Structural Inspection & Structural Improvements
Photo Submitted by: Kashmira Patel of Wastewater Operating Services

GLWA
Great Lakes Water Authority

CIP

CAPITAL IMPROVEMENT PLAN

2025-2029

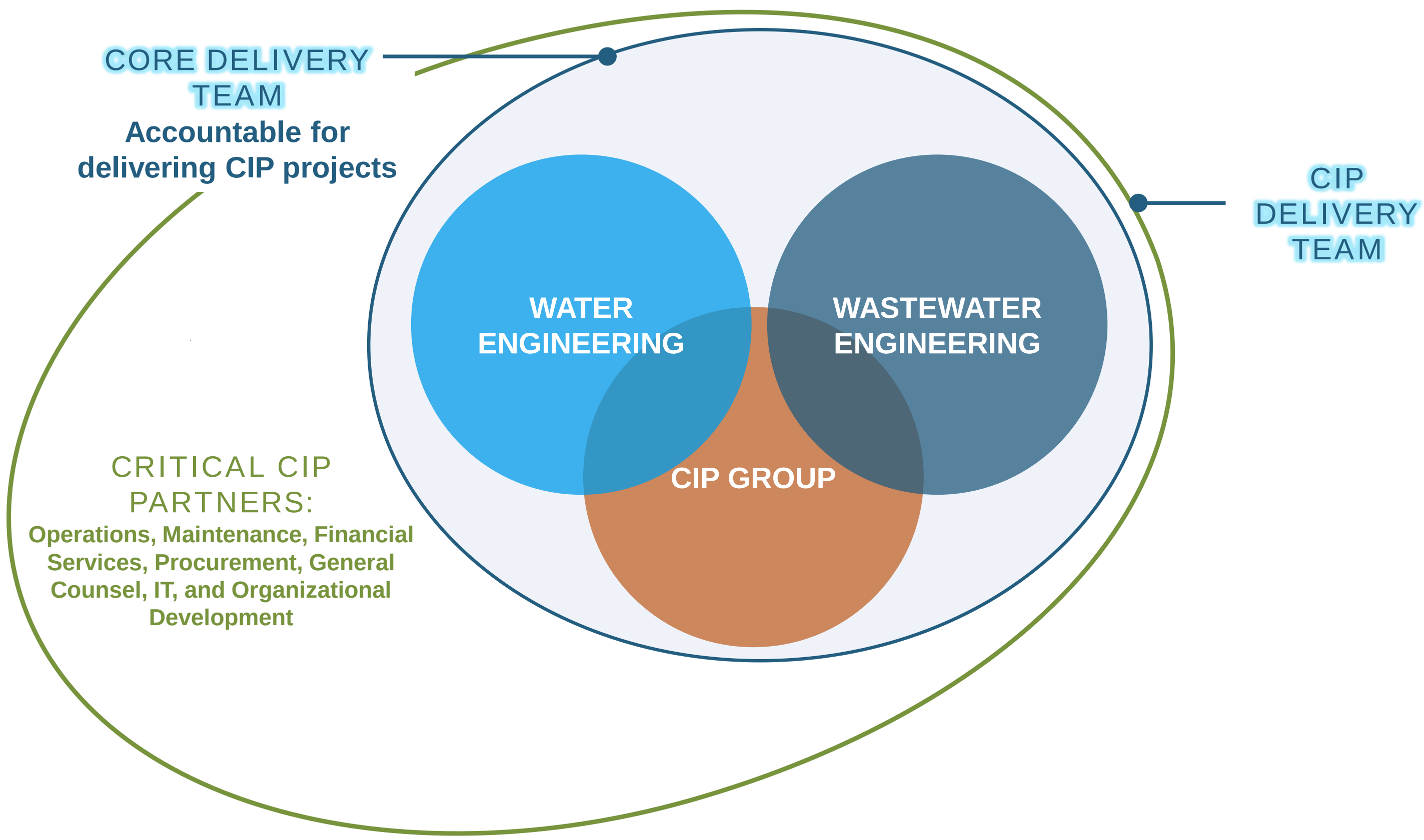
Updated December 1, 2023
Discussion - Draft 2

96-Inch Water Transmission Main Relocation and Isolation Valve Installations
Photo Submitted by: Corey Brecht of Water and Field Services

ACRONYMS

Abbrv.	Meaning
A	Active
BCE	Business Case Evaluations
BS&A	Accounting Software
CIP	Capital Improvement Plan
CON	Construction
CPC	Capital Planning Committee
CPR	Capital Program Review
CSO	Combined Sewer Overflows
CSR	Capital Spend Ratio
CWSRF	Clean Water State Revolving Fund
DB	Design Build
DSC	Debit Service Coverage
DWSRF	Drinking Water State Revolving Fund
EOTF	Economic Outlook Taskforce
FP	Future Planned
FY	Fiscal Year
GDRSS	Greater Detroit Regional Sewer System
GLWA	Great Lakes Water Authority
HVAC	Heating, Ventilation, and Air Cooling
I&E	Improvement & Extension
LHTWP	Lake Huron Water Treatment Plant

Abbrv.	Meaning
MBO	Master Bond Ordinance
N/A	Not Available
O&M	Operations and Maintenance
PC	Pending Closeouts
PE	Project Execution
PM	Project Manager
PS	Pump Station
RC	Review Commitee
RFB	Request For Bids
RFP	Request For Proposals
RTB	Retention Treatment Basins
SCADA	Supervisory Control and Data Acquisition
SDF	Screening and Disinfection Facilities
SRA	Spend Rate Assumption
TBD	To Be Determined
W	Water
WAMR	Wholesale Automated Meter Reading
WRAP	Water Residential Assistance Program
WRRF	Water Resource Recovery Facility
WTP	Water Treatment Plants
WTM	Water Transmission Main
WW	Wastewater



BOARD MEMBERS, GLWA TEAM MEMBERS, MEMBER PARTNERS, AND SERVICE AREA COMMUNITIES,

On behalf of the Great Lakes Water Authority (GLWA) Capital Improvement Planning Delivery Team, it is my privilege to present to you Discussion Draft 2 of the Fiscal Year 2025-2029 Capital Improvement Plan (CIP).

The CIP, a forward-looking road map for GLWA's investments, delineates our water and wastewater infrastructure improvement strategy for both short and long-term horizons. This year, navigating the complexities of the market presented challenges in aligning the CIP with our financial plan. Despite these hurdles, the proposed plan encompasses 159 projects, representing an investment of approximately $2.05 billion in the region's water and wastewater infrastructure over the next five years.

Outlined in the FY 25-29 CIP are projects designed to enhance the system's resiliency, redundancy, and operational efficiency, while steadfastly prioritizing health and safety. The collaborative effort invested in developing this plan has been extraordinary. I extend appreciation to GLWA's leadership for their support and commend the dedication of the CIP delivery team members who worked tirelessly to shape this comprehensive document. Our collective aim has been to consistently enhance the content, and this plan stands as a testament to that commitment.

Throughout the FY 25-29 CIP process, the CIP delivery team actively engaged with our Member Partner Communities through project scoring and various CIP presentations ensuring a transparent and inclusive approach. We value your ongoing support of the GLWA CIP development, and your feedback is integral to our shared success.

Should you have any questions or require additional information, please do not hesitate to reach out to me directly. Thank you for your dedication and partnership.

Thank You,

Dima S. El-Gamal, PhD, PE, LEED AP

Capital Improvement Planning Director

Great Lakes Water Authority • 9300 W Jefferson Ave, Suite 409 • Detroit, MI 48209

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E: dima.el-gamal@glwater.org

ACKNOWLEDGMENTS

We would like to congratulate Kashmira Patel and Corey Brecht for receiving the most votes and subsequent GLWA Cover Photo Contest winners. Their respective photos of CSO facilities Structural Inspection & Structural Improvements and Imlay Station to North Service Center are featured on the CIP cover.

STRUCTURAL INSPECTION & STRUCTURAL IMPROVEMENTS

CIP Project # 260614
Project Manager: Kashmira Patel
Location: Multiple Locations
Project Status: Project Execution - Construction
Start & Completion Date: Aug 2019 – Jun 2025
Project Budget: $15,628,000
Project Team: Dave McCord, Robert King, James Hogans

Project Description: 1902224 project was initiated to provide structural assessment and priority repairs at GLWA operated and maintained nine CSO facilities. This project was procured as Design-Build (DB) project, and this is the first GLWA project that was interviewed and negotiated virtually due to COVID. These facilities were old and aging and in need of structural improvements to provide at least an additional 20 years of service life. As part of this project, DB Contractor shall prioritize and design the required repairs and implement the repairs based on the available funding and the operational requirements of GLWA.

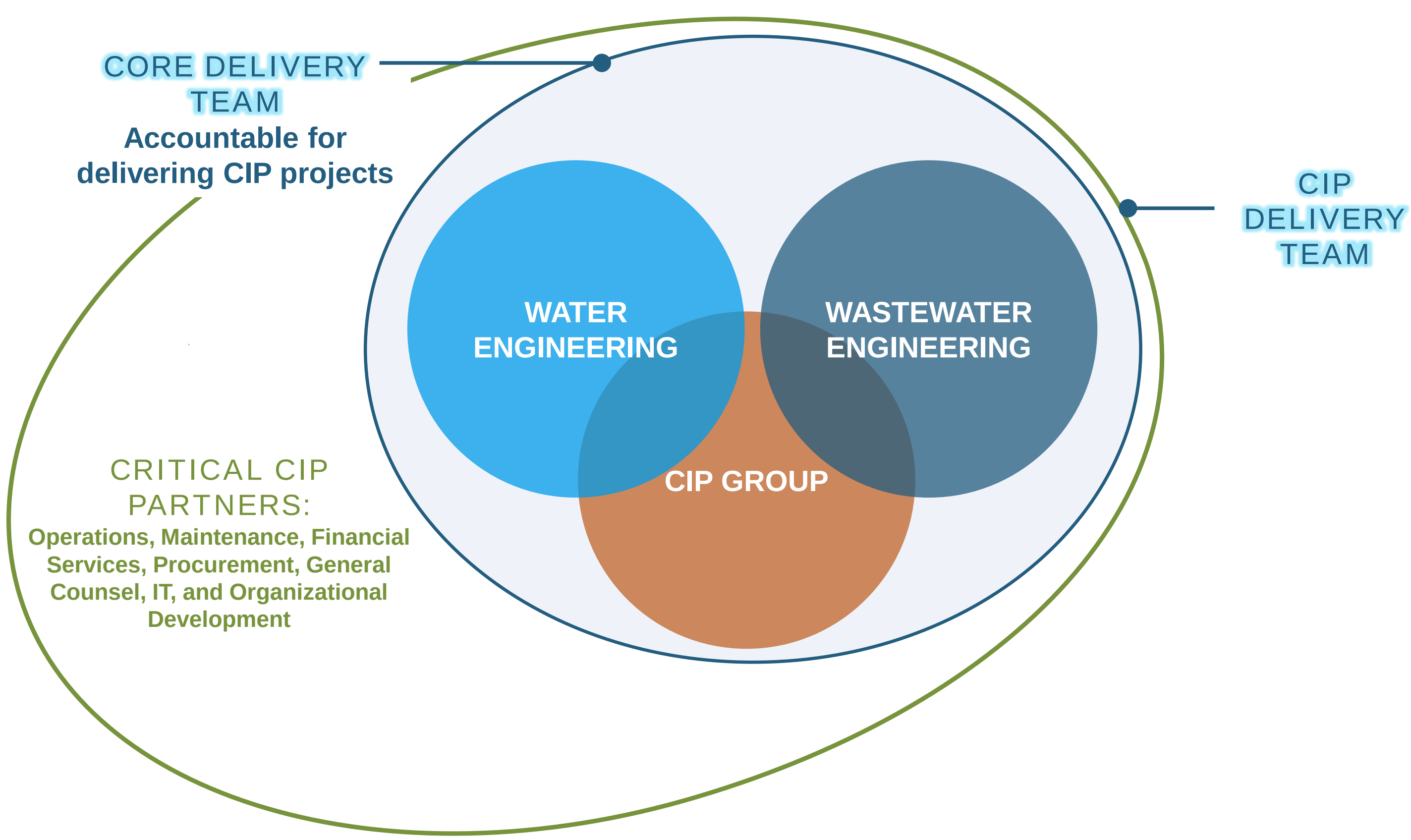
Testimonial: Despite wet weather challenges and accommodating DB-226 requirements at Conner CSO facility, the DB team has successfully performed the contract work at each of these nine facilities. Overall, the success of this project was flexible to meet GLWA Operation's needs, able to expand and contract the scope based on available budget, estimated to complete all base contract work by end of December 2023, which is far earlier than current contract milestone completion date. The DB team had met all project goals so far.

96-INCH WATER TRANSMISSION MAIN RELOCATION AND ISOLATION VALVE INSTALLATIONS

CIP Project # 122004
Project Manager: Corey Brecht
Location: Imlay Station to North Service Center
Project Status: Project Execution - Construction
Start & Completion Date: Jul 2016 – Aug 2028
Project Budget: $237,680,000
Project Team: Peter Bommarito, Peter Fromm, Timothy Kuhns, Jerod Wade

Project Description: CIP 122004 involves the relocation of a portion of the 96-inch water transmission main (WTM) that connects the North Service Center and Rochester Pump Stations. The 96-inch WTM relocation is being completed to relocate GLWA facilities outside the influence of the decommissioned G&H Industrial Landfill site, a listed U.S. Environmental Protection Agency Superfund site. The project involves installation of approximately 2.5 miles of new 96-inch WTM along Dequindre Road, Avon Road, and the Macomb Orchard Trail constructed in three phases. Phase 1 of the 96-inch WTM Relocation Project involved 2,200 LF of pipe installation along Avon Rd within Rochester Hills.

Testimonial: Phase 1 was uniquely challenging due to the constraints experienced with crossing the Clinton River and working within 100ft of a 160-year-old historic mill. With these challenges came opportunities for the team to excel in communication and collaboration with multiple stakeholders to provide a successful project. This project is an example of what can be accomplished in a short period of time with proper planning, communication, transparency, and collaborative efforts among project stakeholders.



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01 INTRODUCTION

INTRODUCTION

1.1 EXECUTIVE SUMMARY

We are pleased to submit the Great Lakes Water Authority (GLWA) Capital Improvement Plan (CIP) for fiscal years 2025-2029.

We are pleased to submit the Great Lakes Water Authority (GLWA) Capital Improvement Plan (CIP) for fiscal years 25-29.

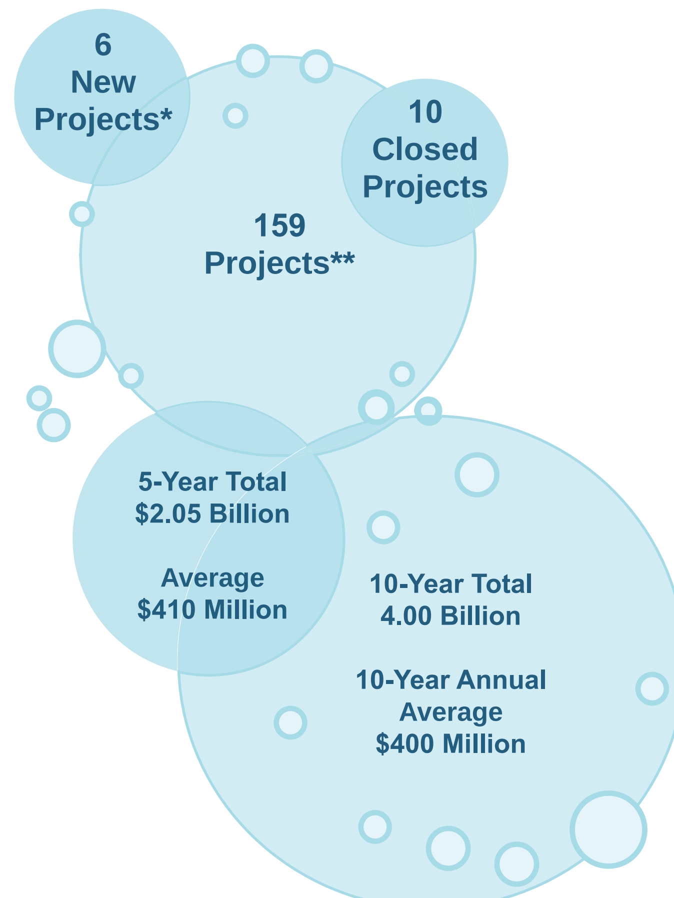
This document serves as a guide for the effective and efficient provision of capital assets and infrastructure, outlining timing, and financing for the five-year plan.

GLWA operates and maintains the largest water system in the United States in production and population served, and one of the largest wastewater treatment plants in capacity. To collaboratively ensure a One Water system approach to our regional water and wastewater systems, GLWA has a dedicated Member Outreach Program that collaborates with its Member Partners. Work groups are used to involve members in technical service and financial discussions that support decision-making at GLWA.

Four committees have been established by GLWA's six-member Board of Directors to provide oversight and policy guidance:

- Audit Committee
- Capital Planning Committee
- Legal Committee
- Operations and Resources Committee

GLWA's commitment to improved performance in the water and wastewater systems, environmental compliance, and Member Partner satisfaction aligns with the organization's goals to contribute to the economic success and the health and safety of the region it serves.



NOTE: *3 NEW PROJECTS FROM PROGRAM
** IN ADDITION TO THE 159 PROJECTS, THERE ARE:
+2 RECLASSIFIED PROJECTS
+3 CANCELLED PROJECT

CIP AT A GLANCE

GLWA's CIP supports the continuation of major capital asset investments in programs and projects that will upgrade the Authority's aging water and wastewater system infrastructure, as well as the overarching centralized service infrastructure that supports both systems. The CIP is a forward-thinking five-year plan that identifies capital projects and programs and their respective financing options. Annually, this plan is updated to reflect changing system needs, priorities, and funding opportunities.

WATER

Category	Amount
5-Year Total	$1,071,788
5-Year Average	$214,358
10-Year Total	$2,180,458
10-Year Average	$218,046

Financial figures are in thousands of dollars ($1,000's)

WASTEWATER

Category	Amount
5-Year Total	$982,525
5-Year Average	$196,505
10-Year Total	$1,822,439
10-Year Average	$182,244

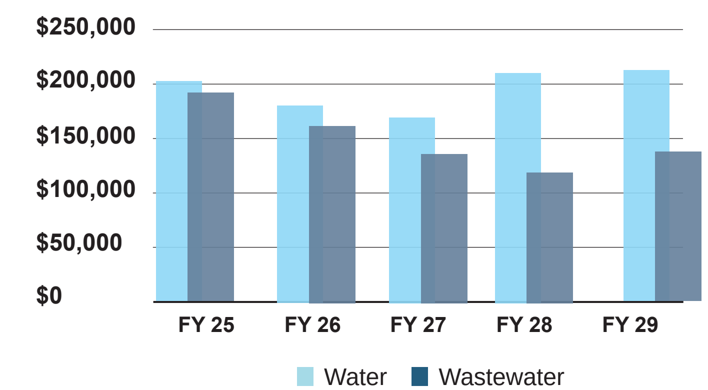
Financial figures are in thousands of dollars ($1,000's)

PLAN SPENDING SUMMARY

5-Year Total	10-Year Total
$2.05 Billion	**$4.00 Billion**
5-Year Annual Average	10-Year Annual Average
$410 Million	**$400 Million**

Ongoing efforts to stabilize rates and plan realistically for what can be achieved led to the current capital improvement spending plan.

5-YEAR OUTLOOK



FY 25-29 CIP SCHEDULE

FY 24-28 CIP
- Board Approved — February 22
- CIP Work Group Meeting — March 21
- CPC Meeting — March 14- Cancelled

Pre-Alignment FY 25-29 CIP
- Financial Budget Predictions Analysis — April 7
- Pre-Alignment — April & May, 4/17 and 5/1 WW, 4/20 and 5/1 W
- CPR Meeting: Report on Pre-Alignment — May 4

Project Updates
- CIP Work Group Meeting — May 16
- Portal Enhancements — Mar-May
- Portal Open — May 15
- Portal & Dashboard Training — May 16/18

Scoring
- PM Scoring Updates — May 16- June 16
- CPC Meeting — June 13
- Scoring Committees Meetings — June 26 W & 29 WW

Alignment
- Alignment — July & August
- Alignment Meetings — July 24, 31 WW, July 21, 27 W
- CIP Work Group Meeting — August 8
- Draft 1 Actuals Cut-off — August 30
- CPC Meeting — September 12

Draft 1
- Draft 1: ELT Meeting — October 3
- Draft 1 CPC Meeting — October 17
- Draft 1: Publish for Comments — October 18

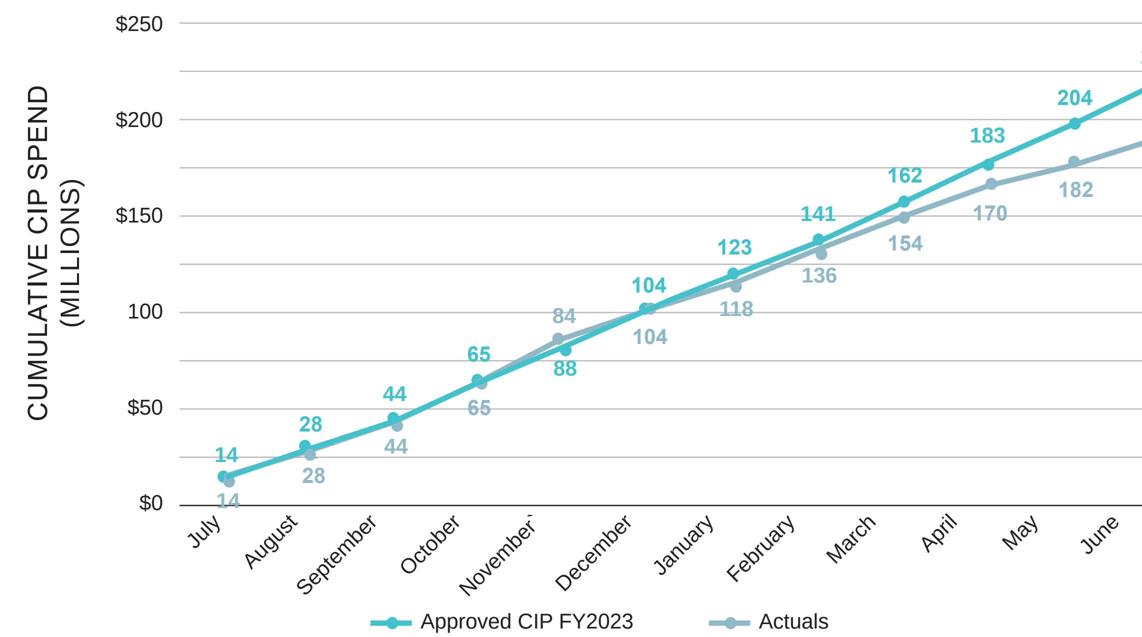
Draft 2 (We Are Here)
- Draft 2 Actuals Cut Off — October 31
- CIP Work Group Meeting — November 7
- End of Public Comment — November 15
- Incorporate comments into Draft 2 — Dec
- Draft 2 CPC Meeting — December 12
- Draft 2 Published — December 13

- 2024 Board Presentation — January 24
- 2024 Capitol Planning Committee Presentation — February 13
- 2024 Board Consideration and Action on the FY 25-29 CIP — February 28
- CIP Implementation — July 1

FY 23 KEY PERFORMANCE INDICATORS (KPIS)

ENTERPRISE RESILIENCY FY 2023 TOTAL WATER CIP SPEND

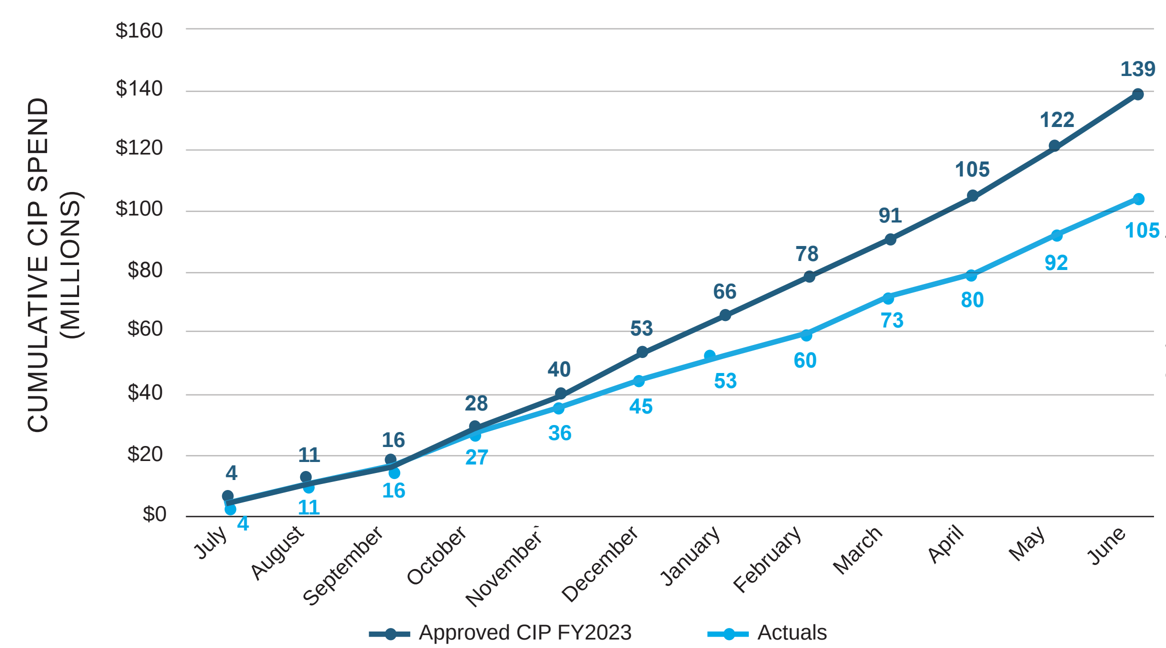
CUMULATIVE WATER CIP ACTIVITY FY 2023 THROUGH JUNE 30, 2023 (UNAUDITED, PRE-CLOSE)



CURRENT STATUS: The water system incurred $196 million of CIP costs through June 2024. This is 89% of the FY 2024 monthly prorated Approved CIP.

ENTERPRISE RESILIENCY FY 2023 TOTAL SEWER CIP SPEND

CUMULATIVE WASTEWATER CIP ACTIVITY FY 2023 THROUGH JUNE 30, 2023 (UNAUDITED, PRE-CLOSE)



CURRENT STATUS: The sewer system incurred $105 million of CIP costs through June 2024. This is 67% of the FY 2024 monthly Prorated Approved CIP.

INTRODUCTION
1.1 EXECUTIVE SUMMARY

WATER CIP COMPARISON

Financial figures are in thousands of dollars ($1,000's)

CIP Document	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	5-Year Total
Approved Water CIP FY 2024-2028	$239,260	$200,422	$176,034	$165,813	$205,087	$210,312	$986,616
Water CIP FY 2025-2029		$207,333	$209,752	$227,823	$236,331	$190,550	$1,071,788
Difference		$6,910	$33,718	$62,009	$31,244	($19,761)	$85,173
Difference %		3.45%	19.15%	37.40%	15.23%	-9.40%	8.63%

WASTEWATER CIP COMPARISON

Financial figures are in thousands of dollars ($1,000's)

CIP Document	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	5-Year Total
Approved Wastewater CIP FY 2024-2028	$199,061	$190,159	$159,044	$133,732	$116,180	$135,663	$798,176
Wastewater CIP FY 2025-2029		$169,189	$212,693	$216,231	$201,995	$182,417	$982,525
Difference		($20,970)	$53,649	$82,499	$85,815	$46,753	$184,349
Difference %		-11.03%	33.73%	61.69%	73.86%	34.46%	23.10%

1.2. PRIMARY GOALS OF THE CIP

The primary goals of the GLWA's CIP are the following:

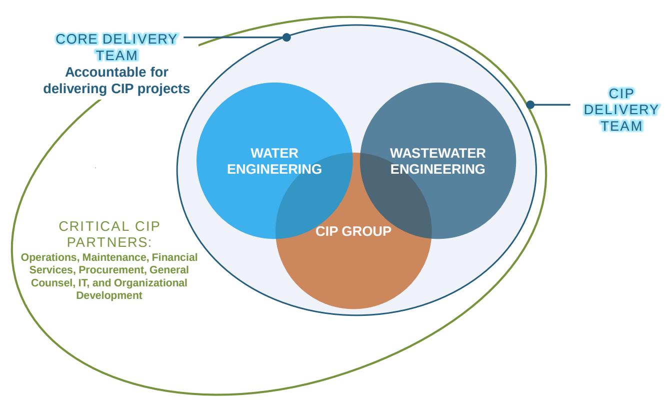
- Provide a condensed volume of projects in a central location.
- Demonstrate alignment with the GLWA financial plan.
- Share the GLWA integrated master schedule.
- Provide transparency to the organizational goals.
- Meet regulatory and operational needs.
- Provide an opportunity for Member Partners and communities to contribute to the plan.
- Address projects that promote improved redundancy, system resiliency, and health and safety.

This CIP should be considered a forward-looking planning document; it is a dynamic and evolving plan that requires continual review and improvement. Short-term project cost estimates are more defined than long-term project cost estimates because short-term anticipated projects are typically better characterized by studies or scoped by design.

The project descriptions and summaries incorporated in this report represent brief synopses of the entire project scope; these descriptions are generally more defined for ongoing active projects than for newly planned projects, where specific project activities may have yet to be determined. Based upon the execution of programs and projects identified in the CIP, it is anticipated that the existing levels of service currently provided will be met or exceeded. Copies of this CIP and past CIPs are available on GLWA's website at https://www.glwater.org/cip/.

1.3. TEAM MEMBERS & PARTNERS

Our members include the GLWA CIP Delivery Team (as depicted in Figure below: Team Members & Partners), board members, water and wastewater partners, associated stakeholders, elected officials, consultants, and regulatory agencies. GLWA has a dedicated Member Outreach Program that collaborates with its members on water and wastewater activities.



The Capital Improvement Planning Group at GLWA works to develop and support the execution of the plan. The team members are listed below, along with their contact information:

- **Dima El-Gamal**, PhD, PE, LEED AP, Director. dima.el-gamal@glwater.org;
- **Ian Thompson**, PE, Controls Manager. ian.thompson@glwater.org;
- **Nusrat Ahmad,** CIP Planning Lead, Management Professional. nusrat.ahmad@glwater.org

1.4. CIP STRATEGY

GLWA's CIP lays out the organization's intentions for capital asset investment for the next five years to enhance and maintain system-wide assets. Updated annually, the plan reflects the organization's changing system needs, priorities, and financing opportunities over time. Projects are included in the CIP as recommended by the Water and Wastewater Master Plans, condition and needs assessments, regulatory requirements, and operational needs. The Comprehensive Water Master Plan and the Comprehensive Regional Wastewater Master Plan are long-term strategic planning tools that provide regional collaboration and planning to balance capital expenditures while implementing best practices in the treatment and transmission/conveyance of water and wastewater. Projects are vetted and prioritized to optimize capital investments.

Water and Wastewater CIP Projects are developed utilizing Business Case Evaluations (BCE's), which are included in Appendices A, B, and C of this plan for Water, Wastewater, and Field Services, respectively.

The goals of the Authority's capital financing strategy are to:

- Recover the capital investment costs over the useful lives of the capital assets.
- Balance the needs of the water and sewage system with revenue requirements.
- Protect and enhance the Authority's financial position.

Maintain affordable charges by investing wisely in system renewal and revitalization.

Recognizing the difference in scope between the CIP and the tactical financial plan, GLWA implemented a "Capital Spend Rate Assumption Policy" adopted in 2018 by the Board of Directors. This policy provides an analytical approach to bridge the total dollar amount of projects in the CIP with what can realistically be spent due to limitations beyond GLWA's control. This rate is assessed annually and presented to the Board of Directors.

INTRODUCTION
1.5. CIP OPTIMIZATION

1.5. CIP OPTIMIZATION

As stated earlier, the CIP should be considered a forward-looking planning document. It is a dynamic and evolving plan that requires continual review, optimization, and improvement. To continuously improve the CIP process and reporting, the CIP group has made the following improvements:

SCORING

The scoring this year followed the same methodology introduced in the FY23-27 CIP. This methodology was applied to improve and optimize the scoring and prioritization of projects by refining the alignment of the resulting project scores with GLWA's overall priorities and values. Below are a few additional actions implemented to streamline scoring revisions that were implemented:

- Projects that were reclassified retain their highest score.
- Projects were not scored if they are under construction.
- Projects in the closeout stage were not scored.
- Projects with a delivery method of Design Build, Progressive Design Build, or Construction Management At Risk, maintain their legacy score from last year.
- Projects that were developed from existing projects maintained the original score from the previous year.
- Projects under programs were scored, but programs were not scored.

The CIP processes will continue to improve and evolve to provide the various stakeholders with improved projections and reporting.

MILESTONES

The following schedule provides details related to the FY 25-29 CIP upcoming milestones:

- December 12, 2023: Capital Planning Committee (CPC)- Review of CIP
- December 13, 2023: Publish Discussion Draft 2
- January 24, 2024: Present FY 25-29 CIP to GLWA Board
- February 13, 2024: Capital Planning Committee (CPC)- Review of Final FY 25-29 CIP and recommendation to the GLWA Board
- February 28, 2024: Board consideration and action on the FY 25-29 CIP.
- July 1, 2024: Effective date of FY 2025-2029

REPORTING

FY25 and projections are based on real-time actuals for each draft. Discussion Draft 2 actuals as of October 31, 2023 and Project managers updates as of Nov 20, 2023.

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02
CIP SUMMARY

CIP SUMMARY

2.1. CIP 5-YEAR SUMMARY TABLES

The Great Lakes Water Authority's 25-29 CIP overall summary tables can be seen below. Please note that the centralized services CIP Categories table's projected project budgets and project categories are also included in the water CIP Categories and wastewater CIP Categories tables.

WATER

Financial figures are in thousands of dollars ($1,000's)

Category	Category Number	Lifetime Actual thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 25-29 CIP Total	FY 30 & Beyond	Project Total
Treatment Plants and Facilities											
Lake Huron	111x	$13,438	$26,752	$27,217	$32,731	$33,384	$55,921	$44,775	$194,029	$103,799	$338,018
Northeast	112x	$4,912	$2,557	$8,149	$8,149	$18,170	$14,298	$14,247	$63,015	$206,873	$277,357
Southwest	113x	$6,108	$3,623	$2,717	$1,193	$1,193	$2,376	$5,817	$13,296	$182,397	$205,424
Springwells	114x	$70,506	$29,750	$35,270	$33,084	$53,648	$32,561	$25,192	$179,755	$335,451	$615,461
Water Works Park	115x	$35,320	$16,858	$15,393	$7,339	$0	$2,758	$6,581	$32,071	$130,714	$214,962
General Purpose	116x	$69,305	$17,559	$15,151	$751	$0	$0	$0	$15,903	$0	$102,767
Treatment Plants and Facilities Total		**$199,589**	**$97,099**	**$103,897**	**$83,247**	**$106,395**	**$107,914**	**$96,612**	**$498,069**	**$959,234**	**$1,753,989**
Field Services											
Transmission System	0	$257,360	$89,599	$73,868	$77,909	$60,443	$53,368	$19,089	$284,677	$43,837	$675,474
Field Services Total		**$257,360**	**$89,599**	**$73,868**	**$77,909**	**$60,443**	**$53,368**	**$19,089**	**$284,677**	**$43,837**	**$675,474**
Systems Control Center											
Transmission System	0	$53,517	$8,076	$4,056	$19,311	$36,133	$34,932	$32,675	$127,106	$543,860	$732,559
Systems Control Center total		**$53,517**	**$8,076**	**$4,056**	**$19,311**	**$36,133**	**$34,932**	**$32,675**	**$127,106**	**$543,860**	**$732,559**
Metering											
General Purpose	0	$12,411	$1,107	$3,642	$3,642	$3,642	$3,652	$0	$14,579	$0	$28,097
Metering total		**$12,411**	**$1,107**	**$3,642**	**$3,642**	**$3,642**	**$3,652**	**$0**	**$14,579**	**$0**	**$28,097**
Programs											
Programs	17xx	$33,631	$10,881	$21,863	$25,622	$20,190	$35,442	$41,154	$144,271	$248,967	$437,750
Programs	38xx	$0	$11	$5	$20	$1,020	$1,022	$1,020	$3,086	$2,039	$5,136
Programs total		**$33,631**	**$10,892**	**$21,868**	**$25,642**	**$21,210**	**$36,464**	**$42,174**	**$147,357**	**$251,006**	**$442,886**
General Purpose											
General Purpose	371x	$0	$0	$0	$0	$0	$0	$0	$0	$25,000	$25,000
General Purpose total		**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$25,000**	**$25,000**
Grand Total		**$556,508**	**$206,773**	**$207,331**	**$209,751**	**$227,823**	**$236,330**	**$190,550**	**$1,071,788**	**$1,822,937**	**$3,658,005**

CIP SUMMARY
2.1. CIP 5-YEAR SUMMARY TABLES

WASTEWATER

Financial figures are in thousands of dollars ($1,000's)

Category	Category Number	Lifetime Actual thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 25-29 CIP Total	FY 30 & Beyond	Project Total
WRRF											
Primary Treatment	211x	$34,373	$20,136	$31,594	$35,559	$33,424	$30,634	$36,856	$168,068	$248,138	$470,715
Secondary Treatment and Disinfection	212x	$1,220	$699	$11,615	$26,276	$27,833	$28,236	$28,637	$122,597	$223,271	$347,787
Residuals Management	213x	$23,762	$4,725	$2,155	$6,770	$8,577	$6,330	$3,844	$27,676	$329,712	$385,874
General Purpose	216x	$23,496	$31,877	$27,414	$23,242	$20,541	$19,015	$18,912	$109,124	$119,890	$284,387
WRRF Total		**$82,851**	**$57,437**	**$72,778**	**$91,847**	**$90,375**	**$84,215**	**$88,249**	**$427,465**	**$921,011**	**$1,488,763**
Field Services											
General Purpose	221x	$12,328	$12,358	$557	$4,534	$10,168	$10,349	$4,141	$29,749	$8,130	$62,566
Interceptor	222x	$66,846	$31,504	$28,841	$41,626	$33,137	$26,906	$11,607	$142,117	$22,501	$262,968
Field Services Total		$79,174	$43,862	$29,398	$46,160	$43,305	$37,255	$15,748	$171,866	$30,631	$325,534
Systems Control Center											
General Purpose	231x	$54,352	$23,604	$25,497	$34,478	$6,827	$6,292	$3,938	$77,033	$5,098	$160,086
Pump Stations	232x	$63,614	$6,450	$21,068	$27,283	$46,503	$45,759	$49,895	$190,509	$249,628	$510,201
In System Devices (Dams, ISD's)	233x	$0	$0	$0	$0	$0	$0	$0	$0	$81,336	$81,336
Systems Control Center Total		**$117,966**	**$30,054**	**$46,565**	**$61,761**	**$53,330**	**$52,051**	**$53,833**	**$267,542**	**$336,062**	**$751,623**
Programs											
Programs	26xx	$34,975	$14,895	$9,500	$4,355	$3,288	$5,944	$6,536	$29,623	$1,020,975	$1,100,468
Programs Total		**$34,975**	**$14,895**	**$9,500**	**$4,355**	**$3,288**	**$5,944**	**$6,536**	**$29,623**	**$1,020,975**	**$1,100,468**
CSO Facilities											
Multiple CSO Facilities	270x	$10,494	$5,446	$4,330	$4,670	$15,626	$13,387	$8,936	$46,949	$85,675	$148,564
Hubbell Southfield	273x	$438	$2,021	$3,032	$449	$7,935	$9,143	$9,115	$29,674	$24,172	$56,306
Conner Creek	276x	$349	$9	$0	$0	$0	$0	$0	$0	$0	$357
Baby Creek	277x	$5,705	$4,574	$3,585	$3,450	$2,372	$0	$0	$9,407	$745	$20,431
CSO Facilities Total		**$16,986**	**$12,050**	**$10,947**	**$8,569**	**$25,933**	**$22,530**	**$18,051**	**$86,030**	**$110,592**	**$225,658**
Grand Total		**$331,952**	**$158,298**	**$169,188**	**$212,692**	**$216,231**	**$201,995**	**$182,417**	**$982,526**	**$2,419,271**	**$3,892,046**

CIP SUMMARY
2.1. CIP 5-YEAR SUMMARY TABLES

CENTRALIZED SERVICES

Financial figures are in thousands of dollars ($1,000's)

Class Level 2	Class Level 3	Category Number	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 25-29 CIP Total	FY 30 & Beyond	Project Total
General Purpose	General Purpose	371x	$0	$0	$0	$0	$0	$0	$0	$0	$25,000	$25,000
Programs	Programs	38xx	$0	$11	$5	$20	$1,020	$1,022	$1,020	$3,086	$2,039	$5,136

Please note that these project categories and projected budgets also appear in Water and Wastewater tables above.

CIP SUMMARY
2.2. PROJECT STATUS

2.2. PROJECT STATUS

A status is assigned to each project or program within the CIP. The project status designation provides a high-level understanding of the progress of the project or program. Projects are categorized by activity levels within the Work Breakdown Structure, and multiple activity levels are based on the contract type. As such, each activity level of a project will have its own status and contract number. Descriptions of each status are provided below. Projects that have been newly introduced into the CIP this year have been designated as “New to the CIP” based upon a checkmark within the Business.

Project Status	Description
Active - Pre-Procurement - Construction	The RFB (and other supporting documents) are in development.
Active - Pre-Procurement - Design	The RFP (and other supporting documents) are in development.
Active - Procurement - Board Approved - Construction	The negotiated terms and conditions with the successful bidder have gone to the board and been approved but a contract has not yet been executed.
Active - Procurement - Board Approved - Design	The negotiated terms and conditions with the successful bidder have gone to the board and been approved but a contract has not yet been executed.
Active - Procurement - Construction	An RFB (and other required documentation) have been submitted to the Procurement group for solicitation of proposals.
Active - Procurement - Design	An RFP (and other required documentation) have been submitted to the Procurement group for solicitation of proposals.
Active - Procurement - Negotiation Phase - Construction	The lowest responsible bidder for contract labor services has been notified to begin negotiations.
Active - Procurement - Negotiation Phase - Design	The highest responsible scored bidder for professional services has been notified to begin negotiations.
Cancelled	Project that has been completely cancelled and removed from the CIP.
Closed	Project that has been officially completed.
Future Planned - Beyond Ten Years	Future Planned - Beyond Ten Years
Future Planned - Ten Year CIP	Project Pushed out to years 6-10
Future Planned - Within Five Year Plan	Project that was included in the previous CIP and does not have an assigned BS and A Project Number.
Project Execution - Construction	There is a fully executed contract for the active phase
Project Execution - Design	There is a fully executed contract for the active phase
Project Execution - Pending Closeout	A Project that has an assigned BS and A Project Number, a Notice to Start Work has been issued, has projected expenditures for the current fiscal year equal to $100,000 or less - with no future projected expenditures and has reached substantial completion.
Reclassified	Project that has been merged into the scope of work of an existing project.

Multiple CIP types are necessary to distinguish the differences in intent of how a CIP item is to be used. This CIP contains two primary CIP types: Projects and Programs. A typical project that has a specific scope and timeframe is considered a Project. Whereas Programs represent projects that address repetitive scope to address the replacement and/or rehabilitation of specific capital assets on an ongoing or reoccurring basis. Programs are typically constant and extend over many years.

Project Type	Description
Project	A “Project” consists of the replacement and/or rehabilitation of specific capital assets within a finite timeframe and scope.
Program	A “Program” consists of the replacement and/or rehabilitation of specific capital assets on an ongoing or reoccurring basis. The program scope and/or projected expenses may vary from year-to-year depending on the needs identified within the program and as newly established programs develop consistent schedules, requirements, and history over time. Although not typically identified in the CIP future years projected expenses, these programs will typically be funded in perpetuity.

Many projects have changed status since the last CIP update. These projects are shown in the following tables:

NEW PROJECTS ADDED TO THE CIP

CIPNumber	Title	Project_Status
111013	Lake Huron Water Treatment Plant Fireloop and Plant Water Improvements	Project Execution - Construction
112008	Northeast Water Treatment Plant Filter Replacement	Future Planned - Within Five Year Plan
113010	Southwest Water Treatment Plant Flocculation Improvements	Future Planned - Within Five Year Plan
170506*	Water Transmission, Valve, Emergency and Other Urgent Repairs	Active - Pre-Procurement - Construction
170602*	36-inch 24 Mile Road Transmission Main Condition Assessment	Project Execution - Design
260211*	Emergency and Urgent Sewer Repair II	Project Execution - Construction

*Note: * Denotes a CIP project that is a Program.*

PROJECTS PROGRESSED TO ACTIVE/PROJECT EXECUTION STATUS

CIPNumber	Title	2024 Status	2025 Status
112007	NEWTP-Header Galleries and Washwater Building Structural Repair	Future Planned - Within Five Year Plan	Project Execution - Design
170504	Transmission Mains Valves and Urgent Repairs Contract 1	Future Planned - Within Five Year Plan	Project Execution - Construction
170800	System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation	Future Planned - Ten Year CIP	Project Execution - Design
211005	WRRF PS No. 2 Improvements Phase II	Future Planned - Within Five Year Plan	Active - Procurement - Negotiation Phase - Construction
211011	WRRF PS1 Screening and Grit Improvements	Future Planned - Ten Year CIP	Project Execution - Design
213009	WRRF Biosolids Processing Improvements	Future Planned - Within Five Year Plan	Project Execution - Design
222008	North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure	Future Planned - Within Five Year Plan	Project Execution - Construction
261001	WRRF Rehabilitation of the Secondary Clarifiers Phase 1	Future Planned - Within Five Year Plan	Project Execution - Design
270007	Disinfection System Improvements at Baby Creek, Belle Isle, Conner Creek, and Puritan Fenkell CSO Facilities	Future Planned - Within Five Year Plan	Active - Pre-Procurement - Design
270010	HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities	Future Planned - Within Five Year Plan	Active - Pre-Procurement - Design

PROJECTS WITH CLOSED STATUS IN FY 25-29

CIPNumber	Title	2024 Status	2025 Status
113006	Southwest Water Treatment Plant Chlorine Scrubber, Raw Water Screens & Related Improvements	Project Execution - Construction	Closed
114016	Springwells Water Treatment Plant 1958 Settled Water Conduits and Loading Dock Concrete Pavement Replacement	Project Execution - Construction	Closed
122003	Water Works Park to Northeast Transmission Main	Project Execution - Construction	Closed
122005	Schoolcraft Road Water Transmission Main	Project Execution - Construction	Closed
122011	Park-Merriman Road Water Transmission Main	Project Execution - Construction	Closed
170109	GLWA-CS-187: FK Eng: Raw Water Intake	Project Execution - Pending Closeout	Closed
170303	Power Monitoring Installation for Water Treatment Plants	Project Execution - Design	Closed
170304	WWP Scada Infrastructure Upgrade	Future Planned - Within Five Year Plan	Closed
170502	Transmission System Valve Rehabilitation and Replacement Phase I	Project Execution - Construction	Closed
260603	Conner Creek CSO RTB Automation Improvements	Project Execution - Pending Closeout	Closed

PROJECTS PENDING CLOSEOUT STATUS IN FY 25-29

CIPNumber	Title	2024 Status	2025 Status
111011	Lake Huron WTP Pilot Plant	Project Execution - Design	Project Execution - Pending Closeout
170901	Suburban Water Meter Pit Rehabilitation and Meter Replacement	Project Execution - Construction	Project Execution - Pending Closeout
216004	Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF	Project Execution - Construction	Project Execution - Pending Closeout
260201	CON-149, Emergency Sewer Repair	Project Execution - Construction	Project Execution - Pending Closeout
260618	Oakwood HVAC Project	Project Execution - Construction	Project Execution - Pending Closeout
260620	Baby Creek Roof Replacement	Project Execution - Pending Closeout	Project Execution - Pending Closeout
260902	WRRF 4th Floor Renovation	Project Execution - Construction	Project Execution - Pending Closeout

CIP SUMMARY
2.2. PROJECT STATUS

PROJECTS WITH CANCELLED STATUS IN FY 25-29

CIPNumber	Title	2024 Status	2025 Status
114007	Springwells Water Treatment Plant Powdered Activated Carbon System Improvements	Future Planned - Ten Year CIP	Cancelled
122018	Garland, Hurlbut, Bewick Water Transmission System Rehabilitation	Project Execution - Design	Cancelled
232004	Condition Assessment at Blue Hill Pump Station	Future Planned - Within Five Year Plan	Cancelled

RECLASSIFIED PROJECTS

CIPNumber	Title	2024 Status	2025 Status	New CIPNumber
170307	NE SCADA Network Upgrade	Future Planned - Ten Year CIP	Reclassified	170306
170902	Brownstown Meter Pit	Active - Pre-Procurement - Construction	Reclassified	122016

2.3. LINEAR ASSETS

Many projects included in the CIP take place at GLWA facilities and on what GLWA considers to be vertical assets. Additionally, GLWA manages many miles of water transmission mains and sewer interceptors. Projects on these linear assets are listed below. A spatial view and understanding of these project locations can be found in the CIP Viewer located within the WAMR and GDRSS Member Outreach Portals after the Board Approval and adoption of the annual CIP Plan.

