	12,187,000	-	-	-	-	-	-	-	-	-	-
212006	Project 212006:WRRF Rouge River Outfall No. 2 (RRO-2) Disinfection (Alternative)	SRF	A	47,599,000	6,872,993	18,801,513	660,478	-	75,931	-	29,693	19,567,615	-	26,440,608
212007	Project 212007: Rehabilitation of the Secondary Clarifiers	B	F	30,999,000	-	-	-	-	-	-	-	-	-	-
213001	Project 213001: Replacement of Belt Filter Presses for Complex I and Upper Level Complex II	B	C	1,901,000	-	-	(4,328)	-	-	-	-	(4,328)	-	(4,328)
213002	Project 213002: Rehabilitation of Central Offload Facility	SRF	A	17,750,000	202,142	-	742,069	-	27,453	-	10,638	780,159	-	982,301
213003	Project 213003: Sewage Sludge Incinerator Air Quality Improvements at WRRF	SRF	C	36,043,000	36,153,036	436,443	55,744	-	21,908	-	8,740	522,835	(36,675,871)	-
213004	Project 213004: Biosolids Dryer Facility at WRRF	SRF	C	135,968,000	2,023,774	185,798	191,824	-	5,059	-	2,015	384,696	(2,408,470)	-

Great Lakes Water Authority
 Wastewater Construction Work-in-Progress (CWIP) FY 2018 Rollforward
 (Unaudited), Pre-Close Activity For the Fiscal Year End June 30, 2018

CIP #	Brief Description Description	Funding Source	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited) Pre-Close						FY 2018 Activity (Unaudited), Pre-Close	FY 2018 Transfers Out of CWIP	(Unaudited), Pre-Close CWIP Balance, as of June 30, 2018
						Construction (616900)	Contractual Engineering Services (617950)	Other Expenses (617900)	Capital Allocation: Salary & Wages-Direct (601995)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Employee Benefits (601997)			
213005	Project 213005: Complex I Incinerators Decommissioning and Reusability	B	A	1,100,000	-	-	34,077	-	6,352	-	2,521	42,950	-	42,950
213006	Project 213006: Improvements to Sludge Feed Pumps at Dewatering Facilities		A	1,185,000	4,856	-	-	-	-	-	-	-	-	4,856
213007	Project 213007: Construction of the Improved Sludge Conveyance and Lighting System at the WWTP	B	A	18,922,000	-	398,958	400,213	-	51,803	-	20,161	871,135	1,458,339	2,329,474
213008	Project 213008: Rehabilitation of the Wet and Dry Ash Handling Systems	B	F	18,316,000	-	-	-	-	-	-	-	-	-	-
213009	Project 213009: Phosphorous Recovery Facility at the WRRF	B	A	15,000,000	-	-	3,536	-	-	-	-	3,536	-	3,536
214001	Project 214001: Relocation of Industrial Waste Division and Analytical Laboratory Operations	B	A	7,000,000	181,500	-	385,256	-	4,361	-	1,728	391,345	-	572,845
215001	Project 215001: Rehabilitation of Combined Sewer Overflow (CSO) Retention Treatment Basins (RTB), Screening and Disinfection Facilities (SDF)	B	C	31,977,000	763,690	1,024,214	(107,140)	-	13,381	-	5,344	935,799	(1,699,489)	-
216001	Project 216001: Underground Electrical Duct Bank Repair and EB-1, EB-2, and EB-10 Primary Power Service Improvements - WRRF	B	C	27,144,000	31,636,300	988,905	39,167	-	15,362	-	6,138	1,049,571	(32,685,871)	-
216002	Project 216002: Plant-wide Fire Alarm Systems Upgrade/ Integration and Fire Protection Improvements	B	A	6,014,000	-	-	-	-	-	-	(72)	(72)	72	-
216003	Project 216003: Repair Potable Water, Screened Final Effluent, natural Gas, and Compressed Air Pipelines at the WWTP	B	F	5,000,000	-	-	-	-	-	-	-	-	-	-
216004	Project 216004: Rehabilitation of Various Sampling Sites and PS# 2 Ferric Chloric System at WWTP	B	A	5,000,000	311,736	-	123,220	-	3,052	-	1,031	127,304	-	439,040
216005	Project 216005: Rehabilitation of the Main Plant Maintenance Building, Replacement of various Plant Maintenance Areas and Work Environment Improvement	B	F	12,900,000	-	-	-	-	-	-	-	-	-	-
216006	Project 216006: Rehabilitation of the Screened Final Effluent (SFE) Pump Station and Secondary Water System	B	F	50,000,000	-	-	-	-	-	-	-	-	-	-
216007	Project 216007: DTE Primary Electric 3rd Feed Supply Line to the WRRF	B	A	7,000,000	15,074	292,200	25,112	251,300	-	-	-	568,612	(543,500)	40,186
222001	Project 222001: Intercommunity Relief Sewer Modifications in Detroit Oakwood District	B	F	11,000,000	-	-	-	-	-	-	-	-	-	-
222002	Project 222002: Detroit River Interceptor Evaluation and Rehabilitation	B	A	20,321,000	5,380	2,634,648	-	-	5,112	-	2,034	2,641,794	-	2,647,174
222003	Project 222003:North Interceptor East Arm (NBA) Evaluation and Rehabilitation	B	F	26,000,000	-	-	-	-	-	-	-	-	-	-
222004	Project 222004:Collection System Valve Remote Operation Structures Improvements	B	F	2,763,000	-	-	-	-	-	-	-	-	-	-
222005	Project 222005: Collection System Access Hatch Improvements	B	F	7,197,000	-	-	-	-	-	-	-	-	-	-
222006	Project 222006: GLWA CSO Outfalls Rehabilitation	B	A	36,000,000	-	-	-	-	-	-	-	-	-	-
222007	Project 222007: North Interceptor East Arm (NIEA) Evaluation and Rehabilitation from WRRF to Gratiot Ave. and Sylvester St.	B	F	21,000,000	-	-	-	-	-	-	-	-	-	-