CIPNumber	Title
116002	Pennsylvania and Springwells Raw Water Supply Tunnel Improvements
122004	96-inch Water Transmission Main Relocation and Isolation Valve Installations
122006	Wick Road Water Transmission Main
122007	Merriman Road Water Transmission Main Loop
122013	14 Mile Transmission Main Loop
122016	Downriver Transmission Main Loop
122017	7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station
122019	Jefferson Main Replacement Project
170400	Water Transmission Improvement Program
170500	Transmission System Valve Rehabilitation and Replacement Program
170503	Transmission Mains Valves and Urgent Repairs Contract 2
170504	Transmission Mains Valves and Urgent Repairs Contract 1

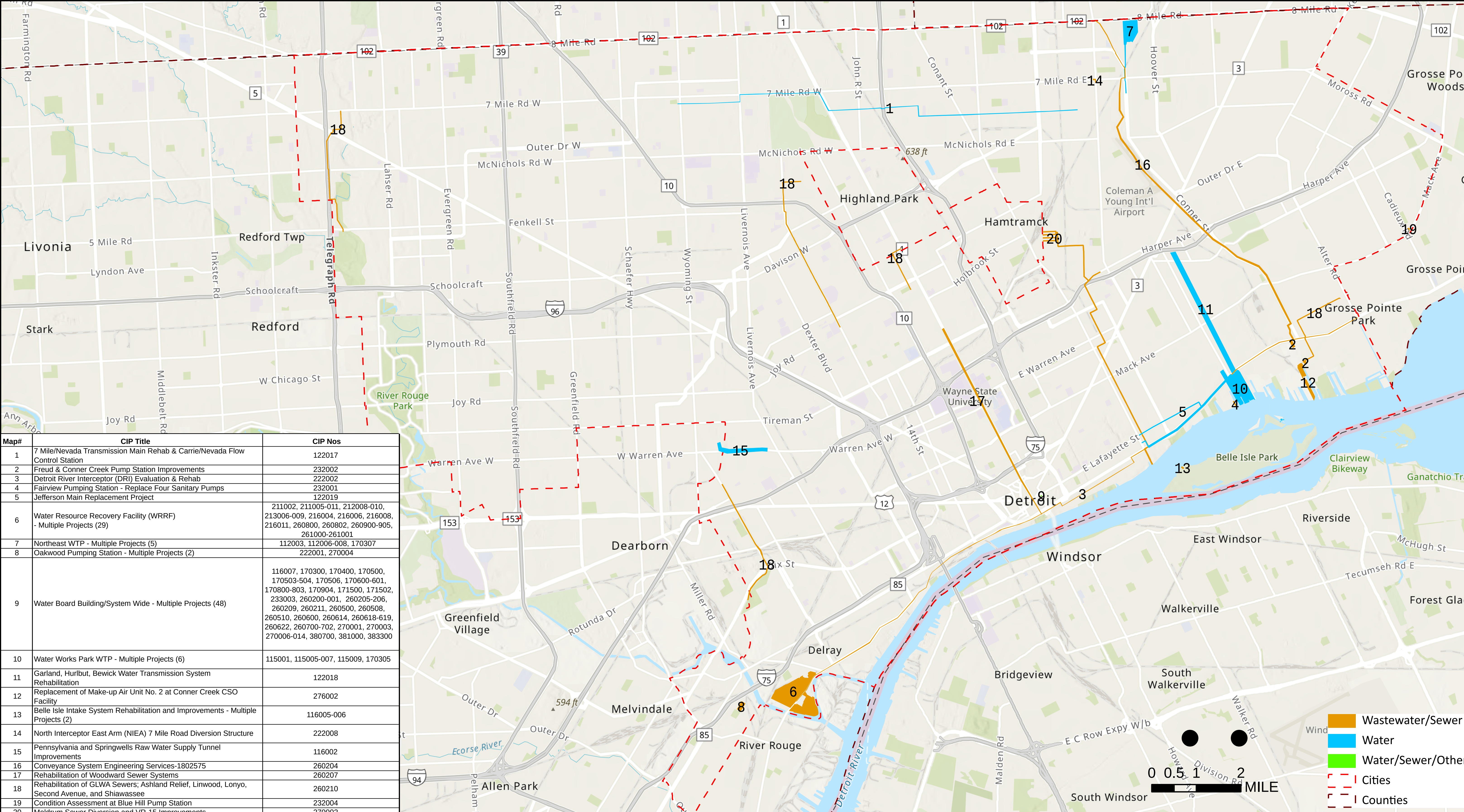
CIP Number	Title
170506	Water Transmission, Valve, Emergency and Other Urgent Repairs
170600	Linear System Integrity Program
170601	Linear System Integrity Program - Contract 1
170602	36-inch 24 Mile Road Transmission Main Condition Assessment
170900	Suburban Water Meter Pit Rehabilitation and Meter Replacement
170901	Suburban Water Meter Pit Rehabilitation and Meter Replacement
170904	Wholesale Water Meterpit Rehabilitation and Meter Upgrade - Phase II
222001	Oakwood District Intercommunity Relief Sewer Modification at Oakwood District
222002	Detroit River Interceptor (DRI) Evaluation and Rehabilitation
222008	North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure
233003	Rouge River In-system Storage Devices
260200	Sewer and Interceptor Rehabilitation Program
260201	CON-149, Emergency Sewer Repair
260204	Conveyance System Engineering Services-1802575
260205	NWI Rehabilitation
260206	Conveyance System Repairs (Sewers)
260207	Rehabilitation of Woodward Sewer Systems
260209	Sewer Rehabilitation and Repair
260210	Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee
260211	Emergency and Urgent Sewer Repair II
260510	Conveyance System Repairs (Outfalls)
260700	Sewer System Infrastructure Improvements and Pumping Stations
260701	Conveyance System Infrastructure Improvements
380700	As-Needed Geotechnical and Related Engineering Services

2.4. PROJECTS BY JURISDICTION

The following projects listed are under the jurisdiction of the physical location of the project. Projects that are planned for multiple facilities within multiple jurisdictions are identified as "Multiple Counties". A spatial view and understanding of these project locations will be found in the CIP Viewer located within the WAMR and GDRSS Member Outreach Portals after the Board Approval and adoption of the yearly CIP Plan.

Jurisdiction	CIPNumber						
City of Detroit							
	112003	112006	112007	112008	115001	115005	115006
	115007	115009	116002	116005	116006	122003	122017
	122018	122019	170304	170305	170307	170803	211002
	211005	211006	211007	211008	211009	211010	211011
	212008	212009	212010	213006	213007	213008	213009
	216004	216006	216008	216011	222002	222008	232001
	232002	232004	260205	260206	260207	260211	260508
	260510	260603	260618	260802	260900	260901	260902
	260903	260904	260905	261000	261001	270001	270002
	270004	270008	270010	270011	270013	270014	276002
Lapeer County							
	170303	170400					
Multiple Counties	170400	170500					
	116007	122004	170109	170300	170303	170400	170500
	170502	170503	170504	170506	170600	170601	170800
	170801	170802	170900	170901	170904	171500	171502
	222001	260200	260201	260204	260209	260500	260600
	260614	260619	260622	260700	260701	260702	260800
	270003	270007	270009	270012	277001	380700	381000
	383300						
Oakland County							
	122013	132010	132014	132016	132020	273001	
Saint Clair County							
	111001	111006	111008	111009	111010	111011	111012
	111013						

Wayne County - Outside Detroit							
	113003	114005	114007	114008	114010	114011	114016
	132012	132015	132018	132019	132022	170302	170306
	170902	233003	260210	260620	260623	270006	273002
	277002						



Map#	CIP Title	CIP Nos
1	7 Mile/Nevada Transmission Main Rehab & Carrie/Nevada Flow Control Station	122017
2	Freud & Conner Creek Pump Station Improvements	232002
3	Detroit River Interceptor (DRI) Evaluation & Rehab	222002
4	Fairview Pumping Station - Replace Four Sanitary Pumps	232001
5	Jefferson Main Replacement Project	122019
6	Water Resource Recovery Facility (WRRF) - Multiple Projects (29)	211002, 211005-011, 212008-010, 213006-009, 216004, 216006, 216008, 216011, 260800, 260802, 260900-905, 261000-261001
7	Northeast WTP - Multiple Projects (5)	112003, 112006-008, 170307
8	Oakwood Pumping Station - Multiple Projects (2)	222001, 270004
9	Water Board Building/System Wide - Multiple Projects (48)	116007, 170300, 170400, 170500, 170503-504, 170506, 170600-601, 170800-803, 170904, 171500, 171502, 233003, 260200-001, 260205-206, 260209, 260211, 260500, 260508, 260510, 260600, 260614, 260618-619, 260622, 260700-702, 270001, 270003, 270006-014, 380700, 381000, 383300
10	Water Works Park WTP - Multiple Projects (6)	115001, 115005-007, 115009, 170305
11	Garland, Hurlbut, Bewick Water Transmission System Rehabilitation	122018
12	Replacement of Make-up Air Unit No. 2 at Conner Creek CSO Facility	276002
13	Belle Isle Intake System Rehabilitation and Improvements - Multiple Projects (2)	116005-006
14	North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure	222008
15	Pennsylvania and Springwells Raw Water Supply Tunnel Improvements	116002
16	Conveyance System Engineering Services-1802575	260204
17	Rehabilitation of Woodward Sewer Systems	260207
18	Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee	260210
19	Condition Assessment at Blue Hill Pump Station	232004
20	Meldrum Sewer Diversion and VR-15 Improvements	270002

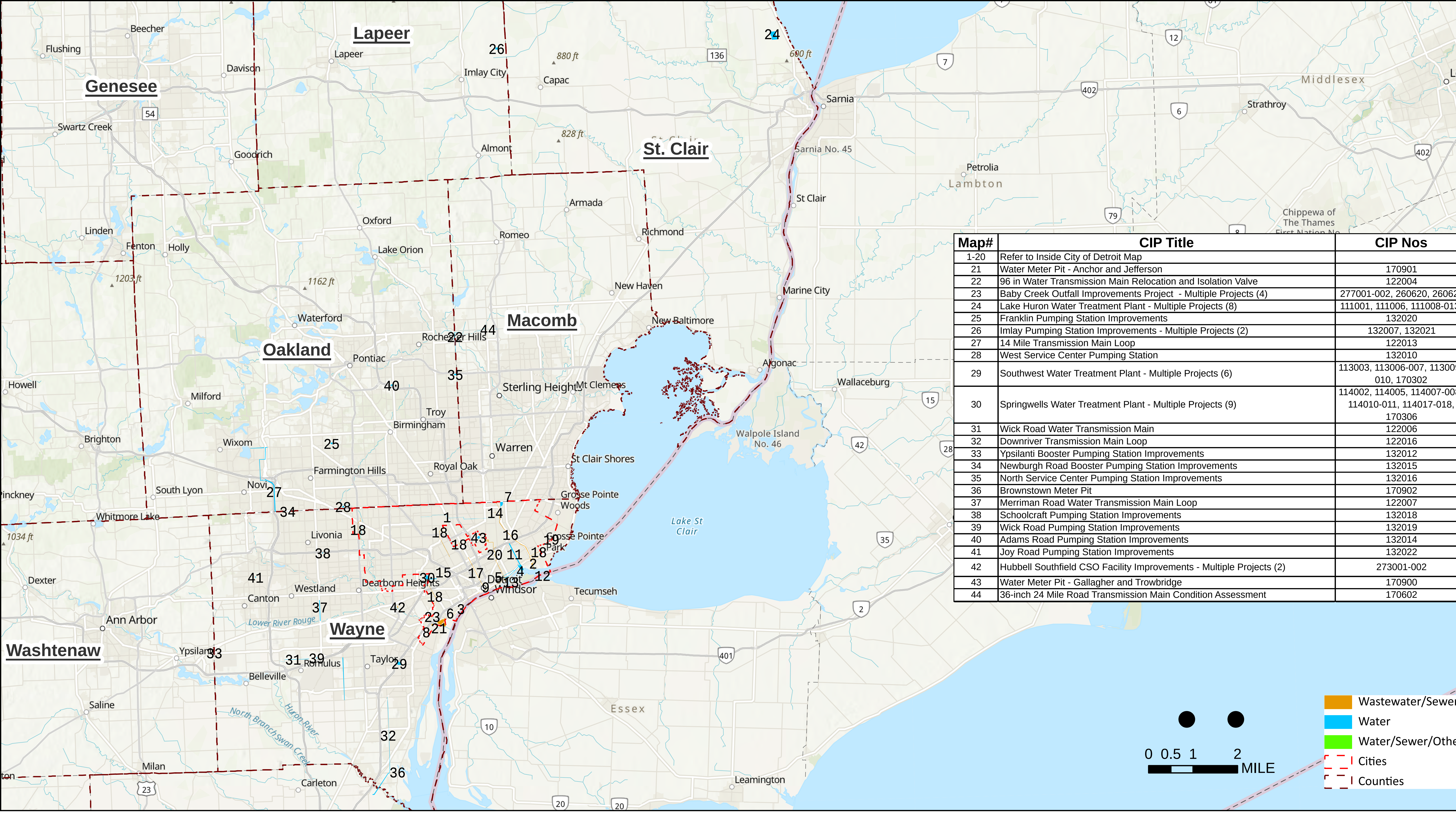
GLWA
Great Lakes Water Authority

CURRENT GLWA FY 25-29 CIP PROJECTS - INSIDE CITY OF DETROIT

Notes: Projects depicted on this map are based on the best available data at this time. They may not be completely accurate including spatial representations, leased statuses or attribute values. The user accepts responsibility for accuracy of any referenced information, spatial or otherwise.

Service Layer Credits: World Hillshade: Esri, NASA, NGA, USGS, FEMA

USER: YTHOMAS - DATE: 10/5/2023



Map#	CIP Title	CIP Nos
1-20	Refer to Inside City of Detroit Map	
21	Water Meter Pit - Anchor and Jefferson	170901
22	96 in Water Transmission Main Relocation and Isolation Valve	122004
23	Baby Creek Outfall Improvements Project - Multiple Projects (4)	277001-002, 260620, 260623
24	Lake Huron Water Treatment Plant - Multiple Projects (8)	111001, 111006, 111008-013
25	Franklin Pumping Station Improvements	132020
26	Imlay Pumping Station Improvements - Multiple Projects (2)	132007, 132021
27	14 Mile Transmission Main Loop	122013
28	West Service Center Pumping Station	132010
29	Southwest Water Treatment Plant - Multiple Projects (6)	113003, 113006-007, 113009-010, 170302
30	Springwells Water Treatment Plant - Multiple Projects (9)	114002, 114005, 114007-008, 114010-011, 114017-018, 170306
31	Wick Road Water Transmission Main	122006
32	Downriver Transmission Main Loop	122016
33	Ypsilanti Booster Pumping Station Improvements	132012
34	Newburgh Road Booster Pumping Station Improvements	132015
35	North Service Center Pumping Station Improvements	132016
36	Brownstown Meter Pit	170902
37	Merriman Road Water Transmission Main Loop	122007
38	Schoolcraft Pumping Station Improvements	132018
39	Wick Road Pumping Station Improvements	132019
40	Adams Road Pumping Station Improvements	132014
41	Joy Road Pumping Station Improvements	132022
42	Hubbell Southfield CSO Facility Improvements - Multiple Projects (2)	273001-002
43	Water Meter Pit - Gallagher and Trowbridge	170900
44	36-inch 24 Mile Road Transmission Main Condition Assessment	170602

GLWA
Great Lakes Water Authority

CURRENT GLWA FY 25-29 CIP PROJECTS - ALL COUNTIES

Notes: Projects depicted on this map are based on the best available data at this time. They may not be completely accurate including spatial representations, leased statuses or attribute values. The user accepts responsibility for accuracy of any referenced information, spatial or otherwise.

Service Layer Credits: World Topographic Map: Province of Ontario, Esri Canada, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, NRCan, Parks Canada

USER: YTHOMAS - DATE: 10/5/2023

CIP SUMMARY
2.5. SPECIALTY PROJECTS

2.5. SPECIALTY PROJECTS

PROJECTS WITH THE POTENTIAL TO BE INNOVATIVE

One of GLWA's main organizational guiding pillars is to provide high quality through innovation. To ensure CIP projects are being considered for new and innovative technologies, during the project review process, projects that may be considered for innovative technologies, practices, or procedures were identified by the GLWA Energy, Research & Innovation Group. The following projects will be further evaluated for innovative opportunities during the scope development process:

CIPNumber	Title
111001	Lake Huron Water Treatment Plant, Low-Lift, High Lift and Filter Backwash Pumping System Improvements
111006	Lake Huron Water Treatment Plant, Filter Instrumentation and Raw Water Flow Metering Improvements
111011	Lake Huron WTP Pilot Plant
111012	LHWTP-Flocculation Improvements
113003	Southwest Water Treatment Plant Low- and High lift Pumping station Improvements
113007	Southwest Water Treatment Plant Architectural and Building Mechanical Improvements
132007	Energy Management: Freeze Protection Pump Installation at Imlay Pump Station
132021	Imlay Pumping Station Improvements
132022	Joy Road Pumping Station Improvements
170600	Linear System Integrity Program
170602	36-inch 24 Mile Road Transmission Main Condition Assessment
211006	WRRF PS No. 1 Improvements
211007	WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements
211008	WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines
211009	WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System
211011	WRRF PS1 Screening and Grit Improvements
212008	WRRF Aeration Improvements 1 and 2
212009	WRRF Aeration Improvements 3 and 4
212010	WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite
213008	WRRF Rehabilitation of the Ash Handling Systems
216004	Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF
216006	Assessment and Rehabilitation of WRRF yard piping and underground utilities
216008	Rehabilitation of Screened Final Effluent (SFE) Pump Station
260620	Baby Creek Roof Replacement
260902	WRRF 4th Floor Renovation
270014	Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities

WATER MASTER PLAN RIGHT-SIZING PROJECTS

Based upon the completion and acceptance of the 2015 Comprehensive Water Master Plan, many water projects are being considered with reduced capital investment to reduce the rated capacity to master plan identified levels based on current population and water usage. The following projects have capital expenditure avoidance based upon water master planning efforts to right-size the system for current needs:

CIPNumber	Title
111001	Lake Huron Water Treatment Plant, Low-Lift, High Lift and Filter Backwash Pumping System Improvements
111010	Lake Huron WTP Filtration Improvement
112003	Northeast Water Treatment Plant High-Lift Pumping Station Improvements
113003	Southwest Water Treatment Plant Low- and High lift Pumping station Improvements
113010	Southwest Water Treatment Plant Flocculation Improvements
114002	Springwells Water Treatment Plant, Low-Lift and High-Lift Pumping Station Improvements
115001	Water Works Park Water Treatment Plant Yard Piping, Valves and Venturi Meters Replacement
115007	Water Works Park High Lift Pumping Station Modernization
122007	Merriman Road Water Transmission Main Loop
132007	Energy Management: Freeze Protection Pump Installation at Imlay Pump Station
132019	Wick Road Pumping Station Improvements
132021	Imlay Pumping Station Improvements

WASTEWATER MASTER PLAN PROJECTS

GLWA has recently completed the first Wastewater Master Plan. The following projects have come about due to recommendations in this Master Plan:

CIPNumber	Title
213009	WRRF Biosolids Processing Improvements
216008	Rehabilitation of Screened Final Effluent (SFE) Pump Station
222001	Oakwood District Intercommunity Relief Sewer Modification at Oakwood District
222008	North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure
233003	Rouge River In-system Storage Devices
260904	WRRF 3rd Floor Renovation
270001	Pilot CSO Netting Facility
270002	Meldrum Sewer Diversion and VR-15 Improvements
270004	Oakwood and Leib CSO Facilities Improvement Project

CIP SUMMARY
2.5. SPECIALTY PROJECTS

NORTHEAST WATER TREATMENT PLANT REPURPOSING RELATED PROJECTS

The Water Master Plan, completed in 2015 initially advocated for substantial capital cost savings through a reduction in the treatment capacity of all five GLWA Water Treatment Plants, with the possibility of decommissioning some of these facilities. However, subsequent evaluations, considering operational, regulatory, and life cycle cost considerations, have led to a different conclusion. Decommissioning Water Treatment Plants and/or repurposing NEWTP are no longer supported. Nevertheless, the original recommendation to reduce treatment capacity, as outlined in the 2015 Water Master Plan, remains a sound and prudent course of action. GLWA is planning to begin the water master plan update process in 2024.

REDUNDANCY PROJECTS

Projects which will increase the redundancy of GLWA infrastructure are listed below:

CIPNumber	Title
111001	Lake Huron Water Treatment Plant, Low-Lift, High Lift and Filter Backwash Pumping System Improvements
111006	Lake Huron Water Treatment Plant, Filter Instrumentation and Raw Water Flow Metering Improvements
111009	Lake Huron Water Treatment Plant - High Lift Pumping, Water Production Flow Metering and Yard Piping Improvements
111010	Lake Huron WTP Filtration Improvement
112003	Northeast Water Treatment Plant High-Lift Pumping Station Improvements
114002	Springwells Water Treatment Plant, Low-Lift and High-Lift Pumping Station Improvements
114008	Springwells Water Treatment Plant 1930 Sedimentation Basin Sluice Gates, Guides & Hoists Improvements
114010	Springwells Water Treatment Plant, Yard Piping and High-Lift Header Improvements
114017	Springwells Water Treatment Plant Flocculator Drive Replacements
115001	Water Works Park Water Treatment Plant Yard Piping, Valves and Venturi Meters Replacement
116002	Pennsylvania and Springwells Raw Water Supply Tunnel Improvements
122004	96-inch Water Transmission Main Relocation and Isolation Valve Installations
122006	Wick Road Water Transmission Main
122007	Merriman Road Water Transmission Main Loop
122013	14 Mile Transmission Main Loop
122016	Downriver Transmission Main Loop
132007	Energy Management: Freeze Protection Pump Installation at Imlay Pump Station
132010	West Service Center Pumping Station - Reservoir, Reservoir Pumping, and Division Valve Upgrades
132012	Ypsilanti Booster Pumping Station Improvements
132015	Newburgh Road Booster Pumping Station Improvements
132016	North Service Center Pumping Station Improvements

CIPNumber	Title
132018	Schoolcraft Pumping Station Improvements
132019	Wick Road Pumping Station Improvements
132021	Imlay Pumping Station Improvements
132022	Joy Road Pumping Station Improvements
170400	Water Transmission Improvement Program
170500	Transmission System Valve Rehabilitation and Replacement Program
170602	36-inch 24 Mile Road Transmission Main Condition Assessment
170800	System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation
170801	Reservoir Inspection, Design and Construction Project at Imlay Station, Lake Huron Water Treatment Plant, Springwells Water Treatment Plant, And Southwest Water Treatment Plant
170802	Reservoir Inspection, Design, and Construction Management Services Phase II
170803	Reservoir Inspection, Design, and Construction Management Services Phase III
211002	WRRF PS No. 2 Pumping Improvements - Phase 1
211005	WRRF PS No. 2 Improvements Phase II
211006	WRRF PS No. 1 Improvements
211007	WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements
211008	WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines
211009	WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System
211010	Rehabilitation of Sludge Processing Complexes A and B
211011	WRRF PS1 Screening and Grit Improvements
212008	WRRF Aeration Improvements 1 and 2
212009	WRRF Aeration Improvements 3 and 4
213006	WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities
213007	WRRF Modification to Incinerator Sludge Feed Systems at Complex -II
213008	WRRF Rehabilitation of the Ash Handling Systems
216004	Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF
216006	Assessment and Rehabilitation of WRRF yard piping and underground utilities
222001	Oakwood District Intercommunity Relief Sewer Modification at Oakwood District
222002	Detroit River Interceptor (DRI) Evaluation and Rehabilitation
222008	North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure
232001	Fairview Pumping Station - Replace Four Sanitary Pumps
232002	Freud & Conner Creek Pump Station Improvements
260200	Sewer and Interceptor Rehabilitation Program
260500	CSO Outfall Rehabilitation
260510	Conveyance System Repairs (Outfalls)
260600	CSO Facilities Improvement Program
260619	Control System Upgrade - St Aubin, Lieb & Mile
260623	CSO Baby Creek Screen Rehabilitation

CIPNumber	Title
260800	WRRF Roof Replacement for Multiple Facilities Program
261000	WRRF Rehabilitation of the Secondary Clarifiers
261001	WRRF Rehabilitation of the Secondary Clarifiers Phase 1
270002	Meldrum Sewer Diversion and VR-15 Improvements
270010	HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities
273002	CSO Hubbell Southfield VR-8 Gate Improvements
277002	Baby Creek CSO Facility Influent Flushing System
381000	Power Quality: Electric Metering Improvement Program

2.6. PROJECT BY TYPE

The following are CIP projects further broken down by category type, divided between Water Treatment, Transmission/Storage, and Pump Station. Furthermore, wastewater CIP projects are also broken down by category types - Treatment, Conveyance, CSO, and Pump Station.

WATER: PUMP STATIONS

CIPNumber	Title
132007	Energy Management: Freeze Protection Pump Installation at Imlay Pump Station
132010	West Service Center Pumping Station - Reservoir, Reservoir Pumping, and Division Valve Upgrades
132012	Ypsilanti Booster Pumping Station Improvements
132014	Adams Road Pumping Station Improvements
132015	Newburgh Road Booster Pumping Station Improvements
132016	North Service Center Pumping Station Improvements
132018	Schoolcraft Pumping Station Improvements
132019	Wick Road Pumping Station Improvements
132020	Franklin Pumping Station Improvements
132021	Imlay Pumping Station Improvements
132022	Joy Road Pumping Station Improvements

WATER: TRANSMISSION AND STORAGE

CIPNumber	Title
116002	Pennsylvania and Springwells Raw Water Supply Tunnel Improvements
122004	96-inch Water Transmission Main Relocation and Isolation Valve Installations
122006	Wick Road Water Transmission Main
122007	Merriman Road Water Transmission Main Loop
122013	14 Mile Transmission Main Loop
122016	Downriver Transmission Main Loop
122017	7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station
122019	Jefferson Main Replacement Project
170400	Water Transmission Improvement Program
170500	Transmission System Valve Rehabilitation and Replacement Program
170503	Transmission Mains Valves and Urgent Repairs Contract 2
170504	Transmission Mains Valves and Urgent Repairs Contract 1
170506	Water Transmission, Valve, Emergency and Other Urgent Repairs
170600	Linear System Integrity Program
170601	Linear System Integrity Program - Contract 1
170602	36-inch 24 Mile Road Transmission Main Condition Assessment
170800	System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation
170801	Reservoir Inspection, Design and Construction Project at Imlay Station, Lake Huron Water Treatment Plant, Springwells Water Treatment Plant, And Southwest Water Treatment Plant
170802	Reservoir Inspection, Design, and Construction Management Services Phase II
170803	Reservoir Inspection, Design, and Construction Management Services Phase III
170900	Suburban Water Meter Pit Rehabilitation and Meter Replacement
170901	Suburban Water Meter Pit Rehabilitation and Meter Replacement
170904	Wholesale Water Meterpit Rehabilitation and Meter Upgrade - Phase II
380700	As-Needed Geotechnical and Related Engineering Services

CIP SUMMARY
2.6. PROJECT BY TYPE

WATER: TREATMENT

CIPNumber	Title
111001	Lake Huron Water Treatment Plant, Low-Lift, High Lift and Filter Backwash Pumping System Improvements
111006	Lake Huron Water Treatment Plant, Filter Instrumentation and Raw Water Flow Metering Improvements
111008	Lake Huron Water Treatment Plant, Architectural Programming for Laboratory and Admin Building Improvements
111009	Lake Huron Water Treatment Plant - High Lift Pumping, Water Production Flow Metering and Yard Piping Improvements
111010	Lake Huron WTP Filtration Improvement
111011	Lake Huron WTP Pilot Plant
111012	LHWTP-Flocculation Improvements
111013	Lake Huron Water Treatment Plant Fireloop and Plant Water Improvements
112003	Northeast Water Treatment Plant High-Lift Pumping Station Improvements
112006	Northeast Water Treatment Plant Flocculator Replacements
112007	NEWTP-Header Galleries and Washwater Building Structural Repair
112008	Northeast Water Treatment Plant Filter Replacement
113003	Southwest Water Treatment Plant Low- and High lift Pumping station Improvements
113007	Southwest Water Treatment Plant Architectural and Building Mechanical Improvements
113009	SW Flight and Chain Upgrades
113010	Southwest Water Treatment Plant Flocculation Improvements
114002	Springwells Water Treatment Plant, Low-Lift and High-Lift Pumping Station Improvements
114005	Springwells Water Treatment Plant, Administration Building Improvements & Underground Fire Protection Loop
114008	Springwells Water Treatment Plant 1930 Sedimentation Basin Sluice Gates, Guides & Hoists Improvements
114010	Springwells Water Treatment Plant, Yard Piping and High-Lift Header Improvements
114011	Springwells Water Treatment Plant Steam, Condensate Return, and Compressed Air Piping Improvements
114017	Springwells Water Treatment Plant Flocculator Drive Replacements
114018	Springwells Water Treatment Plant - Service Building Electrical Substation and Miscellaneous Improvements
115001	Water Works Park Water Treatment Plant Yard Piping, Valves and Venturi Meters Replacement
115005	WWP WTP Building Ventilation Improvements
115006	Water Works Park Site/Civil Improvements
115007	Water Works Park High Lift Pumping Station Modernization
115009	Water Works Park Sedimentation Basins Structural Upgrades
116005	Belle Isle Seawall Rehabilitation
116006	Belle Isle Intake System Rehabilitation and Improvements

CIPNumber	Title
116007	System Electrical Power Improvements
170300	Water Treatment Plant Automation Program
170302	SW SCADA System Upgrade
170305	WWP SCADA Network Upgrade
170306	SPW SCADA PLC Network Upgrade
171500	Roof Replacement at WWP, SP, LH, NE, SW, NSC, Orion, Franklin, and Conner Creek Facilities
171502	Lake Huron and Southwest Roof Replacement
381000	Power Quality: Electric Metering Improvement Program
383300	Masonry Replacement and Rehabilitation Program

CIP SUMMARY
2.6. PROJECT BY TYPE

WASTEWATER: TREATMENT

CIPNumber	Title
211002	WRRF PS No. 2 Pumping Improvements - Phase 1
211005	WRRF PS No. 2 Improvements Phase II
211006	WRRF PS No. 1 Improvements
211007	WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements
211008	WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines
211009	WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System
211010	Rehabilitation of Sludge Processing Complexes A and B
211011	WRRF PS1 Screening and Grit Improvements
212008	WRRF Aeration Improvements 1 and 2
212009	WRRF Aeration Improvements 3 and 4
212010	WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite
213006	WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities
213007	WRRF Modification to Incinerator Sludge Feed Systems at Complex -II
213008	WRRF Rehabilitation of the Ash Handling Systems
213009	WRRF Biosolids Processing Improvements
216004	Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF
216006	Assessment and Rehabilitation of WRRF yard piping and underground utilities
216008	Rehabilitation of Screened Final Effluent (SFE) Pump Station
216011	WRRF Structural Improvements
260800	WRRF Roof Replacement for Multiple Facilities Program
260802	2022 WRRF Roof Improvements Project
260900	WRRF Facility Optimization Program
260901	Rehabilitation of HAZMAT Facility at WRRF
260902	WRRF 4th Floor Renovation
260903	WRRF Front Entrance Rehabilitation
260904	WRRF 3rd Floor Renovation
260905	WRRF Plumbing Shop Renovation - 260905
261000	WRRF Rehabilitation of the Secondary Clarifiers
261001	WRRF Rehabilitation of the Secondary Clarifiers Phase 1

WASTEWATER: PUMP STATIONS

CIPNumber	Title
232001	Fairview Pumping Station - Replace Four Sanitary Pumps
232002	Freud & Conner Creek Pump Station Improvements
260702	Pump Station Assets Updates

WASTEWATER: CONVEYANCE

CIPNumber	Title
222001	Oakwood District Intercommunity Relief Sewer Modification at Oakwood District
222002	Detroit River Interceptor (DRI) Evaluation and Rehabilitation
222008	North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure
233003	Rouge River In-system Storage Devices
260200	Sewer and Interceptor Rehabilitation Program
260201	CON-149, Emergency Sewer Repair
260204	Conveyance System Engineering Services-1802575
260205	NWI Rehabilitation
260206	Conveyance System Repairs (Sewers)
260207	Rehabilitation of Woodward Sewer Systems
260209	Sewer Rehabilitation and Repair
260210	Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee
260211	Emergency and Urgent Sewer Repair II
260510	Conveyance System Repairs (Outfalls)
260700	Sewer System Infrastructure Improvements and Pumping Stations
260701	Conveyance System Infrastructure Improvements

WASTEWATER: CSO

CIPNumber	Title
260500	CSO Outfall Rehabilitation
260508	B-39 Outfall Rehabilitation
260600	CSO Facilities Improvement Program
260614	Structural Inspection & Structural Improvements
260618	Oakwood HVAC Project
260619	Control System Upgrade - St Aubin, Lieb & Mile
260620	Baby Creek Roof Replacement
260622	CSO Emergency Generator Improvements
260623	CSO Baby Creek Screen Rehabilitation
270001	Pilot CSO Netting Facility
270002	Meldrum Sewer Diversion and VR-15 Improvements
270003	Long Term CSO Control Plan
270004	Oakwood and Leib CSO Facilities Improvement Project
270006	CSO Facilities Improvements II
270007	Disinfection System Improvements at Baby Creek, Belle Isle, Conner Creek, and Puritan Fenkell CSO Facilities
270008	Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities
270009	Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities
270010	HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities
270011	HVAC Improvements at Conner Creek and Belle Isle CSO Facilities
270012	Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities
270013	Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities
270014	Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities
273001	Hubbell Southfield CSO Facility Improvements
273002	CSO Hubbell Southfield VR-8 Gate Improvements
276002	Replacement of Make-up Air Unit No. 2 at Conner Creek CSO Facility
277001	Baby Creek Outfall Improvements Project
277002	Baby Creek CSO Facility Influent Flushing System

2.7. PROJECT SCORING

CRITERIA SCORING AND WEIGHTING

Water and wastewater projects continue to be scored based on the eight criteria shown in table 1 of section 2.7. For each project, a criteria score of 1 to 5 has been assigned, with a score of 1 representing minimal value or benefit, and 5 representing high value or benefit based on established definitions and scoring guidelines for each criterion.

No.	Weight	Criteria
1	12%	Condition
2	15%	Performance (Service Level/ Reliability)
3	18%	Regulatory (Environmental/Legal)
4	11%	O&M
5	18%	Health and Safety
6	8%	Public Benefit
7	10%	Financial
8	8%	Efficiency and Innovation

Weights for the eight criteria in Table 1 have been established based on GLWA's ranking of the relative importance of each criterion to GLWA's overall priorities. Two of the criteria weightings were revised last year to better reflect GLWA's overall priorities.

PROJECT SCORING AND PRIORITIZATION

The criteria scores and weighting are used to establish scores for each project by considering the following factors: 1) the single highest purpose and benefit of each project; and 2) the overall benefit of each project as follows:

1 The single highest purpose and benefit of each project represents the single criteria that provides the greatest relative benefit to GLWA. For example, a score of 5 for either Health and Safety or Regulatory criteria represents the greatest purpose and benefit to GLWA based on the established criteria weighting. This consideration has been reflected through the revised project scoring methodology and functions as the primary driver of the overall project score.

2 The overall benefit of each project accounts for all the benefits provided by the project and is represented by the sum of all the criteria scores for the project.

The calculation of project scores can be represented by the following equation, where factor 1 above contributes up to 70 out of 100 total points, and factor 2 contributes up to 30 of the total 100 points:

Total Project Score = Factor 1 (70/100)+ Factor 2 (30/100)

New projects and projects with significant changes were scored or re-scored by the Project Manager and the Review Committee. The Review Committee scores represent the final project score. Projects already existing in the CIP were evaluated using criteria scores applied in the previous CIP cycle. The pages that follow provide the new project scores from the Review Committee along with those from the Project Manager for reference.

CIP SUMMARY
2.7. PROJECT SCORING

WATER PROJECT MANAGER & REVIEW COMMITTEE SCORES

CIPNumber	Title	PM SCORE	PM_1	PM_2	PM_3	PM_4	PM_5	PM_6	PM_7	PM_8	RC SCORE	RC_1	RC_2	RC_3	RC_4	RC_5	RC_6	RC_7	RC_8
111001	Lake Huron Water Treatment Plant, Low-Lift, High Lift and Filter Backwash Pumping System Improvements	80.7	5	5	3	4	2	3	4	5	79.7	5	5	1	5	2	5	4	4
111006	Lake Huron Water Treatment Plant, Filter Instrumentation and Raw Water Flow Metering Improvements	77.1	5	4	4	5	2	3	2	3	60.5	4	3	3	3	2	4	2	5
111008	Lake Huron Water Treatment Plant, Architectural Programming for Laboratory and Admin Building Improvements	46	3	3	1	2	2	1	1	1	49.5	4	2	2	1	2	2	1	2
111009	Lake Huron Water Treatment Plant - High Lift Pumping, Water Production Flow Metering and Yard Piping Improvements	60.8	3	3	2	3	3	5	3	5	75.7	3	4	2	2	4	5	3	4
111010	Lake Huron WTP Filtration Improvement	76.3	4	4	4	4	3	2	2	3	77.4	4	4	4	4	4	2	2	3
111011	Lake Huron WTP Pilot Plant	76.1	5	2	4	3	3	2	3	5	50.7	4	2	2	3	1	2	1	4
111012	LHWTP-Flocculation Improvements	92.1	5	4	5	4	2	2	3	4	91.5	5	4	5	4	2	2	2	4
111013	Lake Huron Water Treatment Plant Fireloop and Plant Water Improvements	64.7	5	4	2	4	2	1	4	2	63.3	4	4	2	4	2	1	3	2
112003	Northeast Water Treatment Plant High-Lift Pumping Station Improvements	93.5	5	5	3	4	5	2	2	4	82.2	5	5	3	4	4	5	2	4
112006	Northeast Water Treatment Plant Flocculator Replacements	93	5	5	5	4	2	3	3	3	82.4	5	5	4	4	4	2	3	4
112007	NEWTP-Header Galleries and Washwater Building Structural Repair	96.1	5	5	5	2	5	5	5	1	95.2	5	5	4	3	5	4	5	1
112008	Northeast Water Treatment Plant Filter Replacement	75.7	4	4	4	3	3	2	3	2	93.5	4	4	5	4	4	3	3	3
113003	Southwest Water Treatment Plant Low- and High lift Pumping station Improvements	88.3	4	3	5	4	2	2	1	2	89.4	4	3	5	4	3	2	1	2
113007	Southwest Water Treatment Plant Architectural and Building Mechanical Improvements	40.8	3	1	2	3	1	3	2	4	38.7	3	2	1	3	1	1	2	2
113009	SW Flight and Chain Upgrades	68.7	5	4	3	4	3	3	4	4	68.7	5	4	3	4	3	3	4	4
113010	Southwest Water Treatment Plant Flocculation Improvements	88.3	4	3	5	4	2	2	1	2	89.4	4	3	5	4	3	2	1	2
114002	Springwells Water Treatment Plant, Low-Lift and High-Lift Pumping Station Improvements	98.3	5	5	4	5	5	5	4	5	90.9	5	5	1	5	5	2	1	3
114005	Springwells Water Treatment Plant, Administration Building Improvements & Underground Fire Protection Loop	53.8	3	2	1	2	3	1	2	1	76.4	4	4	4	4	4	2	2	1
114008	Springwells Water Treatment Plant 1930 Sedimentation Basin Sluice Gates, Guides & Hoists Improvements	91.9	5	5	3	4	5	1	1	3	86.1	5	2	1	4	5	1	1	1
114010	Springwells Water Treatment Plant, Yard Piping and High-Lift Header Improvements	68	5	4	2	4	3	5	3	4	58.3	3	3	1	3	3	4	3	3
114011	Springwells Water Treatment Plant Steam, Condensate Return, and Compressed Air Piping Improvements	90.8	5	5	1	4	5	1	2	4	77	5	5	1	4	3	1	2	4
114017	Springwells Water Treatment Plant Flocculator Drive Replacements	88.5	4	4	5	3	1	2	2	3	89.7	4	4	5	3	2	2	3	2
114018	Springwells Water Treatment Plant - Service Building Electrical Substation and Miscellaneous Improvements	56	4	3	1	3	3	1	2	1	62.7	4	4	2	3	3	1	2	1

CIP SUMMARY
2.7. PROJECT SCORING

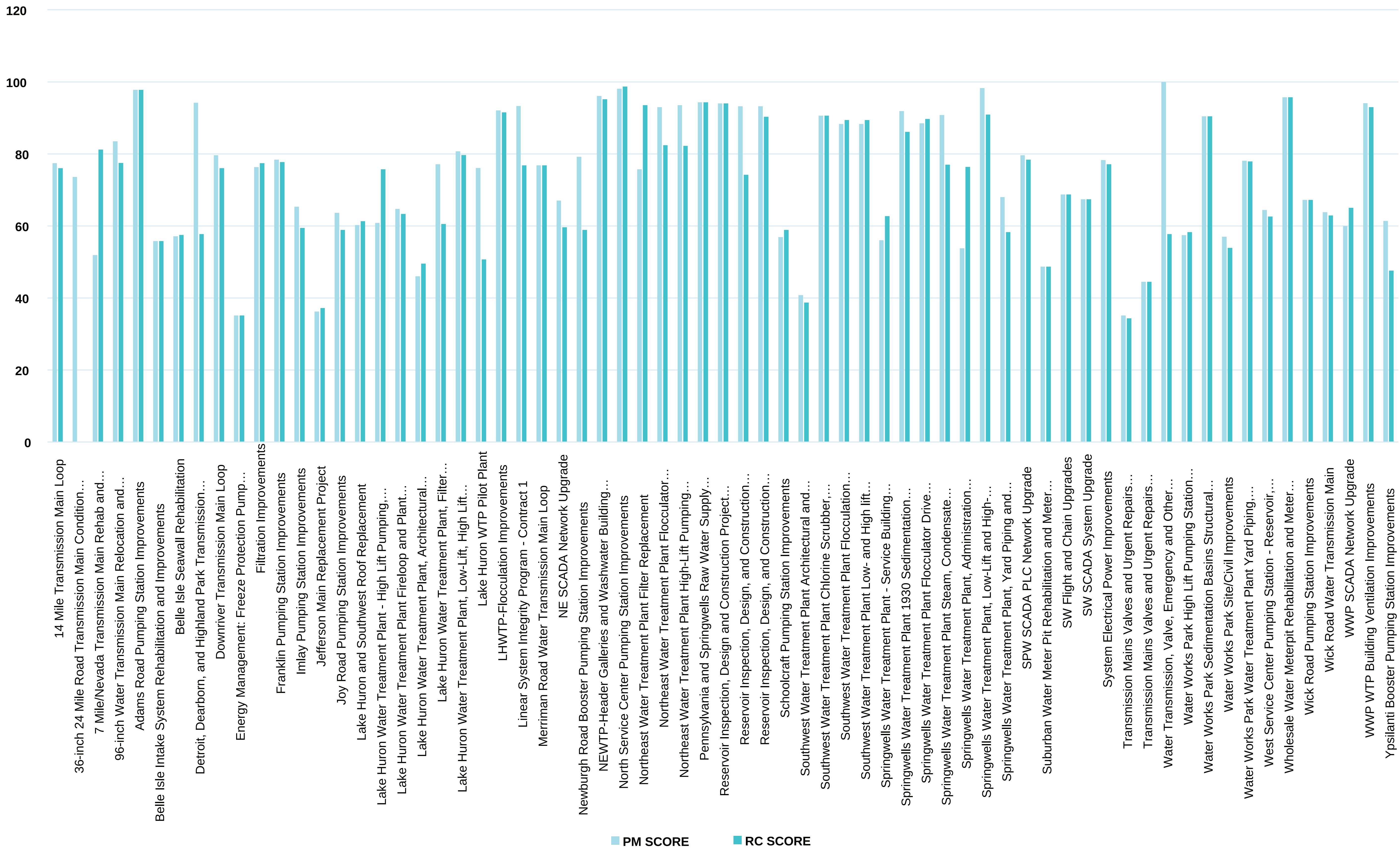
CIPNumber	Title	PM SCORE	PM_1	PM_2	PM_3	PM_4	PM_5	PM_6	PM_7	PM_8	RC SCORE	RC_1	RC_2	RC_3	RC_4	RC_5	RC_6	RC_7	RC_8
115001	Water Works Park Water Treatment Plant Yard Piping, Valves and Venturi Meters Replacement	78.1	5	5	1	5	2	4	3	3	77.9	5	5	2	3	2	4	3	3
115005	WWP WTP Building Ventilation Improvements	94.1	3	5	5	3	5	4	3	2	93	3	5	5	2	5	3	3	2
115006	Water Works Park Site/Civil Improvements	57	3	3	3	3	2	1	3	1	53.9	2	3	1	2	3	1	2	1
115007	Water Works Park High Lift Pumping Station Modernization	57.4	3	3	2	3	3	1	2	3	58.3	3	3	2	2	3	2	3	4
115009	Water Works Park Sedimentation Basins Structural Upgrades	90.4	4	3	5	1	4	2	5	1	90.4	4	3	5	1	4	2	5	1
116002	Pennsylvania and Springwells Raw Water Supply Tunnel Improvements	94.3	5	5	5	4	5	1	3	1	94.3	5	5	5	4	5	1	3	1
116005	Belle Isle Seawall Rehabilitation	57.1	4	3	2	2	3	1	3	1	57.5	4	3	2	2	3	2	3	1
116006	Belle Isle Intake System Rehabilitation and Improvements	55.8	3	3	3	3	1	1	2	2	55.8	3	3	3	3	1	1	2	2
116007	System Electrical Power Improvements	78.3	4	5	2	4	4	2	1	4	77.1	3	4	4	4	4	4	2	2
122004	96-inch Water Transmission Main Relocation and Isolation Valve Installations	83.5	5	5	4	5	4	5	3	2	77.5	2	5	2	5	4	5	1	1
122006	Wick Road Water Transmission Main	63.8	4	4	3	1	3	2	1	4	62.9	4	4	1	3	3	3	1	3
122007	Merriman Road Water Transmission Main Loop	76.8	1	5	1	4	3	4	4	4	76.8	1	5	1	4	3	4	4	4
122013	14 Mile Transmission Main Loop	77.4	3	5	2	3	4	5	1	2	76	1	5	2	3	4	5	1	2
122016	Downriver Transmission Main Loop	79.6	3	5	3	3	4	5	2	3	76	1	5	2	3	4	5	1	2
122017	7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station	51.9	1	1	3	2	1	2	2	1	81.2	5	4	4	4	4	4	4	5
122019	Jefferson Main Replacement Project	36.2	1	1	2	1	1	1	2	2	37.2	1	1	2	1	1	2	3	2
132007	Energy Management: Freeze Protection Pump Installation at Imlay Pump Station	35.1	1	1	1	3	1	1	3	3	35.1	1	1	1	3	1	1	3	3
132010	West Service Center Pumping Station - Reservoir, Reservoir Pumping, and Division Valve Upgrades	64.4	3	4	2	4	3	2	1	5	62.6	3	4	1	4	1	5	1	5
132012	Ypsilanti Booster Pumping Station Improvements	61.4	4	4	1	3	1	4	2	2	47.6	3	3	1	3	1	3	2	2
132014	Adams Road Pumping Station Improvements	97.8	5	5	4	5	5	4	4	5	97.8	5	5	4	5	5	4	4	5
132015	Newburgh Road Booster Pumping Station Improvements	79.2	5	5	2	5	2	3	3	4	58.9	4	3	2	3	3	3	1	4
132016	North Service Center Pumping Station Improvements	98.1	5	5	5	4	5	5	3	5	98.7	5	5	5	4	5	5	4	5
132018	Schoolcraft Pumping Station Improvements	56.9	3	3	1	4	3	2	2	2	58.9	4	3	2	3	3	3	1	4
132019	Wick Road Pumping Station Improvements	67.2	5	4	2	4	3	3	4	3	67.2	5	4	2	4	3	3	4	3
132020	Franklin Pumping Station Improvements	78.4	4	5	3	4	2	3	3	3	77.7	4	5	2	3	3	3	2	4
132021	Imlay Pumping Station Improvements	65.3	4	4	1	4	3	3	3	4	59.4	4	3	2	3	3	4	1	4
132022	Joy Road Pumping Station Improvements	63.6	4	4	1	3	3	2	3	3	58.9	4	3	2	3	3	3	1	4
170302*	SW SCADA System Upgrade	67.4	4	4	2	4	3	4	4	4	67.4	4	4	2	4	3	4	4	4
170305*	WWP SCADA Network Upgrade	60	3	3	3	3	3	3	3	3	65	3	4	3	3	2	3	3	4
170306*	SPW SCADA PLC Network Upgrade	79.6	5	4	4	4	4	3	3	4	78.4	4	4	4	4	4	3	3	3
170503*	Transmission Mains Valves and Urgent Repairs Contract 2	44.5	2	1	2	4	1	1	1	2	44.5	2	1	2	4	1	1	1	2
170504*	Transmission Mains Valves and Urgent Repairs Contract 1	35.1	1	2	1	2	1	4	3	1	34.3	2	2	1	2	1	3	3	2

CIP SUMMARY
2.7. PROJECT SCORING

CIPNumber	Title	PM SCORE	PM_1	PM_2	PM_3	PM_4	PM_5	PM_6	PM_7	PM_8	RC SCORE	RC_1	RC_2	RC_3	RC_4	RC_5	RC_6	RC_7	RC_8
170506*	Water Transmission, Valve, Emergency and Other Urgent Repairs	100	5	5	5	5	5	5	5	5	57.7	2	3	2	3	3	3	3	2
170601*	Linear System Integrity Program - Contract 1	93.3	4	5	1	4	5	5	5	3	76.8	4	4	1	4	4	4	4	4
170602*	36-inch 24 Mile Road Transmission Main Condition Assessment	73.6	4	3	1	3	4	4	3	2	0	0	0	0	0	0	0	0	0
170801*	Reservoir Inspection, Design and Construction Project at Imlay Station, Lake Huron Water Treatment Plant, Springwells Water Treatment Plant, And Southwest Water Treatment Plant	94	4	5	2	5	5	4	4	3	94	4	5	2	5	5	4	4	3
170802*	Reservoir Inspection, Design, and Construction Management Services Phase II	93.2	5	3	5	2	4	5	5	1	74.2	4	3	4	2	3	3	3	1
170803*	Reservoir Inspection, Design, and Construction Management Services Phase III	93.2	5	3	5	2	4	5	5	1	90.3	4	3	5	2	3	4	4	1
170901*	Suburban Water Meter Pit Rehabilitation and Meter Replacement	48.7	4	1	2	2	1	4	1	1	48.7	4	1	2	2	1	4	1	1
170904*	Wholesale Water Meterpit Rehabilitation and Meter Upgrade - Phase II	95.7	5	4	3	4	5	5	4	5	95.7	5	4	3	4	5	5	4	5
171502*	Lake Huron and Southwest Roof Replacement	60.2	3	4	1	2	3	1	2	1	61.3	3	4	2	2	3	1	2	1

Score Note: * Project from Program if the table depicts

WATER PROJECT MANAGER AND REVIEW COMMITTEE SCORES



CIP SUMMARY
2.7. PROJECT SCORING

WASTEWATER PROJECT MANAGER & REVIEW COMMITTEE SCORES

CIPNumber	Title	PM SCORE	PM_1	PM_2	PM_3	PM_4	PM_5	PM_6	PM_7	PM_8	RC SCORE	RC_1	RC_2	RC_3	RC_4	RC_5	RC_6	RC_7	RC_8
211005	WRRF PS No. 2 Improvements Phase II	77.4	5	4	4	3	4	3	2	2	77.4	5	4	4	3	4	3	2	2
211006	WRRF PS No. 1 Improvements	79.2	5	4	4	4	4	3	3	3	78.6	5	4	4	4	4	3	2	3
211007	WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements	76.6	3	4	4	4	3	3	3	3	75.7	3	4	4	4	3	3	3	1
211008	WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines	78.3	4	4	4	3	4	3	3	4	78.3	4	4	4	3	4	3	3	4
211009	WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System	76.6	4	5	3	2	2	2	3	3	76.6	4	5	3	2	2	2	3	3
211010	Rehabilitation of Sludge Processing Complexes A and B	89.7	2	2	4	4	5	4	2	2	89.7	2	2	4	4	5	4	2	2
211011	WRRF PS1 Screening and Grit Improvements	77.5	4	5	2	4	2	2	4	3	77.5	4	5	2	4	2	2	4	3
212008	WRRF Aeration Improvements 1 and 2	76.3	4	3	4	3	3	3	3	4	76.3	4	3	4	3	3	3	3	4
212009	WRRF Aeration Improvements 3 and 4	76.3	4	3	4	3	3	3	3	4	76.3	4	3	4	3	3	3	3	4
212010	WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite	89.7	2	2	4	4	5	4	2	2	89.7	2	2	4	4	5	4	2	2
213006	WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities	75.3	3	3	4	4	2	2	4	4	76.6	4	3	4	5	2	2	4	4
213007	WRRF Modification to Incinerator Sludge Feed Systems at Complex -II	96.7	5	5	5	4	4	4	4	4	96.2	5	5	5	4	4	4	4	3
213008	WRRF Rehabilitation of the Ash Handling Systems	57.8	3	2	3	4	3	1	3	1	59.5	4	3	3	4	3	1	3	1
213009	WRRF Biosolids Processing Improvements	79.6	4	4	4	5	4	3	3	4	79.6	4	4	4	5	4	3	3	4
216004	Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF	94.7	5	5	5	4	3	3	4	3	94.7	5	5	5	4	3	3	4	3
216006	Assessment and Rehabilitation of WRRF yard piping and underground utilities	49.1	3	3	2	2	2	2	2	3	79	5	4	4	3	4	4	3	3
216008	Rehabilitation of Screened Final Effluent (SFE) Pump Station	64.7	5	2	2	4	1	5	4	4	63.2	5	2	2	4	1	2	4	4
216011	WRRF Structural Improvements	65.5	4	4	3	4	3	2	3	1	64.4	4	4	3	4	2	2	3	1
222001	Oakwood District Intercommunity Relief Sewer Modification at Oakwood District	74.8	1	4	4	1	4	4	3	3	62.7	1	4	2	1	3	4	3	4
222002	Detroit River Interceptor (DRI) Evaluation and Rehabilitation	78.3	4	4	4	3	3	4	4	4	66.4	5	4	3	1	3	4	5	1
222008	North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure	63.9	3	4	1	4	3	3	2	4	63.9	3	4	1	4	3	3	2	4
232001	Fairview Pumping Station - Replace Four Sanitary Pumps	63.6	4	4	2	4	2	4	1	2	63.6	4	4	2	4	2	4	1	2
232002	Freud & Conner Creek Pump Station Improvements	97.4	5	5	5	5	4	4	4	4	94.1	4	4	5	3	4	5	5	1

CIP SUMMARY
2.7. PROJECT SCORING

CIPNumber	Title	PM SCORE	PM_1	PM_2	PM_3	PM_4	PM_5	PM_6	PM_7	PM_8	RC SCORE	RC_1	RC_2	RC_3	RC_4	RC_5	RC_6	RC_7	RC_8
233003	Rouge River In-system Storage Devices	88.8	1	3	5	1	4	4	2	4	88.2	1	3	5	1	4	4	1	4
260201*	CON-149, Emergency Sewer Repair	76.9	4	4	3	4	4	3	3	2	76.9	4	4	3	4	4	3	3	2
260204*	Conveyance System Engineering Services-1802575	77.4	4	4	4	4	3	4	3	2	78.3	4	4	4	4	3	4	3	4
260205*	NWI Rehabilitation	67.1	4	4	3	4	3	3	4	2	60.3	4	3	3	4	3	4	2	1
260206*	Conveyance System Repairs (Sewers)	63.2	4	4	3	3	2	2	2	1	57.6	4	3	3	3	2	2	2	1
260207*	Rehabilitation of Woodward Sewer Systems	75.6	4	4	4	3	3	3	2	2	76.8	4	4	4	3	3	3	4	2
260209*	Sewer Rehabilitation and Repair	76.4	4	4	3	4	4	3	3	1	61.3	4	3	3	3	3	4	4	2
260210	Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee	59.6	4	3	3	3	3	3	2	2	59.6	4	3	3	3	3	3	2	2
260211*	Emergency and Urgent Sewer Repair II	78.4	4	4	4	4	4	4	3	2	60.2	4	3	3	3	3	4	3	1
260508*	B-39 Outfall Rehabilitation	75.3	5	4	4	3	3	3	1	1	75.3	5	4	4	3	3	3	1	1
260510*	Conveyance System Repairs (Outfalls)	74.2	4	3	4	3	3	3	2	1	73.8	4	3	4	3	3	2	2	1
260614*	Structural Inspection & Structural Improvements	53.4	3	3	1	1	3	1	1	1	53.4	3	3	1	1	3	1	1	1
260618*	Oakwood HVAC Project	20	1	1	1	1	1	1	1	1	20	1	1	1	1	1	1	1	1
260619*	Control System Upgrade - St Aubin, Lieb & Mile	95.1	5	5	5	3	4	4	4	2	95.1	5	5	5	3	4	4	4	2
260620*	Baby Creek Roof Replacement	82.8	5	5	4	5	4	1	5	2	78.8	5	4	4	4	4	2	4	2
260622*	CSO Emergency Generator Improvements	93.6	5	5	5	5	3	3	2	2	77.5	5	4	4	4	3	4	2	2
260623*	CSO Baby Creek Screen Rehabilitation	94.4	4	3	5	4	5	4	5	1	93.2	4	3	5	4	5	4	3	1
260701*	Conveyance System Infrastructure Improvements	93.5	4	4	5	3	4	4	4	2	60.1	3	3	3	3	3	4	4	1
260702*	Pump Station Assets Updates	57.5	3	3	3	4	2	2	2	1	59.6	4	3	3	3	3	4	2	1
260802*	2022 WRRF Roof Improvements Project	78.1	4	4	4	4	4	3	4	1	77.9	4	4	4	3	4	4	4	1
260901*	Rehabilitation of HAZMAT Facility at WRRF	52.9	4	3	2	3	2	2	3	2	52.1	4	2	2	4	2	2	2	2
260902*	WRRF 4th Floor Renovation	41	2	2	1	1	1	1	4	2	59.5	4	3	2	3	3	3	2	4
260903*	WRRF Front Entrance Rehabilitation	77.8	4	4	4	3	3	3	4	4	52.4	4	2	2	3	2	2	2	4
260904*	WRRF 3rd Floor Renovation	39.4	3	2	1	2	1	3	1	4	40.5	3	2	1	3	1	4	1	4
260905*	WRRF Plumbing Shop Renovation - 260905	50.7	4	3	1	2	2	2	3	1	0	0	0	0	0	0	0	0	0
261001*	WRRF Rehabilitation of the Secondary Clarifiers Phase 1	72	4	3	4	3	1	4	1	1	72	4	3	4	3	1	4	1	1
270001	Pilot CSO Netting Facility	89.6	1	5	5	1	4	4	1	3	89.6	1	5	5	1	4	4	1	3
270002	Meldrum Sewer Diversion and VR-15 Improvements	86.9	1	1	5	1	4	5	1	4	88.7	1	3	5	1	4	5	1	4
270003	Long Term CSO Control Plan	88	1	3	5	1	4	3	3	2	88	1	3	5	1	4	3	3	2
270004	Oakwood and Leib CSO Facilities Improvement Project	79.4	4	4	3	4	4	5	4	4	79.4	4	4	4	4	3	5	4	4
270006	CSO Facilities Improvements II	79.3	5	4	4	4	4	4	4	1	61	4	3	3	4	3	3	4	1

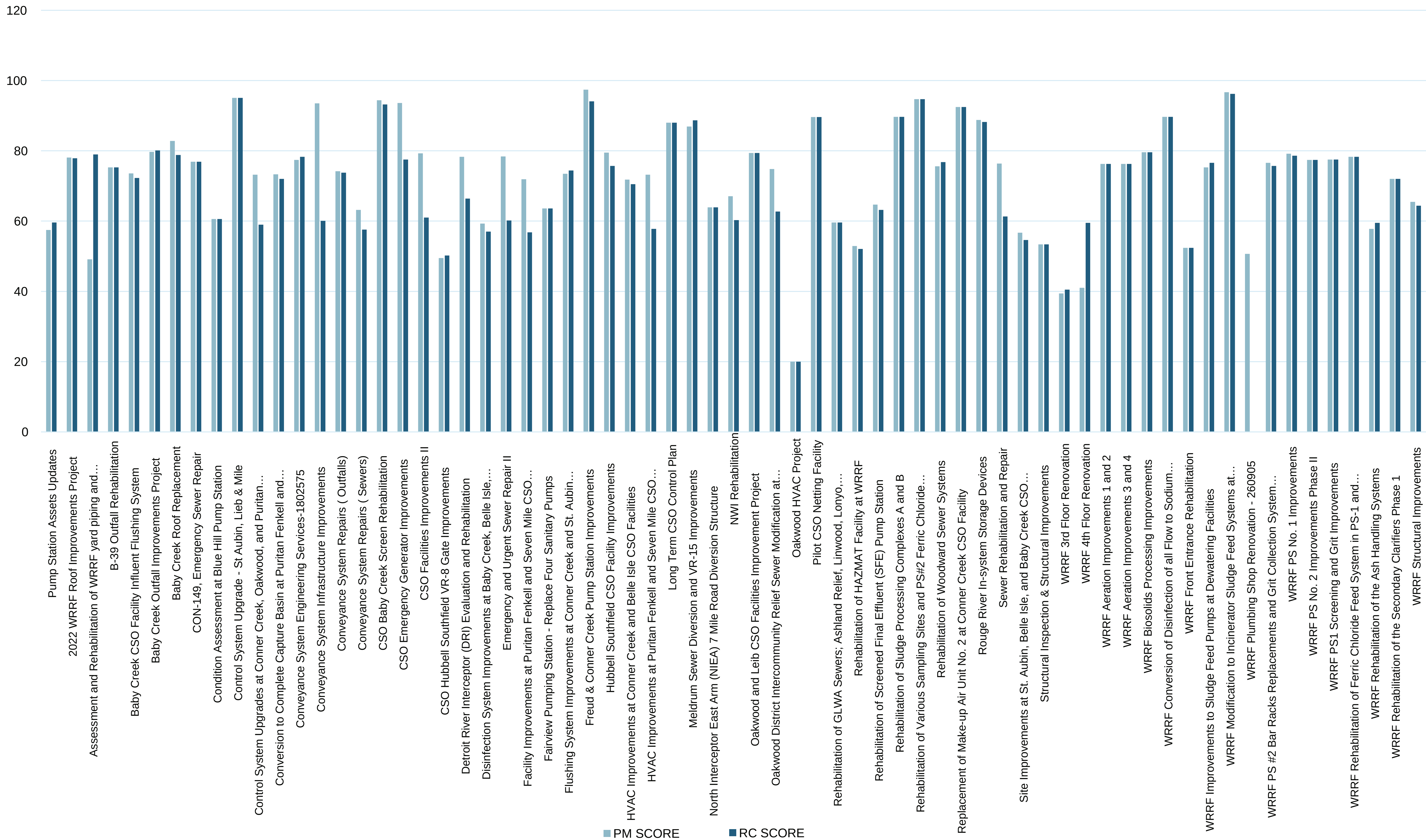
CIP SUMMARY
2.7. PROJECT SCORING

CIPNumber	Title	PM SCORE	PM_1	PM_2	PM_3	PM_4	PM_5	PM_6	PM_7	PM_8	RC SCORE	RC_1	RC_2	RC_3	RC_4	RC_5	RC_6	RC_7	RC_8
270007	Disinfection System Improvements at Baby Creek, Belle Isle, Conner Creek, and Puritan Fenkell CSO Facilities	59.3	3	3	3	4	2	1	5	2	57	1	2	3	4	2	1	5	2
270008	Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities	73.5	1	3	2	4	4	1	5	3	74.4	3	3	2	4	4	1	5	2
270009	Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities	56.7	3	2	2	3	3	1	4	1	54.6	1	2	2	2	3	1	4	1
270010	HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities	73.2	4	2	2	4	4	1	4	1	57.8	3	2	2	4	3	2	4	1
270011	HVAC Improvements at Conner Creek and Belle Isle CSO Facilities	71.8	3	2	2	4	4	1	3	1	70.5	2	2	2	3	4	1	3	1
270012	Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities	73.2	2	3	2	4	4	1	5	1	59	4	3	2	4	3	1	4	1
270013	Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities	71.9	1	3	2	4	4	1	4	1	56.8	1	3	2	4	3	1	4	1
270014	Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities	73.3	2	2	2	4	4	1	5	3	72	1	2	2	4	4	1	4	3
273001	Hubbell Southfield CSO Facility Improvements	79.5	5	4	3	5	4	1	5	4	75.7	2	4	3	4	4	1	5	2
273002	CSO Hubbell Southfield VR-8 Gate Improvements	49.5	2	3	2	4	2	1	4	1	50.2	3	3	2	4	2	1	4	1
276002	Replacement of Make-up Air Unit No. 2 at Conner Creek CSO Facility	92.5	5	5	2	4	5	1	3	4	92.5	5	5	2	4	5	1	3	4
277001	Baby Creek Outfall Improvements Project	79.7	2	5	3	5	3	4	3	4	80.1	2	5	4	4	3	4	3	4
277002	Baby Creek CSO Facility Influent Flushing System	73.6	2	3	2	4	4	1	4	3	72.3	1	3	2	4	4	1	3	3

Score Note: * Project from Program if the table depicts

CIP SUMMARY
2.7. PROJECT SCORING

WASTEWATER PROJECT MANAGER AND REVIEW COMMITTEE SCORES



03

CIP PROJECTS BY CATEGORY

3.1. LARGEST CIP PROJECTS

The water and wastewater projects included in the FY25-29 CIP with the largest projected lifetime spend (the top five for each) are listed below. Programs are excluded from the tables below.

WATER

Financial figures are in thousands of dollars ($1,000's)

CIPNumber	Title	Lifetime Plan Spend
114002	Springwells Water Treatment Plant, Low-Lift and High-Lift Pumping Station Improvements	$315,712
132016	North Service Center Pumping Station Improvements	$239,584
122004	96-inch Water Transmission Main Relocation and Isolation Valve Installations	$237,553
114010	Springwells Water Treatment Plant, Yard Piping and High-Lift Header Improvements	$218,615
112003	Northeast Water Treatment Plant High-Lift Pumping Station Improvements	$171,676

WASTEWATER

Financial figures are in thousands of dollars ($1,000's)

CIPNumber	Title	Lifetime Plan Spend
260600	CSO Facilities Improvement Program	$1,018,750
232002	Freud & Conner Creek Pump Station Improvements	$464,077
213009	WRRF Biosolids Processing Improvements	$335,433
212008	WRRF Aeration Improvements 1 and 2	$214,343
211007	WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements	$122,757

CIP PROJECTS BY CATEGORY
3.1. LARGEST CIP PROJECTS

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CIP PROJECTS BY CATEGORY
3.2. LARGEST DOLLAR CIP PROJECTS

3.2. LARGEST DOLLAR PROJECTS (GREATER THAN $30M)

Water and wastewater projects continue to be scored based on the eight criteria shown in Table 1 of Section 2.7. For each project, criteria score of 1 to 5 has been assigned, with a score of 1 representing minimal value or benefit, and 5 representing high value or benefit based on established definitions and scoring guidelines for each criteria.

WATER PROJECTS WITH 5-YEAR TOTAL GREATER THAN $30M

Financial figures are in thousands of dollars ($1,000's)

CIPNumber	Title	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 25-29 Total	Project Total
114002	Springwells Water Treatment Plant, Low-Lift and High-Lift Pumping Station Improvements	$26,618	$19,024	$28,225	$26,039	$47,568	$32,427	$23,584	$157,844	$315,712
122004	96-inch Water Transmission Main Relocation and Isolation Valve Installations	$51,006	$33,294	$32,074	$36,958	$40,072	$37,773	$6,376	$153,253	$237,553
111001	Lake Huron Water Treatment Plant, Low-Lift, High Lift and Filter Backwash Pumping System Improvements	$3,536	$1,335	$1,674	$12,240	$12,665	$38,849	$35,013	$100,442	$140,411
132016	North Service Center Pumping Station Improvements	$1,170	$3,738	$2,532	$10,289	$27,111	$24,622	$22,392	$86,947	$239,584
122016	Downriver Transmission Main Loop	$2,612	$2,886	$15,131	$15,131	$5,601	$11,343	$8,534	$55,740	$69,772
112008	Northeast Water Treatment Plant Filter Replacement	$0	$0	$3,507	$3,507	$14,247	$14,286	$14,247	$49,795	$85,550
111012	LHWTP-Flocculation Improvements	$742	$6,385	$12,437	$12,218	$12,218	$7,331	$0	$44,204	$51,331
122019	Jefferson Main Replacement Project	$1,098	$36	$19,501	$19,501	$0	$0	$0	$39,002	$40,136
170802	Reservoir Inspection, Design, and Construction Management Services Phase II	$2,460	$5,840	$9,608	$9,608	$9,608	$9,291	$361	$38,477	$46,777
132015	Newburgh Road Booster Pumping Station Improvements	$1,249	$0	$0	$9,022	$9,022	$9,046	$9,022	$36,111	$46,382
111006	Lake Huron Water Treatment Plant, Filter Instrumentation and Raw Water Flow Metering Improvements	$1,381	$2,687	$2,981	$8,244	$8,501	$8,525	$7,500	$35,751	$39,819

CIP PROJECTS BY CATEGORY
3.2. LARGEST DOLLAR CIP PROJECTS

WASTEWATER PROJECTS WITH 5-YEAR TOTAL GREATER THAN $30M

Financial figures are in thousands of dollars ($1,000's)

CIPNumber	Title	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 25-29 Total	Project Total
232002	Freud & Conner Creek Pump Station Improvements	$19,867	$4,073	$21,068	$27,283	$46,503	$45,759	$49,895	$190,509	$464,077
212008	WRRF Aeration Improvements 1 and 2	$1,196	$483	$10,783	$25,444	$25,444	$25,514	$25,444	$112,630	$214,343
222001	Oakwood District Intercommunity Relief Sewer Modification at Oakwood District	$2,610	$27	$0	$22,468	$22,468	$22,529	$11,326	$78,792	$81,428
211006	WRRF PS No. 1 Improvements	$11,411	$13,200	$15,064	$15,063	$15,010	$14,492	$14,406	$74,034	$110,960
216008	Rehabilitation of Screened Final Effluent (SFE) Pump Station	$3,711	$4,885	$13,500	$12,964	$12,958	$12,952	$12,917	$65,291	$101,101
211007	WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements	$8,778	$450	$11,467	$12,988	$12,923	$12,459	$12,425	$62,262	$122,757
260204	Conveyance System Engineering Services-1802575	$10,009	$6,881	$13,440	$25,310	$969	$902	$0	$40,621	$57,510
222002	Detroit River Interceptor (DRI) Evaluation and Rehabilitation	$51,063	$11,738	$11,581	$8,424	$8,424	$4,322	$151	$32,901	$117,561

CIP PROJECTS BY CATEGORY
3.3. LARGEST 2024 PROJECTED SPEND

3.3. LARGEST 2024 PROJECTED SPEND (GREATER THAN $5M)

The water and wastewater projects with the largest projected spend for 2025 are listed below. These projects are planned for greater than $5 Million in FY 25. There are ten (10) projects in the water category and nine (9) projects in the wastewater category.

WATER PROJECTS WITH 5-YEAR TOTAL GREATER THAN $5M

Financial figures are in thousands of dollars ($1,000's)

CIPNumber	Title	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 25-29 Total	Project Total
122004	96-inch Water Transmission Main Relocation and Isolation Valve Installations	$51,006	$33,294	$32,074	$36,958	$40,072	$37,773	$6,376	$153,253	$237,553
114002	Springwells Water Treatment Plant, Low-Lift and High-Lift Pumping Station Improvements	$26,618	$19,024	$28,225	$26,039	$47,568	$32,427	$23,584	$157,844	$315,712
122019	Jefferson Main Replacement Project	$1,098	$36	$19,501	$19,501	$0	$0	$0	$39,002	$40,136
122016	Downriver Transmission Main Loop	$2,612	$2,886	$15,131	$15,131	$5,601	$11,343	$8,534	$55,740	$69,772
116002	Pennsylvania and Springwells Raw Water Supply Tunnel Improvements	$69,305	$16,763	$12,689	$0	$0	$0	$0	$12,689	$98,757
111012	LHWTP-Flocculation Improvements	$742	$6,385	$12,437	$12,218	$12,218	$7,331	$0	$44,204	$51,331
111009	Lake Huron Water Treatment Plant - High Lift Pumping, Water Production Flow Metering and Yard Piping Improvements	$4,699	$16,151	$10,125	$28	$0	$0	$0	$10,153	$31,003
115001	Water Works Park Water Treatment Plant Yard Piping, Valves and Venturi Meters Replacement	$29,221	$10,164	$9,986	$6,703	$0	$0	$0	$16,688	$56,073
170802	Reservoir Inspection, Design, and Construction Management Services Phase II	$2,460	$5,840	$9,608	$9,608	$9,608	$9,291	$361	$38,477	$46,777
114017	Springwells Water Treatment Plant Flocculator Drive Replacements	$1,065	$6,563	$7,045	$7,045	$6,080	$0	$0	$20,170	$27,798

WASTEWATER PROJECTS WITH 5-YEAR TOTAL GREATER THAN $30M

Financial figures are in thousands of dollars ($1,000's)

CIPNumber	Title	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 25-29 Total	Project Total
232002	Freud & Conner Creek Pump Station Improvements	$19,867	$4,073	$21,068	$27,283	$46,503	$45,759	$49,895	$190,509	$464,077
260701	Conveyance System Infrastructure Improvements	$13,173	$17,453	$16,081	$9,555	$2,191	$0	$0	$27,827	$58,453
211006	WRRF PS No. 1 Improvements	$11,411	$13,200	$15,064	$15,063	$15,010	$14,492	$14,406	$74,034	$110,960
216008	Rehabilitation of Screened Final Effluent (SFE) Pump Station	$3,711	$4,885	$13,500	$12,964	$12,958	$12,952	$12,917	$65,291	$101,101
260204	Conveyance System Engineering Services-1802575	$10,009	$6,881	$13,440	$25,310	$969	$902	$0	$40,621	$57,510
222002	Detroit River Interceptor (DRI) Evaluation and Rehabilitation	$51,063	$11,738	$11,581	$8,424	$8,424	$4,322	$151	$32,901	$117,561
211007	WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements	$8,778	$450	$11,467	$12,988	$12,923	$12,459	$12,425	$62,262	$122,757
212008	WRRF Aeration Improvements 1 and 2	$1,196	$483	$10,783	$25,444	$25,444	$25,514	$25,444	$112,630	$214,343
260206	Conveyance System Repairs (Sewers)	$1,197	$5,182	$5,208	$1,941	$3,342	$3,351	$2,921	$16,762	$23,141

CIP PROJECTS BY CATEGORY
3.4. WATER PROJECTS BY STATUS

3.4. WATER PROJECTS BY STATUS

All financial figures are in thousands of dollars ($1,000's). Projects that have been Reclassified to a different number, Closed, or Cancelled are not shown in this list; a list of Closed projects can be found in Section 2.2. For projects in the "Centralized Services" category (CIP number begins with 3), only portions of projects funded by the water planned spend are included in this section.

WATER CIP PROJECTS: ACTIVE, RANKED BY 5-YEAR CIP TOTAL

Financial figures are in thousands of dollars ($1,000's)

Score Note: * Denotes a CIP project that is a Program. For projects with no score, see Appendicies for PM Scores

CIPNumber	Title	Project_Status	Year_ Added	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30 & Beyond	FY 25-29 CIP Total	Project Total	Percent of W/S CIP	RC SCORE
114002	Springwells Water Treatment Plant, Low-Lift and High-Lift Pumping Station Improvements	Project Execution - Construction	2004	$26,618	$19,024	$28,225	$26,039	$47,568	$32,427	$23,584	$112,226	$157,844	$315,712	8.63%	90.9
122004	96-inch Water Transmission Main Relocation and Isolation Valve Installations	Project Execution - Construction	2016	$51,006	$33,294	$32,074	$36,958	$40,072	$37,773	$6,376	$0	$153,253	$237,553	6.49%	77.5
111001	Lake Huron Water Treatment Plant, Low-Lift, High Lift and Filter Backwash Pumping System Improvements	Project Execution - Design	2010	$3,536	$1,335	$1,674	$12,240	$12,665	$38,849	$35,013	$35,097	$100,442	$140,411	3.84%	79.7
132016	North Service Center Pumping Station Improvements	Project Execution - Design	2017	$1,170	$3,738	$2,532	$10,289	$27,111	$24,622	$22,392	$147,729	$86,947	$239,584	6.55%	98.7
122016	Downriver Transmission Main Loop	Active - Procurement - Board Approved - Construction	2017	$2,612	$2,886	$15,131	$15,131	$5,601	$11,343	$8,534	$8,534	$55,740	$69,772	1.91%	76
111012	LHWTP-Flocculation Improvements	Project Execution - Design	2021	$742	$6,385	$12,437	$12,218	$12,218	$7,331	$0	$0	$44,204	$51,331	1.40%	91.5
122019	Jefferson Main Replacement Project	Project Execution - Design	2021	$1,098	$36	$19,501	$19,501	$0	$0	$0	$0	$39,002	$40,136	1.10%	37.2
170802*	Reservoir Inspection, Design, and Construction Management Services Phase II	Active - Procurement - Construction	2021	$2,460	$5,840	$9,608	$9,608	$9,608	$9,291	$361	$0	$38,477	$46,777	1.28%	N/A
111006	Lake Huron Water Treatment Plant, Filter Instrumentation and Raw Water Flow Metering Improvements	Project Execution - Construction	2014	$1,381	$2,687	$2,981	$8,244	$8,501	$8,525	$7,500	$0	$35,751	$39,819	1.09%	60.5
170600	Linear System Integrity Program	Project Execution - Design	2017	$0	$19	$4,138	$9,191	$2,575	$6,958	$6,939	$48,070	$29,800	$77,890	2.13%	N/A
114017	Springwells Water Treatment Plant Flocculator Drive Replacements	Project Execution - Construction	2018	$1,065	$6,563	$7,045	$7,045	$6,080	$0	$0	$0	$20,170	$27,798	0.76%	89.7
115001	Water Works Park Water Treatment Plant Yard Piping, Valves and Venturi Meters Replacement	Project Execution - Construction	2007	$29,221	$10,164	$9,986	$6,703	$0	$0	$0	$0	$16,688	$56,073	1.53%	77.9

CIP PROJECTS BY CATEGORY
3.4. WATER PROJECTS BY STATUS

CIP Number	Title	Project_Status	Year_ Added	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30 & Beyond	FY 25-29 CIP Total	Project Total	Percent of W/S CIP	RC SCORE
170506*	Water Transmission, Valve, Emergency and Other Urgent Repairs	Active - Pre-Procurement - Construction	2024	$0	$0	$2,744	$2,998	$2,998	$3,007	$2,998	$255	$14,745	$15,000	0.41%	N/A
170904*	Wholesale Water Meterpit Rehabilitation and Meter Upgrade - Phase II	Project Execution - Construction	2002	$0	$1,107	$3,642	$3,642	$3,642	$3,652	$0	$0	$14,579	$15,686	0.43%	N/A
116002	Pennsylvania and Springwells Raw Water Supply Tunnel Improvements	Project Execution - Construction	2016	$69,305	$16,763	$12,689	$0	$0	$0	$0	$0	$12,689	$98,757	2.70%	94.3
170601*	Linear System Integrity Program - Contract 1	Project Execution - Design	2021	$0	$7,821	$20	$20	$10,751	$20	$20	$10,854	$10,832	$29,507	0.81%	N/A
111009	Lake Huron Water Treatment Plant - High Lift Pumping, Water Production Flow Metering and Yard Piping Improvements	Project Execution - Construction	2018	$4,699	$16,151	$10,125	$28	$0	$0	$0	$0	$10,153	$31,003	0.85%	75.7
112006	Northeast Water Treatment Plant Flocculator Replacements	Project Execution - Construction	2018	$4,119	$2,491	$2,519	$2,519	$1,799	$0	$0	$0	$6,837	$13,446	0.37%	82.4
170504*	Transmission Mains Valves and Urgent Repairs Contract 1	Project Execution - Construction		$9,220	$2,445	$2,965	$2,965	$804	$0	$0	$0	$6,735	$18,400	0.50%	N/A
112007	NEWTP-Header Galleries and Washwater Building Structural Repair	Project Execution - Design	2022	$236	$66	$2,124	$2,124	$2,124	$12	$0	$0	$6,383	$6,685	0.18%	95.2
115005	WWP WTP Building Ventilation Improvements	Project Execution - Construction	2018	$5,942	$6,096	$3,868	$636	$0	$0	$0	$0	$4,504	$16,541	0.45%	93
116007	System Electrical Power Improvements	Active - Pre-Procurement - Design	2021	$0	$796	$2,462	$751	$0	$0	$0	$0	$3,214	$4,010	0.11%	77.1
381000	Power Quality: Electric Metering Improvement Program	Active - Pre-Procurement - Design	2016	$0	$0	$5	$20	$1,020	$1,022	$1,020	$2,039	$3,086	$5,125	0.14%	N/A
170302*	SW SCADA System Upgrade	Project Execution - Design	2017	$4,001	$1,229	$3,037	$0	$0	$0	$0	$0	$3,037	$8,267	0.23%	N/A
113009	SW Flight and Chain Upgrades	Project Execution - Construction		$0	$2,410	$2,717	$0	$0	$0	$0	$0	$2,717	$5,127	0.14%	68.7
116005	Belle Isle Seawall Rehabilitation	Project Execution - Design	2020	$157	$598	$1,539	$0	$0	$0	$0	$0	$1,539	$2,295	0.06%	57.5
132010	West Service Center Pumping Station - Reservoir, Reservoir Pumping, and Division Valve Upgrades	Project Execution - Construction	2017	$42,907	$2,993	$1,524	$0	$0	$0	$0	$0	$1,524	$47,424	1.30%	62.6
122017	7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station	Project Execution - Design	2019	$9,224	$3,468	$216	$216	$216	$216	$156	$0	$1,019	$13,711	0.37%	81.2
170602*	36-inch 24 Mile Road Transmission Main Condition Assessment	Project Execution - Design	2023	$0	$1,957	$0	$0	$972	$0	$0	$0	$972	$2,929	0.08%	N/A
122013	14 Mile Transmission Main Loop	Project Execution - Construction	2017	$75,368	$37,307	$800	$0	$0	$0	$0	$0	$800	$113,475	3.10%	76

CIP PROJECTS BY CATEGORY
3.4. WATER PROJECTS BY STATUS

CIP Number	Title	Project_Status	Year_ Added	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30 & Beyond	FY 25-29 CIP Total	Project Total	Percent of W/S CIP	RC SCORE
170503*	Transmission Mains Valves and Urgent Repairs Contract 2	Project Execution - Construction	2017	$13,180	$1,249	$417	$120	$0	$0	$0	$0	$537	$14,966	0.41%	N/A
170801*	Reservoir Inspection, Design and Construction Project at Imlay Station, Lake Huron Water Treatment Plant, Springwells Water Treatment Plant, And Southwest Water Treatment Plant	Project Execution - Design	2022	$23,261	$1,828	$295	$0	$0	$0	$0	$0	$295	$25,384	0.69%	N/A
111011	Lake Huron WTP Pilot Plant	Project Execution - Pending Closeout	2019	$3,076	$192	$0	$0	$0	$0	$0	$0	$0	$3,268	0.09%	50.7
111013	Lake Huron Water Treatment Plant Fireloop and Plant Water Improvements	Project Execution - Construction	2022	$3	$1	$0	$0	$0	$0	$0	$10,051	$0	$10,055	0.27%	63.3
114008	Springwells Water Treatment Plant 1930 Sedimentation Basin Sluice Gates, Guides & Hoists Improvements	Project Execution - Construction	2014	$12,166	$1,932	$0	$0	$0	$0	$0	$0	$0	$14,098	0.39%	86.1
114011	Springwells Water Treatment Plant Steam, Condensate Return, and Compressed Air Piping Improvements	Project Execution - Construction	2012	$25,962	$2,230	$0	$0	$0	$0	$0	$0	$0	$28,192	0.77%	77
122006	Wick Road Water Transmission Main	Project Execution - Construction	2016	$25,053	$1,190	$0	$0	$0	$0	$0	$0	$0	$26,243	0.72%	62.9
132007	Energy Management: Freeze Protection Pump Installation at Imlay Pump Station	Project Execution - Construction	2014	$5,181	$579	$0	$0	$0	$0	$0	$0	$0	$5,760	0.16%	35.1
132012	Ypsilanti Booster Pumping Station Improvements	Project Execution - Design	2017	$2,431	$765	$0	$0	$0	$0	$0	$40,241	$0	$43,437	1.19%	47.6
170800	System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation	Project Execution - Design	2016	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0%	N/A
170901*	Suburban Water Meter Pit Rehabilitation and Meter Replacement	Project Execution - Pending Closeout	2014	$12,411	$0	$0	$0	$0	$0	$0	$0	$0	$12,411	0.34%	N/A
380700	As-Needed Geotechnical and Related Engineering Services	Project Execution - Design	2006	$0	$11	$0	$0	$0	$0	$0	$0	$0	$11	0.00%	N/A

CIP PROJECTS BY CATEGORY
3.4. WATER PROJECTS BY STATUS

WATER CIP PROJECTS: FUTURE PLANNED, RANKED BY PRIORITIZATION SCORE

Financial figures are in thousands of dollars ($1,000's)

*Score Note: * Denotes a CIP project that is a Program. For projects with no score, see Appendicies for PM Scores*

CIPNumber	Title	Project_Status	Year_ Added	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30 & Beyond	FY 25-29 CIP Total	Project Total	Percent of W/S CIP	RC SCORE
132014	Adams Road Pumping Station Improvements	Future Planned - Within Five Year Plan	2017	$83	$0	$0	$0	$0	$1,264	$1,261	$59,151	$2,525	$61,759	1.68831%	97.8
112008	Northeast Water Treatment Plant Filter Replacement	Future Planned - Within Five Year Plan	2023	$0	$0	$3,507	$3,507	$14,247	$14,286	$14,247	$35,755	$49,795	$85,550	2.33871%	93.5
115009	Water Works Park Sedimentation Basins Structural Upgrades	Future Planned - Within Five Year Plan	2021	$0	$0	$0	$0	$0	$1,664	$5,349	$9,833	$7,013	$16,846	0.460522%	90.4
113003	Southwest Water Treatment Plant Low- and High lift Pumping station Improvements	Future Planned - Within Five Year Plan	2014	$0	$0	$0	$0	$0	$0	$0	$162,110	$0	$162,110	4.43165%	89.4
113010	Southwest Water Treatment Plant Flocculation Improvements	Future Planned - Within Five Year Plan	2023	$0	$0	$0	$1,193	$1,193	$2,376	$5,817	$11,646	$10,579	$22,225	0.607578%	89.4
112003	Northeast Water Treatment Plant High-Lift Pumping Station Improvements	Future Planned - Within Five Year Plan	2017	$558	$0	$0	$0	$0	$0	$0	$171,118	$0	$171,676	4.69315%	82.2
132020	Franklin Pumping Station Improvements	Future Planned - Ten Year CIP	2018	$93	$0	$0	$0	$0	$0	$0	$60,825	$0	$60,918	1.66533%	77.7
111010	Lake Huron WTP Filtration Improvement	Future Planned - Within Five Year Plan	2019	$0	$0	$0	$0	$0	$1,217	$1,217	$56,205	$2,434	$58,639	1.60302%	77.4
122007	Merriman Road Water Transmission Main Loop	Future Planned - Within Five Year Plan	2016	$0	$0	$0	$0	$0	$1,008	$1,006	$24,195	$2,014	$26,209	0.71649%	76.8
114005	Springwells Water Treatment Plant, Administration Building Improvements & Underground Fire Protection Loop	Future Planned - Within Five Year Plan	2014	$1,321	$0	$0	$0	$0	$0	$0	$5,818	$0	$7,138	0.195145%	76.4
132019	Wick Road Pumping Station Improvements	Future Planned - Ten Year CIP	2018	$57	$0	$0	$0	$0	$0	$0	$24,723	$0	$24,780	0.677428%	67.2
114018	Springwells Water Treatment Plant - Service Building Electrical Substation and Miscellaneous Improvements	Future Planned - Within Five Year Plan	2019	$0	$0	$0	$0	$0	$133	$1,608	$599	$1,741	$2,341	0.0639848%	62.7
132021	Imlay Pumping Station Improvements	Future Planned - Ten Year CIP	2018	$227	$0	$0	$0	$0	$0	$0	$137,741	$0	$137,968	3.77167%	59.4

CIP PROJECTS BY CATEGORY
3.4. WATER PROJECTS BY STATUS

CIP Number	Title	Project_Status	Year_ Added	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30 & Beyond	FY 25-29 CIP Total	Project Total	Percent of W/S CIP	RC SCORE
132015	Newburgh Road Booster Pumping Station Improvements	Future Planned - Within Five Year Plan		$1,249	$0	$0	$9,022	$9,022	$9,046	$9,022	$9,022	$36,111	$46,382	1.26796%	58.9
132018	Schoolcraft Pumping Station Improvements	Future Planned - Ten Year CIP	2018	$47	$0	$0	$0	$0	$0	$0	$24,643	$0	$24,691	0.674977%	58.9
132022	Joy Road Pumping Station Improvements	Future Planned - Ten Year CIP	2018	$71	$0	$0	$0	$0	$0	$0	$39,786	$0	$39,857	1.08959%	58.9
114010	Springwells Water Treatment Plant, Yard Piping and High-Lift Header Improvements	Future Planned - Within Five Year Plan	2012	$1,808	$0	$0	$0	$0	$0	$0	$216,807	$0	$218,615	5.97636%	58.3
115007	Water Works Park High Lift Pumping Station Modernization	Future Planned - Within Five Year Plan	2021	$0	$0	$0	$0	$0	$0	$0	$115,090	$0	$115,090	3.14624%	58.3
116006	Belle Isle Intake System Rehabilitation and Improvements	Future Planned - Within Five Year Plan	2021	$0	$0	$0	$0	$0	$712	$706	$804	$1,418	$2,222	0.0607392%	55.8
115006	Water Works Park Site/Civil Improvements	Future Planned - Within Five Year Plan	2019	$0	$0	$0	$0	$0	$382	$526	$4,988	$908	$5,896	0.161171%	53.9
111008	Lake Huron Water Treatment Plant, Architectural Programming for Laboratory and Admin Building Improvements	Future Planned - Ten Year CIP	2017	$0	$0	$0	$0	$0	$0	$0	$782	$0	$782	0.0213808%	49.5
113007	Southwest Water Treatment Plant Architectural and Building Mechanical Improvements	Future Planned - Ten Year CIP	2017	$0	$0	$0	$0	$0	$0	$0	$8,641	$0	$8,641	0.236212%	38.7
170300	Water Treatment Plant Automation Program	Future Planned - Within Five Year Plan	2017	$0	$0	$0	$0	$0	$0	$6,219	$17,098	$6,219	$23,317	0.637435%	N/A
170305*	WWP SCADA Network Upgrade	Future Planned - Within Five Year Plan	2021	$0	$0	$0	$0	$0	$0	$4,714	$2,828	$4,714	$7,542	0.206178%	N/A
170306*	SPW SCADA PLC Network Upgrade	Future Planned - Within Five Year Plan	2021	$0	$0	$2,245	$3,385	$1,150	$0	$0	$0	$6,780	$6,780	0.185353%	N/A
170400	Water Transmission Improvement Program	Future Planned - Within Five Year Plan	2010	$0	$0	$0	$0	$0	$557	$574	$31,044	$1,131	$32,175	0.879572%	N/A
170500	Transmission System Valve Rehabilitation and Replacement Program	Future Planned - Within Five Year Plan	2017	$0	$12	$18	$18	$168	$2,673	$5,163	$51,245	$8,040	$59,296	1.62101%	N/A

CIP PROJECTS BY CATEGORY
3.4. WATER PROJECTS BY STATUS

CIP Number	Title	Project_Status	Year_ Added	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30 & Beyond	FY 25-29 CIP Total	Project Total	Percent of W/S CIP	RC SCORE
170803*	Reservoir Inspection, Design, and Construction Management Services Phase III	Future Planned - Within Five Year Plan	2021	$0	$0	$0	$897	$3,695	$11,940	$11,907	$65,994	$28,438	$94,432	2.58152%	N/A
170900	Suburban Water Meter Pit Rehabilitation and Meter Replacement	Future Planned - Within Five Year Plan	2014	$0	$0	$2,523	$2,523	$2,023	$4,023	$2,748	$19,268	$13,840	$33,108	0.90509%	N/A
171500	Roof Replacement at WWP, SP, LH, NE, SW, NSC, Orion, Franklin, and Conner Creek Facilities	Future Planned - Within Five Year Plan	2018	$0	$0	$0	$0	$0	$0	$2,529	$13,419	$2,529	$15,948	0.435987%	N/A
171502*	Lake Huron and Southwest Roof Replacement	Future Planned - Within Five Year Plan	2021	$0	$0	$0	$0	$0	$0	$1,045	$1,665	$1,045	$2,710	0.0740775%	N/A
383300	Masonry Replacement and Rehabilitation Program	Future Planned - Within Five Year Plan	2020	$0	$0	$0	$0	$0	$0	$0	$25,000	$0	$25,000	0.683433%	N/A

CIP PROJECTS BY CATEGORY
3.4. WATER PROJECTS BY STATUS

WATER CIP PROJECT TOTALS

Financial figures are in thousands of dollars ($1,000's)

Status	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30 & Beyond	FY 25-29 CIP Total	Project Total	Percent of W/S CIP
Active/Project Execution Water Projects Total	$453,325	$205,458	$199,040	$189,207	$196,325	$185,048	$114,893	$415,095	$884,514	$1,958,392	53.54%
Future Planned Water Projects Total	$5,514	$12	$8,292	$20,544	$31,498	$51,282	$75,657	$1,407,842	$187,274	$1,600,643	43.76%
Listed as Cancelled/Closed/Reclassified	$82,180	$1,111	$0	$0	$0	$0	$0	$0	$0	$83,292	2.28%
Pending Closeout Water Projects Total	$15,487	$192	$0	$0	$0	$0	$0	$0	$0	$15,678	0.43%
Total	$556,506	$206,773	$207,333	$209,752	$227,823	$236,331	$190,550	$1,822,937	$1,071,788	$3,658,005	100%

CIP PROJECTS BY CATEGORY
3.5. WASTEWATER PROJECTS BY STATUS

3.5 WASTEWATER PROJECTS BY STATUS

All financial figures are in thousands of dollars ($1,000's). The Project Status column shows which projects are Active (A) or Project Execution (PE), Future Planned (FP), or Pending Closeout (PC). Projects that have been Reclassified to a different number, Closed, or Cancelled are not shown in this list; a list of Closed projects can be found in Section 2.2. For projects in the "Centralized Services" category (CIP number begins with 3), only portions of projects funded by the wastewater planned spend are included in this section.