Great Lakes Water Authority
Wastewater Construction Work-on-Progress (CWIP) FY 2018 Rollforward
(Unaudited), Pre-Close Activity For the Fiscal Year End June 30, 2018

CIP #	Brief Description Description	Funding Source	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited) Pre-Close						FY 2018 Activity (Unaudited), Pre-Close	FY 2018 Transfers Out of CWIP	(Unaudited), Pre-Close CWIP Balance, as of June 30, 2018
						Construction (616900)	Contractual Engineering Services (617950)	Other Expenses (617900)	Capital Allocation: Salary & Wages-Direct (601995)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Employee Benefits (601997)			
232001	Project 232001: Fairview Pumping Station - Replace Four Sanitary Pumps	B	A	32,400,000	778,162	-	751,043	-	15,879	-	5,520	772,442	-	1,550,604
232002	Project 232002: Freud and Connor Creek Pump Station Improvements	B	A	22,500,000	2,100,803	2,287,837	708,838	-	9,119	-	3,628	3,009,422	(57,734)	5,052,490
232003	Project 232003: Northeast Pump Station Improvements	B	F	26,328,000	-	-	-	-	-	-	-	-	-	-
233001	Project 233001: Collection System Backwater Gates and Regulator Gates Rehabilitation	B	F	9,301,000	-	-	-	-	-	-	-	-	-	-
233002	Project 233002: Collection System In System Storage Devices(ISDs) Improvements	B	F	3,550,000	-	-	-	-	-	-	-	-	-	-
251002	Project 251002: Wastewater System Wide Instrumentation & Controls Software and Hardware Upgrade	B	F	5,862,000	-	-	-	-	-	-	-	-	-	-
260100	Project 260100: Water Resource Recovery Facility (WRRF), Lift Station & Wastewater Collection System Allowance	B	A	52,843,000	-	-	-	-	-	-	-	-	-	-
260101	Project 260101: Plant-Wide Replacement of Emergency Lighting	B	C	1,680,000	289,743	900,277	-	-	40,012	-	15,940	956,228	(1,245,971)	-
260102	Project 260102: Replace Stairs - WWTP	B	C	500,000	-	-	-	-	-	-	-	-	-	-
260103	Project 260103: Replace 4 DS-706 Centrifuges WWTP	B	C	600,000	-	-	-	-	-	-	-	-	-	-
260104	Project 260104: Pur Installation of EB-25 Unit WWTP	B	C	1,195,000	-	-	-	-	-	-	-	-	-	-
260105	Project 260105: Replace Various Air Distribution Equip	B	C	286,000	-	-	-	-	64	-	26	90	(90)	-
260107	Project 260107: Pump Station 2 Replacement	B	F	331,000	-	-	-	-	-	-	-	-	-	-
260108	Project 260108: Sanitary Meter Replacement: Neff Road	B	C	448,000	-	-	-	-	-	-	-	-	-	-
260110	Project 260110: CS060: Black& Veatch: Moved to 213007	B	C	2,266,000	1,458,339	-	-	-	-	-	-	-	(1,458,339)	-
260111	Project 260111: SCP-PC-015: W-3 Construct: Overhead Door	B	C	593,000	-	-	-	-	-	-	-	-	-	-
260112	Project 260112: DWS-065: Tooles: Connor Creek	B	C	345,000	-	-	-	-	1,005	-	402	1,407	(1,407)	-
260113	Project 260113: Fire Remediation	B	C	10,500,000	17,005,859	-	-	-	-	-	-	-	(17,005,859)	-
260200	Project 260200: Sewer and Interceptor Evaluation and Rehabilitation Program NNB	B	A	72,320,000	-	-	-	-	-	-	-	-	-	-
260201	Project 260201: Conveyance System Interceptor Rehab	B	A	1,828,000	90,500	7,822,319	982,853	-	12,174	-	4,845	8,822,192	-	8,912,692
260203	Project 260203: SCP-CON-068: Inland: Sewer Inspection	B	A	4,464,000	3,306,028	1,323,946	-	-	8,657	-	3,435	1,336,038	-	4,642,066
260300	Project 260300: Schedule Replacement Program of Critical Assets NNB	B	A	23,519,000	-	-	-	-	-	-	-	-	-	-

Great Lakes Water Authority
Wastewater Construction Work-on-Progress (CWIP) FY 2018 Rollforward
(Unaudited), Pre-Close Activity For the Fiscal Year End June 30, 2018