WASTEWATER CIP PROJECTS: ACTIVE, RANKED BY 5-YEAR CIP TOTAL

Financial figures are in thousands of dollars ($1,000's)

Score Note: * Denotes a CIP project that is a Program. For projects with no score, see Appendicies for PM Scores

CIPNumber	Title	Project_ Status	Year_ Added	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30 & Beyond	FY 25-29 CIP Total	Project Total	Percent of W/S CIP	RC SCORE
232002	Freud & Conner Creek Pump Station Improvements	Project Execution - Construction	2016	$19,867	$4,073	$21,068	$27,283	$46,503	$45,759	$49,895	$249,628	$190,509	$464,077	11.92%	94.1
212008	WRRF Aeration Improvements 1 and 2	Active - Procurement - Negotiation Phase - Design	2017	$1,196	$483	$10,783	$25,444	$25,444	$25,514	$25,444	$100,034	$112,630	$214,343	5.51%	76.3
222001	Oakwood District Intercommunity Relief Sewer Modification at Oakwood District	Project Execution - Design	2014	$2,610	$27	$0	$22,468	$22,468	$22,529	$11,326	$0	$78,792	$81,428	2.09%	62.7
211006	WRRF PS No. 1 Improvements	Project Execution - Construction	2016	$11,411	$13,200	$15,064	$15,063	$15,010	$14,492	$14,406	$12,314	$74,034	$110,960	2.85%	78.6
216008	Rehabilitation of Screened Final Effluent (SFE) Pump Station	Project Execution - Construction	2018	$3,711	$4,885	$13,500	$12,964	$12,958	$12,952	$12,917	$27,213	$65,291	$101,101	2.60%	63.2
211007	WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements	Project Execution - Construction	2016	$8,778	$450	$11,467	$12,988	$12,923	$12,459	$12,425	$51,267	$62,262	$122,757	3.15%	75.7
260204*	Conveyance System Engineering Services-1802575	Project Execution - Construction	2013	$10,009	$6,881	$13,440	$25,310	$969	$902	$0	$0	$40,621	$57,510	1.48%	N/A
222002	Detroit River Interceptor (DRI) Evaluation and Rehabilitation	Project Execution - Construction	2016	$51,063	$11,738	$11,581	$8,424	$8,424	$4,322	$151	$21,859	$32,901	$117,561	3.02%	66.4
273001	Hubbell Southfield CSO Facility Improvements	Project Execution - Design	2021	$438	$2,021	$3,032	$449	$7,915	$9,042	$9,017	$22,605	$29,455	$54,520	1.40%	75.7
260701*	Conveyance System Infrastructure Improvements	Project Execution - Construction	2021	$13,173	$17,453	$16,081	$9,555	$2,191	$0	$0	$0	$27,827	$58,453	1.50%	N/A
260210	Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee	Project Execution - Design	2022	$320	$1,750	$249	$4,533	$10,162	$9,341	$3,136	$84	$27,422	$29,576	0.76%	59.6
260510*	Conveyance System Repairs (Outfalls)	Project Execution - Construction	2020	$1,872	$3,309	$3,993	$3,653	$2,619	$4,522	$4,510	$469	$19,297	$24,947	0.64%	N/A

CIP PROJECTS BY CATEGORY
3.5. WASTEWATER PROJECTS BY STATUS

CIP Number	Title	Project_ Status	Year_ Added	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30 & Beyond	FY 25-29 CIP Total	Project Total	Percent of W/S CIP	RC SCORE
270006	CSO Facilities Improvements II	Project Execution - Design	2021	$737	$1,503	$1,056	$3,487	$8,908	$4,881	$0	$0	$18,331	$20,572	0.53%	61
260206*	Conveyance System Repairs (Sewers)	Project Execution - Construction	2020	$1,197	$5,182	$5,208	$1,941	$3,342	$3,351	$2,921	$0	$16,762	$23,141	0.59%	N/A
270004	Oakwood and Leib CSO Facilities Improvement Project	Project Execution - Design	2020	$2,071	$2,157	$1,394	$64	$4,551	$5,236	$5,222	$21,900	$16,468	$42,596	1.09%	79.4
216006	Assessment and Rehabilitation of WRRF yard piping and underground utilities	Project Execution - Construction	2017	$5,983	$10,842	$3,342	$3,342	$3,340	$3,349	$1,674	$0	$15,047	$31,871	0.82%	79
213006	WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities	Project Execution - Design	2016	$747	$2,293	$64	$5,417	$7,409	$2,010	$0	$0	$14,899	$17,939	0.46%	76.6
211005	WRRF PS No. 2 Improvements Phase II	Active - Procurement - Negotiation Phase - Construction	2014	$380	$403	$2,420	$6,758	$4,110	$45	$45	$69,448	$13,379	$83,609	2.15%	77.4
216011	WRRF Structural Improvements	Project Execution - Construction	2020	$1,733	$3,702	$3,732	$3,732	$3,732	$511	$0	$0	$11,706	$17,142	0.44%	64.4
213009	WRRF Biosolids Processing Improvements	Project Execution - Design	2021	$11	$71	$1,988	$1,353	$619	$3,770	$3,760	$323,861	$11,491	$335,433	8.62%	79.6
261001*	WRRF Rehabilitation of the Secondary Clarifiers Phase 1	Project Execution - Design	2017	$24	$216	$832	$832	$2,389	$2,722	$2,714	$8,618	$9,488	$18,347	0.47%	N/A
277001	Baby Creek Outfall Improvements Project	Project Execution - Construction	2019	$3,273	$3,664	$3,554	$3,450	$2,372	$0	$0	$0	$9,376	$16,313	0.42%	80.1
260209*	Sewer Rehabilitation and Repair	Project Execution - Construction	2021	$2,098	$3,658	$4,605	$4,605	$0	$0	$0	$0	$9,209	$14,965	0.38%	N/A
211011	WRRF PS1 Screening and Grit Improvements	Project Execution - Design	2019	$27	$2,458	$2,643	$536	$53	$1,512	$1,508	$90,649	$6,252	$99,386	2.55%	77.5
260211*	Emergency and Urgent Sewer Repair II	Project Execution - Construction	2023	$0	$485	$1,499	$1,499	$1,499	$1,018	$0	$0	$5,515	$6,000	0.15%	N/A
260200	Sewer and Interceptor Rehabilitation Program	Project Execution - Design	2013	$0	$0	$0	$1,018	$1,018	$1,021	$1,018	$5,098	$4,074	$9,172	0.24%	N/A
260619*	Control System Upgrade - St Aubin, Lieb & Mile	Project Execution - Construction	2017	$1,050	$2,873	$4,049	$0	$0	$0	$0	$0	$4,049	$7,973	0.20%	N/A
270007	Disinfection System Improvements at Baby Creek, Belle Isle, Conner Creek, and Puritan Fenkell CSO Facilities	Active - Pre-Procurement - Design	2021	$1	$24	$206	$1,085	$1,085	$1,088	$534	$4,323	$3,998	$8,346	0.21%	57
260600	CSO Facilities Improvement Program	Project Execution - Construction	2017	$0	$438	$657	$657	$657	$659	$1,265	$1,014,416	$3,897	$1,018,750	26.18%	N/A
260802*	2022 WRRF Roof Improvements Project	Project Execution - Construction	2023	$302	$555	$2,103	$1,780	$11	$0	$0	$0	$3,894	$4,751	0.12%	N/A

CIP PROJECTS BY CATEGORY
3.5. WASTEWATER PROJECTS BY STATUS

CIP Number	Title	Project_ Status	Year_ Added	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30 & Beyond	FY 25-29 CIP Total	Project Total	Percent of W/S CIP	RC SCORE
260904*	WRRF 3rd Floor Renovation	Project Execution - Construction	2022	$68	$37	$2,017	$1,424	$0	$0	$0	$0	$3,440	$3,546	0.09%	N/A
222008	North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure	Project Execution - Construction	2023	$0	$2,250	$1,125	$1,125	$0	$0	$0	$0	$2,250	$4,500	0.12%	63.9
260900	WRRF Facility Optimization Program	Project Execution - Construction	2021	$0	$0	$0	$0	$0	$0	$2,124	$82,876	$2,124	$85,000	2.18%	N/A
270003	Long Term CSO Control Plan	Project Execution - Design	2019	$6,590	$1,400	$1,587	$0	$0	$0	$0	$0	$1,587	$9,576	0.25%	88
270010	HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities	Active - Pre-Procurement - Design	2021	$9	$68	$88	$34	$325	$518	$517	$24	$1,482	$1,583	0.04%	57.8
260905*	WRRF Plumbing Shop Renovation - 260905	Project Execution - Construction	2022	$134	$1,183	$1,352	$0	$0	$0	$0	$0	$1,352	$2,669	0.07%	N/A
260903*	WRRF Front Entrance Rehabilitation	Active - Procurement - Board Approved - Construction	2021	$368	$6,165	$1,284	$0	$0	$0	$0	$0	$1,284	$7,817	0.20%	N/A
260508*	B-39 Outfall Rehabilitation	Project Execution - Construction	2021	$6,032	$4,213	$676	$33	$0	$0	$0	$0	$709	$10,954	0.28%	N/A
260201*	CON-149, Emergency Sewer Repair	Project Execution - Pending Closeout	2013	$38,744	$1,746	$422	$72	$0	$0	$0	$0	$493	$40,983	1.05%	N/A
260205*	NWI Rehabilitation	Project Execution - Construction	2021	$2,304	$5,653	$324	$34	$0	$0	$0	$0	$358	$8,315	0.21%	N/A
260700	Sewer System Infrastructure Improvements and Pumping Stations	Project Execution - Construction	2017	$0	$36	$54	$54	$54	$55	$129	$642	$347	$1,025	0.03%	N/A
260207*	Rehabilitation of Woodward Sewer Systems	Project Execution - Construction	2021	$12,008	$10,608	$308	$0	$0	$0	$0	$0	$308	$22,925	0.59%	N/A
260614*	Structural Inspection & Structural Improvements	Project Execution - Construction	2017	$12,725	$2,764	$124	$0	$0	$0	$0	$0	$124	$15,614	0.40%	N/A
213007	WRRF Modification to Incinerator Sludge Feed Systems at Complex -II	Project Execution - Construction	2016	$22,853	$2,362	$104	$0	$0	$0	$0	$0	$104	$25,318	0.65%	96.2
260901*	Rehabilitation of HAZMAT Facility at WRRF	Active - Procurement - Construction	2022	$330	$3,093	$84	$0	$0	$0	$0	$0	$84	$3,507	0.09%	N/A
260623*	CSO Baby Creek Screen Rehabilitation	Project Execution - Construction	2021	$1,448	$911	$31	$0	$0	$0	$0	$0	$31	$2,389	0.06%	N/A
211002	WRRF PS No. 2 Pumping Improvements - Phase 1	Project Execution - Construction	2003	$2,655	$1,020	$0	$0	$0	$0	$0	$0	$0	$3,674	0.09%	N/A

CIP PROJECTS BY CATEGORY
3.5. WASTEWATER PROJECTS BY STATUS

CIPNumber	Title	Project_ Status	Year_ Added	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30 & Beyond	FY 25-29 CIP Total	Project Total	Percent of W/S CIP	RC SCORE
211008	WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines	Project Execution - Construction	2017	$10,479	$2,606	$0	$0	$0	$0	$0	$0	$0	$13,085	0.34%	78.3
216004	Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF	Project Execution - Pending Closeout	2010	$7,724	$832	$0	$0	$0	$0	$0	$0	$0	$8,556	0.22%	94.7
232001	Fairview Pumping Station - Replace Four Sanitary Pumps	Project Execution - Construction	2011	$43,747	$2,377	$0	$0	$0	$0	$0	$0	$0	$46,124	1.19%	63.6
260618*	Oakwood HVAC Project	Project Execution - Pending Closeout	2017	$5,621	$1,298	$0	$0	$0	$0	$0	$0	$0	$6,918	0.18%	N/A
260620*	Baby Creek Roof Replacement	Project Execution - Pending Closeout	2021	$985	$0	$0	$0	$0	$0	$0	$0	$0	$985	0.03%	N/A
260622*	CSO Emergency Generator Improvements	Project Execution - Construction	2021	$1,084	$286	$0	$0	$0	$0	$0	$0	$0	$1,370	0.04%	N/A
260902*	WRRF 4th Floor Renovation	Project Execution - Pending Closeout	2021	$3,143	$583	$0	$0	$0	$0	$0	$0	$0	$3,727	0.10%	N/A
270001	Pilot CSO Netting Facility	Active - Pre-Procurement - Design	2019	$2	$8	$0	$0	$0	$0	$0	$37,874	$0	$37,884	0.97%	89.6
276002	Replacement of Make-up Air Unit No. 2 at Conner Creek CSO Facility	Project Execution - Construction	2022	$349	$9	$0	$0	$0	$0	$0	$0	$0	$357	0.01%	92.5

CIP PROJECTS BY CATEGORY
3.5. WASTEWATER PROJECTS BY STATUS

WASTEWATER CIP PROJECTS: FUTURE PLANNED, RANKED BY PRIORITIZATION SCORE

Financial figures are in thousands of dollars ($1,000's)

*Score Note: * Denotes a CIP project that is a Program. For projects with no score, see Appendicies for PM Scores*

CIPNumber	Title	Project_ Status	Year_ Added	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30 & Beyond	FY 25-29 CIP Total	Project Total	Percent of W/S CIP	RC SCORE
211010	Rehabilitation of Sludge Processing Complexes A and B	Future Planned - Within Five Year Plan	2019	$94	$0	$0	$0	$0	$1,689	$764	$11,557	$2,453	$14,104	0.36%	89.7
212010	WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite	Future Planned - Within Five Year Plan	2019	$0	$0	$0	$0	$0	$0	$441	$5,791	$441	$6,232	0.16%	89.7
270002	Meldrum Sewer Diversion and VR-15 Improvements	Future Planned - Within Five Year Plan	2019	$0	$0	$0	$0	$617	$865	$1,638	$3,280	$3,120	$6,401	0.16%	88.7
233003	Rouge River In-system Storage Devices	Future Planned - Ten Year CIP	2019	$0	$0	$0	$0	$0	$0	$0	$81,336	$0	$81,336	2.09%	88.2
211009	WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System	Future Planned - Within Five Year Plan	2017	$549	$0	$0	$215	$1,328	$436	$7,708	$12,903	$9,687	$23,140	0.59%	76.6
212009	WRRF Aeration Improvements 3 and 4	Future Planned - Ten Year CIP	2019	$0	$0	$0	$0	$0	$0	$0	$69,528	$0	$69,528	1.79%	76.3
270008	Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities	Future Planned - Within Five Year Plan	2021	$0	$0	$0	$0	$59	$324	$324	$6,363	$707	$7,070	0.18%	74.4
277002	Baby Creek CSO Facility Influent Flushing System	Future Planned - Ten Year CIP	2021	$0	$0	$0	$0	$0	$0	$0	$745	$0	$745	0.02%	72.3
270014	Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities	Future Planned - Within Five Year Plan	2021	$0	$0	$0	$0	$0	$39	$205	$4,238	$245	$4,482	0.12%	72
270011	HVAC Improvements at Conner Creek and Belle Isle CSO Facilities	Future Planned - Ten Year CIP	2021	$0	$0	$0	$0	$0	$0	$0	$418	$0	$418	0.01%	70.5
213008	WRRF Rehabilitation of the Ash Handling Systems	Future Planned - Within Five Year Plan	2017	$151	$0	$0	$0	$549	$550	$83	$5,851	$1,182	$7,184	0.18%	59.5
270012	Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities	Future Planned - Within Five Year Plan	2021	$0	$0	$0	$0	$65	$337	$329	$5,243	$731	$5,975	0.15%	59
270013	Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities	Future Planned - Within Five Year Plan	2021	$0	$0	$0	$0	$0	$18	$91	$793	$109	$902	0.02%	56.8

CIP PROJECTS BY CATEGORY
3.5. WASTEWATER PROJECTS BY STATUS

CIPNumber	Title	Project_ Status	Year_ Added	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30 & Beyond	FY 25-29 CIP Total	Project Total	Percent of W/S CIP	RC SCORE
270009	Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities	Future Planned - Within Five Year Plan	2021	$0	$0	$0	$0	$15	$78	$76	$1,220	$170	$1,390	0.04%	54.6
273002	CSO Hubbell Southfield VR-8 Gate Improvements	Future Planned - Within Five Year Plan	2021	$0	$0	$0	$0	$20	$101	$98	$1,567	$219	$1,786	0.05%	50.2
260500	CSO Outfall Rehabilitation	Future Planned - Within Five Year Plan	2017	$0	$0	$0	$11	$11	$763	$761	$6,089	$1,547	$7,636	0.20%	N/A
260702*	Pump Station Assets Updates	Future Planned - Within Five Year Plan	2022	$0	$0	$0	$0	$6	$1,008	$1,005	$8,046	$2,019	$10,065	0.26%	N/A
260800	WRRF Roof Replacement for Multiple Facilities Program	Future Planned - Within Five Year Plan	2018	$0	$0	$0	$0	$500	$2,203	$2,197	$9,800	$4,900	$14,700	0.38%	N/A
261000	WRRF Rehabilitation of the Secondary Clarifiers	Future Planned - Ten Year CIP	2017	$0	$0	$0	$0	$0	$0	$37	$39,300	$37	$39,337	1.01%	N/A

CIP PROJECTS BY CATEGORY
3.5. WASTEWATER PROJECTS BY STATUS

WASTEWATER CIP PROJECT TOTALS

Financial figures are in thousands of dollars ($1,000's)

Status	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30 & Beyond	FY 25-29 CIP Total	Project Total	Percent of W/S CIP
Active/Project Execution Wastewater Projects Total	$267,265	$153,839	$168,767	$212,395	$213,061	$193,582	$166,658	$2,145,204	$954,463	$3,520,772	90.46%
Future Planned Wastewater Projects Total	$795	$0	$0	$226	$3,170	$8,413	$15,759	$274,067	$27,568	$302,431	7.77%
Listed as Cancelled/Closed/Reclassified	$7,675	$0	$0	$0	$0	$0	$0	$0	$0	$7,675	0.20%
Pending Closeout Wastewater Projects Total	$56,217	$4,459	$422	$72	$0	$0	$0	$0	$493	$61,169	1.57%
Total	$331,952	$158,298	$169,189	$212,693	$216,231	$201,995	$182,417	$2,419,272	$982,525	$3,892,046	100%

CIP PROJECTS BY CATEGORY
3.6. CENTRALIZED SERVICES CIP PROJECTS

3.6. CENTRALIZED SERVICES PROJECTS

All financial figures are in thousands of dollars ($1,000s). The Project Status column shows which projects are Active (A) or in Project Execution (PE), Future Planned (FP), or Pending Closeout (PC). Projects that have been Reclassified to a different number, Closed, or Cancelled are not shown in this list; a list of Closed projects can be found in Section 2.2

CENTRALIZED SERVICES CIP PROJECTS

Financial figures are in thousands of dollars ($1,000's)

CIP Budget	CIPNumber	Title	Project_ Status	Year_Added	Lifetime Actual Thru FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30 & Beyond	FY 25-29 CIP Total	Project Total
Water	380700	As-Needed Geotechnical and Related Engineering Services	Project Execution - Design	2006	$0	$11	$0	$0	$0	$0	$0	$0	$0	$11
Water	381000	Power Quality: Electric Metering Improvement Program	Active - Pre-Procurement - Design	2016	$0	$0	$5	$20	$1,020	$1,022	$1,020	$2,039	$3,086	$5,125
Water	383300	Masonry Replacement and Rehabilitation Program	Future Planned - Within Five Year Plan	2020	$0	$0	$0	$0	$0	$0	$0	$25,000	$0	$25,000

CIP PROJECTS BY CATEGORY
3.7. TEN-YEAR WATER OUTLOOK

3.7. TEN-YEAR WATER OUTLOOK

In this section, you will find ten-year outlooks for CIP projects. These ten-year outlooks rely heavily on input from long-term needs assessments, master plans, and condition assessment documents. The planning horizon for these outlooks extend from FY25 through FY34.

Only project-level data will be provided within these outlooks. These are subject to change and are based upon the best available data at the time of compiling this report. The primary source of longer-term projects used for the 10-Year Water Outlook are from the 2015 Water Master Plan. In addition, it is anticipated that most programs will continue into the ten-year horizon. The project-level data can be seen below. In addition, a graphical representation of this summary is shown below.

WATER 10-YEAR OUTLOOK PROJECTS

Financial figures are in thousands of dollars ($1,000's)

CIPNumber	Title	Lifetime Planned Spend	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32	FY 33	FY 34	Total FY 25-29	Total FY 30-34	Total FY 25-34
111001	Lake Huron Water Treatment Plant, Low-Lift, High Lift and Filter Backwash Pumping System Improvements	$140,411	$1,335	$1,674	$12,240	$12,665	$38,849	$35,013	$35,085	$12	$0	$0	$0	$100,442	$35,097	$135,539
111006	Lake Huron Water Treatment Plant, Filter Instrumentation and Raw Water Flow Metering Improvements	$39,819	$2,687	$2,981	$8,244	$8,501	$8,525	$7,500	$0	$0	$0	$0	$0	$35,751	$0	$35,751
111008	Lake Huron Water Treatment Plant, Architectural Programming for Laboratory and Admin Building Improvements	$782	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$782	$0	$782	$782
111009	Lake Huron Water Treatment Plant - High Lift Pumping, Water Production Flow Metering and Yard Piping Improvements	$31,003	$16,151	$10,125	$28	$0	$0	$0	$0	$0	$0	$0	$0	$10,153	$0	$10,153
111010	Lake Huron WTP Filtration Improvement	$58,639	$0	$0	$0	$0	$1,217	$1,217	$1,582	$13,591	$13,628	$13,591	$13,591	$2,434	$55,981	$58,415
111011	Lake Huron WTP Pilot Plant	$3,268	$192	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
111012	LHWTP-Flocculation Improvements	$51,331	$6,385	$12,437	$12,218	$12,218	$7,331	$0	$0	$0	$0	$0	$0	$44,204	$0	$44,204
111013	Lake Huron Water Treatment Plant Fireloop and Plant Water Improvements	$10,055	$1	$0	$0	$0	$0	$0	$668	$173	$5,903	$3,307	$0	$0	$10,051	$10,051
112003	Northeast Water Treatment Plant High-Lift Pumping Station Improvements	$171,676	$0	$0	$0	$0	$0	$0	$2,770	$2,770	$11,703	$10,428	$10,428	$0	$38,098	$38,098
112006	Northeast Water Treatment Plant Flocculator Replacements	$13,446	$2,491	$2,519	$2,519	$1,799	$0	$0	$0	$0	$0	$0	$0	$6,837	$0	$6,837
112007	NEWTP-Header Galleries and Washwater Building Structural Repair	$6,685	$66	$2,124	$2,124	$2,124	$12	$0	$0	$0	$0	$0	$0	$6,383	$0	$6,383
112008	Northeast Water Treatment Plant Filter Replacement	$85,550	$0	$3,507	$3,507	$14,247	$14,286	$14,247	$14,247	$14,247	$7,260	$0	$0	$49,795	$35,755	$85,550
113003	Southwest Water Treatment Plant Low- and High lift Pumping station Improvements	$162,110	$0	$0	$0	$0	$0	$0	$1,812	$1,817	$1,822	$1,817	$6,059	$0	$13,328	$13,328

CIP PROJECTS BY CATEGORY
3.7. TEN-YEAR WATER OUTLOOK

CIPNumber	Title	Lifetime Planned Spend	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32	FY 33	FY 34	Total FY 25-29	Total FY 30-34	Total FY 25-34
113007	Southwest Water Treatment Plant Architectural and Building Mechanical Improvements	$8,641	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$350	$0	$350	$350
113009	SW Flight and Chain Upgrades	$5,127	$2,410	$2,717	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,717	$0	$2,717
113010	Southwest Water Treatment Plant Flocculation Improvements	$22,225	$0	$0	$1,193	$1,193	$2,376	$5,817	$5,817	$5,817	$6	$6	$0	$10,579	$11,646	$22,225
114002	Springwells Water Treatment Plant, Low-Lift and High-Lift Pumping Station Improvements	$315,712	$19,024	$28,225	$26,039	$47,568	$32,427	$23,584	$22,959	$22,959	$23,022	$14,429	$14,429	$157,844	$97,797	$255,641
114005	Springwells Water Treatment Plant, Administration Building Improvements & Underground Fire Protection Loop	$7,138	$0	$0	$0	$0	$0	$0	$2,321	$2,321	$1,176	$0	$0	$0	$5,818	$5,818
114008	Springwells Water Treatment Plant 1930 Sedimentation Basin Sluice Gates, Guides & Hoists Improvements	$14,098	$1,932	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
114010	Springwells Water Treatment Plant, Yard Piping and High-Lift Header Improvements	$218,615	$0	$0	$0	$0	$0	$0	$12,284	$25,203	$40,623	$39,987	$52,839	$0	$170,936	$170,936
114011	Springwells Water Treatment Plant Steam, Condensate Return, and Compressed Air Piping Improvements	$28,192	$2,230	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
114017	Springwells Water Treatment Plant Flocculator Drive Replacements	$27,798	$6,563	$7,045	$7,045	$6,080	$0	$0	$0	$0	$0	$0	$0	$20,170	$0	$20,170
114018	Springwells Water Treatment Plant - Service Building Electrical Substation and Miscellaneous Improvements	$2,341	$0	$0	$0	$0	$133	$1,608	$599	$0	$0	$0	$0	$1,741	$599	$2,341
115001	Water Works Park Water Treatment Plant Yard Piping, Valves and Venturi Meters Replacement	$56,073	$10,164	$9,986	$6,703	$0	$0	$0	$0	$0	$0	$0	$0	$16,688	$0	$16,688
115005	WWP WTP Building Ventilation Improvements	$16,541	$6,096	$3,868	$636	$0	$0	$0	$0	$0	$0	$0	$0	$4,504	$0	$4,504
115006	Water Works Park Site/Civil Improvements	$5,896	$0	$0	$0	$0	$382	$526	$2,494	$2,494	$0	$0	$0	$908	$4,988	$5,896
115007	Water Works Park High Lift Pumping Station Modernization	$115,090	$0	$0	$0	$0	$0	$0	$2,007	$2,007	$2,012	$2,007	$10,873	$0	$18,905	$18,905
115009	Water Works Park Sedimentation Basins Structural Upgrades	$16,846	$0	$0	$0	$0	$1,664	$5,349	$5,349	$4,484	$0	$0	$0	$7,013	$9,833	$16,846
116002	Pennsylvania and Springwells Raw Water Supply Tunnel Improvements	$98,757	$16,763	$12,689	$0	$0	$0	$0	$0	$0	$0	$0	$0	$12,689	$0	$12,689
116005	Belle Isle Seawall Rehabilitation	$2,295	$598	$1,539	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,539	$0	$1,539
116006	Belle Isle Intake System Rehabilitation and Improvements	$2,222	$0	$0	$0	$0	$712	$706	$402	$402	$0	$0	$0	$1,418	$804	$2,222
116007	System Electrical Power Improvements	$4,010	$796	$2,462	$751	$0	$0	$0	$0	$0	$0	$0	$0	$3,214	$0	$3,214
122004	96-inch Water Transmission Main Relocation and Isolation Valve Installations	$237,553	$33,294	$32,074	$36,958	$40,072	$37,773	$6,376	$0	$0	$0	$0	$0	$153,253	$0	$153,253
122006	Wick Road Water Transmission Main	$26,243	$1,190	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
122007	Merriman Road Water Transmission Main Loop	$26,209	$0	$0	$0	$0	$1,008	$1,006	$323	$4,339	$4,880	$4,867	$4,867	$2,014	$19,275	$21,289
122013	14 Mile Transmission Main Loop	$113,475	$37,307	$800	$0	$0	$0	$0	$0	$0	$0	$0	$0	$800	$0	$800
122016	Downriver Transmission Main Loop	$69,772	$2,886	$15,131	$15,131	$5,601	$11,343	$8,534	$8,534	$0	$0	$0	$0	$55,740	$8,534	$64,273
122017	7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station	$13,711	$3,468	$216	$216	$216	$216	$156	$0	$0	$0	$0	$0	$1,019	$0	$1,019
122019	Jefferson Main Replacement Project	$40,136	$36	$19,501	$19,501	$0	$0	$0	$0	$0	$0	$0	$0	$39,002	$0	$39,002

CIP PROJECTS BY CATEGORY
3.7. TEN-YEAR WATER OUTLOOK

CIPNumber	Title	Lifetime Planned Spend	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32	FY 33	FY 34	Total FY 25-29	Total FY 30-34	Total FY 25-34
132007	Energy Management: Freeze Protection Pump Installation at Imlay Pump Station	$5,760	$579	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
132010	West Service Center Pumping Station - Reservoir, Reservoir Pumping, and Division Valve Upgrades	$47,424	$2,993	$1,524	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,524	$0	$1,524
132012	Ypsilanti Booster Pumping Station Improvements	$43,437	$765	$0	$0	$0	$0	$0	$698	$843	$150	$8,980	$13,768	$0	$24,439	$24,439
132014	Adams Road Pumping Station Improvements	$61,759	$0	$0	$0	$0	$1,264	$1,261	$1,261	$6,594	$13,744	$12,517	$12,517	$2,525	$46,633	$49,158
132015	Newburgh Road Booster Pumping Station Improvements	$46,382	$0	$0	$9,022	$9,022	$9,046	$9,022	$9,022	$0	$0	$0	$0	$36,111	$9,022	$45,133
132016	North Service Center Pumping Station Improvements	$239,584	$3,738	$2,532	$10,289	$27,111	$24,622	$22,392	$20,666	$19,411	$32,880	$35,490	$35,490	$86,947	$143,937	$230,884
132018	Schoolcraft Pumping Station Improvements	$24,691	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2	$0	$2	$2
132019	Wick Road Pumping Station Improvements	$24,780	$0	$0	$0	$0	$0	$0	$2,249	$2,249	$1,673	$9,264	$9,264	$0	$24,698	$24,698
132020	Franklin Pumping Station Improvements	$60,918	$0	$0	$0	$0	$0	$0	$714	$510	$15,045	$22,308	$22,247	$0	$60,825	$60,825
132021	Imlay Pumping Station Improvements	$137,968	$0	$0	$0	$0	$0	$0	$0	$13,681	$17,757	$17,709	$17,709	$0	$66,856	$66,856
132022	Joy Road Pumping Station Improvements	$39,857	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$240	$0	$240	$240
170300	Water Treatment Plant Automation Program	$23,317	$0	$0	$0	$0	$0	$6,219	$6,821	$6,821	$3,457	$0	$0	$6,219	$17,098	$23,317
170302	SW SCADA System Upgrade	$8,267	$1,229	$3,037	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,037	$0	$3,037
170305	WWP SCADA Network Upgrade	$7,542	$0	$0	$0	$0	$0	$4,714	$2,828	$0	$0	$0	$0	$4,714	$2,828	$7,542
170306	SPW SCADA PLC Network Upgrade	$6,780	$0	$2,245	$3,385	$1,150	$0	$0	$0	$0	$0	$0	$0	$6,780	$0	$6,780
170400	Water Transmission Improvement Program	$32,175	$0	$0	$0	$0	$557	$574	$556	$556	$558	$556	$2,329	$1,131	$4,556	$5,686
170500	Transmission System Valve Rehabilitation and Replacement Program	$59,296	$12	$18	$18	$168	$2,673	$5,163	$5,163	$5,163	$5,178	$5,163	$5,163	$8,040	$25,832	$33,871
170503	Transmission Mains Valves and Urgent Repairs Contract 2	$14,966	$1,249	$417	$120	$0	$0	$0	$0	$0	$0	$0	$0	$537	$0	$537
170504	Transmission Mains Valves and Urgent Repairs Contract 1	$18,400	$2,445	$2,965	$2,965	$804	$0	$0	$0	$0	$0	$0	$0	$6,735	$0	$6,735
170506	Water Transmission, Valve, Emergency and Other Urgent Repairs	$15,000	$0	$2,744	$2,998	$2,998	$3,007	$2,998	$255	$0	$0	$0	$0	$14,745	$255	$15,000
170600	Linear System Integrity Program	$77,890	$19	$4,138	$9,191	$2,575	$6,958	$6,939	$12,484	$12,484	$12,518	$10,555	$29	$29,800	$48,070	$77,870
170601	Linear System Integrity Program - Contract 1	$29,507	$7,821	$20	$20	$10,751	$20	$20	$335	$335	$20	$20	$20	$10,832	$730	$11,562
170602	36-inch 24 Mile Road Transmission Main Condition Assessment	$2,929	$1,957	$0	$0	$972	$0	$0	$0	$0	$0	$0	$0	$972	$0	$972
170800	System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
170801	Reservoir Inspection, Design and Construction Project at Imlay Station, Lake Huron Water Treatment Plant, Springwells Water Treatment Plant, And Southwest Water Treatment Plant	$25,384	$1,828	$295	$0	$0	$0	$0	$0	$0	$0	$0	$0	$295	$0	$295
170802	Reservoir Inspection, Design, and Construction Management Services Phase II	$46,777	$5,840	$9,608	$9,608	$9,608	$9,291	$361	$0	$0	$0	$0	$0	$38,477	$0	$38,477
170803	Reservoir Inspection, Design, and Construction Management Services Phase III	$94,432	$0	$0	$897	$3,695	$11,940	$11,907	$11,907	$11,907	$11,940	$11,907	$11,907	$28,438	$59,568	$88,006
170900	Suburban Water Meter Pit Rehabilitation and Meter Replacement	$33,108	$0	$2,523	$2,523	$2,023	$4,023	$2,748	$2,748	$2,748	$2,755	$2,748	$2,066	$13,840	$13,064	$26,904
170901	Suburban Water Meter Pit Rehabilitation and Meter Replacement	$12,411	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
170904	Wholesale Water Meterpit Rehabilitation and Meter Upgrade - Phase II	$15,686	$1,107	$3,642	$3,642	$3,642	$3,652	$0	$0	$0	$0	$0	$0	$14,579	$0	$14,579

CIP PROJECTS BY CATEGORY
3.7. TEN-YEAR WATER OUTLOOK

CIPNumber	Title	Lifetime Planned Spend	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32	FY 33	FY 34	Total FY 25-29	Total FY 30-34	Total FY 25-34
171500	Roof Replacement at WWP, SP, LH, NE, SW, NSC, Orion, Franklin, and Conner Creek Facilities	$15,948	$0	$0	$0	$0	$0	$2,529	$2,651	$2,625	$2,375	$1,919	$1,919	$2,529	$11,489	$14,019
171502	Lake Huron and Southwest Roof Replacement	$2,710	$0	$0	$0	$0	$0	$1,045	$1,660	$5	$0	$0	$0	$1,045	$1,665	$2,710
380700	As-Needed Geotechnical and Related Engineering Services	$11	$11	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
381000	Power Quality: Electric Metering Improvement Program	$5,125	$0	$5	$20	$1,020	$1,022	$1,020	$1,020	$1,020	$0	$0	$0	$3,086	$2,039	$5,125
383300	Masonry Replacement and Rehabilitation Program	$25,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$6,246	$0	$6,246	$6,246

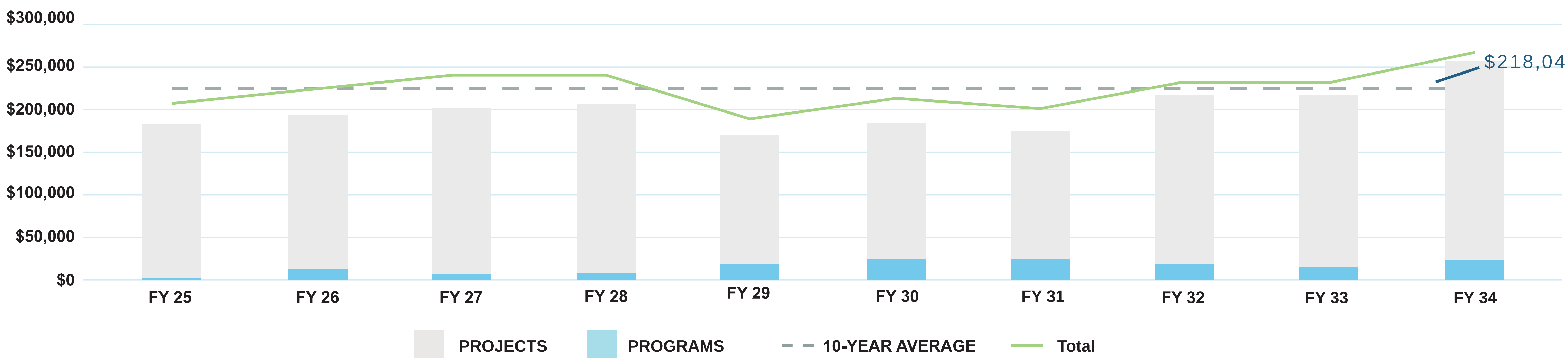
CIP PROJECTS BY CATEGORY
3.7. TEN-YEAR WATER OUTLOOK

10 YEAR WATER CIP OUTLOOK

Financial figures are in thousands of dollars ($1,000's)

Program Category	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32	FY 33	FY 34
Program	$42	$6,684	$11,752	$5,785	$15,233	$25,192	$31,442	$31,416	$26,840	$20,942	$17,752
Projects	$182,143	$175,675	$174,364	$188,417	$193,187	$144,313	$153,861	$145,924	$193,285	$196,706	$225,455
Projects From Programs	$23,476	$24,973	$23,637	$33,621	$27,910	$21,046	$16,985	$12,246	$11,960	$11,927	$11,927
Total	$205,662	$207,333	$209,752	$227,823	$236,331	$190,550	$202,288	$189,586	$232,086	$229,576	$255,134

10 YEAR WATER CIP OUTLOOK



CIP PROJECTS BY CATEGORY
3.8. TEN-YEAR WASTEWATER OUTLOOK

3.8. TEN-YEAR WASTEWATER OUTLOOK

In this section, you will find ten-year outlooks for CIP projects. These ten-year outlooks rely heavily on input from long-term needs assessments, master plans, and condition assessment documents. The planning horizon for these outlooks extend from FY2025 through FY2034. Projects within the 2025-2029 CIP that carry over into the FY2029+ are shown within the following tables by the anticipated fiscal year in which projected expenditures are anticipated. Only project level data will be provided within these outlooks. These are subject to change and are based upon the best available data at the time of compiling this report.

The primary source of long-term projects used for the 10-Year Wastewater Outlook are from the Regional Wastewater Master Plan Assessment and various condition assessments that have been performed. The project-level data used in the development of this outlook can be seen below.

In addition, a graphical representation of this summary is shown below.

WASTEWATER 10-YEAR OUTLOOK PROJECTS

Financial figures are in thousands of dollars ($1,000's)

CIPNumber	Title	Lifetime Planned Spend	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32	FY 33	FY 34	Total FY 25-29	Total FY 30-34	Total FY 25-34
211002	WRRF PS No. 2 Pumping Improvements - Phase 1	$3,674	$1,020	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
211005	WRRF PS No. 2 Improvements Phase II	$83,609	$403	$2,420	$6,758	$4,110	$45	$45	$2,066	$3,540	$1,530	$5,506	$9,582	$13,379	$22,223	$35,601
211006	WRRF PS No. 1 Improvements	$110,960	$13,200	$15,064	$15,063	$15,010	$14,492	$14,406	$12,314	$0	$0	$0	$0	$74,034	$12,314	$86,348
211007	WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements	$122,757	$450	$11,467	$12,988	$12,923	$12,459	$12,425	$12,425	$12,425	$12,459	$12,425	$1,532	$62,262	$51,267	$113,530
211008	WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines	$13,085	$2,606	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
211009	WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System	$23,140	$0	$0	$215	$1,328	$436	$7,708	$7,708	$5,195	$0	$0	$0	$9,687	$12,903	$22,590
211010	Rehabilitation of Sludge Processing Complexes A and B	$14,104	$0	$0	$0	$0	$1,689	$764	$2,320	$3,076	$3,084	$3,076	$0	$2,453	$11,557	$14,010
211011	WRRF PS1 Screening and Grit Improvements	$99,386	$2,458	$2,643	$536	$53	$1,512	$1,508	$1,508	$4,884	$21,122	$21,064	$21,064	$6,252	$69,643	$75,895
212008	WRRF Aeration Improvements 1 and 2	$214,343	$483	$10,783	$25,444	$25,444	$25,514	$25,444	$25,444	$25,444	$25,514	$23,632	$0	$112,630	$100,034	$212,664
212009	WRRF Aeration Improvements 3 and 4	$69,528	$0	$0	$0	$0	$0	$0	$0	$0	$751	$4,570	$3,844	$0	$9,166	$9,166
212010	WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite	$6,232	$0	$0	$0	$0	$0	$441	$441	$179	$744	$982	$982	$441	$3,329	$3,770
213006	WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities	$17,939	$2,293	$64	$5,417	$7,409	$2,010	$0	$0	$0	$0	$0	$0	$14,899	$0	$14,899
213007	WRRF Modification to Incinerator Sludge Feed Systems at Complex -II	$25,318	$2,362	$104	$0	$0	$0	$0	$0	$0	$0	$0	$0	$104	$0	$104
213008	WRRF Rehabilitation of the Ash Handling Systems	$7,184	$0	$0	$0	$549	$550	$83	$1,595	$1,595	$1,599	$1,062	$0	$1,182	$5,851	$7,033

CIP PROJECTS BY CATEGORY
3.8. TEN-YEAR WASTEWATER OUTLOOK

CIPNumber	Title	Lifetime Planned Spend	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32	FY 33	FY 34	Total FY 25-29	Total FY 30-34	Total FY 25-34
213009	WRRF Biosolids Processing Improvements	$335,433	$71	$1,988	$1,353	$619	$3,770	$3,760	$3,760	$15,203	$31,879	$31,270	$28,128	$11,491	$110,240	$121,731
216004	Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF	$8,556	$832	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
216006	Assessment and Rehabilitation of WRRF yard piping and underground utilities	$31,871	$10,842	$3,342	$3,342	$3,340	$3,349	$1,674	$0	$0	$0	$0	$0	$15,047	$0	$15,047
216008	Rehabilitation of Screened Final Effluent (SFE) Pump Station	$101,101	$4,885	$13,500	$12,964	$12,958	$12,952	$12,917	$12,917	$12,917	$1,380	$0	$0	$65,291	$27,213	$92,505
216011	WRRF Structural Improvements	$17,142	$3,702	$3,732	$3,732	$3,732	$511	$0	$0	$0	$0	$0	$0	$11,706	$0	$11,706
222001	Oakwood District Intercommunity Relief Sewer Modification at Oakwood District	$81,428	$27	$0	$22,468	$22,468	$22,529	$11,326	$0	$0	$0	$0	$0	$78,792	$0	$78,792
222002	Detroit River Interceptor (DRI) Evaluation and Rehabilitation	$117,561	$11,738	$11,581	$8,424	$8,424	$4,322	$151	$2,200	$4,284	$4,296	$4,284	$4,284	$32,901	$19,348	$52,249
222008	North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure	$4,500	$2,250	$1,125	$1,125	$0	$0	$0	$0	$0	$0	$0	$0	$2,250	$0	$2,250
232001	Fairview Pumping Station - Replace Four Sanitary Pumps	$46,124	$2,377	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
232002	Freud & Conner Creek Pump Station Improvements	$464,077	$4,073	$21,068	$27,283	$46,503	$45,759	$49,895	$65,395	$55,612	$46,323	$33,384	$21,054	$190,509	$221,768	$412,276
233003	Rouge River In-system Storage Devices	$81,336	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,761	$0	$1,761	$1,761
260200	Sewer and Interceptor Rehabilitation Program	$9,172	$0	$0	$1,018	$1,018	$1,021	$1,018	$1,021	$1,019	$1,021	$1,019	$1,019	$4,074	$5,098	$9,172
260201	CON-149, Emergency Sewer Repair	$40,983	$1,746	$422	$72	$0	$0	$0	$0	$0	$0	$0	$0	$493	$0	$493
260204	Conveyance System Engineering Services-1802575	$57,510	$6,881	$13,440	$25,310	$969	$902	$0	$0	$0	$0	$0	$0	$40,621	$0	$40,621
260205	NWI Rehabilitation	$8,315	$5,653	$324	$34	$0	$0	$0	$0	$0	$0	$0	$0	$358	$0	$358
260206	Conveyance System Repairs (Sewers)	$23,141	$5,182	$5,208	$1,941	$3,342	$3,351	$2,921	$0	$0	$0	$0	$0	$16,762	$0	$16,762
260207	Rehabilitation of Woodward Sewer Systems	$22,925	$10,608	$308	$0	$0	$0	$0	$0	$0	$0	$0	$0	$308	$0	$308
260209	Sewer Rehabilitation and Repair	$14,965	$3,658	$4,605	$4,605	$0	$0	$0	$0	$0	$0	$0	$0	$9,209	$0	$9,209
260210	Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee	$29,576	$1,750	$249	$4,533	$10,162	$9,341	$3,136	$42	$42	$0	$0	$0	$27,422	$84	$27,506
260211	Emergency and Urgent Sewer Repair II	$6,000	$485	$1,499	$1,499	$1,499	$1,018	$0	$0	$0	$0	$0	$0	$5,515	$0	$5,515
260500	CSO Outfall Rehabilitation	$7,636	$0	$0	$11	$11	$763	$761	$761	$761	$763	$761	$761	$1,547	$3,807	$5,353
260508	B-39 Outfall Rehabilitation	$10,954	$4,213	$676	$33	$0	$0	$0	$0	$0	$0	$0	$0	$709	$0	$709
260510	Conveyance System Repairs (Outfalls)	$24,947	$3,309	$3,993	$3,653	$2,619	$4,522	$4,510	$469	$0	$0	$0	$0	$19,297	$469	$19,766
260600	CSO Facilities Improvement Program	$1,018,750	$438	$657	$657	$657	$659	$1,265	$1,265	$3,029	$2,775	$2,775	$14,534	$3,897	$24,379	$28,275
260614	Structural Inspection & Structural Improvements	$15,614	$2,764	$124	$0	$0	$0	$0	$0	$0	$0	$0	$0	$124	$0	$124
260618	Oakwood HVAC Project	$6,918	$1,298	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
260619	Control System Upgrade - St Aubin, Lieb & Mile	$7,973	$2,873	$4,049	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,049	$0	$4,049
260620	Baby Creek Roof Replacement	$985	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
260622	CSO Emergency Generator Improvements	$1,370	$286	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
260623	CSO Baby Creek Screen Rehabilitation	$2,389	$911	$31	$0	$0	$0	$0	$0	$0	$0	$0	$0	$31	$0	$31

CIP PROJECTS BY CATEGORY
3.8. TEN-YEAR WASTEWATER OUTLOOK

CIPNumber	Title	Lifetime Planned Spend	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32	FY 33	FY 34	Total FY 25-29	Total FY 30-34	Total FY 25-34
260700	Sewer System Infrastructure Improvements and Pumping Stations	$1,025	$36	$54	$54	$54	$55	$129	$164	$184	$165	$129	$0	$347	$642	$989
260701	Conveyance System Infrastructure Improvements	$58,453	$17,453	$16,081	$9,555	$2,191	$0	$0	$0	$0	$0	$0	$0	$27,827	$0	$27,827
260702	Pump Station Assets Updates	$10,065	$0	$0	$0	$6	$1,008	$1,005	$1,005	$1,005	$1,008	$1,005	$1,005	$2,019	$5,028	$7,047
260800	WRRF Roof Replacement for Multiple Facilities Program	$14,700	$0	$0	$0	$500	$2,203	$2,197	$0	$500	$2,203	$2,197	$0	$4,900	$4,900	$9,800
260802	2022 WRRF Roof Improvements Project	$4,751	$555	$2,103	$1,780	$11	$0	$0	$0	$0	$0	$0	$0	$3,894	$0	$3,894
260900	WRRF Facility Optimization Program	$85,000	$0	$0	$0	$0	$0	$2,124	$4,282	$4,282	$4,294	$4,282	$4,282	$2,124	$21,424	$23,547
260901	Rehabilitation of HAZMAT Facility at WRRF	$3,507	$3,093	$84	$0	$0	$0	$0	$0	$0	$0	$0	$0	$84	$0	$84
260902	WRRF 4th Floor Renovation	$3,727	$583	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
260903	WRRF Front Entrance Rehabilitation	$7,817	$6,165	$1,284	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,284	$0	$1,284
260904	WRRF 3rd Floor Renovation	$3,546	$37	$2,017	$1,424	$0	$0	$0	$0	$0	$0	$0	$0	$3,440	$0	$3,440
260905	WRRF Plumbing Shop Renovation - 260905	$2,669	$1,183	$1,352	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,352	$0	$1,352
261000	WRRF Rehabilitation of the Secondary Clarifiers	$39,337	$0	$0	$0	$0	$0	$37	$37	$37	$38	$7,833	$7,833	$37	$15,779	$15,816
261001	WRRF Rehabilitation of the Secondary Clarifiers Phase 1	$18,347	$216	$832	$832	$2,389	$2,722	$2,714	$2,714	$2,714	$2,722	$468	$0	$9,488	$8,618	$18,107
270001	Pilot CSO Netting Facility	$37,884	$8	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
270002	Meldrum Sewer Diversion and VR-15 Improvements	$6,401	$0	$0	$0	$617	$865	$1,638	$1,638	$1,638	$4	$0	$0	$3,120	$3,280	$6,401
270003	Long Term CSO Control Plan	$9,576	$1,400	$1,587	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,587	$0	$1,587
270004	Oakwood and Leib CSO Facilities Improvement Project	$42,596	$2,157	$1,394	$64	$4,551	$5,236	$5,222	$5,725	$5,799	$5,815	$4,560	$0	$16,468	$21,900	$38,368
270006	CSO Facilities Improvements II	$20,572	$1,503	$1,056	$3,487	$8,908	$4,881	$0	$0	$0	$0	$0	$0	$18,331	$0	$18,331
270007	Disinfection System Improvements at Baby Creek, Belle Isle, Conner Creek, and Puritan Fenkell CSO Facilities	$8,346	$24	$206	$1,085	$1,085	$1,088	$534	$1,175	$1,723	$1,425	$0	$0	$3,998	$4,323	$8,320
270008	Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities	$7,070	$0	$0	$0	$59	$324	$324	$162	$1,199	$1,772	$1,767	$1,462	$707	$6,363	$7,070
270009	Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities	$1,390	$0	$0	$0	$15	$78	$76	$88	$455	$456	$221	$0	$170	$1,220	$1,390
270010	HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities	$1,583	$68	$88	$34	$325	$518	$517	$24	$0	$0	$0	$0	$1,482	$24	$1,506
270011	HVAC Improvements at Conner Creek and Belle Isle CSO Facilities	$418	$0	$0	$0	$0	$0	$0	$0	$17	$61	$131	$209	$0	$418	$418
270012	Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities	$5,975	$0	$0	$0	$65	$337	$329	$372	$1,958	$1,963	$950	$0	$731	$5,243	$5,975
270013	Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities	$902	$0	$0	$0	$0	$18	$91	$57	$296	$296	$143	$0	$109	$793	$902
270014	Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities	$4,482	$0	$0	$0	$0	$39	$205	$205	$101	$772	$1,120	$1,120	$245	$3,320	$3,565

CIP PROJECTS BY CATEGORY
3.8. TEN-YEAR WASTEWATER OUTLOOK

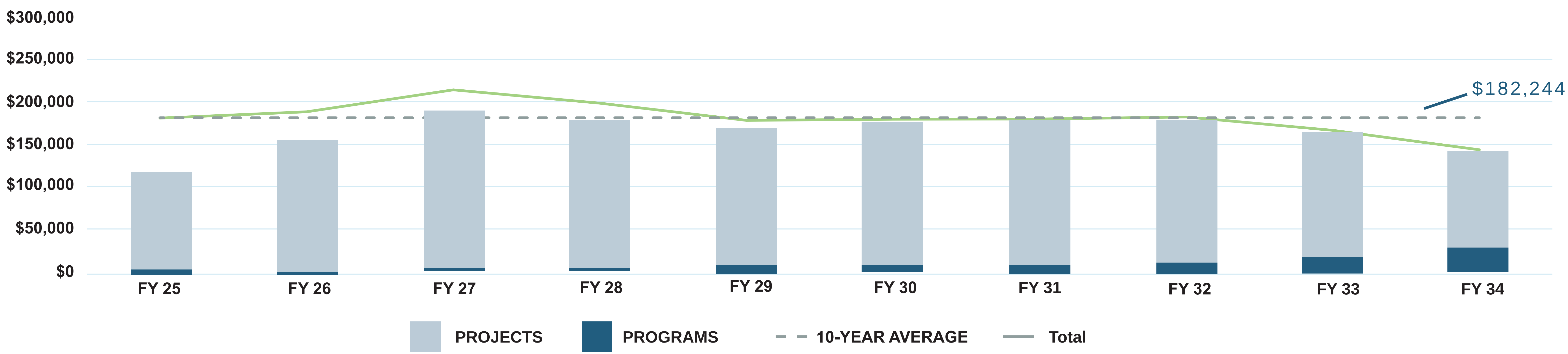
CIPNumber	Title	Lifetime Planned Spend	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32	FY 33	FY 34	Total FY 25-29	Total FY 30-34	Total FY 25-34
273001	Hubbell Southfield CSO Facility Improvements	$54,520	$2,021	$3,032	$449	$7,915	$9,042	$9,017	$9,017	$9,017	$4,570	$0	$0	$29,455	$22,605	$52,060
273002	CSO Hubbell Southfield VR-8 Gate Improvements	$1,786	$0	$0	$0	$20	$101	$98	$113	$585	$586	$284	$0	$219	$1,567	$1,786
276002	Replacement of Make-up Air Unit No. 2 at Conner Creek CSO Facility	$357	$9	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
277001	Baby Creek Outfall Improvements Project	$16,313	$3,664	$3,554	$3,450	$2,372	$0	$0	$0	$0	$0	$0	$0	$9,376	$0	$9,376
277002	Baby Creek CSO Facility Influent Flushing System	$745	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$15	$0	$15	$15

10-YEAR WASTEWATER CIP OUTLOOK

Financial figures are in thousands of dollars ($1,000's)

Program Category	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32	FY 33	FY 34
Program	$474	$712	$1,741	$2,241	$4,700	$7,531	$7,531	$9,812	$11,259	$18,996	$28,429
Projects	$78,674	$110,046	$160,214	$200,964	$183,772	$163,736	$168,713	$167,184	$168,404	$150,431	$95,038
Projects From Programs	$79,150	$58,431	$50,738	$13,026	$13,523	$11,149	$4,189	$3,719	$3,729	$1,474	$1,005
Total	$158,298	$169,189	$212,693	$216,231	$201,995	$182,417	$180,433	$180,716	$183,392	$170,901	$124,472

10 YEAR WASTEWATER CIP OUTLOOK



04
FINANCE

FINANCE

4.1 INTRODUCTION

The intersection of the CIP and the GLWA's overall financial plan balances several objectives to support the Authority's mission. Those objectives include the following:

- Transparency in the development of the financial plan
- Collaboration internally and externally
- Ensure sustainability
- Reduce the inherited high debt burden
- Charges stability by smoothing of annual adjustments to service charges
- Improve the Authority's financial position

4.2. FUNDING SOURCES AND USES

Accounting for CIP Activity: To ensure proper accountability of funding sources and uses, the Authority utilizes two funds for its capital program activity for each system: the Construction Fund and the Improvement & Extension (I&E) Fund.

Construction Fund: This fund is used to account for constructed assets that will be capitalized and depreciated over time. This fund may also include non-depreciable assets such as land acquired for capital projects. Revenues, or incoming resources for this fund, include bond proceeds and related interest earnings as well as transfers in from the Improvement & Extension Fund for "pay as go" financing. A blended use of bond funds and I&E funds is designed to lower the cost of capital improvements.

Improvement & Extension (I&E) Fund: The I&E Fund is defined by the Authority's Master Bond Ordinance (MBO) as the "fund used for improvements, enlargements, extensions or betterment" of the System. Cash receipts of the Authority are transferred into the I&E Fund pursuant to a flow of funds after commitments are met for a monthly allocation of operations and maintenance expense, debt service, pension, Water Residential Assistance Program, (WRAP), budget stabilization fund, and extraordinary repair and replacement fund as administered by a trustee. It should be noted that capital outlay items are also funded with I&E Funds. Capital outlay are items that are generally purchased (rather than constructed) and with an estimated useful life of less than 20 years.

The basis of accounting for the CIP spending is the accrual basis. Under this basis of accounting, revenues are recognized when earned and measurable regardless of when collected; and expenses are recorded, or accrued, on a matching basis when incurred. Accrued expenses are expected to be paid in a subsequent accounting period. For purposes of this CIP, the terms expenses, spend, and expenditures are used interchangeably.

Quarterly, the Financial Services Area publishes a "Construction Work in Progress Report" that discloses CIP activity by project.

The Authority draws upon five sources of funding for its CIP:

Bond Proceeds: The Authority uses an incremental method of funding long-lived capital projects through a bond financing program. The Authority issues revenue bonds pursuant to Michigan Public Act 94 of 1933 (the Revenue Bond Act). The Act provides a pledge of "net revenues" for the payment of the bond principal and interest. "Net revenues" is calculated as the revenues of the system remaining after deducting the reasonable expenses of administration, operation, and maintenance of the system.

Revenue Financed Capital: A portion of the revenue requirement from charges is set aside for subsequent years' CIP spending.

Federal and State Loan Programs: The Authority's sources of funding include lower cost financing programs including the State Clean Revolving Fund (CWRF) Loan Program and the Drinking Water Revolving Fund (DWRF) Loan Program.

Grants: The Authority pursues grants opportunities through federal, state, university and other sources.

Contribution in Aid of Construction: Periodically, the Authority has the opportunity to partner with other public and private entities for the design and construction or improvement of an asset. Depending on the nature of the shared financing strategy, the Authority may offset the cost of System expansion or improvements with direct or indirect capital from that partner.

Budgeting for CIP Activity: There are three companion budgets presented to the Board. The first is the annual operating budget, known as the "revenue requirement" basis for establishing customer charges. Included in that calculation are operations and maintenance expense, debt service, Master Bond Ordinance (MBO) reserve requirements, system lease requirements, revenue financed capital targets, water residential assistance program commitments, and legacy obligations. The second is the Construction Fund budget which provides inflows (bond proceeds and investment income) and outflows (CIP spend). The third is the I&E Fund which provides inflows (transfers in from revenue collected) and outflows (CIP spend and capital outlay). The I&E Fund is managed to achieve a minimum cash balance to ensure stable funding between bond transactions and provide for cashflow stability.

4.3. FINANCIAL MANAGEMENT OF THE CIP

This CIP is being prepared at the most economically challenging time in over 40 years. Last year, on November 17, 2022, the GLWA Board of Directors received the Phase I report from the Economic Outlook Task Force (EOTF) formed by GLWA to better understand, adapt to, and prepare for the rapid cost escalation playing out in calendar year 2022 and going into 2023. The challenges span construction cost increases, as well as availability of, materials and equipment as a result of national and global supply chain issues. This is exacerbated by significant increases in operations and maintenance (O&M) expenses such as chemicals, utilities, and labor that began in 2020 and continued to worsen The greater the need for financial resources for mandatory O&M funding means that there are less resources available for CIP execution and any related debt service to fund the CIP.

A key outcome of the EOTF's Phase I report was development a set of planning scenarios for a baseline, optimistic, and pessimistic set of assumptions. We continue to quarterly monitor this economic planning framework that informs both the ten-year financial plan and this CIP. A full update was presented to the Board of Directors in September 2023.

Close financial management by all team members of the CIP is critical in addressing the cost escalations within constrained resources – particularly as the increasing costs and supply chain issues cause scopes and timing of projects to be reconsidered. Some key topics are outlined below.

CIP is a Plan and Not a Budget: It is important to note that while the GLWA Board of Directors approves the CIP, the authority to spend does not occur until additional project review processes are completed prior to the procurement process. Traditionally, depending on the scope and dollar amount of the project, final approval to proceed may include customer engagement, Chief Executive Officer review, and GLWA Board Operations & Review Committee review and/or GLWA Board action. The rapid cost escalation that began in late 2021, and continues today, requires a new level of proactive management of the CIP to ensure that budgetary limits are observed and that monthly cash flow forecasting inputs from the engineering and CIP teams are reliable. To date, GLWA has successfully preserved flexibility in its CIP and has enjoyed a low level of regulatory mandated CIP projects. Preserving flexibility and staying ahead of regulatory compliance will require increased expanded effort by all involved in the CIP process.

Cashflow Forecasting: Given that GLWA's CIP is funded as a program rather than individual projects, accurate forecasting of project cashflows is critical to the managing debt and use of cash reserves. In 2022, a new process was launched where the financial services and engineering teams work through monthly short term cash flow forecasts for the largest projects underway. In addition, the financial services and CIP team meet monthly to review the CIP portal's cashflow forecasts which spans multiple years and is based on data entered by the engineering teams. This collaboration among has been essential to timely communication about cost shifts and addressing unprecedented economic challenges that come with delivering a CIP of GLWA's magnitude.

Commitment to Ten Year Financial Planning: The Authority publishes updates to its ten-year financial plans at least twice per year. First, as a planning tool when closing out the prior fiscal year and to assist in planning for future years. Second, after the Board adopts the biennial budget and charges. To the outside observer, the changes are modest and incremental. GLWA is, however, a dynamic organization that strives for affordability, proactive operating practices, asset management, planning, engineering, and an overall holistic approach to managing the systems. This means that the CIP is not in a vacuum, but also aligns with other organizational priorities.

The 4% Promise: Affordability was a primary concern in establishing the regional water authority. The mechanism to address those concerns was the "4% Promise" as established in the foundational documents for GLWA for the first ten years of the Authority's existence. FY 2025 is the tenth year. The 4% Promise requires that the annual revenue requirement does not increase by more than 4% in any one year. The revenue requirement includes operations and maintenance (O&M) expense, debt service, system lease payments, legacy pension, funding for capital program cash reserves (via the Improvement & Extension Fund contributions, and other legal commitments). The logic was that if the revenue requirement budget was held at a 4% increase ceiling, the system charge adjustment would inherently be less than 4% due to other offsetting revenue such as investment income. With a strong commitment to affordability, GLWA has stayed well under that promise with an average annual system charge adjustment to water of 2.2% and sewer of 0.9% over the course of the past seven years from FY 2018 through FY 2024.

Vendor Community Engagement: The CIP is managed by GLWA and executed through a network of of engineering firms, construction contractors, suppliers, and other business stakeholders. Their problem solving is invaluable as we work through these economic challenges. GLWA is committed to transparency of the shifts in priorities with our vendor partners and provides one-on-one meetings as well as outreach and engagement with the vendor community via the CIP Workgroup as well as other public and group meetings.

Bond Ratings & Debt Service Coverage: Given that there is a direct link between CIP decisions and GLWA's new debt issuances, a discussion related to the CIP also encompasses a discussion related to bond ratings. As it relates to bond ratings, there is one key measure that identifies overall financial health of the organization that is often referenced. That measure is debt service coverage (DSC). A higher DSC reflects a better outcome in balancing revenues, expenses, debt, and ultimately increases in cash reserves. The feasibility business case forecast for forming regional authority was DSC of 1.5 for water and 1.6 for sewer to be achieved by FY 2020. Given the rapid economic challenges, the DSC is presently below those targets. An outcome of the ten year plan is, however, a roadmap to reach and exceed those targets.

CAPITAL PROGRAM SPEND RATE ASSUMPTION POLICY

Recognizing the difference in scope between the CIP, which has a broader strategic view of system needs versus the tactical financial plan which models use of cash reserves and future borrowing, GLWA utilizes "capital spend rate assumption policy" to forecast actual CIP execution as compared to the CIP. This policy, presented below, was adopted by the GLWA Board of Directors on November 28, 2018 and was first implemented three years ago with the FY 2020 – 2024 CIP.

Purpose: The Spend Rate Assumption (SRA) policy provides an analytical approach to bridge the total dollar amount of projects in the Capital Improvement Plan (CIP) with what can realistically be spent due to limitations beyond GLWA's control and/or delayed for non-budgetary reasons. Those limitations, whether financial or nonfinancial, necessitate the SRA for budgetary purposes, despite the prioritization established in the CIP. The outcome is a reasoned balance between a desired level of capital investment with financial strategies to manage debt levels and control adjustments to customer charges.

Policy: Annually, a projected spend rate assumption for the financial plan related to the proposed capital improvement plan will be established based upon pertinent factors and data available at that time. Such pertinent factors and data will include the mix of projects and phases in the proposed CIP, interdependency risk, criticality, and other measures provided by the GLWA team members that develop and manage the CIP projects. That spend rate assumption will be presented to the Audit Committee no later than December 31st each year after the GLWA Board, Capital Improvement Planning Committee, and Member Partners have had the opportunity to review the draft capital improvement plan.

Until FY 2021, the actual spend on CIP was materially less than what was presented in the CIP. As shown in the Table– Plan vs. Actual CIP Spend, in earlier years, the actual CIP spend was less than 50%. Recent years have resulted in a spend that is within the expected range for a large CIP. The years with a material underspend occurred for several reasons including project interdependencies, team member resource constraints, and evaluating project design alternatives. Applying the CSR bridges the gap in the dollar amounts from the CIP to the financial plan to prevent over-borrowing. In recent years, the CSR has ranged from 75 to 80 percent meaning that a related fraction of the total CIP is in the financial plan at an amount intended to predict actual spend. As we enter the era of this new CIP with escalating costs, we are also entering an era where the pace of CIP execution is increasing. For that reason, beginning with FY 2023, the ten year financial plan provides for a CSR of 100%.

PLAN VS ACTUAL CIP SPEND

Financial figures are in thousands of dollars ($1,000's)

	Water			Wastewater			Total GLWA		
FY	Plan (a)	Actual (b)	Percent	Plan (a)	Actual (b)	Percent	Plan (a)	Actual (b)	Percent
2017	$130,232	$40,342	31%	$128,973	$57,328	44%	$259,205	$97,670	38%
2018	$137,655	$39,053	28%	$160,746	$71,000	44%	$298,401	$110,053	37%
2019	$66,038	$61,532	93%	$105,183	$82,134	78%	$171,221	$143,665	84%
2020	$143,247	$76,312	53%	$161,480	$73,827	46%	$304,727	$150,138	49%
2021	$147,564	$129,836	88%	$110,638	$81,509	74%	$258,202	$211,344	82%
2022	$179,210	$158,706	89%	$106,050	$67,449	64%	$285,260	$226,155	79%
2023	$194,376	$195,531	101%	$125,932	$102,501	81%	$320,308	$298,032	93%

(a) Reflects amount financed by plan in support of proposed charges. For years in which the Achievement Percentage was less than 100%, the general impact is to carry over capital funding balances to subsequent years and defer the need for additional financing sources.

(b) As reflected in audited financial statements.

FUNCTIONAL SUMMARY

The table above summarizes CIP costs by major function for both the Water System and the Wastewater System. This summary illustrates how the costs of financing the CIP will ultimately impact individual customer charges for the Authority's Member Partners, consistent with established cost allocation methodologies. The treatment of the debt service and revenue financed capital revenue requirements in the cost allocation methodologies represents the Authority's actual investment in fixed assets. The cost of capital improvements, therefore, impacts future fixed asset records and future charges. In other words, the CIP actual spend will impact charges in the long run, planned spend does not.

WATER FUNCTIONS

1. **Treatment** represents costs associated with improvements to the Authority's Water Treatment Plants. In the current water cost allocation methodology, costs related to these facilities are allocable to customers based primarily on their contractual max day demands. The other water functions reflect projects related to transmitting water to customers. In the current water cost allocation methodology, costs related to these facilities are allocable to customers based primarily on their contractual peak hour demands. There are other sub-functions that are utilized in the water charge methodology – including the relative distance and elevation associated with each customer's location.
2. **Transmission** projects reflect the Authority's investment in the large transmission mains that deliver water throughout the region. Several of these projects are designed to improve reliability of service in strategic areas of the System.

3. **Storage** projects are related to improvements to the reservoirs in the System, which are primarily designed to store water to be delivered in peak use conditions.
4. **Pumps** refers to projects to improve the System's 18 Water Booster Stations. These facilities pump water through the transmission system.

WASTEWATER FUNCTIONS

1. **Conveyance/Pumps** summarizes projects in the CIP designed to make improvements to the System's major interceptors and lift stations. These facilities collect and deliver wastewater to the System's Water Resource Recovery Facility (WRRF).
2. **CSO** projects in the CIP reflect improvements to the System's existing combined sewer overflow treatment and conveyance facilities, including Retention Basins (RTB) and Screening and Disinfection Facilities (SDF).
3. **Treatment** projects are those designed to make improvements to facilities at the WRRF.

The Wastewater cost allocation methodology generally follows the functions shown in the table below. In general, costs associated with Conveyance facilities are allocable to customers based on their contribution of total wastewater volumes and costs associated with Treatment facilities are allocable to customers based on their contribution of sanitary and total volumes. Costs associated with certain CSO facilities are allocated based upon terms of service agreements with the Authority's customers. The agreements assign 83% of costs related to these specifically designated facilities to City of Detroit customers and 17% to other customers.

Discussions continue regarding Master Plan strategies and alignment with the Authority's service agreements with Wastewater customers and the associated Wastewater Charge Methodology. The assignment to Wastewater Function in **Table– Function** below should not be interpreted as a definitive assignment for cost allocation purposes.

FUNCTION

Financial figures are in thousands of dollars ($1,000's)

Function	FY 25	FY 26	FY 27	FY 28	FY 29	FY 25-29 CIP Total	Total FY 25-34	% of 5-Year Total
Water								
Pumps	$4,056	$19,311	$36,133	$34,932	$32,675	$127,106	$503,759	5.93%
Storage	$9,903	$10,505	$13,303	$21,231	$12,268	$67,209	$126,777	3.14%
Transmission	$96,878	$93,283	$69,823	$71,231	$34,513	$365,728	$486,043	17.06%
Treatment	$96,496	$86,653	$108,565	$108,937	$111,095	$511,745	$1,063,880	23.87%
Water Total	**$207,333**	**$209,752**	**$227,824**	**$236,331**	**$190,551**	**$1,071,788**	**$2,180,459**	**50.00%**
Wastewater								
Conveyance/ Pumps	$79,956	$111,575	$99,254	$93,828	$74,090	$458,704	$712,902	23.34%
CSO	$16,454	$9,271	$26,602	$23,952	$20,078	$96,356	$195,612	4.90%
Treatment	$72,779	$91,847	$90,375	$84,215	$88,248	$427,465	$913,925	21.75%
Wastewater Total	**$169,189**	**$212,693**	**$216,231**	**$201,995**	**$182,416**	**$982,525**	**$1,822,439**	**50.00%**
Grand Total	**$376,522**	**$422,445**	**$444,055**	**$438,326**	**$372,967**	**$2,054,313**	**$4,002,898**	**100.00%**

CIP FUNDING BASED ON ESTIMATED USEFUL LIFE

The long-term financial plan differentiates between appropriate uses of long-term debt versus revenue financed capital in the Improvement & Extension (I&E) Fund as defined in the MBO. As a general rule, assets with a life of less than 20 years are funded with I&E Funds. An example of an exception to the rule is some plant improvements. Otherwise, assets with a life greater than 20 years are funded with a blend of debt and I&E Funds. Building I&E Funds over time allows GLWA to position itself to further reduce reliance on debt. Exceptions to that plan may be to take advantage of lower cost borrowings from the revolving fund loan programs or a revision of the plan to optimize refunding savings.

As shown in **Table - Useful Life,** most of the CIP projects are longer- lived assets, defined as greater than a 20-year estimated useful life. Shorter-lived assets scheduled for acquisition or replacement are identified in the five-year capital outlay plan provided in the GLWA Biennial Budget and Five-Year Plan document.

USEFUL LIFE

Financial figures are in thousands of dollars ($1,000's)

Asset Life Range	FY 25	FY 26	FY 27	FY 28	FY 29	FY 25-29 CIP Total	% of 5-Year Total
Water							
Useful Life < 20 Years	$20,041	$11,365	$16,202	$14,420	$30,363	$92,390	4.3%
Useful Life > 20 Years	$187,292	$198,387	$211,621	$221,911	$160,188	$979,399	45.7%
Water Total	**$207,333**	**$209,752**	**$227,823**	**$236,331**	**$190,551**	**$1,071,789**	**50.0%**
Wastewater							
Useful Life < 20 Years	$9,270	$14,785	$17,968	$15,613	$12,952	$70,588	3.6%
Useful Life > 20 Years	$159,919	$197,908	$198,262	$186,382	$169,465	$911,937	46.4%
Wastewater Total	**$169,189**	**$212,693**	**$216,230**	**$201,995**	**$182,417**	**$982,525**	**50.0%**
Grand Total	**$376,522**	**$422,445**	**$444,053**	**$438,326**	**$372,968**	**$2,054,314**	**100.0%**

PROJECT STATUS ANALYSIS

As outlined in Section 2.2. PROJECT STATUS, a status is assigned to each project or program within the CIP. The project status designation provides a high-level understanding of the progress of the project or program. While there are subcategories for project status, in general, active projects are in pre-procurement/procurement phase; project execution projects have an executed design and/or construction contract; and future planned projects are largely planned for execution in year five or later. For understanding the level of flexibility in the CIP, **Table– Project Status**, notes that nearly 42% of the water system CIP costs are in projection execution phase and 62% in project execution for the sewer system CIP costs.

PROJECT STATUS

Financial figures are in thousands of dollars ($1,000's)

CIP Budget	FY 25	FY 26	FY 27	FY 28	FY 29	FY 25-29 CIP Total	% of 5-Year Total
Water							
Active (Pre-Procurement & Procurement)	$29,950	$28,509	$19,227	$24,663	$12,913	$115,262	5.6%
Future Planned	$8,292	$20,544	$31,498	$51,282	$75,657	$187,273	9.1%
Project Execution	$169,090	$160,699	$177,098	$160,385	$101,981	$769,253	37.4%
Water Total	**$207,332.0**	**$209,752.0**	**$227,823.0**	**$236,330.0**	**$190,551.0**	**$1,071,788.0**	**52.2%**
Wastewater							
Active (Pre-Procurement & Procurement)	$14,865	$33,321	$30,965	$27,165	$26,540	$132,856	6.5%
Future Planned	$0	$226	$3,170	$8,413	$15,758	$27,567	1.3%
Project Execution	$154,324	$179,146	$182,096	$166,416	$140,118	$822,100	40.0%
Wastewater Total	**$169,189**	**$212,693**	**$216,231**	**$201,994**	**$182,416**	**$982,523**	**47.8%**
Grand Total	**$376,521**	**$422,445**	**$444,054**	**$438,324**	**$372,967**	**$2,054,311**	**100.00%**

SPEND CATEGORY ANALYSIS

The amount of internal costs in the CIP compared to external costs and related level of effort by the vendor community. Given the large percentage of CIP spend, as shown in T**able– Spend Category**, GLWA is important to the regional economy and has a vested interest in the success of our vendor community partners.

SPEND CATEGORY ANALYSIS

Financial figures are in thousands of dollars ($1,000's)

Project Category	FY 25	FY 26	FY 27	FY 28	FY 29	FY 25-29 CIP Total	% of 5-Year Total
Water							
Construction	$180,904	$182,361	$205,276	$209,980	$167,326	$945,846	44.12%
Design	$23,042	$25,139	$20,657	$24,201	$21,396	$114,434	5.34%
GLWA Salary	$3,259	$2,179	$1,861	$2,150	$1,829	$11,278	0.53%
Professional Services	$128	$73	$29	$0	$0	$230	0.01%
Water Total	**$207,333**	**$209,752**	**$227,823**	**$236,331**	**$190,551**	**$1,071,788**	**50.00%**
Wastewater							
Construction	$145,782	$197,789	$196,698	$181,325	$166,709	$888,304	45.21%
Design	$16,112	$11,501	$16,624	$18,582	$13,779	$76,598	3.90%
GLWA Salary	$3,488	$2,724	$2,344	$1,972	$1,924	$12,452	0.63%
Professional Services	$3,807	$679	$565	$116	$4	$5,171	0.26%
Wastewater Total	**$169,189**	**$212,693**	**$216,231**	**$201,995**	**$182,416**	**$982,525**	**50.00%**
Grand Total	**$376,522**	**$422,445**	**$444,054**	**$438,326**	**$372,967**	**$2,054,313**	**100.00%**

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05 WATER PROJECTS

80 PROJECTS

- 32 FUTURE PLANNED
- 36 ACTIVE
- 2 PENDING CLOSEOUT
- 8 CLOSED
- 2 RECLASSIFIED

5 YEAR CIP

$1.07 BILLION

10 YEAR OUTLOOK

$2.2 BILLION

A MORE: APPENDIX A

FIND THE FULL BUSINESS CASE EVALUATIONS FOR WATER PROJECTS IN APPENDIX A.

CIP Number: 111006

Project Title: Lake Huron Water Treatment Plant, Filter Instrumentation and Raw Water Flow Metering Improvements

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Lake Huron
Lookup Location: Lake Huron WTP

☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Eric Kramp

Director: Tim Kuhns

Project Score
60.5

Problem Statement:
The instrumentation, filter controls, and raw water metering at the Lake Huron WTP is beyond useful life, no longer per industry standards, and is in need of replacement or rehabilitation.

Scope of Work/Project Alternatives:
The Contract has been redeveloped as a PDB to give full consideration to CS-108 guidelines.

Other Important Info:
Contract is being redeveloped for full integration with CS-108 guidelines.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$400	$101	$92	$44	$54	$54	$54	$54	$47	$263	$0
Professional Services	$188	$188	$188	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-1771)	$963	$963	$963	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-1499)	$44	$44	$44	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$1,100	$0	$0	$0	$0	$273	$287	$287	$253	$1,100	$0
Design-Build (2101680)	$37,125	$788	$94	$2,643	$2,927	$7,917	$8,161	$8,183	$7,200	$34,388	$0
Totals	$39,819	$2,083	$1,381	$2,687	$2,981	$8,244	$8,501	$8,525	$7,500	$35,751	$0

CIP Number: 111008

Project Title: Lake Huron Water Treatment Plant, Architectural Programming for Laboratory and Admin Building Improvements

Project Status: Future Planned - Ten Year CIP
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Lake Huron
Lookup Location: Lake Huron WTP

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Brian VanHall

Director: Tim Kuhns

Project Score
49.5

Problem Statement:
The Lake Huron Water Treatment Plant started operating in 1976. The existing process control laboratory and administration building interiors are original construction, including flooring, wall coverings, doors, ceilings, lab cabinetry, control room boards, bathroom fixtures, and lighting fixtures. The original control room board is still located in the laboratory and consumes a large amount of space that is not used and inefficient. The architectural layout of the laboratory and administration...

Scope of Work/Project Alternatives:
This project will start with a study phase to determine the most efficient architectural layout that meets current process laboratory control technology and administrative workflow practices; and that can be provided through a construction renovation project within the existing building footprint. Additional minor architectural needs will be evaluated in the study phase that include stairs from the exterior door down to the retention basin area and interior/exterior doors.

Other Important Info:
N/A

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$7	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7
Design/Engineering	$775	$0	$0	$0	$0	$0	$0	$0	$0	$0	$775
Totals	$782	$0	$0	$0	$0	$0	$0	$0	$0	$0	$782

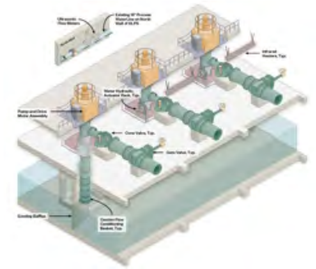
CIP Number: 111009

Project Title: Lake Huron Water Treatment Plant - High Lift Pumping, Water Production Flow Metering and Yard Piping Improvements

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Lake Huron
Lookup Location: Lake Huron WTP

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**



Conceptual new h/L pump arrangement

Project Engineer/Manager: Brian VanHall

Director: Tim Kuhns

Project Score
75.7

Problem Statement:

Three new, smaller capacity, high-lift pumping units are needed to provide reduced finished water flows out of Lake Huron WTP to accommodate the relocation of the 96-inch transmission main south of Dorsey-Dickenson valve and to accommodate the installation of a new water production flow meter at the Lake Huron WTP. The three, new smaller capacity high-lift pumping units will also serve a longer term need to better match lower diurnal demands seen at the Lake Huron WTP. Installation of the new w...

Scope of Work/Project Alternatives:

This project will be delivered using a design-build project delivery method. The scope of work involves designing and building a new water production flow meter and associated meter vault to more accurately measure finished water production flows from the facility. This work will also entail constructing additional high-lift, finished water header piping, valves and appurtenances to facilitate construction of the new metering infrastructure. The scope also includes installing three new 35 milli...

Other Important Info:

N/A

CIP Number: 111009

Project Title: Lake Huron Water Treatment Plant - High Lift Pumping, Water Production Flow Metering and Yard Piping Improvements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$434	$338	$313	$80	$42	$0	$0	$0	$0	$42	$0
Professional Services (CS-272)	$252	$252	$252	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services (CS-166)	$295	$128	$120	$64	$83	$28	$0	$0	$0	$112	$0
Design-Build # 1	$30,023	$7,098	$4,015	$16,008	$10,000	$0	$0	$0	$0	$10,000	$0
Totals	$31,003	$7,815	$4,699	$16,151	$10,125	$28	$0	$0	$0	$10,153	$0

CIP Number: 111010

Project Title: Lake Huron WTP Filtration Improvement

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Lake Huron
Lookup Location: Lake Huron WTP

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [x] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Project Engineer/Manager: Eric Kramp

Director: Tim Kuhns

Project Score
77.4

Problem Statement:

Significant issues exist in the filtration process of the Lake Huron WTP:
Filter influent and drain valves do not seal well, creating water loss and burdening the solids handling system with more influent than necessary.
Filter underdrains have not been evaluated and require condition assessment.
Filter media has lost considerable depth.
Isolation valves between the filters, filtered water conduit, filter to drain, and clearwells currently leak heavily

Scope of Work/Project Alternatives:

This project will be delivered using a design-bid-build project delivery method. The scope of work will generally include the following:
1. Construct filtration improvements, including filter media, filter auxiliary scouring equipment, filter wash water troughs, and other filter tank work.
2. Replace the existing filter control valves and valve operators.
3. Rehabilitate concrete associated with the filters.
4. Replace isolation and valves as necessary
5. Repaint WW Conduit
6. Replace und...

Other Important Info:

n/a

CIP Number: 111010

Project Title: Lake Huron WTP Filtration Improvement

Current Expenses (All figures are in $1,000’s)
“Total Costs” include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$527	$0	$0	$0	$0	$0	$0	$75	$75	$150	$376
Design & Construction Assistance # 1	$7,058	$0	$0	$0	$0	$0	$0	$1,142	$1,142	$2,284	$4,755
Construction (Build) # 1	$51,053	$0	$0	$0	$0	$0	$0	$0	$0	$0	$50,850
Totals	$58,638	$0	$0	$0	$0	$0	$0	$1,217	$1,217	$2,434	$55,981

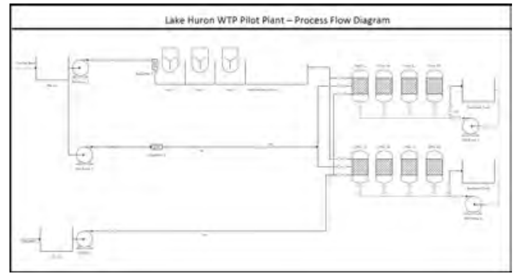
CIP Number: 111011

Project Title: Lake Huron WTP Pilot Plant

Project Status: Project Execution - Pending Closeout
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Lake Huron
Lookup Location: Lake Huron WTP

☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**



Lake Huron WTP Pilot Plant - Process Flow Diagram

Project Engineer/Manager: Nichole Sajdak

Director: John Norton

Project Score
50.7

Problem Statement:
Water Operations staff at Lake Huron would benefit from the ability to test potential changes to existing water treatment practices and investigate new and innovative treatment advances.

Scope of Work/Project Alternatives:
A small scale pilot plant provides opportunity for testing and investigation without disruption to the full scale facility. Skid mounted units mimicking treatment at Lake Huron: Chemical addition, modified direct filtration facilities and data monitoring and recording are being provided for team education and training.

Other Important Info:
Scope of work to include engineering services for planning, construction and training.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$110	$0	$0	$110	$0	$0	$0	$0	$0	$0	$0
Design-Build # 1 (1904449)	$3,157	$3,076	$3,076	$81	$0	$0	$0	$0	$0	$0	$0
Totals	$3,267	$3,076	$3,076	$192	$0	$0	$0	$0	$0	$0	$0

CIP Number: 111012

Project Title: LHWTP-Flocculation Improvements

Project Status: Project Execution - Design
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Lake Huron
Lookup Location: Lake Huron

☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☑ **Predecessor Project(s)**

Project Engineer/Manager: Eric Kramp

Director: Tim Kuhns

Project Score
91.5

Problem Statement:

The flocculators at the Lake Huron Water Treatment Plant are non-functional. While the plant has been able to maintain water quality, the State of Michigan has identified this a serious issue. This project solves this problem and addresses other issues with the flocculation systems such as any found defects that in process and structure that are identified.

Scope of Work/Project Alternatives:

The project will be executed on a traditional design/bid/build delivery process. Design/build would be unsuitable as the selection of flocculation technology will be the primary driver of overall cost, and is unknown.

Other Important Info:

The contract will also correct a process defect in the plant, where a section of the station conduits can not be taken out of service without loss of the entire station. This will entail the construction of approximately 150 lineal feet of new parallel raw water conduit.

This project will also, if approved, separate the two flocculation and sedimentation basins into four, decreasing the impact of sediment upset on filter efficient and/or UFRB.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$462	$21	$18	$72	$103	$103	$103	$62	$0	$372	$0
Design & Construction Assistance	$7,870	$872	$724	$1,336	$1,772	$1,553	$1,553	$932	$0	$5,809	$0
Construction (Build)	$43,000	$0	$0	$4,977	$10,562	$10,562	$10,562	$6,337	$0	$38,023	$0
Totals	$51,331	$892	$742	$6,385	$12,437	$12,218	$12,218	$7,331	$0	$44,204	$0

CIP Number: 111013

Project Title: Lake Huron Water Treatment Plant Fireloop and Plant Water Improvements

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Lake Huron
Lookup Location: --

- [x] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [ ] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Project Engineer/Manager: Brian VanHall

Director: Peter Fromm

Project Score
63.3

Problem Statement:
The Lake Huron fire loop is ductile iron piping in the yard installed in the early 1970s that has had multiple failures and needs to be replaced. Excavating a portion of the pipe for an urgent repair showed the existing piping had areas of significant material losses from corrosion. Most plant water piping was installed in the early 1970s and significant scaling has been observed on portions of piping where connections have been made for other work. Excessive pressure drops or plugging of plant...

Scope of Work/Project Alternatives:
Demolition and abandonment of the existing fire loop piping and installation of a new pipeline. At a minimum, the design will determine the pipe routing, sizing, materials, cathodic protection, portions to be concrete encased; roadway replacements where pipe passes underneath; and locations of hydrants, valves and manways. GLWA is performing a condition assessment to further examine the existing piping and soil conditions that will be used to establish final scope to be included for design and ...

Other Important Info:
--

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$55	$4	$3	$1	$0	$0	$0	$0	$0	$0	$51
Design/Engineering	$1,400	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,400
Construction	$8,600	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,600
Totals	$10,055	$4	$3	$1	$0	$0	$0	$0	$0	$0	$10,051

CIP Number: 112003

Project Title: Northeast Water Treatment Plant High-Lift Pumping Station Improvements

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Northeast
Lookup Location: Northeast WTP

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☑ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Corey Brecht

Director: Tim Kuhns

Project Score
82.2

Problem Statement:

Existing mechanical, electrical, instrumentation, and control system equipment within the high-lift pumping plant at the Northeast Water Treatment Plant is mostly original (i.e. 1956). The following equipment is beyond its useful life:
Both medium-voltage and low-voltage switchgear. (Stock replacement parts are no longer available. Medium-voltage switchgear cubicles are irreparable. All medium-voltage cables are (especially with respect to insulation properties) Primary service transformers (...

Scope of Work/Project Alternatives:

This project will be delivered using a design-bid-build project delivery method. The scope of work generally includes:
1) Replace medium voltage switchgear, Unit Substation 1, all motor control centers (MCCs), power panels, transformers, and lighting panels.
2) Replace HL Pumps and size according to projected demands.
3) Replace pump motor controls to accommodate remote operation.
4) Replace primary transformers and test/replace feeders to property lines. Coordinate with DTE to ensure th...

Other Important Info:

NA

CIP Number: 112003

Project Title: Northeast Water Treatment Plant High-Lift Pumping Station Improvements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$1,149	$31	$31	$0	$0	$0	$0	$0	$0	$0	$466
Professional Services	$527	$527	$527	$0	$0	$0	$0	$0	$0	$0	$0
Design & Construction Assistance (Electrical Service)	$11,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,486
Design/Engineering (Non-Critical Electrical Service Changes)	$11,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Electrical Service Change)	$68,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$29,147
Construction (Non-Critical Electrical Service Changes)	$80,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$171,675	$557	$558	$0	$0	$0	$0	$0	$0	$0	$38,098

CIP Number: 112006

Project Title: Northeast Water Treatment Plant Flocculator Replacements

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Northeast
Lookup Location: Northeast Water Treatment Plant
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Brian VanHall

Director: Tim Kuhns

Project Score
82.4

Problem Statement:
The existing flocculators are not operable and are beyond repair, which reduces sedimentation effectiveness and creates a greater load on the filtration process. The State of Michigan Department of Environment, Great Lakes & Energy (EGLE) noted the condition of the existing flocculators at the Northeast Water Treatment Plant as a deficiency in ELGE's 2021 Northeast Water Treatment Plant Sanitary Survey, dated March 4, 2021.

Scope of Work/Project Alternatives:
This CIP project is being delivered under a design-bid-build project delivery method and generally includes the following scope of work:
1. Demolish and remove existing flocculators including drives, motors, shafts, paddle wheels, control panels, electrical service, and related appurtenances.
2. Install a complete, new flocculation system designed to current industry standards.
3. Construct new stairways and platforms to improve access to the flocculator drive galleries.

Other Important Info:
Existing flocculators are original to the plant (circa 1956) and are (1) not operable, (2) beyond repair, and (3) do not provide present day flocculation mixing energies. The new flocculation system is designed to current and best industry standards for flocculation mixing energies, tapered flocculation, and is conducive to easier operation and maintenance.

CIP Number: 112006

Project Title: Northeast Water Treatment Plant Flocculator Replacements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$478	$426	$373	$63	$15	$15	$11	$0	$0	$42	$0
Professional Services (CS-272)	$60	$60	$60	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services (CS-166)	$210	$62	$59	$33	$44	$44	$29	$0	$0	$118	$0
Contractual Professional Services (1904321)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1	$12,699	$4,385	$3,627	$2,395	$2,459	$2,459	$1,759	$0	$0	$6,677	$0
Totals	$13,446	$4,932	$4,119	$2,491	$2,519	$2,519	$1,799	$0	$0	$6,837	$0

CIP Number: 112007

Project Title: NEWTP-Header Galleries and Washwater Building Structural Repair

Project Status: Project Execution - Design
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Northeast
Lookup Location: NA

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Govind Patel

Director: Terry Daniel

Project Score
95.2

Problem Statement:
The NEWTP was constructed in 1953 and consist largely of reinforced concrete frames and slabs. Deterioration due to water infiltration from the hatch covers and other cracks over time has weakened some structures and and resulted in corrosion to header, catwalks, and staircase.

Scope of Work/Project Alternatives:
The scope of the project includes repair of concrete beams with new reinforcement, CFRP shear wrap and crack injection, roof slab crack injection, and crack injection of the Plant North and South High Lift vault walls. It also includes replacing all the concrete Hatch covers with steel covers and surrounding curbs to prevent water entering the hatches, together with adding concrete topping to improve drainage by providing surface area drains.

Other Important Info:
Concrete debris fell from ceiling beams on catwalks and the south header pipe vault floor during the mid-night shift on March 13, 2021. No one injured, but this incident highlighted the risk to employee safety

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$60	$0	$0	$11	$16	$16	$16	$0	$0	$49	$0
Design/Engineering	$625	$235	$235	$55	$111	$111	$111	$1	$0	$334	$0
Construction	$6,000	$1	$1	$0	$1,996	$1,996	$1,996	$11	$0	$5,999	$0
Totals	$6,685	$235	$236	$66	$2,124	$2,124	$2,124	$12	$0	$6,383	$0

CIP Number: 112008

Project Title: Northeast Water Treatment Plant Filter Replacement

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Northeast
Lookup Location: --

- [x] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [ ] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Project Engineer/Manager: Peter Fromm

Director: Erich Klun

Project Score
93.5

Problem Statement:
The existing filter components are beyond their useful life and are not meeting the performance standards. There are multiple filters out of service due to damage underdrains or other components. The State of Michigan Department of Environment, Great Lakes & Energy (EGLE) noted the condition of the existing filters at the Northeast Water Treatment Plant as a deficiency in EGLE's latest Sanitary Survey.

Scope of Work/Project Alternatives:
This CIP project is being delivered under a design-build project delivery method and generally includes the following scope of work: 1. Remove and replacement of the filter media 2. Remove and replacement of the surface wash water system 3. Rehabilitation of the existing filter underdrain system 4. Remove and replacement of the filter piping 5. Remove and replacement of the filter valves.

Other Important Info:
The existing filters components are mostly original to the plant (circa 1956) and are (1) no operable, (2) beyond useful life, and (3) do not provide run time standards.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$50	$0	$0	$0	$7	$7	$7	$7	$7	$33	$17
Design/Engineering	$10,000	$0	$0	$0	$3,500	$3,500	$544	$546	$544	$8,634	$1,366
Construction	$75,500	$0	$0	$0	$0	$0	$13,697	$13,734	$13,697	$41,127	$34,373
Totals	$85,550	$0	$0	$0	$3,507	$3,507	$14,247	$14,286	$14,247	$49,795	$35,755

CIP Number: 113003

Project Title: Southwest Water Treatment Plant Low- and High lift Pumping station Improvements

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Southwest
Lookup Location: Southwest WTP

- [ ] **Project New to CIP:**

- [x] **Innovation**
- [ ] **WW Master Plan**
- [x] **Water Master Plan Right Sizing**
- [ ] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Project Engineer/Manager: Tim Kuhns

Director: Tim Kuhns

Project Score

89.4

Problem Statement:

Most of the plant's process mechanical, building mechanical and electrical systems are original to the plant (circa1962) and are nearing or are past end of useful service life. As a result, additional plant maintenance effort is necessary to meet plant operational needs.

Scope of Work/Project Alternatives:

The work includes design and construction services for the replacement of numerous large-diameter butterfly valves and water-control gates throughout the low-lift, high-lift, filtration, and flocculator buildings. The low- and high-lift pumping units, and filters will all be right sized taking into consideration the current and 20-year projected demands.

Other Important Info:

This work is included in the 2015 water master plan update. It also recommends that GLWA consider decommissioning treatment at the Southwest Water Treatment Plant if water demand continues to trend in a downward direction.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$1,657	$0	$0	$0	$0	$0	$0	$0	$0	$0	$689
Design & Construction Assistance # 1	$30,395	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,398
Construction	$130,058	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,241
Totals	$162,109	$0	$0	$0	$0	$0	$0	$0	$0	$0	$13,328

CIP Number: 113006

Project Title: Southwest Water Treatment Plant Chlorine Scrubber, Raw Water Screens & Related Improvements

Project Status: Closed
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Southwest
Lookup Location: Southwest WTP

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Tim Kuhns

Director: Tim Kuhns

Project Score
90.6

Problem Statement:
The existing chlorine gas scrubber is nearing its end of useful service life and its absorption media will be expiring within the next few years. Similarly, the existing raw water screening system is original to the plant (circa 1962), is not functional, and is beyond repair. As a result, this system also requires replacement. Both the chlorine gas scrubber and raw water screening systems will require ancillary equipment improvements related to electrical, alarms, instrumentation, and controls.

Scope of Work/Project Alternatives:
This project will be delivered using a design-build project delivery model. The existing gas chlorine scubber and raw water screens will be replaced with new system equipment meeting current building codes and industry best practices. The new gas chlorine scrubber and raw water screens will be designed for current and projected water demands in accordance with the recommendations of the 2015 Water Master Plan Update. The new equipment will be right-sized.

Other Important Info:
GLWA intends to use the services of AECOM under its CIP program management contract to implement this design-build project.

E. Klun 8/27/20 update as follows:
1. RFP for DB contract delivery underway by AECOM under CS-272 Task 71011A.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$176	$138	$138	$39	$0	$0	$0	$0	$0	$0	$0
Professional Services	$304	$304	$304	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (Study)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design-Build # 1	$6,840	$5,666	$5,666	$1,174	$0	$0	$0	$0	$0	$0	$0
Totals	$7,320	$6,108	$6,108	$1,213	$0	$0	$0	$0	$0	$0	$0

CIP Number: 113007

Project Title: Southwest Water Treatment Plant Architectural and Building Mechanical Improvements

Project Status: Future Planned - Ten Year CIP
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Southwest
Lookup Location: Southwest WTP

☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Tim Kuhns

Director: Tim Kuhns

Project Score
38.7

Problem Statement:

Most of the existing low- and high- lift pumping station and administration buildings' mechanical equipment (HVAC, dehumidification, plumbing) and architectural components such as doors, windows, floors, and furnishings, are over 50 years old and are beyond their normal useful service life. Additional architectural improvements at Southwest Water Treatment Plant will include renovation of staff locker rooms and bathrooms, including a restroom for female staff.

Scope of Work/Project Alternatives:

This project would be delivered using a design-bid-build project delivery method. The scope of work would generally include:
1. Design of the project.
2. Remove existing building mechanical and architectural systems.
3. Install new heating and ventilating systems process and administration areas.
4. Install new air-conditioning systems for administration areas.
5. Install new dehumidification systems for the high -lift header vault.
6. Install new interior and exterior doors and windows.
...

Other Important Info:

CS-1528 water master plan update included these improvements.

CIP Number: 113007

Project Title: Southwest Water Treatment Plant Architectural and Building Mechanical Improvements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$141	$0	$0	$0	$0	$0	$0	$0	$0	$0	$28
Design & Construction Assistance # 1	$1,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$322
Construction	$7,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$8,640	$0	$0	$0	$0	$0	$0	$0	$0	$0	$350

CIP Number: 113009

Project Title: SW Flight and Chain Upgrades

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Southwest
Lookup Location: SWTP

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Vittoria Hogue

Director: Terry Daniel

Project Score
68.7

Problem Statement:
The existing flight and chains are not in service and require replacement due to poor performance.

Scope of Work/Project Alternatives:
The flight and chain system will be removed and replaced with upgraded components and new control logic.

Other Important Info:
Project not scored by risk committee since it is far advanced

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$27	$0	$0	$13	$14	$0	$0	$0	$0	$14	$0
Construction	$5,100	$0	$0	$2,397	$2,703	$0	$0	$0	$0	$2,703	$0
Totals	$5,127	$0	$0	$2,410	$2,717	$0	$0	$0	$0	$2,717	$0

CIP Number: 113010

Project Title: Southwest Water Treatment Plant Flocculation Improvements

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Southwest
Lookup Location: Southwest WTP

- [x] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [x] **Water Master Plan Right Sizing**
- [ ] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Project Engineer/Manager: Tim Kuhns

Director: Tim Kuhns

Project Score
89.4

Problem Statement:
Flocculation system requires constant maintenance and only 70% of the drives are currently operational.

Scope of Work/Project Alternatives:
This work includes design and construction services for the replacement of the flocculation system. The total number of basins will be right-sized taking into consideration current and 20-year projected demands.

Other Important Info:
NA

Current Expenses (All figures are in $1,000’s)
“Total Costs” include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$50	$0	$0	$0	$0	$6	$6	$6	$6	$25	$25
Design/Engineering	$4,933	$0	$0	$0	$0	$1,187	$1,187	$641	$639	$3,654	$1,279
Construction (Build) #1	$17,242	$0	$0	$0	$0	$0	$0	$1,728	$5,171	$6,900	$10,342
Totals	$22,225	$0	$0	$0	$0	$1,193	$1,193	$2,376	$5,817	$10,579	$11,646

CIP Number: 114002

Project Title: Springwells Water Treatment Plant, Low-Lift and High-Lift Pumping Station Improvements

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Springwells
Lookup Location: Springwells WTP

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [x] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Project Engineer/Manager: Peter Fromm

Director: Tim Kuhns

Project Score
90.9

Problem Statement:

Existing low- and high-lift pumping system electrical switchgear is original to the plant (1930s) and well beyond it's useful service life. This switchgear is unsafe, unreliable and is oversized for current and projected demands. The existing pumping units are a mix of 1930s and 1950s units and are in need of either replacement or in the case of the pumps rehabilitation. The exterior windows on the pumping plant building are original (1930s), in poor condition and are not well insulated. As a r...

Scope of Work/Project Alternatives:

This CIP project will be delivered under a design-bid-build project delivery using a single-prime engineering consultant and multiple prime construction contracts to deliver the entire project. The scope of work generally includes:
1. Replacement of low- and high-lift pumping units, including pumps, motors, valves, and piping.
2. Replacement of exterior windows in the pump house, turbine house, boiler house, and switch house.
3. Replacement of medium-voltage electrical system.
4. Replacemen...

Other Important Info:

E. Klun 8/19/20 updates:
1. Scope updates are being added to the design being completed under Contract CS-103 via Amendment No. 2 that is expected to go for approval in September of October 2020. Cashflow and schedule updates herein reflect both the engineering and construction impacts of an approved CS-103 Amendment No. 2.

CIP Number: 114002

Project Title: Springwells Water Treatment Plant, Low-Lift and High-Lift Pumping Station Improvements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$2,727	$859	$836	$263	$361	$361	$361	$362	$182	$1,627	$0
Professional Services	$101	$101	$101	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services (MISC)	$20	$20	$20	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-103)	$15,244	$9,309	$9,083	$1,365	$1,711	$880	$880	$882	$444	$4,796	$0
Design-Build # 1 (Contract A, 1900134, 1904795)	$17,161	$14,677	$14,266	$2,895	$0	$0	$0	$0	$0	$0	$0
Construction (Contract B)	$64,458	$5,305	$2,312	$14,500	$18,908	$12,329	$12,329	$4,080	$0	$47,646	$0
Construction (Contract C)	$200,000	$0	$0	$0	$7,245	$8,530	$26,009	$23,032	$22,959	$87,774	$97,797
Construction (Contract D)	$16,000	$0	$0	$0	$0	$3,940	$7,989	$4,071	$0	$16,000	$0
Totals	$315,711	$30,272	$26,618	$19,024	$28,225	$26,039	$47,568	$32,427	$23,584	$157,844	$97,797

CIP Number: 114005

Project Title: Springwells Water Treatment Plant, Administration Building Improvements & Underground Fire Protection Loop

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Springwells
Lookup Location: Springwells WTP

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Peter Fromm

Director: Tim Kuhns

Project Score

76.4

Problem Statement:

Existing administration building, bathrooms, machine shop and offices throughout the facility are nearly 90 years old with many of its facilities being original to the plant. The building needs architectural, plumbing and electrical improvements.

Scope of Work/Project Alternatives:

The work includes removal and replacement of the existing plumbing and electrical along with architectural upgrades. The machine shop will be upgraded to include new air conditioning. There is an existing locker room that will be converted to a training center.

Other Important Info:

Challenges: . All plumbing needs to be replaced, the majority of which is in existing walls. The underground facilities (e.g., electrical duct banks, gas service mains, fiber optic, tunnels, conduits, major pipelines, etc.) at Springwells have been modified several times since initially being commissioned around 1930.

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$281	$91	$91	$0	$0	$0	$0	$0	$0	$0	$190
Professional Services	$57	$57	$57	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-282)	$633	$633	$633	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-201)	$539	$539	$539	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$782	$0	$0	$0	$0	$0	$0	$0	$0	$0	$782
Construction (Build) # 1	$4,846	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,846
Totals	$7,138	$1,320	$1,321	$0	$0	$0	$0	$0	$0	$0	$5,818

CIP Number: 114007

Project Title: Springwells Water Treatment Plant Powdered Activated Carbon System Improvements

Project Status: Cancelled
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Springwells
Lookup Location: Springwells WTP

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**


Picture

Project Engineer/Manager: Justin Kietur

Director: Tim Kuhns

Project Score
36.8

Problem Statement:

Powdered activated carbon (PAC) is added to the treatment process to address taste and odor issues in the raw water supply. Taste and odor issues are infrequent, but the existing PAC system is difficult to operate and maintain. A more operator friendly and easier to maintain system is needed. Currently the plant is able to feed PAC through extraordinary measures due to deficiencies in the system. This creates additional operations and maintenance expense and inefficiencies. If raw water quality...

Scope of Work/Project Alternatives:

Replacement of the existing powdered activated carbon system with a new system designed for improved operations and maintainability when PAC dosing is needed.
The scope of work will generally include the following:
1)Repair of concrete and piping at the dry carbon delivery station and replacement of dust collectors.
2)Inspection of underground carbon slurry tanks and repair of damage to concrete and fiberglass lining.
3)Replacement of PAC transfer pumps and associated piping, valves and co...

Other Important Info:

Project Challenges: PAC equipment runs through congested storage areas and pipe chases.

CIP Number: 114007

Project Title: Springwells Water Treatment Plant Powdered Activated Carbon System Improvements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

CIP Number: 114008

Project Title: Springwells Water Treatment Plant 1930 Sedimentation Basin Sluice Gates, Guides & Hoists Improvements

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Springwells
Lookup Location: Springwells WTP

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Updated project photo

Project Engineer/Manager: Peter Fromm

Director: Tim Kuhns

Project Score

86.1

Problem Statement:

Existing sedimentation basin gates, guides and hoists are early 1930s and are in need of replacement. Operation of the sluice gates in their existing condition and design does not meet current best practices for safe maintenance and operation.

Scope of Work/Project Alternatives:

This CIP project is being delivered under a design-build project delivery method and generally includes the following scope of work:
1. Demolition of the existing eight (8) 1930 sedimentation basins gates, guides, and hoist.
2. Installation of the new eight (8) 1930 sedimentation basins gates, guides, and actuators.
3. Concrete restoration within the four (4) 1930 sedimentation basins.
4. Concrete repairs to the air vents, access ramp, access hatches on top of the 1930 sedimentation basin...

Other Important Info:

Challenges: Work will require the 1930's plant to be shutdown during three low demand seasons to complete the work. This contractor will need to coordination with CON-170: Sludge Removal and Disposal for cleaning the sedimentation basins, SP-563, CON-253, and other construction projects to ensure that the system can handle the long duration shutdown.

Project Title: Springwells Water Treatment Plant 1930 Sedimentation Basin Sluice Gates, Guides & Hoists Improvements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$273	$258	$254	$19	$0	$0	$0	$0	$0	$0	$0
Professional Services	$76	$76	$76	$0	$0	$0	$0	$0	$0	$0	$0
Contractual Professional Services (1802774)	$23	$23	$23	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-289)	$23	$23	$23	$0	$0	$0	$0	$0	$0	$0	$0
Design-Build # 1 (1802774)	$13,703	$11,828	$11,789	$1,914	$0	$0	$0	$0	$0	$0	$0
Totals	$14,098	$12,208	$12,166	$1,932	$0	$0	$0	$0	$0	$0	$0

CIP Number: 114010

Project Title: Springwells Water Treatment Plant, Yard Piping and High-Lift Header Improvements

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Springwells
Lookup Location: Springwells WTP

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Peter Fromm

Director: Tim Kuhns

Project Score
58.3

Problem Statement:

Six (6) of the seven (7) 72-inch mains leaving the site are original to the 1930 plant construction and consist of riveted steel pipe material. Main No. 7 is a prestressed concrete cylinder pipe material installed in 1958. The steel mains are leaking and in need of replacement to maintain system reliability. Additionally, isolation valves associated with the 72-inch mains need to be replaced because several are leaking and unable to isolate flow. It is suspected that the other large-diameter is...