CIP #	Brief Description Description	Funding Source	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited) Pre-Close						FY 2018 Activity (Unaudited), Pre-Close	FY 2018 Transfers Out of CWIP	(Unaudited), Pre-Close CWIP Balance, as of June 30, 2018
						Construction (616900)	Contractual Engineering Services (617950)	Other Expenses (617900)	Capital Allocation: Salary & Wages-Direct (601995)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Employee Benefits (601997)			
260301	Project 260301: Roof Replacement of Complex II	B	A	1,871,000	-	1,672,747	-	-	-	-	1,672,747	(1,672,747)	0	
260302	Project 260302: CON 127: Repair HVAC	B	C	110,000	56,282	(13,671)	(37,466)	-	(3,675)	-	(1,470)	(56,282)	-	
260400	Project 260400: Sewage Meter Design, Installation, Replacement and Rehabilitation Program	B	F	3,000,000	-	-	-	-	-	-	-	-	-	
260502	Project 260502 - CSO Outfall Rehabilitation	B	A	-	-	-	-	6,293	-	2,506	8,799	-	8,799	
260600	Project 260600 CSO Facilities Improvement	B	A	-	-	-	191,848	-	-	-	191,848	-	191,848	
260603	Project 260603 - Conner Creek CSO Basin Rehab	B	A	-	-	-	243,224	-	-	-	243,224	-	243,224	
260604	Project 260604 - Baby Creek CSO Rehab	B	A	-	-	43,125	-	-	1,910	756	45,791	-	45,791	
331002	Project 331002: Roofing Systems Replacement at GLWA Wastewater Treatment Plant, CSO Retention Treatment Basins (RTB) and Screening/Disinfection Facilities (SDF)	B	F	9,050,000	-	-	-	-	-	-	-	-	-	
361001	Project 361001: Consolidated Process Control System Upgrades	B	C	331,000	173,127	142,500	-	-	-	-	142,500	(315,627)	-	
361002	Project 361002: Data Center Reliability/Availability Improvements	B	C	3,163,000	17,253	-	-	-	-	-	-	(17,253)	-	
361003	Project 361003: SCADA Radio Network Upgrade	B	C	2,955,000	852,872	-	-	-	-	-	-	(852,872)	-	
380400	Project 380400: As-need CIP Implementation Assistance and Related Services NNB	B	A	3,135,000	-	-	-	-	-	-	-	-	-	
380401	Project 380401: CS-1433: PMA: As Need CIP Services	B	C	3,135,000	105,279	-	(105,279)	-	-	-	(105,279)	-	-	
380500	Project 380500: Bpartment-wiB General Engineering Services on an As-need Basis	B	C	4,960,000	-	-	-	-	-	-	-	-	-	
380501	Project 380501: CS-1499:MetcoServices:General Engineer	B	C	300,000	148,366	-	(148,366)	-	-	-	(148,366)	-	-	
380600	Project 380600: General Engineering Services	B	C	7,016,000	-	-	-	-	-	-	-	-	-	
380601	Project 380601: CS-1432A:Alfred Benesh:General Engineer	B	C	250,000	157,929	-	-	-	-	-	-	(157,929)	-	
380700	Project 380700: As-need Engineering Services for Concrete Testing, Geotechnical Soil Borings, other Testing Services, and Related Services	B	C	-	-	-	-	-	-	-	-	-	-	
380701	Project 380701: Engineering Svc Concrete Testing, Soil Borings	B	A	-	115,388	-	(115,388)	-	-	-	(115,388)	-	-	
380800	Project 380800: Geotechnical and Related Services on an As- Need Basis	B	F	1,116,000	-	-	-	-	-	-	-	-	-	
380800	Project 380800: Geotechnical and Related Services on an As- Need Basis	B	C	(1,201,000)	-	-	-	-	-	-	-	-	-	
380801	Project 380801: CS-1490: Nth Consultants: As need GIS	B	C	85,000	82,476	-	-	-	-	-	-	(82,476)	-	

Great Lakes Water Authority
Wastewater Construction Work-on-Progress (CWIP) FY 2018 Rollforward
(Unaudited), Pre-Close Activity For the Fiscal Year End June 30, 2018

CIP #	Brief Description Description	Funding Source	Status	Total Project Estimate from CIP	CWIP Balance July 1, 2017	FY 2018 Activity (Unaudited) Pre-Close						FY 2018 Activity (Unaudited), Pre-Close	FY 2018 Transfers Out of CWIP	(Unaudited), Pre-Close CWIP Balance, as of June 30, 2018
						Construction (616900)	Contractual Engineering Services (617950)	Other Expenses (617900)	Capital Allocation: Salary & Wages-Direct (601995)	Capital Allocation: Non-Personnel (601998)	Capital Allocation: Employee Benefits (601997)			
380900	Project 380900: General Engineering Services	B	C	649,000	-	-	-	-	-	-	-	-	-	-
380901	Project 380901: CS-1481:Sigma Assoc: General Engineering	B	C	270,000	63,426	-	(63,426)	-	-	-	-	(63,426)	-	-
381000	Project 381000: Energy Management: Electric Metering Improvement Program	B	F	3,000,000	-	-	-	-	-	-	-	-	-	-

Total # of Projects and Dollars	89	<u>1,115,220,000</u>	<u>152,735,840</u>	<u>62,644,250</u>	<u>5,618,033</u>	<u>251,300</u>	<u>755,392</u>	-	<u>298,343</u>	<u>69,567,318</u>	<u>(95,479,374)</u>	<u>126,823,783</u>
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FY 2018 - 2022 Wastewater CIP Total (Page IV-3)		<u>1,115,218,000</u>										
Difference due to Rounding		<u>(2,000)</u>										
Items to be reclassified to Capital Outlay FY 2018				<u>605,618</u>								
Total CWIP Reported on FY 2017 Financial Statements				<u>153,341,458</u>								

Funding Sources
B- Bonds
SRF- State Revolving Funds

CIP Allowance and Program Summary

Within the FY 2018 - 2022 CIP, GLWA has developed budgets for allowances and programs that provide GLWA flexibility in capital development and improvements.