Scope of Work/Project Alternatives:

This project consists of removal and replacement of the High Pressure Zone (HPZ) and Intermediate Pressure Zone (IPZ) discharge header piping and yard piping with additional replacement occurring outside the Springwell's Property to locations that minimize the number of isolation points required for work to be completed. The scope will be divided between IPZ and HPZ to maintain operations during construction. This project also includes miscelaneous site infrastructure improvements such as the...

Other Important Info:

E. Klun 8/28/20 update based on the outcome of AECOM's effort on CS-272 Task 71013A, Phase I is as follows:

The project will be delivered by multiple projects comprised of equipment procurement, DB construction, consultant services, and DBB construction contracts as follows:

1.Contract A, Procurement of large diameter, high-performance butterfly valves to be installed under Contract D.
2.Contract B, Procurement of pressure regulating/flow control valves to be installed under Contract E...

CIP Number: 114010

Project Title: Springwells Water Treatment Plant, Yard Piping and High-Lift Header Improvements

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$1,968	$160	$160	$0	$0	$0	$0	$0	$0	$0	$1,064
Professional Services (CS-272)	$1,648	$1,648	$1,648	$0	$0	$0	$0	$0	$0	$0	$0
CMAR #1	$215,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$169,872
Totals	$218,615	$1,807	$1,808	$0	$0	$0	$0	$0	$0	$0	$170,936

CIP Number: 114011

Project Title: Springwells Water Treatment Plant Steam, Condensate Return, and Compressed Air Piping Improvements

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Springwells
Lookup Location: Springwells WTP

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Maintenance building photo 1 of finished section of piping

Project Engineer/Manager: Brian VanHall

Director: Tim Kuhns

Project Score
77

Problem Statement:

The steam, condensate return, compressed air, and natural gas piping systems at the Springwells WTP need to be replaced. These systems are original to the plant (i.e. 1930 or 1958) and are beyond their useful life. The existing steam and condensate systems are in poor condition and require multiple repairs each heating season due to frequent failures. This often requires taking the entire steam system out of service which places equipment at risk of freezing. Active steam, condensate, and air l...

Scope of Work/Project Alternatives:

This project is being delivered using a design-bid-build project delivery method. This engineering services contract involves designing a new, more energy-efficient steam heating system for the entire Springwells Water Treatment Plant, including all steam unit heaters, steam piping, condensate return piping, condensate return pumping stations, steam pressure reducing valves, and appurtenances. This project also includes replacing the compressed air piping in the plant used for service air. Once...

Other Important Info:

Many components of the existing system are original to the existing heating system, are not functioning and need to be replaced. Seasonal work and sequencing with the heating season is required.

CIP Number: 114011

Project Title: Springwells Water Treatment Plant Steam, Condensate Return, and Compressed Air Piping Improvements

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$206	$206	$199	$7	$0	$0	$0	$0	$0	$0	$0
Professional Services	$8	$8	$8	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services (MISC)	$5	$5	$5	$0	$0	$0	$0	$0	$0	$0	$0
Contractual Professional Services (Clark Const CON-252)	$277	$277	$277	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-1671)	$1,776	$1,618	$1,515	$261	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1 (CON-252)	$25,920	$24,724	$23,957	$1,962	$0	$0	$0	$0	$0	$0	$0
Totals	$28,192	$26,837	$25,962	$2,230	$0	$0	$0	$0	$0	$0	$0

CIP Number: 114016

Project Title: Springwells Water Treatment Plant 1958 Settled Water Conduits and Loading Dock Concrete Pavement Replacement

Project Status: Closed
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Springwells
Lookup Location: Springwells WTP

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Peter Fromm

Director: Tim Kuhns

Project Score

71.7

Problem Statement:

The existing concrete pavement that covers the 1958 settled water conduits has failed with significant concrete deterioration and corrosion of the reinforcement steel. The condition of the concrete pavement has deteriorated over the past 12 months and the concrete is crumbling in many areas. The conditions in certain areas are such that there are now potential safety hazards to those walking on the pavement. The plant chemists have to walk some of the areas frequently to obtain settled water sa...

Scope of Work/Project Alternatives:

This CIP project is being delivered under a design-bid-build project delivery method and generally includes the following scope of work:
1. Demolition of the existing concrete pavement that covers the 1958 settled water conduit and the loading dock.
2. Placement of new concrete pavement that covers the 1958 settled water conduit and the loading dock.
3. Demolition and installation of handrail around the 1958 settled water conduit.
4. Demolition of the existing concrete loading dock.
5....

Other Important Info:

Challenge: There are equipment limitations on the settled water conduit to avoid damaging the structure concrete of the settled water conduit.

CIP Number: 114016

Project Title: Springwells Water Treatment Plant 1958 Settled Water Conduits and Loading Dock Concrete Pavement Replacement

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$115	$115	$115	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services	$228	$228	$228	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services (CS-166)	$10	$10	$10	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$26	$26	$26	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-272)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1	$1,187	$1,187	$1,187	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$1,565	$1,565	$1,566	$0	$0	$0	$0	$0	$0	$0	$0

CIP Number: 114017

Project Title: Springwells Water Treatment Plant Flocculator Drive Replacements

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Springwells
Lookup Location: Springwells WTP

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Nichole Sajdak

Director: Tim Kuhns

Project Score
89.7

Problem Statement:
The existing 1958 flocculators are beyond useful service life and require replacement.

Scope of Work/Project Alternatives:
This CIP will be delivered under a design-bid-build project delivery model. The scope of work will generally include the following:
1. Replacement of the existing flocculator drives, motors, and control panels.
2. Replacement of all drive shaft bearings and associated grease lines.
3. Replacement of access doors between the flocculator chambers
4. Replacement of ladder rungs to all flocculators.
5. Improvement of flocculation system related instrumentation and controls.
6. Flocculator b...

Other Important Info:
Implementation of this CIP project is being sequenced and coordinated with the 1930 Sedimentation Basins Sluice Gate Improvements Project.

CIP Number: 114017

Project Title: Springwells Water Treatment Plant Flocculator Drive Replacements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$309	$101	$94	$46	$59	$59	$51	$0	$0	$169	$0
Professional Services	$83	$83	$83	$0	$0	$0	$0	$0	$0	$0	$0
Design & Construction Assistance # 1	$1,893	$924	$843	$264	$275	$275	$237	$0	$0	$786	$0
Design/Engineering (CS-259)	$45	$45	$45	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1	$25,469	$1,976	$0	$6,253	$6,712	$6,712	$5,792	$0	$0	$19,215	$0
Totals	$27,798	$3,128	$1,065	$6,563	$7,045	$7,045	$6,080	$0	$0	$20,170	$0

CIP Number: 114018

Project Title: Springwells Water Treatment Plant - Service Building Electrical Substation and Miscellaneous Improvements

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Springwells
Lookup Location: Water Treatment Plants
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**


Picture

Project Engineer/Manager: Justin Kietur

Director: Tim Kuhns

Project Score
62.7

Problem Statement:
The electrical substation located inside the Service Building provides electrical service to the entire service building including the filter wash water pumping units. The existing electrical substation has experienced corrosion to its interior components and electrical cables. As a result the substation does not automatically switch-over during power trips and requires manual switch-over. This substation provides power to the filter wash water pumps and if there are power disruptions associate...

Scope of Work/Project Alternatives:
Project will be delivered using a progressive design-build project delivery. The scope of improvements will generally include:
1. Replacement of the electrical substation in the 1958 Service Building
2. Connection of replacement electrical substation to Ovation for status monitoring
3. Replacement of electrical panel in 1930 plant and new conduit and cable runs to the associated equipment
4. Rehab of masonry on exterior of phosphoric acid fill station
5. Insulation of piping and pipe chase...

Other Important Info:
None

CIP Number: 114018

Project Title: Springwells Water Treatment Plant - Service Building Electrical Substation and Miscellaneous Improvements

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$178	$0	$0	$0	$0	$0	$0	$75	$75	$150	$28
Professional Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$2,163	$0	$0	$0	$0	$0	$0	$58	$1,533	$1,592	$571
Totals	$2,340	$0	$0	$0	$0	$0	$0	$133	$1,608	$1,741	$599

CIP Number: 115001

Project Title: Water Works Park Water Treatment Plant Yard Piping, Valves and Venturi Meters Replacement

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Water Works Park
Lookup Location: Waterworks Park WTP
☐ **Project New to CIP:**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☑ **Water Master Plan Right Sizing**
- ☑ **Redundancy**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **Predecessor Project(s)**

Project Engineer/Manager: Tim Kuhns

Director: Tim Kuhns

Project Score
77.9

Problem Statement:

The existing yard piping is 80-140 years old and requires replacement with new piping installed in a more efficient configuration.

Scope of Work/Project Alternatives:

This project is being delivered using a design-bid-build project delivery method. The scope of work generally includes:
1. Removing existing yard piping, valves and buried venturi meters and related vaults.
2. Constructing new yard piping, valves, water production flow meters, buried valve and meter vaults, and related system equipment.
3. Connecting to existing transmission main piping.
4. Testing and commissioning the new main, valves and water production flow metering equipment.
5. Rest...

Other Important Info:

This project is being coordinated with the new Waterworks Park to Northeast Transmission Main project.

Challenges: Complicated sequence of construction, and demands of DWSD must be maintained along with the coordination transmission system between Water Works Park and Northeast WTPs. Condition of existing valves required to complete the work is unknown. Complex construction staging is accounted for in the design to avoid loss of service and delays to the construction contract. Multiple line ...

CIP Number: 115001

Project Title: Water Works Park Water Treatment Plant Yard Piping, Valves and Venturi Meters Replacement

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$504	$126	$123	$111	$162	$109	$0	$0	$0	$270	$0
Professional Services	$9	$9	$9	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-055)	$5,598	$3,403	$3,258	$770	$939	$631	$0	$0	$0	$1,570	$0
Design/Engineering - (RECLASSIFICATION 115001/115003/115004)	$44	$44	$44	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1 (2000610)	$49,468	$28,705	$25,337	$9,283	$8,885	$5,964	$0	$0	$0	$14,848	$0
Miscellaneous	$450	$450	$450	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$56,073	$32,736	$29,221	$10,164	$9,986	$6,703	$0	$0	$0	$16,688	$0

CIP Number: 115005

Project Title: WWP WTP Building Ventilation Improvements

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Water Works Park
Lookup Location: Water Works Park WTP
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**


Water Works Park Water Treatment Plant

Project Engineer/Manager: Michael Dunne

Director: Tim Kuhns

Project Score
93

Problem Statement:

The existing ventilation systems are not adequate for the chemical storage rooms, the ozone generator room, ozone destruct room, laboratory rooms, pilot plant rooms, flocculation and sedimentation rooms, and filter galleries at the Water Works Park Water Treatment Plant. Inadequate ventilation poses safety hazards to employees and visitors.

Scope of Work/Project Alternatives:

This project will be delivered using a design-bid-build project delivery method. The scope of work will generally include the following:
1) Design of the improved, new ventilation systems for the facility.
2) Selective removal of existing ventilation system equipment.
3) Construction of new mechanical ventilation systems.
4) Installation of electrical feeders for new mechanical ventilation equipment.
5) Installation of new instrumentation equipment for monitoring and alarms, including int...

Other Important Info:

Many of the areas of work are adjacent to the tour path. Ventilation improvements should eliminate noxious gasses from entering the tour path.

CIP Number: 115005

Project Title: WWP WTP Building Ventilation Improvements

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$238	$70	$41	$90	$92	$15	$0	$0	$0	$107	$0
Design & Construction Assistance # 1 (1802499)	$1,350	$1,000	$936	$191	$191	$31	$0	$0	$0	$223	$0
Construction (Build) # 1 (2103380)	$14,953	$8,393	$4,965	$5,814	$3,585	$589	$0	$0	$0	$4,174	$0
Totals	$16,541	$9,462	$5,942	$6,096	$3,868	$636	$0	$0	$0	$4,504	$0

CIP Number: 115006

Project Title: Water Works Park Site/Civil Improvements

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Water Works Park
Lookup Location: Water Works Park WTP
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Water Works Park Water Treatment Plant

Project Engineer/Manager: Michael Dunne

Director: Tim Kuhns

Project Score

53.9

Problem Statement:

Many of the existing roadways and pedestrian sidewalks have substantial cracking, crumbling concrete and un-even surfaces whose condition becomes deteriorates every year. The concrete bases for several portions of the site perimeter security fencing are also heavily deteriorated with crumbling concrete. Additionally, there is insufficient employee and visitor parking space for the facility and new parking areas are needed to meet the needs of employees and visitors. There is no truck vehicle we...

Scope of Work/Project Alternatives:

This project will be delivered using a design-build project delivery. The schedule is predicated on using AECOM's design build assistance services under its CIP Program Management Contract CS-272. The scope of work for this project includes the following:
1. Construct 30 car parking lot adjacent to plant employee lot.
2. Construct 20 car parking lot across from maintenance garage to serve as GLWA vehicle parking.
3. Construct 10 car parking lot across from engineering building to serve as vi...

Other Important Info:

Concrete conditions will continue to worsen over the years.

CIP Number: 115006

Project Title: Water Works Park Site/Civil Improvements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$164	$0	$0	$0	$0	$0	$0	$41	$41	$82	$82
Design & Construction Assistance # 1 (CS-272)	$1,343	$0	$0	$0	$0	$0	$0	$341	$340	$681	$662
Construction (Build) # 1 (TBD)	$4,389	$0	$0	$0	$0	$0	$0	$0	$145	$145	$4,244
Totals	$5,895	$0	$0	$0	$0	$0	$0	$382	$526	$908	$4,988

CIP Number: 115007

Project Title: Water Works Park High Lift Pumping Station Modernization

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Water Works Park
Lookup Location: Water Works Park WTP
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☑ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Water Works Park High Lift Pumping Station

Project Engineer/Manager: Michael Dunne

Director: Tim Kuhns

Project Score
58.3

Problem Statement:

The Water Works Park Water Treatment Plant high -lift system is original construction from 1960. The pumping system is nearing the end of its useful lift and there is a need to improve configurations, capacity, redundancy, electrical efficiency, instrumentation, monitoring and controls of the High Lift pumping system at Water Works Park.

Scope of Work/Project Alternatives:

This project will be delivered under a Progressive Design Build delivery method. In general, the scope will contain the following items:
1. Replace and/or re-engineer pumps and motors based on an evaluation of contemporary and future flows, pressure, and energy needs.
2. Replace and/or improve the current high-pressure water system to create a more robust process.
3. Improve ventilation in the pump room to allow pumping units to operate at proper working temperatures.
4. Replace or repair ...

Other Important Info:

The current pumping system in the High Lift building at Water Works Park was constructed in the early 1960s. Now, 60 years later, it is necessary to realign Water Works Park's pumping system with contemporary and future flow, pressure, and energy requirements.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$1,035	$0	$0	$0	$0	$0	$0	$0	$0	$0	$532
Design-Build	$114,055	$0	$0	$0	$0	$0	$0	$0	$0	$0	$18,373
Totals	$115,089	$0	$0	$0	$0	$0	$0	$0	$0	$0	$18,905

CIP Number: 115009

Project Title: Water Works Park Sedimentation Basins Structural Upgrades

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Water Works Park
Lookup Location: City of Detroit

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Photo of Water Works Park Plant

Project Engineer/Manager: Tim Kuhns

Director: Tim Kuhns

Project Score

90.4

Problem Statement:

The existing pre-stressed precast concrete beams that support the plate settlers in the sedimentation basins have developed extensive cracks. Additionally, the concrete knee walls that support the beams have begun to delaminate and spall. The integrity of the structural support system is not compromised at this time, however, to avoid further deterioration of the structure the cracks and spall need to be addressed.

Scope of Work/Project Alternatives:

This project will be delivered under a Progressive Design Build delivery model. The structural system will be examined to confirm preliminary findings, methods for rehabilitation will be proposed, and upgrades will be completed to address the present deterioration of the beams and supports with the goal of extending their service life.

Other Important Info:

Reliability of all treatment systems at Water Works Park is critical to support system right-sizing and decommissioning of Northeast WTP.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$179	$0	$0	$0	$0	$0	$0	$43	$48	$91	$88
Design/Engineering	$793	$0	$0	$0	$0	$0	$0	$793	$0	$793	$0
Construction	$15,874	$0	$0	$0	$0	$0	$0	$828	$5,301	$6,129	$9,745
Totals	$16,845	$0	$0	$0	$0	$0	$0	$1,664	$5,349	$7,013	$9,833

CIP Number: 116002

Project Title: Pennsylvania and Springwells Raw Water Supply Tunnel Improvements

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: General Purpose
Lookup Location: Springwells, Northeast, & Pennsylvania raw water tunnels
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Peter Fromm

Director: Tim Kuhns

Project Score
94.3

Problem Statement:
Significant structural distress in the form of cracking and ovality have been detected in the Pennsylvania, Northeast (NE) and Springwells (SPRG) raw water tunnels that deliver raw water to the Northeast and Springwells Water Treatment Plants. The extent and magnitude of the distress requires that these segments of tunnel be rehabilitated and restored to provide renewed structural integrity and reliability.

Scope of Work/Project Alternatives:
This project is being delivered using Progressive Design-Build. The scope of work generally includes supplemental remove operated vehicle (ROV) and personnel diver underwater, detailed investigations to determine the nature, magnitude and extent of total tunnel rehabilitation required. The detailed investigations are also used to collect sufficient information and data to determine the preferred design and construction approach best suited to the conditions identified. The investigation work of...

Other Important Info:
These tunnels are 80 to 100 feet below ground surface. Dewatering the tunnels for repair will create extensive stresses that must be considered. Maintaining a supply of raw water to SPRGW, NE and WWP throughout construction to meet the demands of the system must be accommodated. Specialized construction will be involved.

Project History: Portions of the Raw Water Tunnel system are approaching 100 years of service. This project is based on the recommendations of CS-1623, which is inspecting...

CIP Number: 116002

Project Title: Pennsylvania and Springwells Raw Water Supply Tunnel Improvements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$891	$139	$136	$359	$396	$0	$0	$0	$0	$396	$0
Professional Services	$9	$9	$9	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-187)	$132	$132	$132	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-166)	$45	$45	$45	$0	$0	$0	$0	$0	$0	$0	$0
Design-Build # 1 (DB-150, CS-166, CS-187)	$94,577	$68,458	$65,881	$16,404	$12,292	$0	$0	$0	$0	$12,292	$0
Miscellaneous	$3,103	$3,103	$3,103	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$98,756	$71,885	$69,305	$16,763	$12,689	$0	$0	$0	$0	$12,689	$0

CIP Number: 116005

Project Title: Belle Isle Seawall Rehabilitation

Project Status: Project Execution - Design
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Water Works Park
Lookup Location: Belle Isle Intake

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Aerial image of Belle Isle intake structure and lagoon.

Project Engineer/Manager: Michael Dunne

Director: Tim Kuhns

Project Score
57.5

Problem Statement:

The Belle Isle intake system is the source water intake for three of the five GLWA water treatment plants. The intake is surrounded by a man-made dike system that creates a large lagoon on the northeast tip of Belle Isle. The dike system is showing signs of substantial erosion on the tip of the southern dike. Other areas on the southern dike are showing signs of erosion to a lesser degree.

Scope of Work/Project Alternatives:

This design/build project will evaluate and recommend solutions to permanently correct ongoing erosion issues and current deficiencies that may result in future dike erosion and failure.
The general scope will include.
1. Installing sheet piling, tie backs, and rip rap at the tip of the lagoon.
2. Stabilize lampposts that are leaning due to erosion.
3. Install armor stone where erosion is beginning, but not yet significant.
4. Grade and dress the lagoon access road in select areas.
5. Rep...

Other Important Info:

The Belle Isle lagoon, formed by the man-made dikes, was designed to prevent frazil ice from impeding water flow into the raw water tunnels. Continued erosion of the dike system will lead to short circuiting of the intake lagoon. The design intent of the lagoon, and its benefits, will be compromised and leave the raw water intake which supplies three water treatment plants vulnerable.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$136	$5	$2	$66	$69	$0	$0	$0	$0	$69	$0
Design/Engineering	$2,158	$207	$155	$532	$1,471	$0	$0	$0	$0	$1,471	$0
Totals	$2,294	$212	$157	$598	$1,539	$0	$0	$0	$0	$1,539	$0

CIP Number: 116006

Project Title: Belle Isle Intake System Rehabilitation and Improvements

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Water Works Park
Lookup Location: Belle Isle

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**


Belle Isle Intake

Project Engineer/Manager: Michael Dunne

Director: Terry Daniel

Project Score
55.8

Problem Statement:

The Belle Isle Intake structure and man-made lagoon were constructed in the 1930s. Periodic maintenance and improvements have taken place over the years to keep the building and lagoon in operating condition. As a result of recommendations from the State and CS-187 - Raw Water Condition Assessment, another project is needed. The intake system has experienced a buildup of sediment in critical areas that needs to be removed. Vegetation has grown on the dike system and needs to be removed to pr...

Scope of Work/Project Alternatives:

This CIP project will be delivered under a design-bid-build project delivery method and will generally include the following:
1. Removal of accumulated sediment in the intake building, emergency intake system, and tunnel system.
2. Electrical modernization on the intake grounds.
3. Architectural repairs to the intake building superstructure including, painting, masonry tuck-pointing, roofing, and stonework.
4. A code compliant emergency eyewash and shower.
5. Roof structure to protect the...

Other Important Info:

The intake system is the very first step in the water treatment process. A fully reliable and modern intake system is crucial in maintaining superior drinking water.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$235	$0	$0	$0	$0	$0	$0	$59	$59	$117	$117
Design & Construction Assistance	$1,987	$0	$0	$0	$0	$0	$0	$653	$648	$1,301	$686
Totals	$2,221	$0	$0	$0	$0	$0	$0	$712	$706	$1,418	$804

CIP Number: 116007

Project Title: System Electrical Power Improvements

Project Status: Active - Pre-Procurement - Design
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: General Purpose
Lookup Location: Multiple Counties

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Eric Griffin

Director: Tim Kuhns

Project Score
77.1

Problem Statement:

Electrical power redundancy and reliability is critically important for the successful operation of the sewage pumping stations, especially during storm events. Storm events and performance of certain sewage pumping stations during the summer of 2021 require that GLWA review the firm and total installed capacities of pumping units, the redundancy and reliability of power supplies, electrical switchgear configurations, and backup power generation capabilities at its sewage pumping stations. Defi...

Scope of Work/Project Alternatives:

Conduct a condition assessment and needs assessment of the primary and secondary electrical systems at all GLWA's sewage pumping stations to include.
1.Primary power feeds
2.Electrical system configuration
3.Electrical switchgear, motor control centers, VFDs.
4.Motor controls
5.Medium-voltage power system
6.Onsite backup power generation and distribution
7.Other electrical power, distribution and controls that impact the redundancy and reliability of the pumping units
Once the n...

Other Important Info:

N/A

CIP Number: 116007

Project Title: System Electrical Power Improvements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$102	$0	$0	$34	$51	$17	$0	$0	$0	$68	$0
Design/Engineering	$3,908	$0	$0	$762	$2,412	$734	$0	$0	$0	$3,146	$0
Totals	$4,010	$0	$0	$796	$2,462	$751	$0	$0	$0	$3,214	$0

CIP Number: 122003

Project Title: Water Works Park to Northeast Transmission Main

Project Status: Closed
Class Lvl 1: Water
Class Lvl 2: Field Services
Class Lvl 3: Transmission System
Lookup Location: WWP to NE WTP

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [x] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [x] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Project Engineer/Manager: Corey Brecht

Director: Tim Kuhns

Project Score

76.8

Problem Statement:

The 2015 GLWA Water Master Plan (WMP) update indicated that the regional system has significant excess capacity for water treatment compared to projected water demands. The analysis indicated that for average day demand conditions, the five WTPs typically operate between 23 percent to 35 percent of the rated treatment capacity and for maximum day demand conditions typically operate between 38 percent to 67 percent of the treatment rated capacity. To address this the WMP update recommended reduc...

Scope of Work/Project Alternatives:

This project included three separate construction phases for the completion of the overall water transmission system from Water Works Park to Northeast:
(1) Phase 1 - Construction of 84-inch yard piping and a Flow Control Facility at the Northeast site.
(2) Phase 2 - Construction of 4 miles of 81-inch water transmission main (WTM) from the Northeast site to I-94.
(3) Phase 3 - Construction of 6,000 feet of 60-inch/69-inch WTM along Hurlbut from I-94 to the intersection of Hurlbut/Sylvester.
...

Other Important Info:

Challenges: Construction of large diameter WTM in the road ROW north of I-94 and along Hurlbut south of I-94.

CIP Number: 122003

Project Title: Water Works Park to Northeast Transmission Main

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$1,134	$1,134	$1,134	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services	$19	$19	$19	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services (CS-272)	$23	$23	$23	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-152)	$4,448	$4,448	$4,448	$0	$0	$0	$0	$0	$0	$0	$0
Phase #1 (1803258)	$24,548	$24,548	$24,548	$0	$0	$0	$0	$0	$0	$0	$0
Design-Build Phase #2 (1904254)	$7,114	$7,114	$7,114	$0	$0	$0	$0	$0	$0	$0	$0
Design-Build Phase #3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design-Build Phase #4 (2003102)	$1,458	$1,458	$1,458	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$38,742	$38,742	$38,743	$0	$0	$0	$0	$0	$0	$0	$0

CIP Number: 122004

Project Title: 96-inch Water Transmission Main Relocation and Isolation Valve Installations

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Field Services
Class Lvl 3: Transmission System
Lookup Location: Imlay Station to North Service Center
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Corey Brecht

Director: Tim Kuhns

Project Score
77.5

Problem Statement:
This project is critical to providing isolation and redundancy to Lake Huron WTP supply, while protecting the water supply from potential contamination at the former G&H Industrial Landfill site. The project includes relocation around existing superfund landfill and addition of isolation valves along the 96-inch water transmission main.

Scope of Work/Project Alternatives:
Relocate 2.5 miles of 96-inch transmission main currently located in an EPA NPL landfill, a portion of which is submerged in landfill leachate. Relocation includes crossing the Clinton River, coordination with various authorities having jurisdiction and easement acquisition. The isolation valve installation portion of the project provides the ability to isolate segments of the 96-inch main between Imlay Station and North Service Center for maintenance while maintaining customer expected level o...

Other Important Info:
Challenges: Shutdown, continued customer service, isolation valve installations while maintaining the Lake Huron WTP supply to Rochester Station. Property acquisition will be required for the chesterfield temporary booster station and East Pond Creek discharge facility for relocation around the landfill.

CIP Number: 122004

Project Title: 96-inch Water Transmission Main Relocation and Isolation Valve Installations

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$2,950	$900	$548	$624	$408	$408	$408	$409	$144	$1,779	$0
Professional Services	$6	$6	$6	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services (CS-272)	$90	$90	$90	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (1900741)	$31,510	$18,483	$17,249	$2,961	$2,594	$2,594	$2,594	$2,601	$917	$11,300	$0
Design/Engineering (CS-165)	$1,687	$1,687	$1,687	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (MISC - Route Study)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (2204326)	$280	$245	$185	$95	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1 (CMAR - 2004825)	$38,889	$35,493	$28,855	$7,107	$704	$704	$704	$706	$108	$2,927	$0
Construction (Build) # 2 (2300600)	$56,351	$1,364	$0	$18,256	$25,373	$12,721	$0	$0	$0	$38,094	$0
Construction (Build) # 2 (TBD)	$90,000	$0	$0	$0	$0	$16,829	$33,936	$34,029	$5,207	$90,000	$0
Construction Materials (2100998)	$9,238	$4,100	$2,304	$3,341	$2,321	$1,272	$0	$0	$0	$3,592	$0
Construction Materials (TBD)	$2,300	$0	$0	$0	$0	$1,150	$1,150	$0	$0	$2,300	$0
Construction Materials	$3,000	$0	$0	$0	$596	$1,202	$1,202	$0	$0	$3,000	$0
Land Acq., Utilities Relocation, etc.	$1,253	$82	$82	$910	$78	$78	$78	$28	$0	$261	$0
Totals	$237,553	$62,450	$51,006	$33,294	$32,074	$36,958	$40,072	$37,773	$6,376	$153,253	$0

CIP Number: 122005

Project Title: Schoolcraft Road Water Transmission Main

Project Status: Closed
Class Lvl 1: Water
Class Lvl 2: Field Services
Class Lvl 3: Transmission System
Lookup Location: Schoolcraft water main
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Peter Fromm

Director: Tim Kuhns

Project Score
54.7

Problem Statement:
Currently there is an existing 48-inch water transmission main on West Bound Schoolcraft Road. This existing PCCP transmission main was manufactured by Interpace Corporation which has a long-documented history of PCCP failures due to manufacturing means and methods associated with the pre-stressed wires. Due to excessive breaks over the years and the downstream effect on customers, this project will improve the transmission system reliability and redundancy by installing a new 48-inch water tra...

Scope of Work/Project Alternatives:
Design and Construction of approximately 12,000 linear feet of new PCCP or Carbon Steel 48-inch water transmission main along Eastbound Schoolcraft service drive between Middlebelt and Beech Daly. Including isolation valves, blowoff's, valve vaults, manhole entrances and related appurtenances. Upon completion and tie-in of the new Eastbound Schoolcraft transmission main the existing will be abandoned in place.

Other Important Info:
Designed under CS-1488 by Somat Engineering

Project Title: Schoolcraft Road Water Transmission Main

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$810	$810	$807	$2	$0	$0	$0	$0	$0	$0	$0
Professional Services	$144	$144	$144	$0	$0	$0	$0	$0	$0	$0	$0
Design & Construction Assistance # 1 (CS-1488, CS-259)	$579	$579	$579	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-1488 - to be moved to CS-259)	$35	$35	$35	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1 (1804129)	$12,590	$12,590	$12,686	($96)	$0	$0	$0	$0	$0	$0	$0
Construction (Phase #2)	$612	$612	$612	$0	$0	$0	$0	$0	$0	$0	$0
Construction (2201870)	$3,266	$3,266	$3,266	$0	$0	$0	$0	$0	$0	$0	$0
Construction (1802448)	($4)	($4)	$0	($4)	$0	$0	$0	$0	$0	$0	$0
Totals	$18,030	$18,030	$18,128	($98)	$0	$0	$0	$0	$0	$0	$0

CIP Number: 122006

Project Title: Wick Road Water Transmission Main

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Field Services
Class Lvl 3: Transmission System
Lookup Location: Romulus

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Corey Brecht

Director: Tim Kuhns

Project Score
62.9

Problem Statement:
Existing water main from Wick Station to Ypsilanti station has a history of excessive breaks. Additionally, the main is the only primary connection between the two facilities with multiple community Master Meters along its alignment. A break in this line is disruptive to several communities depending on the failure location. The purpose of this is to improve the transmission system reliability/redundancy by means of constructing a parallel 48-inch water main along Wick Road.

Scope of Work/Project Alternatives:
Design and Construction of the new 48-inch transmission main along Westbound Wick Road in Romulus, MI including isolation valves and interconnects that will tie-in with the existing main along the alignment. Completion of this project will alleviate pressures and potential transients between the two mains, as well as increase reliability/redundancies in the general area.

Other Important Info:
N.A.

CIP Number: 122006

Project Title: Wick Road Water Transmission Main

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$240	$205	$205	$35	$0	$0	$0	$0	$0	$0	$0
Professional Services	$1,007	$1,007	$1,007	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-259)	$977	$932	$932	$45	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-1488)	$247	$247	$247	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1 (CON-306, 1803621)	$23,439	$22,473	$22,328	$1,110	$0	$0	$0	$0	$0	$0	$0
Construction (MISC CSX)	$333	$333	$333	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$26,242	$25,197	$25,053	$1,190	$0	$0	$0	$0	$0	$0	$0

CIP Number: 122007

Project Title: Merriman Road Water Transmission Main Loop

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Field Services
Class Lvl 3: Transmission System
Lookup Location: Merriman Rd, Marquette Rd to Lower Rouge River
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☑ **Water Master Plan Right Sizing**
☑ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**


Construction on Merriman Rd.

Project Engineer/Manager: Tim Kuhns

Director: Tim Kuhns

Project Score
76.8

Problem Statement:

Currently, several member partners (served by master meters WL-08, WL-03, WL-01, WL-12, WY-01, RS-01, GC-03) are fed by a single 36-inch water transmission main along Michigan Avenue. Construction of this proposed Merriman Road transmission main will provide a second feed to these customers and therefore provide redundancy. In addition, construction of this proposed Merriman Road transmission main improves and reinforces water service delivery to the point where the Michigan Avenue Booster Pump...

Scope of Work/Project Alternatives:

This project includes design and construction services associated with the installation of 2 miles of new 30-inch transmission main along Merriman Road between Lower Rouge River and Marquette Road. Alternatives evaluated included new main on either:
1. Hannon Road (rejected because of its poor route relative to other options)
2. Newburgh Road (rejected because it is not technically feasible as it will not meet contract pressures).
3. Merriman Road (accepted because it is superior in its tran...

Other Important Info:

None

GLWA Great Lakes Water Authority

CIP Number: 122007

Project Title: Merriman Road Water Transmission Main Loop

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$435	$0	$0	$0	$0	$0	$0	$54	$54	$109	$271
Design & Construction Assistance # 1	$5,111	$0	$0	$0	$0	$0	$0	$954	$951	$1,905	$2,601
Construction (Build) # 1	$20,663	$0	$0	$0	$0	$0	$0	$0	$0	$0	$16,404
Totals	$26,209	$0	$0	$0	$0	$0	$0	$1,008	$1,006	$2,014	$19,275

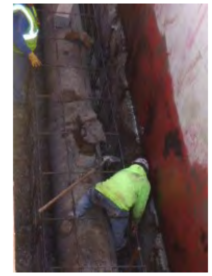
CIP Number: 122011

Project Title: Park-Merriman Road Water Transmission Main

Project Status: Closed
Class Lvl 1: Water
Class Lvl 2: Field Services
Class Lvl 3: Transmission System
Lookup Location: Venoy Road to Merriman Road to Michigan Ave. Booster Station.

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [x] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**


Updated photo

Project Engineer/Manager: Peter Fromm

Director: Tim Kuhns

Project Score
44.1

Problem Statement:
Currently, most of the wholesale master meters serving the cities of Wayne and Westland are fed off a single, "dead-end" transmission main, which provides no redundancy in service. Additionally, Wayne, Westland and Inkster have deduct wholesale meters that are fed off the single, "dead-end" transmission main. Construction of this new 24-inch water main will create a loop for these member partners and thereby eliminate the single, "dead-end" main. Direct meter connections will be made to the new...

Scope of Work/Project Alternatives:
This CIP project is being delivered under a design-bid-build project delivery method and generally includes the following scope of work:
1. Construction of 7,000 linear feet of 24-inch diameter ductile iron water transmission main, which includes 2 directional drills to install this main under the lower Rouge River, and 1 jack-and-bore to install this main under Michigan Avenue.
2. Constructing two new wholesale master meters and associated vaults for the city of Wayne.
3. Associated park im...

Other Important Info:
Challenges: Shutdowns to connect the two new meters with the City of Wayne. The water pressure during these two shutdowns will be reducers and coordination will need to take place with the City of Wayne, their residents and local businesses.

CIP Number: 122011

Project Title: Park-Merriman Road Water Transmission Main

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$272	$272	$272	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services	$134	$134	$134	$0	$0	$0	$0	$0	$0	$0	$0
Contractual Professional Services (Water I&E)	$1,287	$1,287	$1,287	$0	$0	$0	$0	$0	$0	$0	$0
Design & Construction Assistance # 1 (CS-259, CS-1488)	$282	$282	$282	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-1488)	$253	$253	$253	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1 (1802775)	$5,892	$5,892	$5,892	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$8,119	$8,119	$8,120	$0	$0	$0	$0	$0	$0	$0	$0

CIP Number: 122013

Project Title: 14 Mile Transmission Main Loop

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Field Services
Class Lvl 3: Transmission System
Lookup Location: 8 Mile Rd/ I-275 to 14 Mile Rd/ Haggerty PS
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

14 Mile Loop Project Location

Project Engineer/Manager: Vittoria Hogue

Director: Tim Kuhns

Project Score
76

Problem Statement:
The 14 Mile Transmission Main that currently serves West Bloomfield Township, Farmington Hills, Commerce Township, Novi, Walled Lake, and Wixom is a single feed transmission system. If a disruption to service were to occur on this transmission main, many of the users along this main would experience a complete loss of pressure and flow. This project would provide a transmission main loop to the 14 Mile system to increase redundancy on this branch of the system.

Scope of Work/Project Alternatives:
Install approximately 8 Miles of 54-inch transmission main from 8 Mile Road to 14 Mile Road. It also includes construction of approximately 1 mile of new 24-inch parallel transmission main along 14 Mile from M-5 to west of Decker Road to reinforce the 14 Mile Transmission System.

The work will also include connections to the yard piping and reservoir fill line at the Haggerty Booster Station as well as control valves to regulate flows to and from the 14 Mile transmission main.

Other Important Info:
Project History: The 2015 Water Master Plan Update included a recommendation to evaluate options along this branch of the system to increase redundancy. Since that recommendation, GLWA Water Supply Operations Engineering performed a hydraulic analysis of redundancy alternatives for the 14 Mile Transmission System. The results of the hydraulic analysis was presented at the May 15, 2017 and September 19, 2017 Analytical Work Group Meetings and based on the discussion at these meetings, the Hagger...

CIP Number: 122013

Project Title: 14 Mile Transmission Main Loop

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$1,760	$991	$959	$457	$343	$0	$0	$0	$0	$343	$0
Design & Construction Assistance # 1 (1802448)	$9,883	$8,860	$8,391	$1,036	$456	$0	$0	$0	$0	$456	$0
Construction (Build) # 1 (1803258)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction Phase #3 (1903312)	$6,611	$6,611	$6,611	$0	$0	$0	$0	$0	$0	$0	$0
Construction Materials (2002038)	$691	$691	$691	$0	$0	$0	$0	$0	$0	$0	$0
Construction (2004456)	$93,069	$68,024	$57,684	$35,385	$0	$0	$0	$0	$0	$0	$0
Construction Materials (2002047)	$284	$284	$284	$0	$0	$0	$0	$0	$0	$0	$0
Construction Materials (2002048)	$1,178	$1,040	$749	$429	$0	$0	$0	$0	$0	$0	$0
Totals	$113,474	$86,500	$75,368	$37,307	$800	$0	$0	$0	$0	$800	$0

CIP Number: 122016

Project Title: Downriver Transmission Main Loop

Project Status: Active - Procurement - Board Approved - Construction
Class Lvl 1: Water
Class Lvl 2: Field Services
Class Lvl 3: Transmission System
Lookup Location: Will be located on Inkster between Wick and Pennsylvania Road; on Allen Road/Dixie Highway between Pennsylvania Rd. and Ready Rd; and also at Electric Avenue.

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [x] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Project Engineer/Manager: Vittoria Hogue

Director: Tim Kuhns

Project Score
76

Problem Statement:

The Downriver Transmission Main that currently serves Brownstown, Riverview, Woodhaven, Trenton, Flat Rock, Gibraltar, Rockwood, South Rockwood, Berlin Township, and Grosse Isle is a single feed transmission system. If a disruption to service were to occur on this transmission main, many of the users along this main would experience a complete loss of pressure and flow. The number of users experiencing pressure loss would depend on the location of the break. This project would provide a transmi...

Scope of Work/Project Alternatives:

This project will be delivered using a design-bid-build project delivery method. The scope of work generally includes: installing approximately 4 miles of 16-inch transmission main and 5 mile of 24-inch transmission main paralleling the existing Allen Road/Dixie Highway transmission main and 4 miles of 30-inch transmission main along Inkster road between Wick and Pennsylvania road. This will provide redundancy to the Downriver communities of Brownstown, Riverview, Woodhaven, Trenton, Flat Rock,...

Other Important Info:

Completion of the Downriver Transmission main loop was predicated on acquiring ownership of a portion of 24-inch transmission main owned but not used by the City of Trenton. The acquisition of this Trenton main has been completed.

Project History: The 2015 Water Master Plan Update included a recommendation to evaluate options along this branch of the system to increase redundancy. GLWA Water Supply Operations Engineering performed a hydraulic analysis of redundancy alternatives. The results...

CIP Number: 122016

Project Title: Downriver Transmission Main Loop

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$607	$110	$103	$57	$75	$75	$75	$75	$75	$373	$75
Professional Services (CS-272)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services (CS-201)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design & Construction Assistance # 1 (1803942)	$5,165	$2,652	$2,509	$535	$745	$745	$419	$211	$0	$2,120	$0
Construction (Build) # 1	$20,700	$0	$0	$2,294	$9,203	$9,203	$0	$0	$0	$18,406	$0
Construction (Build) # 2	$17,900	$0	$0	$0	$5,108	$5,108	$5,108	$2,575	$0	$17,900	$0
Construction (Build) # 3	$25,400	$0	$0	$0	$0	$0	$0	$8,482	$8,459	$16,941	$8,459
Totals	$69,771	$2,762	$2,612	$2,886	$15,131	$15,131	$5,601	$11,343	$8,534	$55,740	$8,534

CIP Number: 122017

Project Title: 7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station

Project Status: Project Execution - Design
Class Lvl 1: Water
Class Lvl 2: Field Services
Class Lvl 3: Transmission System
Lookup Location: City of Detroit

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Tim Kuhns

Director: Tim Kuhns

Project Score

81.2

Problem Statement:

The primary driver of this project is to provide pipeline renewal of a short section of PCCP under the I-75 freeway at Grixdale in the City of Detroit. Field inspection revealed this segment of pipeline is in need of renewal.

Scope of Work/Project Alternatives:

Project includes inspection and rehab of a short I-75 freeway crossing of 7 Mile/Nevada Transmission System.

Other Important Info:

NA

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$589	$38	$37	$552	$0	$0	$0	$0	$0	$0	$0
Design/Engineering #2	$86	$47	$47	$39	$0	$0	$0	$0	$0	$0	$0
Design/Engineering #1	$13,036	$9,455	$9,140	$2,877	$216	$216	$216	$216	$156	$1,019	$0
Totals	$13,711	$9,539	$9,224	$3,468	$216	$216	$216	$216	$156	$1,019	$0

CIP Number: 122018

Project Title: Garland, Hurlbut, Bewick Water Transmission System Rehabilitation

Project Status: Cancelled
Class Lvl 1: Water
Class Lvl 2: Field Services
Class Lvl 3: Transmission System
Lookup Location: Transmission Mains
☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Tim Kuhns

Director: Tim Kuhns

Project Score
85

Problem Statement:

A large proportion of the water transmission mains (WTMs) within the City of Detroit were constructed between the decades of 1870 and 1930. Mains constructed during this period have exceeded their service life and require replacement in the near term. Because NE Decommissioning was put on hold indefinitely and these pipes are not as critical if NE treatment is not decommissioned, this project was put on hold. These pipes are under review to determine if they should be rehabilitated or abandoned...

Scope of Work/Project Alternatives:

This project involves rehab of WTM along Garland Street, Hurlbut Street, and Bewick Street between Jefferson Avenue and I-94 within the east side of the City of Detroit. This project will include a detailed condition assessment of these WTM to evaluate the appropriate rehabilitation method. Because NE Decommissioning was put on hold indefinitely and these pipes are not as critical if NE treatment is not decommissioned, this project was put on hold. These pipes are under review to determine if t...

Other Important Info:

This project will be implemented concurrently with Phase 3 of CIP:122003 WWP to NE Transmision Main Project. Because NE Decommissioning was put on hold indefinitely and these pipes are not as critical if NE treatment is not decommissioned, this project was put on hold. These pipes are under review to determine if they should be rehabilitated or abandoned.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$9	$9	$9	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (C.A.)	$10	$10	$10	$0	$0	$0	$0	$0	$0	$0	$0
Design-Build	$2,708	$2,708	$2,708	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$2,726	$2,726	$2,726	$0	$0	$0	$0	$0	$0	$0	$0

CIP Number: 122019

Project Title: Jefferson Main Replacement Project

Project Status: Project Execution - Design
Class Lvl 1: Water
Class Lvl 2: Field Services
Class Lvl 3: Transmission System
Lookup Location: City of Detroit
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Tim Kuhns

Director: Tim Kuhns

Project Score
37.2

Problem Statement:
The City of Detroit is planning on performing a complete reconstruction of Jefferson Avenue from I -375 to Alter Street in 2023. The existing GLWA 48-inch cast iron transmission main that is within Jefferson Avenue from Water Works Park to I-375 was constructed in 1915 and is beyond its service life. Given that Jefferson Avenue will be reconstructed, GLWA would like to replace the 48-inch Jefferson Main at the same time as Jefferson Avenue is being reconstructed. Replacing the Jefferson Main now...

Scope of Work/Project Alternatives:
Scope of work for this project involves replacement of approximately 17,650 linear feet of 48-inch transmission main within Jefferson Avenue from Water Works Park to I-375.

Other Important Info:
This work will be included with the overall Jefferson Avenue Streetscape project. GLWA will cost share for their portion of the work associated with the 48-inch transmission main replacement.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$368	$0	$0	$0	$184	$184	$0	$0	$0	$368	$0
Design/Engineering	$3,481	$1,134	$1,098	$36	$1,173	$1,173	$0	$0	$0	$2,347	$0
Construction	$36,287	$0	$0	$0	$18,144	$18,144	$0	$0	$0	$36,287	$0
Totals	$40,135	$1,133	$1,098	$36	$19,501	$19,501	$0	$0	$0	$39,002	$0

CIP Number: 132007

Project Title: Energy Management: Freeze Protection Pump Installation at Imlay Pump Station

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Systems Control Center
Class Lvl 3: Pump Station/Reservoir
Lookup Location: Imlay Pumping Station
☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☑ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Vittoria Hogue

Director: Tim Kuhns

Project Score
35.1

Problem Statement:
This CIP project will address two principle needs. The first is to replace an existing large pumping unit with a smaller pumping unit for the purpose of recirculating finished water inside the station's reservoir. Recirculation of reservoir water is required during the low-demand season to maintain water quality. Recirculation of reservoir water using a smaller suitability sized pumping unit will reduce operating complexity and the possibility for damage to the larger pump units. The second nee...

Scope of Work/Project Alternatives:
This project is being delivered using a design-build project delivery method. The scope of work generally includes replacing one of Imlay Station's 75 MGD pump's and 6,000 HP motor with a smaller 22.5 MGD pump with 1,100 HP motor. The associated VFD, valves, piping and appurtenances will also be removed and replaced to accommodate the new smaller pump. VHN 7/29/2021

Other Important Info:
N/A

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$226	$226	$218	$8	$0	$0	$0	$0	$0	$0	$0
Design-Build # 1 (1900516)	$5,534	$4,853	$4,963	$571	$0	$0	$0	$0	$0	$0	$0
Totals	$5,759	$5,078	$5,181	$579	$0	$0	$0	$0	$0	$0	$0

CIP Number: 132010

Project Title: West Service Center Pumping Station - Reservoir, Reservoir Pumping, and Division Valve Upgrades

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Systems Control Center
Class Lvl 3: Pump Station/Reservoir
Lookup Location: West Service Center

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Project Engineer/Manager: Mike Garrett

Director: Tim Kuhns

Project Score

62.6

Problem Statement:

Construction of West Service Center Division Valves is needed to convey flows originating from the Lake Huron Water Treatment Plant through the West Service Center to the Springwells high-pressure service area while the Springwells raw water tunnel is out of service for repairs. The existing reservoirs at the West Service Center are in poor condition and continue to require periodic structural repairs despite numerous previous repairs. Additionally, half of the existing reservoir pumps experien...

Scope of Work/Project Alternatives:

This project is being delivered using a design-build project delivery method. The scope of work generally involves:
1. Rehabilitating Valve Vaults #1, #4, and #7.
2. Demolishing existing Valve Vault #3.
3. Constructing a new Valve Vault #3 containing a new 30-inch cone valve.
4. Demolishing two existing 10 MG reservoirs and the associated Reservoir Pump Houses #1 and #2, with associated yard piping.
5. Constructing two new 5 MG reservoirs.
6. Constructing a new Reservoir Pump House, incl...

Other Important Info:

Challenges: Water storage capacity and reservoir pumping capacity need to be maintained during construction. Sequence of construction and meeting system demands will need to be coordinated with operations. Construction of the new reservoirs is subject to the city of Southfield's zoning ordinances especially related to the height of the reservoirs.

CIP Number: 132010

Project Title: West Service Center Pumping Station - Reservoir, Reservoir Pumping, and Division Valve Upgrades

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$289	$232	$221	$43	$25	$0	$0	$0	$0	$25	$0
Design/Engineering (CS-1772)	$214	$214	$214	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-052)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design-Build # 1 (1803312)	$46,610	$43,121	$42,161	$2,950	$1,499	$0	$0	$0	$0	$1,499	$0
Miscellaneous	$311	$311	$311	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$47,424	$43,877	$42,907	$2,993	$1,524	$0	$0	$0	$0	$1,524	$0

CIP Number: 132012

Project Title: Ypsilanti Booster Pumping Station Improvements

Project Status: Project Execution - Design
Class Lvl 1: Water
Class Lvl 2: Systems Control Center
Class Lvl 3: Pump Station/Reservoir
Lookup Location: Water Plants & Booster Pump Stations
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**


Existing Ypsi station

Project Engineer/Manager: Jorge Nicolas

Director: Tim Kuhns

Project Score
47.6

Problem Statement:

The Ypsilanti Booster Pumping Station does not have backup power generation and needs it in the event of a power loss so that system pressure loss is avoided during these conditions. The entire station and its pumping and electrical system equipment are original to the facility and are past their useful service life. The existing electrical system requires substantial maintenance to keep it in service. The existing pumps and motors are in poor condition and require cumbersome maintenance to kee...

Scope of Work/Project Alternatives:

This project is being delivered using a design-bid-build project delivery method. The scope of work generally includes building a new booster pumping station that meets current water system demands, current building and electrical codes, and best industry practices for water pumping station design, operation and maintenance. The new station will be equipped with all new pumps, motors, drives, electrical switchgear, power distribution system, building mechanical, station passive bypass, and elec...