Allowances are established to provide funding related to unanticipated nature of pipeline and equipment failures that require immediate repair and rehabilitation to continuously meet level of service requirement. Allowances can also be allocated to projects with anticipated or actual spend in excess of the CIP budget.

Programs are established to provide funding related to specific capital improvements that are systemic, reoccurring, and vary from year to year.

Below are the allowances and programs within the Wastewater System.

Allowance

260100: WRRF, Lift Station and Wastewater System Structure Allowance

Programs

260200: Sewer and Interceptor Evaluation and Rehabilitation

260300: Scheduled Replacement of Program of Critical Assets

260400: Sewage Meter Design, Installation, Replacement and Rehabilitation Program

Wastewater System Construction Work-in-Progress Quarterly Report As of June 30, 2018

Great Lakes Water Authority
Board Approved CIP Allowance/Program Summary
Allowance: 260100 Water Resource Recovery Facility, Lift Station, and Wastewater Collection System Structures

CIP#	Contract Number	Description	Board/Administrative Approved	Current Budget Amendment	FY2018 Estimate	FY 2019 Estimate	FY 2020 Estimate	FY 2021 Estimate	FY 2022 Estimate
260100		WRRF, Lift Station and Wastewater Collection System Structures Allowance	Board		12,000,000	12,000,000	15,000,000	15,000,000	12,000,000
260300	Fire Remediation Project at WRRF	Fire Remediation	Board	6992	2,000,000				
260110	CS-060	Study and Design for Modification of Sludge Feeds Systems	Board	6920	(174,000)				
260113	Fire Remediation Project at WRRF	Fire Remediation	Board	9383	(2,000,000)				
211004	CON-250	Rack and Grit at Pump Station No. 1	Board	9023	(1,740,000)				
213007	CON-197	Modify Sludge Feeds Systems in Complex II	Board	9024	(1,709,083)				
260602	DB-261	CSO Facilities Fire Alarm	Administrative	9374	(834,788)				
215001	CON-234	Effluent Gates	Board	9025	(500,000)				
260601	CON-254	Oakwood CSO Control Facility Rehabilitation	Administrative	9373	(200,000)				
213007	CS-060	Study and Design for Modification of Sludge Feeds Systems	Board	Pending	(96,404)				
232002	CON-109	Emergency Refurbishment of Storm Pump #5 and #7, Upgrade of Pump #5 and Motor Control Center Upgrade for Eight Storm Pumps for Freud Pumping Station	Board	9372	(886,684)				
214001	CS-262	Engineer Services for IWCD Relocation	Administrative	9370	(154,040)				
211004	CS-1432A	Rack and Grit at Pump Station No. 1 Design	Administrative	9371	(153,899)				
Total		12 Available Balance			5,551,102	12,000,000	15,000,000	15,000,000	12,000,000

Great Lakes Water Authority
Board Approved CIP Allowance/Program Summary
Program: 260200 Sewer and Interceptor Evaluation and Rehabilitation Program

CIP#	Contract Number	Description	Board/Administrative Approved	Current Year Budget Amendment	FY2018	FY 2019	FY 2020	FY 2021	FY 2022
260200		Sewer and Interceptor Evaluation and Rehabilitation Program			8,000,000	8,000,000	20,000,000	20,000,000	20,000,000
260201	PO 5030	DRI Section Inspection, Evaluation, Design							
260201	CS-168	Conveyance Sstem Interceptor Rehab	Board	7013	(1,000,000)	(1,000,000)	(1,000,000)		
260201	CON-149	CON-149 Inland: DRI, Sec Insl, Evaluation, Design	Board	7013	(4,795,540)	(6,600,000)	(3,404,460)		
260203	CS-068	CON-068 Inland: Sewer Inspection	Board	7011	(2,140,460)				
Total	4 Available Balance				64,000	400,000	15,595,540	20,000,000	20,000,000

Great Lakes Water Authority
Board Approved CIP Allowance /Program Summary
Allowance: 260300 Scheduled Replacement of Program of Critical Assets

CIP#	Contract Number	Description	Board/Administrative Approved	Current Year Budget Amendment	FY2018	FY 2019	FY 2020	FY 2021	FY 2022
260300		Schedule Replacement Program of Critical Assets			5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
260301	CON-143	Complex II Roof Replacement	Board	6990	(1,567,400)				
260113	Fire Remediation Project at WRRF	Fire Remediation	Board	6992	(2,000,000)				
Total	2 Available Balance				1,432,600	5,000,000	5,000,000	5,000,000	5,000,000

Great Lakes Water Authority
Board Approved CIP Allowance/Program Summary
Program: 260400 Sewage Meter Design, Installation, Replacement and Rehabilitation

CIP#	Contract Number	Description	Board/Administrative Approved	FY2018	FY 2019	FY 2020	FY 2021	FY 2022
260400		Sewage Meter Design, Installation, Replacement and Rehabilitation Program		500,000	500,000	500,000	500,000	500,000
Total	0 Available Balance			500,000	500,000	500,000	500,000	500,000

Budget Amendment Reporting

Scope: Budget amendments seek to properly allocate funds from the allowance and programs within the Capital Improvement Plan (CIP) for the budgeted years by the reallocation of funds from the budgeted allowance or programs level to the actual project level.

Process: Steps are listed below.

- 1) Properly identify projects that utilize funds from the allowance or programs
- 2) Reallocate the funds from the budgeted allowance or programs level through a journal entry
- 3) Attach documents that support the reallocation (CIP funding request, contract transmittal, or change orders)
- 4) Create, review, and approve budget amendment journal entry

Wastewater - Summary Budget Amendments

CIP Project	FY 2018					FY 2018
	Original Budget	Q1 Amendments	Q2 Amendments	Q3 Amendments	Q4 Amendments	Amended Budget
211001						
Project 211001: Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery	\$ 12,097,000	\$ -	\$ -	\$ -	\$ 889,310	\$ 12,986,310
211002						
Project 211002: Pump Station No. 2 Pumping Improvements	1,304,000	-	-	-	(705,000)	599,000
211003						
Project 211003: Rehabilitation of Primary Clarifiers: Moved to 211001	240,000	-	-	-	32,000	272,000
211004						
Project 211004: Pump Station 1 Rack & Grit and MPI Sampling Station 1 Improvements	2,652,000	-	-	1,740,000	(490,101)	3,901,899
211005						
Project 211005: Pump Station No. 2 Improvements	600,000	-	-	-	(593,000)	7,000
211006						
Project 211006: Pump Station No. 1 Improvements	600,000	-	-	-	(600,000)	-
211007						
Project 211007: Replacement of Bar Racks and Grit Collection System at Pump Station No. 2	650,000	-	-	-	(650,000)	-
211008						
Project 211008: Rehabilitation of Ferric Chloric Feed systems at the Pump Station -1 and Complex B Sludge Lines	400,000	-	-	-	(400,000)	-
211009						
Project 211009: Rehabilitation of the Circular Primary Clarifier Scum Removal System	266,000	-	-	-	(266,000)	-
212003						
Project 212003: Aeration System Improvements	11,197,000	-	-	-	(1,924,000)	9,273,000
212004						
Project 212004: Chlorination/Chlorination Process Equipment Improvements	400,000	-	-	-	(391,280)	8,720
212006						
Project 212006:WRRF Rouge River Outfall No. 2 (RRO-2) Disinfection (Alternative)	15,800,000	-	-	-	4,819,000	20,619,000
212007						
Project 212007: Rehabilitation of the Secondary Clarifiers	301,000	-	-	-	(301,000)	-
213002						
Project 213002: Rehabilitation of Central Offload Facility	5,850,000	-	-	-	(5,185,000)	665,000
213003						