Other Important Info:

Impact to member partners

CIP Number: 132012

Project Title: Ypsilanti Booster Pumping Station Improvements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$391	$97	$88	$9	$0	$0	$0	$0	$0	$0	$179
Design/Engineering (CS-267)	$1,382	$693	$657	$725	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-052)	$89	$89	$89	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (1902063)	$70	$32	$1	$31	$0	$0	$0	$0	$0	$0	$32
Design/Engineering	$3,714	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,873
Construction (Build) # 1	$36,195	$0	$0	$0	$0	$0	$0	$0	$0	$0	$21,356
Construction Property Acquisition	$1,596	$1,596	$1,596	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$43,436	$2,507	$2,431	$765	$0	$0	$0	$0	$0	$0	$24,439

CIP Number: 132014

Project Title: Adams Road Pumping Station Improvements

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Systems Control Center
Class Lvl 3: Pump Station/Reservoir
Lookup Location: Adams Road BPS

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Peter Fromm

Director: Tim Kuhns

Project Score

97.8

Problem Statement:

Adams Road booster pumping station was constructed in 1971 and is nearing the end of its service life. Recent condition assessment of the station indicates that there are several needs at the site that need to be addressed due to aging infrastructure. Improvements required at the site include site drive improvements, site valve replacements, building sump replacement, site drain PS replacement, structural improvements, pumping system improvements, flow metering improvements, bypass upgrades, in...

Scope of Work/Project Alternatives:

This project will be delivered using a design-bid-build project delivery method. The scope of work generally includes reconstructing a new pumping station next to the existing on the current site. The new station will be designed to current building and electrical codes, industry standards, and best practices for operation and maintenance of pumping stations.

Other Important Info:

N/A

Project Title: Adams Road Pumping Station Improvements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$575	$0	$0	$0	$0	$0	$0	$72	$72	$144	$360
Design & Construction Assistance # 1 (CS-052A, TBD)	$8,500	$0	$0	$0	$0	$0	$0	$1,192	$1,189	$2,381	$5,566
Design/Engineering (CS-052)	$83	$83	$83	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1	$52,600	$0	$0	$0	$0	$0	$0	$0	$0	$0	$40,708
Totals	$61,758	$83	$83	$0	$0	$0	$0	$1,264	$1,261	$2,525	$46,633

CIP Number: 132015

Project Title: Newburgh Road Booster Pumping Station Improvements

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Systems Control Center
Class Lvl 3: Pump Station/Reservoir
Lookup Location: Newburgh Road Booster Pumping Station

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Project Engineer/Manager: Tim Kuhns

Director: Tim Kuhns

Project Score
58.9

Problem Statement:
Existing pumps, motors and electrical gear are beyond useful service life. The existing pump manufacturer has discontinued maintenance support of the pumps, increasing the difficulty and cost of maintenance. Additionally, a new transmission main will be designed to allow the Newburgh Station to pump flows to the Haggerty Station reservoir. The Haggerty reservoir fill operation may require additional pumps at the Newburgh Station that are rated to higher discharge pressures.

Scope of Work/Project Alternatives:
Construct a new Newburgh Road Booster Pumping Station, including new pumps, motors, VFDs, electrical gear, building mechanical equipment, and backup power generation. Alternatives include constructing a new Newburgh Road Booster Pumping Station on the existing site, expanding the existing site to accommodate a new station, or construction of the new station on a new site.

Other Important Info:
Challenges: The existing site is not large enough to construct the new Newburgh Station. Coordination with the 14-Mile Road Transmission Main Loop Contract will be required.

CIP Number: 132015

Project Title: Newburgh Road Booster Pumping Station Improvements

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$411	$18	$18	$0	$0	$78	$78	$79	$78	$314	$78
Design & Construction Assistance # 1 (1901767, CS-052)	$3,503	$426	$426	$0	$0	$615	$615	$617	$615	$2,463	$615
Design/Engineering (CS-052)	$83	$83	$83	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1	$42,385	$722	$722	$0	$0	$8,328	$8,328	$8,351	$8,328	$33,335	$8,328
Totals	$46,381	$1,248	$1,249	$0	$0	$9,022	$9,022	$9,046	$9,022	$36,111	$9,022

CIP Number: 132016

Project Title: North Service Center Pumping Station Improvements

Project Status: Project Execution - Design
Class Lvl 1: Water
Class Lvl 2: Systems Control Center
Class Lvl 3: Pump Station/Reservoir
Lookup Location: North Service Center

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Mike Garrett

Director: Tim Kuhns

Project Score
98.7

Problem Statement:

The North Service Center was constructed in 1962 and is nearing the end of its service life.

Recent condition assessment of the station indicates that there are several needs that need to be addressed. Improvements include site drive improvements, valve replacements, septic tank and well field replacement, electric room improvements, building structure improvements, line and reservoir pump upgrades, interior valve upgrades, station piping improvements, sump pump upgrades, and various electr...

Scope of Work/Project Alternatives:

This project includes rehabilitation of the North Service Center Pumping Station, and replacement of two ten-million-gallon reservoirs.

Other Important Info:

Proposed changes focus on optimization of energy efficiency in the system by removing waste and conserving energy already input the system.

CIP Number: 132016

Project Title: North Service Center Pumping Station Improvements

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$1,587	$55	$52	$97	$142	$142	$142	$143	$142	$711	$711
Professional Services	$72	$72	$72	$0	$0	$0	$0	$0	$0	$0	$0
Design & Construction Assistance # 1	$283	$257	$257	$0	$0	$6	$7	$7	$6	$26	$0
Design & Construction Assistance # 2	$14,831	$1,323	$788	$3,641	$2,390	$1,445	$1,851	$1,856	$1,851	$9,393	$1,009
Design/Engineering	$17,811	$0	$0	$0	$0	$0	$0	$2,505	$2,498	$5,003	$12,638
Construction (Build) # 1	$22,000	$0	$0	$0	$0	$8,696	$11,137	$2,166	$0	$22,000	$0
Construction (Build) # 2	$53,000	$0	$0	$0	$0	$0	$13,973	$17,944	$17,895	$49,813	$3,187
Construction (Build) # 3	$30,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$30,000
Construction (Build) # 4	$100,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$96,392
Totals	$239,583	$1,707	$1,170	$3,738	$2,532	$10,289	$27,111	$24,622	$22,392	$86,947	$143,937

CIP Number: 132018

Project Title: Schoolcraft Pumping Station Improvements

Project Status: Future Planned - Ten Year CIP
Class Lvl 1: Water
Class Lvl 2: Systems Control Center
Class Lvl 3: Pump Station/Reservoir
Lookup Location: Booster Pumping Stations
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Eric Kramp

Director: Tim Kuhns

Project Score
58.9

Problem Statement:
Following the Pump Station Condition Survey and Needs Assessment, significant issues were observed in the Schoolcraft Pumping Station. This needs assessment has found several significant areas of necessary improvement to the station as described in the project scope of work:

Scope of Work/Project Alternatives:
This project will be delivered using a design-bid-build project delivery method. The scope of work will generally include replacing existing pumps, motors, drives, electrical switchgear, motor control centers, valves, valve operators, yard piping, and yard valves with new infrastructure. Additionally, the underdrain system that serves the finished water reservoirs will either be rehabilitated or replaced.

Other Important Info:
This project is scheduled to begin beyond the 10 year time period.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$222	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services	$3,265	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2
Design/Engineering	$47	$47	$47	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$21,156	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$24,690	$47	$47	$0	$0	$0	$0	$0	$0	$0	$2

CIP Number: 132019

Project Title: Wick Road Pumping Station Improvements

Project Status: Future Planned - Ten Year CIP
Class Lvl 1: Water
Class Lvl 2: Systems Control Center
Class Lvl 3: Pump Station/Reservoir
Lookup Location: Romulus

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☑ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Vittoria Hogue

Director: Tim Kuhns

Project Score
67.2

Problem Statement:

Wick Pump Station is currently oversized based on the demands, has poor valve isolation capabilities and much of its equipment which was installed in 1981 is passed its useful service life. This project's intent is to right size the station and replace valves and other aging equipment.

Scope of Work/Project Alternatives:

This project will be delivered under a design-bid-build delivery method. This project's scope of work will be rightsizing the station's pumping capacity, improving valve control and isolation, and replacing or upgrading equipment. The improvements to right size the station include replacing reservoir pumping units and installing another small line pump (jockey pump) to accommodate low flow conditions. Valve control and isolation work will involve replacing existing station valves and replacing ...

Other Important Info:

CS-052A Condition Assessment provides additional details on the scope of project.

CIP Number: 132019

Project Title: Wick Road Pumping Station Improvements

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$372	$0	$0	$0	$0	$0	$0	$0	$0	$0	$372
Design & Construction Assistance # 1 (TBD, CS-052A)	$4,361	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,361
Design/Engineering (CS-052)	$57	$57	$57	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1	$19,990	$0	$0	$0	$0	$0	$0	$0	$0	$0	$19,965
Totals	$24,780	$56	$57	$0	$0	$0	$0	$0	$0	$0	$24,698

CIP Number: 132020

Project Title: Franklin Pumping Station Improvements

Project Status: Future Planned - Ten Year CIP
Class Lvl 1: Water
Class Lvl 2: Systems Control Center
Class Lvl 3: Pump Station/Reservoir
Lookup Location: Franklin Pump Station

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Peter Fromm

Director: Tim Kuhns

Project Score
77.7

Problem Statement:

The Franklin Booster Pumping Station was constructed in 1968 and is nearing the end of its service life.

Recent condition assessment of the station indicates that there are several needs that need to be addressed due to aging infrastructure. Improvements required at the site include site drive improvements, sanitary holding tank improvements, site valve replacements, mezzanine valve access improvements, electrical room upgrades, building structure improvements, pumping improvements, flow me...

Scope of Work/Project Alternatives:

This project includes complete rehab or reconstruction of the Franklin Booster Station.

Other Important Info:

Project will include alternatives evaluation to determine building new station versus rehabilitating existing.

CIP Number: 132020

Project Title: Franklin Pumping Station Improvements

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$132	$0	$0	$0	$0	$0	$0	$0	$0	$0	$132
Design/Engineering (TBD)	$4,693	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,693
Design/Engineering (CS-052)	$93	$93	$93	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) #1	$56,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$56,000
Totals	$60,917	$93	$93	$0	$0	$0	$0	$0	$0	$0	$60,825

CIP Number: 132021

Project Title: Imlay Pumping Station Improvements

Project Status: Future Planned - Ten Year CIP
Class Lvl 1: Water
Class Lvl 2: Systems Control Center
Class Lvl 3: Pump Station/Reservoir
Lookup Location: Imlay Pumping Station

- [ ] **Project New to CIP:**

- [x] **Innovation**
- [ ] **WW Master Plan**
- [x] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Project Engineer/Manager: Eric Kramp

Director: Tim Kuhns

Project Score
59.4

Problem Statement:

The 2018 Booster Station Condition Assessment identified several significant issues have been documented at the Imlay Booster Station. In addition to the updates to the VFD systems identified in the FY 2020 CIP. Site/civil, mechanical, and electrical improvements have been identified far in excess of the initial assessment, including the complete replacement of all outdated electrical switchgear.

It was recently documented that approximately half of the reservoir fill system is working at l...

Scope of Work/Project Alternatives:

Significant improvements to the site/civil, mechanical, and electrical systems at the Imlay Booster Station are required as follows:
Site/Civil -- Replace crumbling retaining walls.
Roofing rehabilitation
Pumping -- "Right size" remaining pump and motor units based on 2015 WMPU. Rehabilitate any pumping units that are correctly sized.
Mechanical -- Improvements to HVAC.
Replacement or rehabilitation of all station isolation gate, butterfly valves and reservoir fill valves.
Electrical -- Add...

Other Important Info:

VFD size is unusual in the marketplace and cooling systems are complex for the VFDs.

CIP Number: 132021

Project Title: Imlay Pumping Station Improvements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$1,241	$0	$0	$0	$0	$0	$0	$0	$0	$0	$550
Design (TBD, CS-052A)	$136,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$66,307
Design/Engineering (CS-052)	$227	$227	$227	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$137,968	$227	$227	$0	$0	$0	$0	$0	$0	$0	$66,856

CIP Number: 132022

Project Title: Joy Road Pumping Station Improvements

Project Status: Future Planned - Ten Year CIP
Class Lvl 1: Water
Class Lvl 2: Systems Control Center
Class Lvl 3: Pump Station/Reservoir
Lookup Location: Joy Rd Water Pumping Station
☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**


Inside Joy Road Pumping Station

Project Engineer/Manager: Tim Kuhns

Director: Tim Kuhns

Project Score
58.9

Problem Statement:
The station is undersized with limited space for maintenance and personnel access. The main walkway inside the station is built on top of the discharge header and six stairways connected to it are non-code compliant. There is not enough room to install standard stairs. The electrical room addition was partially built on top of the pump station top slab and blocks access to the reservoir fill line valves. The pump station roof hatches leak and drip onto equipment below. The discharge header is h...

Scope of Work/Project Alternatives:
Design contract will consider life-cycle costs of rehabilitating the current station versus building a new station on available land located to the south.
Station improvements include:
Existing site drive geometry needs to be improved to allow for a mobile crane or semi-trailer truck.
Installation of a new site drain pump station next to existing
A new electrical room addition
The existing building structures require maintenance and repair.
Rehabilitate the existing line and reservoir pum...

Other Important Info:
There is space on the site for building a new pump station to the south of the existing.

CIP Number: 132022

Project Title: Joy Road Pumping Station Improvements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$469	$0	$0	$0	$0	$0	$0	$0	$0	$0	$17
Design & Construction Assistance # 1 (TBD, CS-052A)	$3,536	$0	$0	$0	$0	$0	$0	$0	$0	$0	$223
Design/Engineering (CS-052)	$71	$71	$71	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1	$35,781	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$39,857	$71	$71	$0	$0	$0	$0	$0	$0	$0	$240

CIP Number: 170109

Project Title: GLWA-CS-187: FK Eng: Raw Water Intake

Project Status: Closed
Class Lvl 1: Water
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: WTPs and Boosters
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Peter Fromm

Director: Tim Kuhns

Project Score
0

Problem Statement:
This allowance is reserved for unplanned, emergency and critical project needs that need to be addressed quickly.

Scope of Work/Project Alternatives:
This project is an allowance for unplanned, critical projects that may occur at the Water Treatment Plants and Booster Pump Stations throughout the system. These projects may include repair, replacement or rehabilitation of key assets as required to allow the Authority to provide sufficient water quality, quantity and pressure to meet customer demands in accordance with federal and state requirements under the Safe Drinking Water Act.

Other Important Info:
Challenges: Close coordination with operations and ability to meet on needs.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$181	$181	$181	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services	$11	$11	$11	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-187)	$305	$305	$305	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-1623)	$1,159	$1,159	$1,159	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$1,656	$1,656	$1,656	$0	$0	$0	$0	$0	$0	$0	$0

CIP Number: 170300

Project Title: Water Treatment Plant Automation Program

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: Water Treatment Plants

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Jeffrey Dorsey

Director: Terry Daniel

Project Score
0

Problem Statement:

This automation design and construction project comes from recommendations that identified existing station process data conditions and needs, GLWA mission critical assets, alternative improvement options to address identified needs, recommended improvements to address the needs, prioritized projects based on the GLWA CIP scoring tool, and schedule for making the improvements along with budgets for each project established under CS-108.

Scope of Work/Project Alternatives:

The purpose of this project is to implement the recommendations from CS-108 that are prioritized in five (5) year increments with an estimated cost of $1 million dollars per year over a twenty (20) year span.

Other Important Info:

Challenge: Standardization of multiple different data process equipment already installed throughout the 5 plants is problematic.

Project History: Each water treatment plant has process areas ranging from intake, sedimentation, chlorination, filtration and distribution systems. One of the directives from the organizational objectives is to provide the treatment plants with automation. This automation is one of the main drivers for increased efficiency in data monitoring and regulatory repor...

CIP Number: 170300

Project Title: Water Treatment Plant Automation Program

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$243	$0	$0	$0	$0	$0	$0	$0	$69	$69	$174
Design/Engineering	$9	$0	$0	$0	$0	$0	$0	$0	$9	$9	$0
Construction	$23,065	$0	$0	$0	$0	$0	$0	$0	$6,141	$6,141	$16,925
Totals	$23,317	$0	$0	$0	$0	$0	$0	$0	$6,219	$6,219	$17,098

CIP Number: 170302

Project Title: SW SCADA System Upgrade

Project Status: Project Execution - Design
Class Lvl 1: Water
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: Southwest Water Treatment Plant
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**


SW SCADA System Upgrade

Project Engineer/Manager: Jeffrey Dorsey

Director: Terry Daniel

Project Score
67.4

Problem Statement:
This project will upgrade the Southwest WTP SCADA system.

Scope of Work/Project Alternatives:
The upgrade of network devices, controllers and removal of device net for the SCADA system.

Other Important Info:
This project will also upgrade Ovation to version 3.8

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
Capital Delivery Salary	$113	$7	$7	$56	$49	$0	$0	$0	$0	$49	$0
Professional Services	$262	$262	$279	($17)	$0	$0	$0	$0	$0	$0	$0
Design-Build (2001051)	$7,892	$4,472	$3,715	$1,190	$2,988	$0	$0	$0	$0	$2,988	$0
Totals	$8,267	$4,741	$4,001	$1,229	$3,037	$0	$0	$0	$0	$3,037	$0

CIP Number: 170303

Project Title: Power Monitoring Installation for Water Treatment Plants

Project Status: Closed
Class Lvl 1: Water
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: Northeast, Southwest and Water Works Park
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Jeffrey Dorsey

Director: Terry Daniel

Project Score
58.6

Problem Statement:
Looking to achieve efficiency of our power usage at our water treatment plants.

Scope of Work/Project Alternatives:
This project will install power monitoring meters on electrical switch gear for critical pumping units at Water Works Park, Northeast, and Southwest.

Other Important Info:
Power monitoring will be installed on critical pumping units and switchgear mains.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services	$219	$219	$219	$0	$0	$0	$0	$0	$0	$0	$0
Design-Build (2000644)	$1,593	$1,593	$1,593	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$1,811	$1,811	$1,811	$0	$0	$0	$0	$0	$0	$0	$0

CIP Number: 170304

Project Title: WWP Scada Infrastructure Upgrade

Project Status: Closed
Class Lvl 1: Water
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: Water Works Park
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Jeffrey Dorsey

Director: Terry Daniel

Project Score
59.5

Problem Statement:

Of paramount concern is the need to have a reliable and secure SCADA platform that will satisfy GLWA's needs for the next 10-15 years. The purpose is to upgrade the SCADA system to an Ovation DCS controlled network utilizing Ovation and PLC controllers and I/O (3rd part network design will be supplied) for implementation at WWP. It will include the following:

A. A complete SCADA network, replacement of all field devices at the facility.

B. Complete engineering design of a new process...

Scope of Work/Project Alternatives:

The scope of this project is to provide a design for SCADA upgrade of Water Works Park water treatment plant incorporating the following:
• Upgrade of all plant PLCs
• Network extension upgrades to integrate new process areas/controllers within the process control network
• Emerson Ovation upgrades
• Implement alarm management.
• Migrate all SCADA graphics, alarms, historical data configuration to a single platform
• Upgrade/integration into the central Historians.
• Upgrade network back...

Other Important Info:

This project will upgrade the SCADA network. Project not scored by review committee because it is professional services only.

CIP Number: 170304

Project Title: WWP Scada Infrastructure Upgrade

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services	$149	$149	$153	($4)	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$288	$288	$288	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$436	$436	$441	($4)	$0	$0	$0	$0	$0	$0	$0

CIP Number: 170305

Project Title: WWP SCADA Network Upgrade

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: Water Works Park

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Jeffrey Dorsey

Director: Terry Daniel

Project Score
65

Problem Statement:
Provide a robust SCADA network solution with installed capacity to accommodate future SCADA expansion and fully manageable network capabilities. Adhere to network standards put together in the SGD document.

Scope of Work/Project Alternatives:
This project will be the construction phase of the design done under CIP 170304.

Other Important Info:
This project may be delayed.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$157	$0	$0	$0	$0	$0	$0	$0	$98	$98	$59
Design/Engineering	$187	$0	$0	$0	$0	$0	$0	$0	$117	$117	$70
Construction	$7,198	$0	$0	$0	$0	$0	$0	$0	$4,499	$4,499	$2,699
Totals	$7,542	$0	$0	$0	$0	$0	$0	$0	$4,714	$4,714	$2,828

CIP Number: 170306

Project Title: SPW SCADA PLC Network Upgrade

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: Springwells Plant

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Jeffrey Dorsey

Director: Terry Daniel

Project Score
78.4

Problem Statement:
This project will upgrade current plant PLCs providing Asset Center management and install network cabinets in strategic locations for future expandability of both Springwells and Northeast Water Treatment Plants.

Scope of Work/Project Alternatives:
Provide a robust SCADA network solution with installed capacity to accommodate future SCADA expansion and fully manageable network capabilities. Adhere to network standards put together in the SGD document.

Other Important Info:
This project will upgrade the 3rd party network.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$100	$0	$0	$0	$33	$50	$17	$0	$0	$100	$0
Design/Engineering	$3,340	$0	$0	$0	$1,106	$1,668	$567	$0	$0	$3,340	$0
Construction	$3,340	$0	$0	$0	$1,106	$1,668	$567	$0	$0	$3,340	$0
Totals	$6,780	$0	$0	$0	$2,245	$3,385	$1,150	$0	$0	$6,780	$0

CIP Number: 170307

Project Title: NE SCADA Network Upgrade

Project Status: Reclassified
Class Lvl 1: Water
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: Northeast Plant

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Jeffrey Dorsey

Director: Terry Daniel

Project Score
59.6

Problem Statement:
Provide a robust SCADA network solution with installed capacity to accommodate future SCADA expansion and fully manageable network capabilities. Adhere to network standards put together in the SGD document.

Scope of Work/Project Alternatives:
This project will update the 3rd party network for this site.

Other Important Info:
This project may be delayed.

Current Expenses (All figures are in $1,000’s)
“Total Costs” include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

CIP Number: 170400

Project Title: Water Transmission Improvement Program

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: Transmission System

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Todd King

Director: Todd King

Project Score

0

Problem Statement:

Assessing, rehabilitating or replacing aging transmission mains in the water system

Scope of Work/Project Alternatives:

This project is a yearly funding allocation for the design and/or construction work for the rehabilitation or replacement of aging water transmission lines and all appurtenances, connections and related structures.

Other Important Info:

O&M manuals, GIS, Section Maps and Gate Books are available for reference.

Project History: There are many critical assets that are required to be operated in the transmission system and this yearly allowance is needed to meet the critical needs of these assets.

Challenges: May require shut down of large pumps and isolation or shutdown of large mains etc.

CIP Number: 170400

Project Title: Water Transmission Improvement Program

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$495	$0	$0	$0	$0	$0	$0	$52	$55	$107	$277
Design/Engineering #1	$141	$0	$0	$0	$0	$0	$0	$37	$17	$55	$7
Design/Engineering #2	$2,975	$0	$0	$0	$0	$0	$0	$468	$501	$969	$2,005
Construction (Build) # 2	$10,900	$0	$0	$0	$0	$0	$0	$0	$0	$0	$865
Construction (Build) # 6	$17,664	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,402
Totals	$32,174	$0	$0	$0	$0	$0	$0	$557	$574	$1,131	$4,556

CIP Number: 170500

Project Title: Transmission System Valve Rehabilitation and Replacement Program

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: Transmission System Gate Valves
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☑ **Predecessor Project(s)**

Project Engineer/Manager: Todd King

Director: Todd King

Project Score
0

Problem Statement:
Replacement or rehabilitation of GLWA Transmission System Gate Valves will aid in implementing a regular valve exercising program as recommended by AWWA as well as increase the reliability of the transmission system.

Scope of Work/Project Alternatives:
Evaluate the existing conditions, provide the necessary replacement/ rehabilitation option, then design and implement them.

Other Important Info:
GIS, Section Maps and Gate Books are available for reference.

Project History: There are critical valves that are required to be closed during a main break or an emergency situation. There has not been a regular valve exercising program in the past 15 years in the DWSD/GLWA System.

Challenges: May require shutdown of large transmission mains.

Project Title: Transmission System Valve Rehabilitation and Replacement Program

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$296	$0	$0	$12	$18	$18	$18	$18	$18	$89	$89
Design/Engineering #1	$1,500	$0	$0	$0	$0	$0	$150	$150	$150	$450	$750
Design/Engineering #3	$32,500	$0	$0	$0	$0	$0	$0	$2,505	$2,498	$5,003	$12,496
Construction (Build) # 3	$25,000	$0	$0	$0	$0	$0	$0	$0	$2,498	$2,498	$12,497
Totals	$59,296	$0	$0	$12	$18	$18	$168	$2,673	$5,163	$8,040	$25,832

CIP Number: 170502

Project Title: Transmission System Valve Rehabilitation and Replacement Phase I

Project Status: Closed
Class Lvl 1: Water
Class Lvl 2: Field Services
Class Lvl 3: Transmission System
Lookup Location: Transmission System Gate Valves
[ ] **Project New to CIP:**

[ ] **Innovation**
[ ] **WW Master Plan**
[ ] **Water Master Plan Right Sizing**
[ ] **Redundancy**
[x] **Linear Assets Outside of Facilities**
[ ] **Predecessor Project(s)**

Project Engineer/Manager: Todd King

Director: Todd King

Project Score
25.4

Problem Statement:
Replacement/Rehabilitation of GLWA Transmission System Gate Valves will aid in implementing a regular valve exercising program as recommended by AWWA as well as increase the reliability of the transmission system.

Scope of Work/Project Alternatives:
Evaluate the existing conditions, provide the necessary replacement/ rehabilitation option, then design and implement them.

Other Important Info:
GIS, Section Maps and Gate Books are available for reference.

Project History: There are critical valves that are required to be closed during a main break or an emergency situation. There has not been a regular valve exercising program during the past 15 years in the DWSD/GLWA System.

Challenges: May require shutdown of large transmission mains.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
Capital Delivery Salary	$6	$6	$6	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services	$385	$385	$385	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1 (CON-181)	$5,218	$5,218	$5,218	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$5,608	$5,608	$5,609	$0	$0	$0	$0	$0	$0	$0	$0

CIP Number: 170503

Project Title: Transmission Mains Valves and Urgent Repairs Contract 2

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Field Services
Class Lvl 3: Transmission System
Lookup Location: Transmission System Gate Valves
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Todd King

Director: Todd King

Project Score
44.5

Problem Statement:
Replacement/Rehabilitation of GLWA Transmission System Gate Valves will aid in implementing a regular valve exercising program as recommended by AWWA as well as increase the reliability of the transmission system.

Scope of Work/Project Alternatives:
Evaluate the existing conditions, provide the necessary replacement/ rehabilitation option, then design and implement them.

Other Important Info:
GIS, Section Maps and Gate Books are available for reference.

Project History: There are critical valves that are required to be closed during a main break or an emergency situation. There has not been a regular valve exercising program during the past 15 years in the DWSD/GLWA System.

Challenges: May require shutdown of large transmission mains.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$166	$34	$34	$45	$67	$21	$0	$0	$0	$88	$0
Construction (Build) (1802745)	$14,800	$14,010	$13,146	$1,204	$350	$99	$0	$0	$0	$450	$0
Totals	$14,966	$14,044	$13,180	$1,249	$417	$120	$0	$0	$0	$537	$0

CIP Number: 170504

Project Title: Transmission Mains Valves and Urgent Repairs Contract 1

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Field Services
Class Lvl 3: Transmission System
Lookup Location: Multiple Locations

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [ ] **Redundancy**
- [x] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Project Engineer/Manager: Todd King

Director: Todd King

Project Score
34.3

Problem Statement:
Ongoing project to address water main transmission mains, valves, pumping stations, and plants on an emergency or urgent basis.

Scope of Work/Project Alternatives:
Work shall be as required by GLWA Field Services to address and support maintenance and repairs and capital improvements to the water main, valves, booster stations, and/or other urgent tasks.

Other Important Info:
na

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
Construction	$18,400	$9,691	$9,220	$2,445	$2,965	$2,965	$804	$0	$0	$6,735	$0
Totals	$18,400	$9,690	$9,220	$2,445	$2,965	$2,965	$804	$0	$0	$6,735	$0

CIP Number: 170506

Project Title: Water Transmission, Valve, Emergency and Other Urgent Repairs

Project Status: Active - Pre-Procurement - Construction
Class Lvl 1: Water
Class Lvl 2: Field Services
Class Lvl 3: Transmission System
Lookup Location: --
☑ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Todd King

Director: Todd King

Project Score
57.7

Problem Statement:
This is the Water Transmission project that is serving the Water Transmission and Valve programs. This contract is also used to support other urgent work as necessary due to system reliability and
health and safety issues.

Scope of Work/Project Alternatives:
Emergency, urgent, and normal maintenance and repair of transmission mains, valves, and appurtenances. Also includes urgent work necessary for system reliability and public and GLWA health and safety concerns.

Other Important Info:
Necessary for the reliable operation of the water system and response to emergency conditions.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
Construction	$15,000	$0	$0	$0	$2,744	$2,998	$2,998	$3,007	$2,998	$14,745	$255
Totals	$15,000	$0	$0	$0	$2,744	$2,998	$2,998	$3,007	$2,998	$14,745	$255

Project Title: Linear System Integrity Program

Project Status: Project Execution - Design
Class Lvl 1: Water
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: Transmission Mains

☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Olivia Olsztyn-Budry

Director: Jody Caldwell

Project Score
0

Problem Statement:
Many of the water mains serving the GLWA service area were installed in the early part of the 20th century or the later part of the 19th century, and are now reaching the end of their useful life. This project will pilot and utilize new technologies to accurately identify the condition of these buried assets by constructing access ways for inspection and the installation of sensors and fiber optic cables for real-time monitoring of condition. It's essential for cost-efficient repair and replac...

Scope of Work/Project Alternatives:
Construct access structures and utilize new technology to evaluate the existing conditions of the transmission system. Construction of in place sensors and cables may be necessary to adequately access condition. Provide the necessary recommendation for replacement and rehabilitation.

Other Important Info:
*Innovation Note: Consider new techniques for water main assessment.
GIS, Section Maps and Gate Books are available for reference.
Challenges: Gaining access to inspect buried pipes is difficult, disruptive and costly. However, there are ways to monitor and test the condition of the piping and methods of performing condition assessment.
Project History: There are many critical assets that are required to be operated in the transmission main the existing conditions is unknown. For planning p...

CIP Number: 170600

Project Title: Linear System Integrity Program

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$312	$0	$0	$19	$29	$29	$29	$29	$29	$146	$146
Design/Engineering	$22,535	$0	$0	$0	$365	$2,546	$2,546	$2,553	$2,546	$10,554	$11,981
Construction (Pipeline Modifications)	$27,833	$0	$0	$0	$1,980	$3,511	$0	$2,188	$2,182	$9,861	$17,972
Construction (Pipeline Modifications #2)	$27,211	$0	$0	$0	$1,764	$3,105	$0	$2,188	$2,182	$9,239	$17,972
Totals	$77,889	$0	$0	$19	$4,138	$9,191	$2,575	$6,958	$6,939	$29,800	$48,070

CIP Number: 170601

Project Title: Linear System Integrity Program - Contract 1

Project Status: Project Execution - Design
Class Lvl 1: Water
Class Lvl 2: Field Services
Class Lvl 3: Transmission System
Lookup Location: Entire Linear System - Water & Wastewater
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Olivia Olsztyn-Budry

Director: Jody Caldwell

Project Score
76.8

Problem Statement:

GLWA seeks to apply asset management principles to proactively evaluate and manage the linear system (water transmission and sewer interceptor systems). Because the water transmission system is a closed system gaining access to assess the condition of the pipes is challenging requiring coordination with operations and member partners, and the construction of access points to introduce and extract equipment. LSIP is a data and risk-based approach.
This project uses the previous work performed ...

Scope of Work/Project Alternatives:

Scope of work is broken into 6 Tasks: Task 1 - Program Management - Water; Task 2 - Development of Water Program Framework; Task 3 - Planning of Water Pipeline Condition Assessments; Task 4 - Implementation of Water Pipeline Condition Assessments; Task 5 - Wastewater Program Planning and Implementation; Task 6 - Program Management - Wastewater

The overall project consists of both Capital and Operating Budget expenses. The capital portion of this project includes the improvements necessary to...

Other Important Info:

None

CIP Number: 170601

Project Title: Linear System Integrity Program - Contract 1

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$249	$0	$0	$14	$20	$20	$20	$20	$20	$102	$102
Design/Engineering	$12,934	$0	$0	$2,842	$0	$0	$0	$0	$0	$0	$0
Construction (Phase #1)	$13,549	$0	$0	$2,190	$0	$0	$10,731	$0	$0	$10,731	$629
Construction (Phase #2)	$2,776	$0	$0	$2,776	$0	$0	$0	$0	$0	$0	$0
Totals	$29,507	$0	$0	$7,821	$20	$20	$10,751	$20	$20	$10,832	$730

CIP Number: 170602

Project Title: 36-inch 24 Mile Road Transmission Main Condition Assessment

Project Status: Project Execution - Design
Class Lvl 1: Water
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: 36-inch transmission main along 24 Mile Road between Rochester Pumping Station and 24-mile & Fairchild intersection.
☑ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Olivia Olsztyn-Budry

Director: Steven Dutschke

Project Score
0

Problem Statement:
The 36-inch transmission main along 24 Mile Road starting at the Rochester Pumping Station easterly to the intersection of 14-Mile Road and Fairchild Road has experienced several breaks over the years. More recently, two breaks occurred, one in July 2023 and the other August 2023. The latter requiring that GLWA issues a BWA. The majority of the breaks occurred in two contracts: WS-321 and WS-322. All but one break is within the section of 36-inch that is parallel to the 42-inch transmission mai...

Scope of Work/Project Alternatives:
The LSIP contract identified three transmission mains: 96-inch between IBPS and NSC, the 84-inch/72-inch between NSC and franklin, and the 120-inch between LHWTP and IBPS, as well as two pipelines to be determined. Per the LSIP contract, Condition Assessment Planning tasks 3.4 and 3.5; and Implementation of Condition Assessments tasks 4.4.

Other Important Info:
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Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
Design/Engineering	$749	$0	$0	$749	$0	$0	$0	$0	$0	$0	$0
Construction	$2,180	$0	$0	$1,208	$0	$0	$972	$0	$0	$972	$0
Totals	$2,929	$0	$0	$1,957	$0	$0	$972	$0	$0	$972	$0

CIP Number: 170800

Project Title: System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation

Project Status: Project Execution - Design
Class Lvl 1: Water
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: LHP, SPP, SWP, NEP, WWP, Booster Stations
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**


Lake Huron Plant Reservoir No. 3: Interior concrete repair.

Project Engineer/Manager: John McCallum

Director: Tim Kuhns

Project Score
0

Problem Statement:
This program CIP merges former reservoir inspection and repair programs and umbrella's all subsequent CIP's associated with the program under the 17080X category. This program manages the continuous inspection and repair required to all 31 active reservoirs on a 5 year year cycle. The program manages the overall repair schedule to mitigate conflicts in the transmission system to minimize the impact for EGLE mandated inspections and repairs to GLWA reservoirs at Booster Stations and Water Tre...

Scope of Work/Project Alternatives:
The program will provide inspection, rehabilitation, and maintenance on all 31 finished (potable) reservoirs in the GLWA system on a ELGE mandated five year revolving inspection cycle.

Other Important Info:
The CIP 170800 program is broken down into subset CIP numbers starting at 170801. CIP 170801 is currently in construction and is supported by two contracts. Engineering contract CS-151A and construction contract 1900744. The second phase of the program CIP 170802 is in the procurement phase and the engineering contract number will be 2100236. The third phase of the program CIP 170803 will begin pre-procurement activities in 2022.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

CIP Number: 170801

Project Title:

Project Status: Project Execution - Design
Class Lvl 1: Water
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: LHP, SPP, SWP, WWP, North Service Center, Imlay Booster Station
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Imlay Booster Station: Sealing interior wall cracks

Project Engineer/Manager: John McCallum

Director: Tim Kuhns

Project Score
94

Problem Statement:
CIP 170801 is the first in a series of facility improvements to reservoirs at the water treatment plants and booster stations assigned to the System -Wide Finished Water Reservoir Inspection, Design and Rehabilitation Program under CIP 170800.

Scope of Work/Project Alternatives:
This project is specific to inspection, design and construction of improvements to the reservoirs at the Springwells WTP, Southwest WTP, Lake Huron WTP and Imlay Station. It is currently being executed and is expected to be closed in January of 2025.

Other Important Info:
Inspection, design, and RPR services are performed under contract CS-151A .
Construction of improvements are performed under contract 1900744.
WWP reservoir 2A and North Service Center reservoirs have been added to contract 1900744 to perform emergency repairs.
Project not scored by risk committee since it is far advanced

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$805	$649	$602	$132	$71	$0	$0	$0	$0	$71	$0
Professional Services	$206	$206	$207	($1)	$0	$0	$0	$0	$0	$0	$0
Contractual Professional Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-151A)	$2,775	$2,690	$2,656	$80	$39	$0	$0	$0	$0	$39	$0
Construction (1900744)	$21,598	$21,192	$19,797	$1,617	$185	$0	$0	$0	$0	$185	$0
Totals	$25,384	$24,737	$23,261	$1,828	$295	$0	$0	$0	$0	$295	$0

CIP Number: 170802

Project Title: Reservoir Inspection, Design, and Construction Management Services Phase II

Project Status: Active - Procurement - Construction
Class Lvl 1: Water
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: LHP, SPP, SWP, WWP, North Service Center, Imlay Booster Station
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: John McCallum

Director: Tim Kuhns

Project Score
74.2

Problem Statement:
CIP 170802 is the second in a series of facility improvements to reservoirs at the water treatment plants and booster stations assigned to the System -Wide Finished Water Reservoir Inspection, Design and Rehabilitation under the umbrella CIP 170800 program.

Scope of Work/Project Alternatives:
This project is specific to the inspection, design/engineering, and construction improvements to 15 reservoirs.

Other Important Info:
Inspection and design of improvements is being executed under future contract 2100236

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$424	$57	$45	$62	$75	$75	$75	$76	$15	$317	$0
Design/Engineering	$10,779	$2,604	$2,415	$1,189	$1,706	$1,706	$1,706	$1,711	$346	$7,175	$0
Construction	$35,574	$0	$0	$4,589	$7,827	$7,827	$7,827	$7,505	$0	$30,985	$0
Totals	$46,776	$2,660	$2,460	$5,840	$9,608	$9,608	$9,608	$9,291	$361	$38,477	$0

CIP Number: 170803

Project Title: Reservoir Inspection, Design, and Construction Management Services Phase III

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: LHP, SPP, SWP, WWP, North Service Center, Imlay Booster Station

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Project Engineer/Manager: John McCallum

Director: Tim Kuhns

Project Score

90.3

Problem Statement:

CIP 170803 is the third in a series of facility improvements related to reservoirs at the water treatment plants and booster stations assigned to the System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation Program CIP 170800.

Scope of Work/Project Alternatives:

This project is specifically related to inspection, design, and construction of improvements to the reservoirs in our system as planned in future contracts.

Other Important Info:

n/a

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$849	$0	$0	$0	$0	$24	$97	$97	$97	$314	$483
Design/Engineering	$16,214	$0	$0	$0	$0	$873	$2,764	$1,671	$1,667	$6,975	$8,339
Construction	$77,369	$0	$0	$0	$0	$0	$834	$10,171	$10,144	$21,149	$50,746
Totals	$94,432	$0	$0	$0	$0	$897	$3,695	$11,940	$11,907	$28,438	$59,568

CIP Number: 170900

Project Title: Suburban Water Meter Pit Rehabilitation and Meter Replacement

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: Various meter locations in Transmission System
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Chandan Sood

Director: Chandan Sood

Project Score
0

Problem Statement:
Improving meter data reliability, ensuring accurate billing, improving customer service enabling high quality analysis of the system

Scope of Work/Project Alternatives:
The Proposed improvements should include the following; The replacements of meters that have surpassed their life expectancy, and or the current flow rates exceed the mechanical limits of the meter. Installing entrance hatches that allow safer ingress, and egress, and that can be locked for security. Sand blasting and painting of piping and walls. Waterproofing meter vaults to keep the ground water out. Providing a proper floor slope in meter chambers that allows water to settle. Repairing dama...

Other Important Info:
Challenges: Requires temporary shutdown of the water supply through the meter.

Project History: Currently GLWA provides water service to 126 communities, and measures flows and volumes by the utilization of 290 wholesale water meters now in service; 17 of these meters are venturi-orifice type meters, 26 of these are dual venturi type meters, 48 of these single venturi type meters, 97 of these are magnetic flow type meters, and 102 of these are turbine or mechanical type meters. Meters were ...

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$301	$0	$0	$0	$23	$23	$23	$23	$23	$116	$116
Construction	$32,807	$0	$0	$0	$2,500	$2,500	$2,000	$4,000	$2,724	$13,724	$12,948
Totals	$33,108	$0	$0	$0	$2,523	$2,523	$2,023	$4,023	$2,748	$13,840	$13,064

CIP Number: 170901

Project Title: Suburban Water Meter Pit Rehabilitation and Meter Replacement

Project Status: Project Execution - Pending Closeout
Class Lvl 1: Water
Class Lvl 2: Metering
Class Lvl 3: General Purpose
Lookup Location: Various meter locations in Transmission System
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Chandan Sood

Director: Chandan Sood

Project Score

48.7

Problem Statement:

Improving meter data reliability, ensuring accurate billing, improving customer service enabling high quality analysis of the system

Scope of Work/Project Alternatives:

The Proposed improvements should include the following; The replacements of meters that have surpassed their life expectancy, and or the current flow rates exceed the mechanical limits of the meter. Installing entrance hatches that allow safer ingress, and egress, and that can be locked for security. Sand blasting and painting of piping and walls. Waterproofing meter vaults to keep the ground water out. Providing a proper floor slope in meter chambers that allow water to settle. Repairing damag...

Other Important Info:

Challenges: Requires temporary shutdown of the water supply through the meter.

Project History: Currently GLWA provides water service to 126 communities, and measures flows and volumes by the utilization of 290 wholesale water meters now in service; 17 of these meters are venturi-orifice type meters, 26 of these are dual venturi type meters, 48 of these single venturi type meters, 97 of these are magnetic flow type meters, and 102 of these are turbine or mechanical type meters. Meters were ...

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$2	$2	$2	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) (CON-285)	$12,409	$12,409	$12,409	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$12,410	$12,410	$12,411	$0	$0	$0	$0	$0	$0	$0	$0

CIP Number: 170902

Project Title: Brownstown Meter Pit

Project Status: Reclassified
Class Lvl 1: Water
Class Lvl 2: Metering
Class Lvl 3: General Purpose
Lookup Location: Brownstown Township
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Peter Fromm

Director: Chandan Sood

Project Score
63.8

Problem Statement:
BR-01 is a deduct meter pit that serves Brownstown Charter Township. Deduct meter pits are more difficult to track water usage. BR-01 will be abandoned and BR-08 will be installed as a direct meter pit to Brownstown Charter Township.

Scope of Work/Project Alternatives:
Abandoning the existing BR-01 deduct meter pit and constructing a new direct meter pit BR-08 for serving Brownstown Charter Township. The new direct meter pit (BR-08) will have a new magnetic flow meter, 12-inch gate valves, and 8-inch check valve. There will be installation of 6-inch, 8-inch, and 12-inch piping for the new meter pit. There will be a new water pressure reducing valve vault for Brownstown Charter Township by installing the necessary piping in the vault.

Other Important Info:
None at this time.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services	$8	$8	$8	$0	$0	$0	$0	$0	$0	$0	$0
Design & Construction Assistance (CS-201)	$79	$79	$79	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$86	$86	$87	$0	$0	$0	$0	$0	$0	$0	$0

CIP Number: 170904

Project Title: Wholesale Water Meterpit Rehabilitation and Meter Upgrade - Phase II

Project Status: Project Execution - Construction
Class Lvl 1: Water
Class Lvl 2: Metering
Class Lvl 3: General Purpose
Lookup Location: --

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Chandan Sood

Director: Chandan Sood

Project Score
95.7

Problem Statement:
The Great Lakes Water Authority (GLWA) operates two hundred ninety (290) wholesale water metering facilities to collect flow data for correct billing and analysis of the water system and has embarked upon a water metering improvement program. The first project of this program was Contract No. GLWA-CON-285 that started in November 2018 to complete fifty (50) sites. The WHOLESALE WATER METER PIT REHABILATATION AND METER REPLACEMENT PHASE II, is the second contract of the program. This contract is...

Scope of Work/Project Alternatives:
Work includes the demolition and removal of the existing flow metering system and components and replacement with new and upgraded flow metering technology, equipment and instrumentations as well as complete rehab of the existing pits. Flow metering equipment and instrumentation includes new flow meters, check valves, gate valves, reducers, new supports for meter, valves, piping, electrical systems, SCADA systems and cabinets. The work will consist of two main Tasks: Task 1 - Meter upgrade and ...

Other Important Info:
New/advanced metering, accurate billing, impact to Member Partners charges, impact on GLWA's water balance program

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
	$7	$7	$0	$7	$0	$0	$0	$0	$0	$0	$0
Construction (Build)	$15,679	$0	$0	$1,100	$3,642	$3,642	$3,642	$3,652	$0	$14,579	$0
Totals	$15,686	$7	$0	$1,107	$3,642	$3,642	$3,642	$3,652	$0	$14,579	$0

CIP Number: 171500

Project Title: Roof Replacement at WWP, SP, LH, NE, SW, NSC, Orion, Franklin, and Conner Creek Facilities

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: All Water Facilities

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Peter Fromm

Director: Tim Kuhns

Project Score
0

Problem Statement:

This design build project will replace roofing systems on GLWA water plants, water booster pumping stations and sewage pumping stations that were determined to need replacement over the next 5 to 7 years based on the CS-1674 Roofing Assesment Contract. Replacement is needed to protect the facilities interigty with regards to interiors, sensitive electrical equipment and process mechanical equipment vital to operations.

Scope of Work/Project Alternatives:

Remove existing roofing systems and replace with new roofing systems

Other Important Info:

The total estimated replacement value (2016 dollars) of the 1,682,727 square feet of roofing at the water treatment plants, sewage pumping stations and water booster pumping stations at $33,142,054.

Project History: A condition assessment was performed and completed under Contract No. CS -1674 in 2016 that included all roofs located at GLWA's 5 water treatment plants, 19 water booster pumping stations and 11 sewage pumping stations. There were 268 separate roof sections totaling 1,682,727 s...

CIP Number: 171500

Project Title: Roof Replacement at WWP, SP, LH, NE, SW, NSC, Orion, Franklin, and Conner Creek Facilities

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$407	$0	$0	$0	$0	$0	$0	$0	$58	$58	$291
Design/Engineering	$1,692	$0	$0	$0	$0	$0	$0	$0	$339	$339	$1,353
Design-Build # 1 (1803483)	$33	$0	$0	$0	$0	$0	$0	$0	$12	$12	$21
Design-Build # 2	$13,816	$0	$0	$0	$0	$0	$0	$0	$2,120	$2,120	$9,824
Totals	$15,948	$0	$0	$0	$0	$0	$0	$0	$2,529	$2,529	$11,489

CIP Number: 171502

Project Title: Lake Huron and Southwest Roof Replacement

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Lake Huron
Lookup Location: Wayne County outside of Detroit/ Saint Clair County

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Peter Fromm

Director: Tim Kuhns

Project Score
61.3

Problem Statement:
This Design-Bid-Build project will replace identified roofing systems at GLWA Water Treatment Plants: Lake Huron and Southwest which were determined to need replacement over the next 6 to 8 years based on the CS-1674 Roofing Assessment Contract. Replacement is needed to protect the facilities integrity with regards to interiors, sensitive electrical equipment and process mechanical equipment vital to treatment and distribution operations.

Scope of Work/Project Alternatives:
Remove existing roofing system and replace with new built-up roofing systems as follows:
Lake Huron Water Treatment Plant: Flocculator Building A & B, Chlorine Room, Low Lift Building, Chemical Building A & B,
Southwest Water Treatment Plant: Lab and Office Building A & B, Administration Building A & B,

Other Important Info:
A condition assessment was performed and completed under Contract No. CS-1674 in 2016 that included all roofs located at GLWA's 5 water treatment plants, 19 water booster pumping stations and 11 sewage pumping stations. There were 268 separate roof sections totaling 1,682,727 square feet of roof inspected during this condition assessment project.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$99	$0	$0	$0	$0	$0	$0	$0	$49	$49	$49
Design/Engineering	$400	$0	$0	$0	$0	$0	$0	$0	$400	$400	$0
Construction	$2,211	$0	$0	$0	$0	$0	$0	$0	$596	$596	$1,615
Totals	$2,709	$0	$0	$0	$0	$0	$0	$0	$1,045	$1,045	$1,665

06 WASTEWATER PROJECTS

76 PROJECTS

19	FUTURE PLANNED
51	ACTIVE
5	PENDING CLOSEOUT
1	CLOSED
0	RECLASSIFIED

5 YEAR CIP

$982 MILLION

10 YEAR OUTLOOK

$1.8 BILLION

B MORE: APPENDIX B

FIND THE FULL BUSINESS CASE EVALUATIONS FOR WASTEWATER PROJECTS IN APPENDIX B.

CIP Number: 211002

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: Primary Treatment
Lookup Location: WRRF
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Vinod Sharma

Director: Chris Nastally

Project Score
0

Problem Statement:
Correct drifting issues of pumps and meet long term wet weather capacity needs

Scope of Work/Project Alternatives:
This project involves evaluating and recommending alternatives for providing more reliable pumping capacity at Pump Station No. 2 for Pumps Nos. 11 and 14.

Other Important Info:
Challenges: Unable to improve the drift issues experienced at pump station 2.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$322	$317	$302	$20	$0	$0	$0	$0	$0	$0	$0
Design & Construction Assistance # 1 (CS-255)	$157	$157	$157	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-1444)	$64	$64	$64	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (MISC)	$20	$20	$20	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (1900318)	$140	$82	$68	$72	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1 (PC-795)	$2,971	$2,044	$2,044	$928	$0	$0	$0	$0	$0	$0	$0
Totals	$3,674	$2,684	$2,655	$1,020	$0	$0	$0	$0	$0	$0	$0

CIP Number: 211005

Project Title: WRRF PS No. 2 Improvements Phase II

Project Status: Active - Procurement - Negotiation Phase - Construction
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: Primary Treatment
Lookup Location: WRRF

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☑ **Predecessor Project(s)**

Main Raw Sewage Pumps at Pump Station 2

Project Engineer/Manager: Chris Nastally

Director: Chris Nastally

Project Score
77.4

Problem Statement:

This project will improve the pump reliability of PS-2 to meet NPDES permit flow capacity requirements.