Wastewater - Summary Budget Amendments

CIP Project	FY 2018					FY 2018
	Original Budget	Q1 Amendments	Q2 Amendments	Q3 Amendments	Q4 Amendments	Amended Budget
Project 213003: Sewage Sludge Incinerator Air Quality Improvements at WRRF 213004	-	-	-	-	459,000	459,000
Project 213004: Biosolids Dryer Facility at WRRF 213005	60,000	-	-	-	175,640	235,640
Project 213005: Complex I Incinerators Decommissioning and Reusability 213006	900,000	-	-	-	(900,000)	-
Project 213006: Improvements to Sludge Feed Pumps at Dewatering Facilities 213007	402,000	-	-	-	(402,000)	-
Project 213007: Construction of the Improved Sludge Conveyance and Lighting System at the WWTP 213008	9,600,000	-	-	1,709,083	(10,636,947)	672,136
Project 213008: Rehabilitation of the Wet and Dry Ash Handling Systems 213009	530,000	-	-	-	(530,000)	-
Project 213009: Phosphorous Recovery Facility at the WRRF 214001	-	-	-	-	21,905	21,905
Project 214001: Relocation of Industrial Waste Division and Analytical Laboratory Operations 215001	5,000,000	-	-	-	(5,000,000)	-
Project 215001: Rehabilitation of Combined Sewer Overflow (CSO) Retention Treatment Basins (RTB), Screening and Disinfection Facilities (SDF) 216001	-	-	-	500,000	(500,000)	-
Project 216001: Underground Electrical Duct Bank Repair and EB-1, EB-2, and EB-10 Primary Power Service Improvements - WRRF 216003	1,532,000	-	-	-	(499,000)	1,033,000
Project 216003: Repair Potable Water, Screened Final Effluent, natural Gas, and Compressed Air Pipelines at the WWTP 216004	690,000	-	-	-	(690,000)	-
Project 216004: Rehabilitation of Various Sampling Sites and PS# 2 Ferric Chloric System at WWTP 216005	2,500,000	-	-	-	(2,441,631)	58,369
Project 216005: Rehabilitation of the Main Plant Maintenance Building, Replacement of various Plant Maintenance Areas and Work Environment Improvement	1,500,000	-	-	-	(1,500,000)	-

Wastewater - Summary Budget Amendments

CIP Project	FY 2018					FY 2018
	Original Budget	Q1 Amendments	Q2 Amendments	Q3 Amendments	Q4 Amendments	Amended Budget
216006						
Project 216006: Rehabilitation of the Screened Final Effluent (SFE) Pump Station and Secondary Water System	1,700,000	-	-	-	(1,700,000)	-
216007						
Project 216007: DTE Primary Electric 3rd Feed Supply Line to the WRRF	3,500,000	-	-	-	(3,500,000)	-
222002						
Project 222002: Detroit River Interceptor Evaluation and Rehabilitation	10,000,000	-	-	-	(7,768,000)	2,232,000
222003						
Project 222003: North Interceptor East Arm (NBA) Evaluation and Rehabilitation	11,000,000	-	-	-	(11,000,000)	-
222004						
Project 222004: Collection System Valve Remote Operation Structures Improvements	341,000	-	-	-	-	341,000
222007						
Project 222007: North Interceptor East Arm (NIEA) Evaluation and Rehabilitation from WRRF to Gratiot Ave. and Sylvester St.	7,000,000	-	-	-	(7,000,000)	-
232001						
Project 232001: Fairview Pumping Station - Replace Four Sanitary Pumps	2,100,000	-	-	-	(1,592,000)	508,000
232002						
Project 232002: Freud and Connor Creek Pump Station Improvements	5,900,000	-	-	-	(3,629,316)	2,270,684
232003						
Project 232003: Northeast Pump Station Improvements	2,408,000	-	-	-	(2,408,000)	-
233002						
Project 233002: Collection System In System Storage Devices (ISDs) Improvements	86,000	-	-	-	-	86,000
260100						
Project 260100: Water Resource Recovery Facility (WRRF), Lift Station & Wastewater Collection System Allowance	12,000,000	1,826,000	-	(3,949,083)	(12,163,692)	(2,286,775)
260109						
Rehab Valve: RFB-46533	-	-	-	-	-	-
260110						
Project 260110: CS060: Black& Veatch: Moved to 213007	-	174,000	-	-	(174,000)	-
260113						

Wastewater - Summary Budget Amendments

CIP Project	FY 2018					FY 2018
	Original Budget	Q1 Amendments	Q2 Amendments	Q3 Amendments	Q4 Amendments	Amended Budget
Project 260113: Fire Remediation 260200	-	-	-	-	2,000,000	2,000,000
Project 260200: Sewer and Interceptor Evaluation and Rehabilitation Program NNB 260201	8,000,000	(7,936,000)	-	-	7,687,000	7,751,000
Project 260201: Conveyance System Interceptor Rehab 260202	-	5,795,540	-	-	(5,795,540)	-
Program 260203	-	-	-	-	-	-
Project 260203: SCP-CON-068: Inland: Sewer Inspection 260204	-	2,140,460	-	-	(2,140,460)	-
Energy Svcs for rehab of convey sewer systm 260300	-	-	-	-	-	-
Project 260300: Schedule Replacement Program of Critical Assets NNB 260301	5,000,000	(3,567,400)	-	-	739,400	2,172,000
Project 260301: Roof Replacement of Complex II 260302	-	1,567,400	-	-	(1,567,400)	-
Project 260302: CON 127: Repair HVAC 260400	-	-	-	-	-	-
Project 260400: Sewage Meter Design, Installation, Replacement and Rehabilitation Program 260501	500,000	-	-	-	-	500,000
Collection System Access Hatch Improveme 260502	3,196,000	-	-	-	(2,855,000)	341,000
Project 260502 - CSO Outfall Rehabilitation 260503	6,000,000	-	-	-	(6,000,000)	-
Collection System Backwater Gates 260600	1,301,000	-	-	-	(1,301,000)	-
Project 260600 CSO Facilities Improvement 260601	2,247,000	-	-	-	(589,000)	1,658,000
Oakwood Drain Valve Improvement 260602	-	-	-	-	510,000	510,000
CSO 260603	-	-	-	-	834,788	834,788
Project 260603 - Conner Creek CSO Basin Rehab 331002	-	-	-	-	-	-

Wastewater - Summary Budget Amendments

CIP Project	FY 2018					FY 2018
	Original Budget	Q1 Amendments	Q2 Amendments	Q3 Amendments	Q4 Amendments	Amended Budget
Project 331002: Roofing Systems Replacement at GLWA Wastewater Treatment Plant, CSO Retention Treatment Basins (RTB) and Screening Disinfection Facilities (SDF) 361001	2,200,000	-	-	-	(2,200,000)	-
Project 361001: Consolidated Process Control System Upgrades 361003	-	-	-	-	-	-
Project 361003: SCADA Radio Network Upgrade 380400	-	-	-	-	-	-
Project 380400: As-need CIP Implementation Assistance and Related Services NNB 380401	100,000	-	-	-	107,360	207,360
Project 380401: CS-1433: PMA: As Need CIP Services 380500	-	-	-	-	-	-
Project 380500: Bpartment-wiB General Engineering Services on an As-need Basis 380501	114,000	-	-	-	-	114,000
Project 380501: CS-1499:MetcoServices:General Engineer 380600	-	-	-	-	-	-
Project 380600: General Engineering Services 380900	100,000	-	-	-	(42,043)	57,957
Project 380900: General Engineering Services 380901	382,000	-	-	-	(192,000)	190,000
Project 380901: CS-1481:Sigma Assoc: General Engineering 381000	-	-	-	-	333,006	333,006
Project 381000: Energy Management: Electric Metering Improvement Program	500,000	-	-	-	(500,000)	-
Grand Total	\$ 160,746,000	\$ -	\$ -	\$ -	\$ (90,114,000)	\$ 70,632,006

*Budget amendment entry for \$90,114,000 applied to CIP Reserve

Glossary of Acronyms

ACRONYM	DEFINITION	ACRONYM	DEFINITION
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
ECR	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	WWTP	Wastewater Treatment Plant
NIEA	North Interceptor East Arm		