Scope of Work/Project Alternatives:

The preliminary scope of this project is to provide basis of design (study) report for rehabilitation/rebuilding plan for existing pump station no. 2 and its control and any associated equipment. The study will evaluate the addition of VFDs to the three constant speed pumps and will not be limited to increasing the capacity of existing pumps to meet the long-term goal for wet weather capacity. Provide engineering design for rehabilitation/rebuilding of the pumps, replacement of HVAC System, ...

Other Important Info:

Challenges: Shutdown of the pumps to be rehabilitated will require co-ordination with operations and careful planning to meet NPDES permit requirements for the flow capacity during the construction phase.

Project History: Pump Station No. 2 was built in 1994. Seven out of eight pumps are running since 1994. These pumps never attained the design capacity due to an unidentified drifting problem. The eighth pump (Pump No. 10) was installed under PC-740 with a modified suction elbow that provid...

CIP Number: 211005

Project Title: WRRF PS No. 2 Improvements Phase II

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$704	$0	$0	$30	$45	$45	$45	$45	$45	$226	$226
Professional Services	$112	$112	$97	$16	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$9,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$7,484
Design/Engineering (Phase #2)	$703	$283	$283	$69	$115	$144	$92	$0	$0	$351	$0
Design/Engineering (Phase #3)	$90	$0	$0	$90	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1	$60,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$14,513
Pump Station #2 VFD Replacement	$12,000	$0	$0	$0	$1,859	$6,169	$3,972	$0	$0	$12,000	$0
Pump Station #2 Mag Meter Replacement for Raw Sewage Pumps	$1,000	$0	$0	$198	$400	$400	$1	$0	$0	$802	$0
Totals	$83,609	$395	$380	$403	$2,420	$6,758	$4,110	$45	$45	$13,379	$22,223

CIP Number: 211006

Project Title: WRRF PS No. 1 Improvements

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: Primary Treatment
Lookup Location: WRRF

☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**


Pump Station 1

Project Engineer/Manager: Kashmira Patel

Director: Chris Nastally

Project Score
78.6

Problem Statement:

Condition assessment and rehabilitation of all pumps at Pump Station No. 1 to increase efficiency and reliability. Rehabilitate the pump station to extend useful life.

Scope of Work/Project Alternatives:

The scope of services includes addressing all PS-1 modifications which include but are not limited to, rehabilitation of all eight (8) sewage pumps, replacement of associated pump starters and electrical motor control centers, rehabilitation of inlet gates, discharge gates, valves, actuators, HVAC system, electrical and lighting distribution panels, wirings, pull boxes, interior and exterior lightings, etc. The extent of this project includes all ancillary and auxiliary equipment and services (...

Other Important Info:

Challenges: Adequate pumping capacity during construction.

Project History: Raw wastewater (influent) from the collection system flows to this Influent Pumping Station through the Detroit River Interceptor (16'D), Oakwood Interceptor (12.5'D) and North Interceptor East Arm (NIEA). Pumping Station No. 1 (PS-1) was constructed in the 1930s and has eight constant speed pumps of various capacities (six were installed in the 1940s and two more were added in 1956) and has a Firm Capacity (largest...

CIP Number: 211006

Project Title: WRRF PS No. 1 Improvements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$828	$167	$149	$85	$101	$101	$101	$102	$101	$507	$87
Professional Services	$179	$141	$143	$8	$15	$13	$0	$0	$0	$28	$0
Professional Services (2202942)	$450	$85	$33	$110	$87	$87	$87	$47	$0	$307	$0
Design/Engineering (CS-102)	$12,512	$6,360	$6,054	$1,100	$1,193	$1,193	$1,153	$638	$636	$4,814	$544
Design/Engineering (1900318)	$47	$47	$47	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (2202942)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1	$91,453	$2,292	$1,215	$10,177	$13,668	$13,668	$13,668	$13,706	$13,668	$68,378	$11,683
Equipment/Material Purchase # 1	$1,101	$1,081	$1,077	$24	$0	$0	$0	$0	$0	$0	$0
Equipment/Material Purchase # 2	$4,390	$3,039	$2,693	$1,698	$0	$0	$0	$0	$0	$0	$0
Totals	$110,959	$13,211	$11,411	$13,200	$15,064	$15,063	$15,010	$14,492	$14,406	$74,034	$12,314

CIP Number: 211007

Project Title: WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: Primary Treatment
Lookup Location: WRRF

- [ ] **Project New to CIP:**

- [x] **Innovation**
- [ ] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**


Pump Station 2, Grit channels

Project Engineer/Manager: Jason Williams

Director: Chris Nastally

Project Score
75.7

Problem Statement:

Replacement of all bar racks and associated equipment and addition of fine screens (1/4 inch) for more reliable and efficient screenings removal. Addition of screenings washing and compaction will reduce truck traffic and cost of disposal. Improvement of grit collection system with more efficient, grit collection and pumping system, and grit washing and classification will reduce truck traffic and cost of disposal. Improvements to the grit screenings and grit removal and handling systems will i...

Scope of Work/Project Alternatives:

The work consists of evaluation, design and construction of the replacement of the existing bar racks and ancillary equipment and gates, addition of new fine screens (1/4 inch) downstream of the bar racks, addition of screenings washing and compaction, inclusion of stacked tray grit removal or other technology within the aerated grit tank and grit washing and classification. Work also includes the upgrade and expansion of the existing building that houses the screens and the screenings and grit...

Other Important Info:

*Innovation note: Install new grit removal equipment rather than replacement in kind (cyclonic).
Replacement of Bar Racks at Pump Station No. 2, Rehabilitation of Grit and Screening System at PS-2 and Rehabilitation of Sampling Sites at WWTP were combined into one project. The design of Rehabilitation of Sampling Sites is completed and was bid separately for construction. The previous design for Bar Rack System will not proceed for construction as designed. A new study, design and construction...

CIP Number: 211007

Project Title: WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$848	$84	$81	$55	$78	$78	$78	$78	$78	$390	$322
Professional Services	$106	$103	$106	($2)	$2	$0	$0	$0	$0	$2	$0
Design/Engineering (1904337)	$11,803	$8,613	$8,590	$397	$679	$695	$630	$133	$133	$2,269	$547
Construction (Build) # 1	$110,000	$0	$0	$0	$10,709	$12,215	$12,215	$12,248	$12,215	$59,601	$50,399
Totals	$122,757	$8,799	$8,778	$450	$11,467	$12,988	$12,923	$12,459	$12,425	$62,262	$51,267

CIP Number: 211008

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: Primary Treatment
Lookup Location: WRRF

☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☑ **Predecessor Project(s)**

Ferric Chloride Storage and Containment Area

Project Engineer/Manager: Phillip Kora

Director: Chris Nastally

Project Score
78.3

Problem Statement:

The Ferric Chloride Systems at PS-1 is used to reduce phosphorus to the required permit levels. The system, which includes chemical storage tanks, secondary containment, valves, and piping is in need of rehabilitation. The Complex B sludge lines are clogged due to Struvite and need rehabilitation or replacement.

Scope of Work/Project Alternatives:

The scope of work will include study design and construction for the ferric chloride feed system at PS-1. Specifically it will include: a study to evaluate alternative locations for application of ferric chloride, a pilot study to test alternative application points, and inspection of the existing chemical feed systems. It will provide recommendations for system modifications and improvements, design of recommended system improvements, and construction of chemical feed system improvements. Eva...

Other Important Info:

*Innovation note: Align sizing & design with U of M phosphorus & enhanced carbon capture studies, as well as improved mixing of the ferric with primary influent.

Challenges: Maintaining capacity of the existing feed system during construction and determining the simplest system that will meet current and future phosphorous limits for both primary and secondary effluent.

Project History: There are phosphorous effluent permit limits for both primary effluent (during wet weather) and for se...

CIP Number: 211008

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$393	$393	$342	$51	$0	$0	$0	$0	$0	$0	$0
Professional Services	$165	$165	$165	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-166)	$61	$57	$34	$28	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (1802543)	$2,322	$2,061	$2,018	$304	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (MISC)	$3	$3	$3	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1 (2002190)	$10,139	$8,292	$7,917	$2,222	$0	$0	$0	$0	$0	$0	$0
Totals	$13,084	$10,970	$10,479	$2,606	$0	$0	$0	$0	$0	$0	$0

CIP Number: 211009

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: Primary Treatment
Lookup Location: WRRF

☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Primary Circular Scum House, Inside

Project Engineer/Manager: Jason Williams

Director: Chris Nastally

Project Score

76.6

Problem Statement:

The circular clarifiers scum removal system is over 10 years old and needs to be rehabilitated. This will help protect the secondary treatment process by preventing scum from entering the aeration tanks.

Scope of Work/Project Alternatives:

This project will provide for the study, design, and construction of new scum equipment in the Scum Buildings for the circular primary clarifiers (PCs). The study will consist of an evaluation of the existing process and simplified alternative systems for scum removal including the scum removal from the buildings. Future alternatives for scum disposal, such as addition to an anaerobic digestion process, will be considered. All alternatives will be evaluated for energy efficiency (reduction o...

Other Important Info:

*Innovation note: Evaluate alternatives for energy efficiency.

Project History: There are 12 rectangular PCs and 6 circular PCs at the WRRF. PCs remove TSS, BOD, and phosphorous through a chemically enhanced settling process in addition to fats, oils, and grease (FOG or scum) by skimming the surface of the clarifiers and transporting the scum to a SB where it can be concentrated. The SBs for the rectangular clarifiers were recently rehabilitated. The SBs for the circular clarifiers utilize ...

CIP Number: 211009

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$351	$15	$15	$0	$0	$3	$20	$7	$115	$144	$192
Professional Services	$63	$63	$63	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$472	$472	$472	$0	$0	$212	$1,308	$245	$108	$1,873	$181
Construction (Build) # 1	$20,200	$0	$0	$0	$0	$0	$0	$185	$7,485	$7,670	$12,530
Totals	$23,139	$549	$549	$0	$0	$215	$1,328	$436	$7,708	$9,687	$12,903

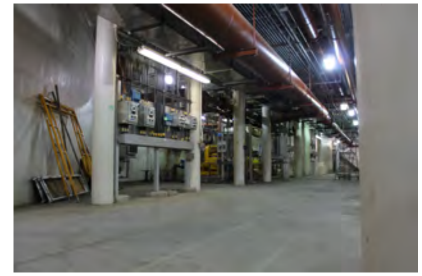
CIP Number: 211010

Project Title: Rehabilitation of Sludge Processing Complexes A and B

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: Primary Treatment
Lookup Location: WRRF

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**



Complex B, Basement

Project Engineer/Manager: Chris Nastally

Director: Chris Nastally

Project Score

89.7

Problem Statement:

Both Complex A and Complex B have reached the end of their design life. The majority of the equipment for the two processes are located below grade in areas prone to flooding. Tanks are located above grade and have little or no access around the perimeter. This limits and reduces cleaning effectiveness. Both the valves and the pumps used to transfer sludge to the Biosolids Drying Facility (BDF) are past their design life. Equipment breakage affects the plant ability to process sludge.

Scope of Work/Project Alternatives:

The work consists of evaluation, design and rehabilitation of both Complex A and Complex B with scope to include tank repair to improve tank access and extend life, building and process repair to including structural, mechanical, process, electrical, and instrumentation replacement. Scope should focus on relocating the sludge pumps from below grade to above grade which could include new above grade structures and cross connecting pumps to allow for additional flexibility in feeding the BDF pro...

Other Important Info:

Maintaining the MDEQ-NPDES required capacity during the construction phase of the project.

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$460	$0	$0	$0	$0	$0	$0	$77	$77	$153	$307
Professional Services	$94	$94	$94	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$4,050	$0	$0	$0	$0	$0	$0	$1,613	$687	$2,300	$1,750
Construction (Build) # 1	$9,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,500
Totals	$14,104	$94	$94	$0	$0	$0	$0	$1,689	$764	$2,453	$11,557

CIP Number: 211011

Project Title: WRRF PS1 Screening and Grit Improvements

Project Status: Project Execution - Design
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: Primary Treatment
Lookup Location: WRRF

☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Jason Williams

Director: Chris Nastally

Project Score
77.5

Problem Statement:

Addition of fine screens (1/4 inch) for more reliable and efficient screenings removal is needed. Addition of screenings washing and compaction to reduce truck traffic and cost of disposal. Improvement of grit collection system with more efficient, state-of-the-art, grit collection and pumping system, grit washing and classification to reduce truck traffic and cost of disposal. Improvements to the grit screenings and grit removal and handling systems will improve the performance of all downstre...

Scope of Work/Project Alternatives:

The work consists of evaluation, design and construction of the addition of new fine screens (1/4 inch) downstream of the bar racks, addition of screenings washing and compaction, inclusion of stacked tray grit removal within the aerated grit tank and grit washing and/or classification. Work also includes the upgrade and expansion of the existing building that houses the screens and the screenings and grit handling and load out, including all lighting, HVAC, plumbing, electrical, and architectu...

Other Important Info:

Maintaining the MDEQ-NPDES required capacity during the construction phase of the project. Coordination with the CIP Number 211006

CIP Number: 211011

Project Title: WRRF PS1 Screening and Grit Improvements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$882	$18	$7	$46	$53	$53	$53	$84	$84	$327	$419
Design & Construction Assistance # 1	$15,000	$0	$0	$0	$0	$0	$0	$1,428	$1,425	$2,853	$9,866
Design & Construction Assistance # 2	$210	$30	$20	$100	$76	$14	$0	$0	$0	$90	$0
Construction (Build) # 1	$78,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$59,358
Construction (Build) # 2	$5,294	$638	$0	$2,312	$2,514	$468	$0	$0	$0	$2,982	$0
Totals	$99,386	$685	$27	$2,458	$2,643	$536	$53	$1,512	$1,508	$6,252	$69,643

CIP Number: 212008

Project Title: WRRF Aeration Improvements 1 and 2

Project Status: Active - Procurement - Negotiation Phase - Design
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: Secondary Treatment and Disinfection
Lookup Location: WRRF

☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Aeration Basin 1 and ILP's 1 and 2

Project Engineer/Manager: Phillip Kora

Director: Chris Nastally

Project Score
76.3

Problem Statement:

The Intermediate Lift Pumps (ILPs) convey primary effluent to the secondary bioreactors (aeration decks). These pumps have reached the end of their useful life and are in need of replacement. The pump selection is integrally connected to improvements in the aeration decks related to the conversion to biological phosphorus removal, implementation of step feed and overall improved hydraulic control in the aeration decks and flow control through the secondary system. Implementation of biological p...

Scope of Work/Project Alternatives:

The work consists of evaluation, design and construction of the replacement of ILPs 1 & 2, conversion of aeration decks 1 & 2 to incorporate biological phosphorus removal, (including replacement of mixers in Bays 1, 2 and 3), relocation of the oxygen feed, and installing a new purge blower. Incorporation of step feed includes modification of the influent conditions to allow primary effluent to be directed to Bay 1, as well as two other locations down the length of the tank. Weir length will be ...

Other Important Info:

Opportunity for a common header system to allow for any ILP to supply any bioreactor. If feasible provide ILPs that can meet the regulatory and dry weather needs without the need for speed control.

Challenges: Maintaining the required wet weather secondary capacity of 930 MGD while operating efficiently during dry weather flows.

Project History: ILP Station No. 1 houses ILP Nos. 1 and 2. The pumps are vertical turbine type each with a maximum capacity of 365 MGD and a motor size of 2,5...

Project Title: WRRF Aeration Improvements 1 and 2

Current Expenses (All figures are in $1,000’s)

“Total Costs” include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$1,337	$57	$50	$95	$133	$133	$133	$134	$133	$667	$524
Professional Services #1	$1,800	$1,105	$1,043	$370	$387	$0	$0	$0	$0	$387	$0
Professional Services #2	$120	$102	$102	$18	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design-Build # 1	$211,086	$0	$0	$0	$10,263	$25,311	$25,311	$25,380	$25,311	$111,576	$99,510
Totals	$214,342	$1,263	$1,196	$483	$10,783	$25,444	$25,444	$25,514	$25,444	$112,630	$100,034

CIP Number: 212009

Project Title: WRRF Aeration Improvements 3 and 4

Project Status: Future Planned - Ten Year CIP
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: Secondary Treatment and Disinfection
Lookup Location: WRRF

☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☑ **Predecessor Project(s)**

Aeration Basin 4, and ILP's 3, 4, and 7

Project Engineer/Manager: Chris Nastally

Director: Chris Nastally

Project Score

76.3

Problem Statement:

The Intermediate Lift Pumps (ILPs) convey primary effluent to the secondary bioreactors (aeration decks). These pumps have reached the end of their useful life and are in need of replacement. The pump selection is integrally connected to improvements in the aeration decks related to the conversion to biological phosphorus removal, implementation of step feed and overall improved hydraulic control in the aeration decks and flow control through the secondary system. Implementation of biological p...

Scope of Work/Project Alternatives:

The work consists of evaluation, design and construction of the replacement of ILPs 3, 4 & 7, conversion of aeration decks 3 & 4 to incorporate biological phosphorus removal, including replacement of mixers in Bays 1 and 2, relocation of the oxygen feed, and installing a new purge blower. Incorporation of step feed includes modification of the influent conditions to allow primary effluent to be directed to Bay 1, as well as two other locations down the length of the tank. An assessment of recon...

Other Important Info:

Maintaining the MDEQ-NPDES required capacity during the construction phase of the project.

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$625	$0	$0	$0	$0	$0	$0	$0	$0	$0	$166
Design & Construction Assistance # 1	$10,920	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,000
Construction (Build) # 1	$57,983	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$69,528	$0	$0	$0	$0	$0	$0	$0	$0	$0	$9,166

CIP Number: 212010

Project Title: WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: Secondary Treatment and Disinfection
Lookup Location: WRRF
☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**


Chlorination Building, Inside

Project Engineer/Manager: Chris Nastally

Director: Chris Nastally

Project Score
89.7

Problem Statement:
With the completion of the RRO Disinfection Project (CIP 212006), storage and feed of sodium hypochlorite to the primary effluent bypass with sodium bisulfite for dechlorination has been enabled. Elimination of the use of gaseous chlorine for disinfection of the secondary effluent and replacement with sodium hypochlorite will increase operator and public safety in and around the plant site.

Scope of Work/Project Alternatives:
The work consists of evaluation of sodium hypochlorite and sodium bisulfite usage over the first three years of operation of the new system to assess actual dosage required to achieve permit compliance and storage available within the existing system. The assessment will include preliminary design of modifications required to enable sodium hypochlorite feed to the secondary treatment effluent and an assessment of the storage requirements at varying sodium hypochlorite concentrations. The assess...

Other Important Info:
None

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$325	$0	$0	$0	$0	$0	$0	$0	$38	$38	$191
Design & Construction Assistance # 1	$1,398	$0	$0	$0	$0	$0	$0	$0	$403	$403	$780
Construction (Build) # 1	$4,509	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,358
Totals	$6,231	$0	$0	$0	$0	$0	$0	$0	$441	$441	$3,329

CIP Number: 213006

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Project Status: Project Execution - Design
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: Residuals Management
Lookup Location: WRRF

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**


Sludge Feed pump in Complex A

Project Engineer/Manager: Chris Nastally

Director: Chris Nastally

Project Score
76.6

Problem Statement:

Improvements to the sludge feed pumping (SFP) system will provide a wide range of operating options. Variable Frequency drive and Hydraulic drive units for SFP 1 and 2 are located below grade and the area has flooded. A single recycle valve for SFP 3 and 4 puts the plant at a higher risk for system outages.

Scope of Work/Project Alternatives:

The scope of work includes study, design, and construction for the replacement of sludge feed pumps SFP 1, 2, 3, 4, 5 and 6 and other modifications to the pumping system at the WRRF.

Other Important Info:

Challenges: Maintaining Plant Operational Capacity during construction.

Project History: Water Resource Recovery Facility (WRRF) has six (6) Sludge Storage Tanks (SST-1, 2, 3, 4, 5 &6), which feed sludge to the dewatering facilities (i.e. belt filter presses complexes and complex II centrifuges.) Typically, sludge from Storage Tanks 1 & 2 supplies the centrifuges on dewatering complex II upper level; sludge from Storage Tanks 3 & 4 supplies the centrifuges on the lower level of Dewatering...

CIP Number: 213006

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$259	$8	$8	$43	$64	$64	$64	$17	$0	$208	$0
Professional Services	$333	$333	$312	$21	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$4,347	$707	$427	$2,229	$0	$616	$846	$229	$0	$1,691	$0
Construction (Build) # 1	$13,000	$0	$0	$0	$0	$4,737	$6,500	$1,763	$0	$13,000	$0
Totals	$17,938	$1,048	$747	$2,293	$64	$5,417	$7,409	$2,010	$0	$14,899	$0

CIP Number: 213007

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

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: Residuals Management
Lookup Location: WRRF
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Phillip Kora

Director: Chris Nastally

Project Score
96.2

Problem Statement:

GLWA have an ongoing study and design of sludge cake conveyance system improvements project as a result of a fire in March 2016 in the Complex –II Incinerators building. The construction of this project will provide a cleaner, fire resistant, reliable and safe sludge feed to the incinerators.

Scope of Work/Project Alternatives:

The restoration of sludge conveying capacity, which was lost due to the fire damage and to provide improved sludge conveyance from each dewatering facility to the incinerators. Replacement of 19 MCCs and Replacement of the Unit Substation EB-26 in Incineration Complex II is included.

Other Important Info:

Challenges: Maintaining the sludge conveyance capacity to meet permit requirements during the construction of these improvements, will be the most significant challenge.

Project History: The C-II Incineration complex is over 40 years old. Major rehabilitation had been deferred over the years in anticipation of an alternative Biosolids disposal solution to handle all the solids. Complex-II has many major pieces of equipment that are nearing the end of their useful life and require replacemen...

CIP Number: 213007

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

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$922	$915	$884	$37	$0	$0	$0	$0	$0	$0	$0
Professional Services	$247	$247	$213	$35	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-060)	$2,086	$607	$607	$1,425	$55	$0	$0	$0	$0	$55	$0
Design/Engineering (CS-291)	$59	$59	$59	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-1432A)	$29	$29	$29	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (MISC)	$130	$130	$130	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1 (CON-197)	$20,387	$19,595	$19,473	$865	$49	$0	$0	$0	$0	$49	$0
Miscellaneous	$1,458	$1,458	$1,458	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$25,318	$23,041	$22,853	$2,362	$104	$0	$0	$0	$0	$104	$0

CIP Number: 213008

Project Title: WRRF Rehabilitation of the Ash Handling Systems

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: Residuals Management
Lookup Location: WRRF

- [ ] **Project New to CIP:**

- [x] **Innovation**
- [ ] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Incineration Complex II, Ash System

Project Engineer/Manager: Chris Wilson

Director: Chris Nastally

Project Score
59.5

Problem Statement:

The ash systems convey and store ash for ultimate disposal. The incinerators cannot be used if both the systems are not working.

Scope of Work/Project Alternatives:

The scope of work will include study, design, and construction for the rehabilitation of the wet and dry ash systems. The scope will also include the piping, valves, isolation gates, vacuum pumps, air filters, HVAC, boilers, miscellaneous silo repairs (concrete, access, etc.) site work and drainage, and miscellaneous structural repairs (foot bridge, spalling concrete, etc.) at the dry ash handling system. It will also include the pumps, piping, and sluicing system at the wet ash system.

Other Important Info:

*Innovation note: Due to only 10-15 years remaining useful life on Complex I, reconsider recommissioning wet ash.

Project History: The C-I and C-II Incinerators have been the primary source for processing Biosolids at the GLWA WRF since the plant was first built. The original ash handling system was a wet ash/sluicing process. The dry ash system was constructed in the 1960s and expanded with the construction of the C-II Incinerators in the 1970s. The wet ash system has not been in use for o...

CIP Number: 213008

Project Title: WRRF Rehabilitation of the Ash Handling Systems

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$264	$26	$26	$0	$0	$0	$36	$36	$36	$107	$131
Design/Engineering (1803499)	$125	$125	$125	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$1,595	$0	$0	$0	$0	$0	$513	$514	$48	$1,075	$520
Construction (Build) # 1	$5,200	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,200
Totals	$7,183	$151	$151	$0	$0	$0	$549	$550	$83	$1,182	$5,851

CIP Number: 213009

Project Title: WRRF Biosolids Processing Improvements

Project Status: Project Execution - Design
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: Residuals Management
Lookup Location: WRRF

☐ **Project New to CIP:**

☐ **Innovation**
☑ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Chris Wilson

Director: Chris Nastally

Project Score

79.6

Problem Statement:

The Central Operating Facility (COF) includes three trains of live bottom sludge storage bins, lime silos, sludge/lime mixers and numerous belt and screw conveyors for truck loading. Lime can be added for odor reduction and the sludge landfilled or stabilized and land applied.

The Complex I incinerators were constructed in 1940 and include six, 11 hearth units with capacity of 10 wet tons/hr. These were decommissioned in early 2017.

Complex II Incineration was constructed in the 1970s and...

Scope of Work/Project Alternatives:

The project will construct one/or a mix of the following alternatives:
1.Mesophilic Anaerobic Digestion (MAD) of Thickened Primary Sludge (TPS) and Thickened Fermented Sludge (TFS) with centrifuge dewatering and drying at a rehabilitated Biosolids Drying Facility (BDF).
2.Sludge screening, pre-dewatering, and Thermal Hydrolysis Process (THP) of FS and MAD of hydrolyzed sludge and TPS. Centrifuge dewatering and drying of the digested sludge at a rehabilitated BDF.
3.Identical to Alt 2, but...

Other Important Info:

Sludge cake is discharged into the incinerators from the incinerator feed system, which consists of a live bottom hopper, transfer screw conveyors, a weighing belt conveyor, and a feed screw conveyor. From the incinerator feed system, the sludge enters the top of the incinerator and proceeds downward from one hearth to another as the sludge goes through the various stages of the combustion process, including drying, volatilization, burning of fixed carbon, ash cooling, and final discharge as as...

CIP Number: 213009

Project Title: WRRF Biosolids Processing Improvements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$1,703	$7	$6	$2	$89	$97	$97	$97	$97	$476	$484
Professional Services (CS-272)	$3	$3	$5	($2)	$0	$0	$0	$0	$0	$0	$0
Professional Services (CS-166)	$227	$0	$0	$71	$107	$49	$0	$0	$0	$156	$0
Design/Engineering	$33,500	$0	$0	$0	$1,792	$1,208	$522	$3,673	$3,663	$10,859	$16,776
Construction	$300,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$92,980
Totals	$335,433	$10	$11	$71	$1,988	$1,353	$619	$3,770	$3,760	$11,491	$110,240

CIP Number: 216004

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Project Status: Project Execution - Pending Closeout
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: General Purpose
Lookup Location: WRRF

☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Phillip Kora

Director: Chris Nastally

Project Score
94.7

Problem Statement:

Rehabilitation of the sampling facilities will improve system reliability and allow for consistent and accurate sampling. This will help to facilitate accurate reporting to MDEQ. The rehabilitation of Ferric Chloride system will improve the phosphorous removal to comply with the Permit.

Scope of Work/Project Alternatives:

The scope of work includes:
Replacement of existing sampling equipment, installing new samplers, pumps, piping, housing and support equipment such as I&C, HVAC, etc. at the various sampling sites.
It also includes:
Replacement of two existing steel Ferric Chloride tanks at PS#2 with four (4) smaller tanks.
Providing new piping layout, gravity feed, and self-cleaning strainer.
Rehabilitating the Ferric Chloride Unloading station, associ...

Other Important Info:

*Innovation note: Rehab may include alternative online/real-time sampling & analysis, as well as improved mixing of the ferric with primary influent.
The design for Grit & Screening System and Sampling Station were complete under an As Needed Engineering Services Contract. The construction for Rehabilitation of Sampling Sites will be bid out separately. The Bar Rack System will not proceed for construction as designed.

Challenges: Maintaining the MDEQ-NPDES required capacity during the con...

CIP Number: 216004

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$475	$435	$433	$42	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-292)	$136	$118	$118	$18	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-301)	$889	$440	$436	$453	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-1481)	$271	$271	$271	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-1499)	$124	$124	$124	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (MISC)	$49	$49	$49	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1 (1802410)	$6,556	$6,469	$6,238	$319	$0	$0	$0	$0	$0	$0	$0
Construction (1900744)	$56	$56	$56	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$8,555	$7,962	$7,724	$832	$0	$0	$0	$0	$0	$0	$0

CIP Number: 216006

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: General Purpose
Lookup Location: WRRF

- [ ] **Project New to CIP:**

- [x] **Innovation**
- [ ] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**


Secondary Area

Project Engineer/Manager: Greg Marker

Director: Chris Nastally

Project Score
79

Problem Statement:
Yard piping and underground utilities are vital to the operations of the WRRF. The integrity of these systems will be maintained with this project. The Secondary Water system needs to be relocated or completely refurbished to provide uninterrupted water for fire protection and process applications such as seal water to the pumps. Some of the yard piping is original to the plant and requires a condition assessment.

Scope of Work/Project Alternatives:
This project will include the study, design, and construction for the needed improvements to yard piping and underground utilities. This includes right sizing, as-built confirmation and condition assessment of our yard piping and underground utilities. It is possible that the secondary water system may need to be relocated. The distribution models for the water systems will also need to be updated. A redundant potable water feed to the WRRF will also be evaluated.

Other Important Info:
Reliable utility is a critical aspect of O&M for the facility and to avoid outages.

Project History: Some of the pipe lines at the WRRF have been in existence since the plant was built. As the plant has grown, so have the systems. In general, the majority of the changes to the multiple systems occurred when the specific buildings or components to the plant were built or renovated. Therefore, an evaluation and necessary replacement of these pipelines is needed.

Challenges: Maintaining ad...

CIP Number: 216006

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$451	$307	$274	$177	$0	$0	$0	$0	$0	$0	$0
Professional Services	$142	$137	$137	$1	$2	$2	$0	$0	$0	$4	$0
Design/Engineering (1903601)	$3,613	$2,768	$2,491	$471	$144	$144	$144	$145	$72	$651	$0
Construction (Build) # 1	$11,145	$3,147	$3,081	$8,064	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 2	$16,520	$0	$0	$2,127	$3,195	$3,195	$3,195	$3,204	$1,602	$14,392	$0
Totals	$31,871	$6,359	$5,983	$10,842	$3,342	$3,342	$3,340	$3,349	$1,674	$15,047	$0

CIP Number: 216008

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: General Purpose
Lookup Location: WRRF

- [ ] **Project New to CIP:**

- [x] **Innovation**
- [x] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [ ] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**


SFE Building, Basement

Project Engineer/Manager: Chris Wilson

Director: Chris Nastally

Project Score
63.2

Problem Statement:
The Screened Final Effluent (SFE) Pump Station provides SFE water to many of the GLWA WRRF treatment processes and needs to be completely rehabilitated to maintain uninterrupted supply of SFE water to these processes.

Scope of Work/Project Alternatives:
This project will include the study, design, and construction for the needed improvements to the SFE pump station. This includes required capacity, pumps, strainers, piping, controls, building improvements, and electrical supply. This will also include a study to evaluate the potential for replacing the secondary water with SFE utilization where feasible and an alternative analysis to the existing carrier water at chlorination/dechlorination facility, seal water, recovery needs which may incl...

Other Important Info:
*Innovation note: Optimizing of a valuable resource recovered for facility needs. Project History: The SFE pump station has eight pumps with a total capacity of approximately 135 MGD. Pumps 1,2,4, and 6 were installed in 1973, pumps 3 and 5 in 1980, and pumps 7 and 8 in 1998. The older pumps were rebuilt in 1998. Strainers have been reconditioned over time. Due to the critical nature of the SFE pump station a significant upgrade/rehabilitation is required. In addition, the two 5 kV transformer...

CIP Number: 216008

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$574	$29	$28	$48	$70	$70	$70	$70	$70	$351	$148
Professional Services	$1,400	$462	$419	$446	$535	$0	$0	$0	$0	$535	$0
Design/Engineering (1802887)	$3,888	$29	$29	$3,859	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-166)	$238	$69	$68	$33	$48	$48	$42	$0	$0	$137	$0
Construction (Build) # 1	$95,000	$3,666	$3,167	$500	$12,847	$12,847	$12,847	$12,882	$12,847	$64,268	$27,066
Totals	$101,100	$4,255	$3,711	$4,885	$13,500	$12,964	$12,958	$12,952	$12,917	$65,291	$27,213

CIP Number: 216011

Project Title: WRRF Structural Improvements

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: General Purpose
Lookup Location: WRRF

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Incineration Building

Project Engineer/Manager: Kashmira Patel

Director: Chris Nastally

Project Score

64.4

Problem Statement:

The WRRF facilities are some of the oldest facilities within the GLWA infrastructure and are beyond their original design lives. In order to assure the safety of GLWA personnel working at the WRRF and to increase operational reliability, GLWA is initiating a long-term structural maintenance program. The program will start with a full structural needs assessment and a four-year program of implementing the highest priority repairs in order of priority.

Scope of Work/Project Alternatives:

The program will include a complete field assessment and structural condition report, classification of recommended repairs into levels of urgency, estimating quantities and the costs of repairs, developing a three-year repair program to address high priority repairs, design and implementation of repairs, preparation of as-built drawings and final project report. The Work includes improvements to be designed, administered, and constructed by the D/B Contractor including civil/site, architectura...

Other Important Info:

None

CIP Number: 216011

Project Title: WRRF Structural Improvements

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$371	$30	$24	$65	$90	$90	$90	$12	$0	$281	$0
Professional Services #1	$73	$73	$73	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services #2	$2,059	$258	$174	$399	$474	$474	$474	$65	$0	$1,486	$0
Design/Engineering (CS-166)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design-Build	$14,639	$2,590	$1,462	$3,238	$3,168	$3,168	$3,168	$434	$0	$9,939	$0
Totals	$17,141	$2,950	$1,733	$3,702	$3,732	$3,732	$3,732	$511	$0	$11,706	$0

CIP Number: 222001

Project Title: Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

Project Status: Project Execution - Design
Class Lvl 1: Wastewater
Class Lvl 2: Field Services
Class Lvl 3: Interceptor
Lookup Location: Oakwood District

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [x] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [x] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Overall Plan for NWI Diversion to Oakwood Facilities

Project Engineer/Manager: Chris Nastally

Director: Chris Nastally

Project Score

62.7

Problem Statement:

The Oakwood PS and CSO basin are currently under-utilized. Surcharging in Northwest Interceptor (NWI) has increased the CSOs and reduced the ability of customers to discharge into the NWI. A concept to isolate the downstream portion of the NWI from the WRRF and divert flow to the Oakwood PS was evaluated and refined under the Wastewater Master Plan Project (WWMP). The purpose of this project is to implement the WWMP recommended relief connection from the NWI to the Oakwood PS.

Scope of Work/Project Alternatives:

The scope of this project involves Study, Design, and Construction Phase Activities. The study phase will consist of determining the feasibility of advancing the project to the Design and Construction stages. Based on the efforts under the Study the Consultants will proceed with design and construction phase activities.

Other Important Info:

Challenges: Maintaining the wet weather contract capacities and adequate CSO treatment during extreme storm events and mitigating basement and street flooding in the District and intercommunity regional districts are the most significant challenges for the project to address. Other Important Info: The Oakwood District is located in the southwest portion of the City of Detroit covering an area of 1,520 acres. Some areas of the District are situated in relatively low-lying, flood prone topograp...

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$732	$21	$14	$6	$0	$203	$203	$204	$102	$712	$0
Design/Engineering (2002655)	$5,696	$2,616	$2,596	$20	$0	$878	$878	$881	$443	$3,080	$0
Construction (Build) # 1	$75,000	$0	$0	$0	$0	$21,387	$21,387	$21,445	$10,781	$75,000	$0
Totals	$81,428	$2,636	$2,610	$27	$0	$22,468	$22,468	$22,529	$11,326	$78,792	$0

CIP Number: 222002

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

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: Field Services
Class Lvl 3: Interceptor
Lookup Location: Detroit River Interceptor
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Mini Panicker

Director: Chris Nastally

Project Score
66.4

Problem Statement:
The DRI was constructed under multiple contracts from the 1910's to the 1930's and has been in service since that time. Between 2012 and 2016, a visual inspection was completed of the DRI beginning at Alter Road and extending to near the WRRF. Significant distress was observed in some sections of the DRI during these inspections, and by 2017, it was clear that a major rehabilitation of the interceptor was necessary to prevent further deterioration and to limit the potential for catastrophic fai...

Scope of Work/Project Alternatives:
The Preliminary Scope of Work of the Project is to review the existing records, investigate the existing conditions , provide the necessary cleaning/rehabilitation/replacement to optimize the design capacity of the interceptor and to extend the service life of this asset.

Other Important Info:
Challenges: DRI had significant flow control challenges for both inspection and rehabilitation. As part of this project major flow control structures were constructed to meet these challenges.

CIP Number: 222002

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

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$1,907	$206	$204	$103	$151	$151	$151	$151	$151	$756	$756
Construction (DB-226)	$90,231	$48,385	$46,450	$11,635	$11,430	$8,273	$8,273	$4,170	$0	$32,145	$0
Design-Build # 2 (CON-183)	$4,408	$4,408	$4,408	$0	$0	$0	$0	$0	$0	$0	$0
TBD/Unallocated	$21,015	$0	$0	$0	$0	$0	$0	$0	$0	$0	$18,592
Totals	$117,561	$53,000	$51,063	$11,738	$11,581	$8,424	$8,424	$4,322	$151	$32,901	$19,348

CIP Number: 222008

Project Title: North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: Field Services
Class Lvl 3: Interceptor
Lookup Location: --
☐ **Project New to CIP:**

☐ **Innovation**
☑ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Jody Caldwell

Director: Chris Nastally

Project Score
63.9

Problem Statement:
Oakland-Macomb Interceptor Drain Drainage District's (OMIDDD) is proposing new flow controls within the NIEA near 7-Mile, as part of the repair work currently being designed by OMIDDD within the NIEA upstream of Meldrum.

There are four sewer connections through which wastewater is discharged into the NIEA. On the upstream end of the NIEA, the OMIDDD discharges wastewater from the NESPS. Downstream of the NESPS, there are three gated drop connections to the NIEA at its crossings with the Firs...

Scope of Work/Project Alternatives:
The scope of work consists of the construction of a new flow control structure and automation of an existing flow control gate at the point of connection between the NIEA and the 7-Mile Relief Sewer.

This project is being undertaken by OMIDDD as part of their planned NIEA rehabilitation work. GLWA is currently considering cost sharing options for this project as GLWA believes this automated gate structure has operational benefit.

GLWA has evaluated the benefit of the automated gate stru...

Other Important Info:
Within Section 6.11 Collection System Redundancy Assessment of the Wastewater Master Plan, identifies the NIEA diversion at 7-Mile Road as a dry weather flow redundancy need.
Project is not scored by the risk committee since it is critical or for emergency repairs.
OMID will manage the project and GLWA will provide a portion of the overall funding.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$4,500	$0	$0	$2,250	$1,125	$1,125	$0	$0	$0	$2,250	$0
Totals	$4,500	$0	$0	$2,250	$1,125	$1,125	$0	$0	$0	$2,250	$0

CIP Number: 232001

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: Systems Control Center
Class Lvl 3: Pump Stations
Lookup Location: Fairview Pumping Station
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Jorge Nicolas

Director: Chris Nastally

Project Score
63.6

Problem Statement:
Replacement and upgrade of pumping equipment's to improve transportation of waste water to the treatment plant

Scope of Work/Project Alternatives:
The scope of work consists of the study, design, and construction of four new pumping systems including inlet and discharge valves and wet well hydraulics. This also includes enlarging doorways, revamping roadways, and upgrading electrical and control systems including installation of a standby emergency power generator system.

Other Important Info:
This project replaces all existing old pumping units with a state of the art dry pit pumping units with associated I&C and Ovation control from SCC
This project was not scored by risk committee because it is far advanced

CIP Number: 232001

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$432	$347	$332	$100	$0	$0	$0	$0	$0	$0	$0
Professional Services	$19	$19	$19	$0	$0	$0	$0	$0	$0	$0	$0
Design & Construction Assistance # 1 (CS-1747, CON-297, CS-1488)	$7,278	$6,991	$6,730	$548	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CON-297)	$41	$41	$41	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-1488)	$30	$30	$30	$0	$0	$0	$0	$0	$0	$0	$0
Miscellaneous (Insurance) #1	($41)	($41)	($41)	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1 (CON-297)	$38,670	$37,482	$36,940	$1,729	$0	$0	$0	$0	$0	$0	$0
Miscellaneous (Insurance) #2	($305)	($305)	($305)	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$46,124	$44,565	$43,747	$2,377	$0	$0	$0	$0	$0	$0	$0

CIP Number: 232002

Project Title: Freud & Conner Creek Pump Station Improvements

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: Systems Control Center
Class Lvl 3: Pump Stations
Lookup Location: Conner Creek & Freud Pump Stations
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Both PSs pictures

Project Engineer/Manager: Paul Ransom

Director: Chris Nastally

Project Score

94.1

Problem Statement:

Both Freud and Connor pump stations experience reliability challenges associated with the age of the equipment. Their wet wells cannot be isolated from the influent collection system to allow for inspection and maintenance. Modifications and improvements to these pump stations are necessary to protect the health, safety, and welfare of the residents. The primary objective of this project is the study of the overall performance of Connor Creek and Freud sewage pumping stations developing the des...

Scope of Work/Project Alternatives:

Provide a basis of design, and final design for an operational strategy to optimize the utilization of interconnected piping and operation between Connor Creek and Freud pumping stations and the Connor Creek Retention and Treatment Basin. Provide construction of the project and construction assistance during construction.

Other Important Info:

Challenges: Meeting the collection system transport capacity during the construction.

Project History: The Connor Creek Pump Station (CCPS) was originally built in 1928 with four storm water pumps, each with a rated capacity of 500 cubic feet per second (cfs). The CCPS was expanded in 1940 adding four more pumps of the same capacity. The pump station currently has a total capacity of 4,000 cfs and a firm capacity of 3,500 cfs. The pumps are primed using a vacuum system that relies on the f...

CIP Number: 232002

Project Title: Freud & Conner Creek Pump Station Improvements

Current Expenses (All figures are in $1,000’s)

“Total Costs” include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$7,630	$2,767	$2,749	$288	$405	$405	$405	$407	$405	$2,028	$2,028
Professional Services	$49	$49	$49	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services (CS-272)	$3	$3	$5	($2)	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-120)	$24,411	$10,036	$9,477	$2,245	$1,896	$432	$2,189	$1,324	$651	$6,492	$5,036
Design/Engineering (MISC)	$8	$8	$8	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1 (CON-109)	$5,086	$5,086	$5,086	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Phase 2) - Freud Pump Station	$125,890	$2,493	$2,493	$1,542	$18,767	$18,767	$18,767	$18,818	$18,767	$93,885	$27,970
Construction (Phase 3) - Connor Pump Station	$301,000	$0	$0	$0	$0	$7,679	$25,142	$25,211	$30,071	$88,104	$186,734
Totals	$464,076	$20,441	$19,867	$4,073	$21,068	$27,283	$46,503	$45,759	$49,895	$190,509	$221,768

CIP Number: 232004

Project Title: Condition Assessment at Blue Hill Pump Station

Project Status: Cancelled
Class Lvl 1: Wastewater
Class Lvl 2: Systems Control Center
Class Lvl 3: Pump Stations
Lookup Location: Blue Hill Pump Station - Detroit
☐ **Project New to CIP:**

☐ **Innovation**
☑ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Chris Nastally

Director: Chris Nastally

Project Score
60.6

Problem Statement:
The condition of the Blue Hill PS has not been accurately established to the metrics being established for other GLWA pumping stations. A new condition assessment is required.

Scope of Work/Project Alternatives:
Perform station inspection by a multi-discipline team of specialists in pumps, valves, electrical, HVAC, structural, building envelope I&C, security, and building mechanical systems. Perform wire to water efficiency tests

Other Important Info:
Performance of this pumping station is connected to flood control objectives for Conner and Freud Pumping Stations.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

CIP Number: 233003

Project Title: Rouge River In-system Storage Devices

Project Status: Future Planned - Ten Year CIP
Class Lvl 1: Wastewater
Class Lvl 2: Systems Control Center
Class Lvl 3: In System Devices (Dams, ISD's)
Lookup Location: Rouge Riiver

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [x] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [ ] **Redundancy**
- [x] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Project Engineer/Manager: Mini Panicker

Director: Chris Nastally

Project Score

88.2

Problem Statement:

The Rouge River receives untreated CSO discharges from GLWA CSO outfalls and outfalls from other Member combined sewer systems during wet weather. CSO control strategies that deal with first flush capture from small storms is typically a cost-effective implementation step in an overall CSO control program. Studies for the Wastewater Master Plan have shown the effectiveness of controlling first flush for small storms using receiving water modeling. Nine (9) locations on DWSD trunk sewers eas...

Scope of Work/Project Alternatives:

Perform sewer inspections, utility survey, and flow metering to establish and prioritize the siting of 9 new In-System Storage Devices (ISD)

Perform preliminary and final design of the ISDs, including upstream and downstream access points, power supply and instrumentation.

Construct 9 new inflatable dam in-system storage devices (ISD). Modify existing manholes or construct new access points upstream and downstream of each ISD. Provide electrical power, above ground structures for pneum...

Other Important Info:

The new ISD devices would be installed in trunk sewers owned and operated by DWSD. These are not GLWA leased sewers. A legal agreement may need to be prepared for GLWA to construct, operate, and maintain.

CIP Number: 233003

Project Title: Rouge River In-system Storage Devices

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$497	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$8,839	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,761
Construction (Build) # 1	$72,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$81,335	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,761

CIP Number: 260200

Project Title: Sewer and Interceptor Rehabilitation Program

Project Status: Project Execution - Design
Class Lvl 1: Wastewater
Class Lvl 2: Systems Control Center
Class Lvl 3: General Purpose
Lookup Location: Sewers and Interceptors
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Mini Panicker

Director: Chris Nastally

Project Score
0

Problem Statement:
The GLWA Collection System consists of approximately 185 miles of pipelines and associated manholes. As part of the baseline condition assessment, the trunk sewers and interceptors were inspected for structural integrity and maintenance issues in accordance with the National Association of Sewer Service Companies (NASSCO) standards. Rehabilitation and replacement program of the existing sewers and interceptors is identified after the condition assessment. Sewer rehabilitation program is necess...

Scope of Work/Project Alternatives:
Provide as needed CCTV and/or sonar inspection of the GLWA Collection System Interceptors and Trunk Sewers to assess 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/replacement to optimize the design capacity of the collection system and to minimize inflow and infiltration into the collection system.

Other Important Info:
Challengers: Large sewers and interceptors may have flow control challenges for both inspection and rehabilitation.

Project History: The installation of some of these interceptors and sewers dates back to 1912 under various contracts. Condition assessment of sewers to assess the existing conditions are necessary and will be done every 5 to 7 years. Recommendations from these inspections may indicate further need for cleaning, rehabilitation or replacement.

CIP Number: 260200

Project Title: Sewer and Interceptor Rehabilitation Program

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$172	$0	$0	$0	$0	$19	$19	$19	$19	$76	$96
Professional Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TBD/Unallocated	$9,000	$0	$0	$0	$0	$999	$999	$1,001	$999	$3,997	$5,003
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$9,171	$0	$0	$0	$0	$1,018	$1,018	$1,021	$1,018	$4,074	$5,098

CIP Number: 260201

Project Title: CON-149, Emergency Sewer Repair

Project Status: Project Execution - Pending Closeout
Class Lvl 1: Wastewater
Class Lvl 2: Systems Control Center
Class Lvl 3: General Purpose
Lookup Location: Sewers and Interceptors
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Mini Panicker

Director: Chris Nastally

Project Score
76.9

Problem Statement:
Most of the GLWA existing sewers within the collection system are older than 80 years. Due to the age and deterioration of the sewer pipes, immediate repair and/or rehabilitation is often required. This project will encompass all work as may be necessary to inspect, assess, rehabilitate, replace, and repair large diameter sewers and appurtenances on an emergency or urgent basis as directed by GLWA.

Scope of Work/Project Alternatives:
This is to address any immediate/urgent rehabilitation/repair needs for the GLWA Collection System

Other Important Info:
Challenges: Large sewers and interceptors may have flow control challenges for both inspection and rehabilitation.

CIP Number: 260201

Project Title: CON-149, Emergency Sewer Repair

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$724	$135	$132	$216	$321	$54	$0	$0	$0	$375	$0
Professional Services (CS-272)	$221	$221	$221	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services (CS-166)	$79	$79	$79	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-168)	$2,760	$2,575	$2,497	$145	$101	$17	$0	$0	$0	$118	$0
Construction (CON-149)	$37,200	$35,821	$35,815	$1,385	$0	$0	$0	$0	$0	$0	$0
Totals	$40,983	$38,829	$38,744	$1,746	$422	$72	$0	$0	$0	$493	$0

CIP Number: 260204

Project Title: Conveyance System Engineering Services-1802575

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: Systems Control Center
Class Lvl 3: General Purpose
Lookup Location: Sewers and Interceptors
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Woodward Sewer System

Project Engineer/Manager: Greg Marker

Director: Chris Nastally

Project Score
78.3

Problem Statement:
As part of the baseline condition assessment, the trunk sewers and interceptors were inspected for structural integrity and maintenance issues in accordance with the National Association of Sewer Service Companies (NASSCO) standards. The purpose of this project is to provide Engineering Services to evaluate the inspection results and recommend the best rehabilitation methods and to provide construction assistance for the Woodward Sewer and Connors Creek Sewer Systems.

Scope of Work/Project Alternatives:
Evaluate the existing conditions of the Woodward Sewer System and Connors Creek Sewer System and provide the design for both projects. In addition, provide for the construction of Conner Creek.

Other Important Info:
Challenges: These are large sewers and may have flow control challenges for both inspection and rehabilitation.

CIP Number: 260204

Project Title: Conveyance System Engineering Services-1802575

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$500	$64	$53	$74	$95	$95	$95	$88	$0	$372	$0
Professional Services (CS-272)	$2	$2	$5	($2)	$0	$0	$0	$0	$0	$0	$0
Professional Services (CS-166)	$6	$6	$6	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (1802575)	$7,426	$2,885	$2,470	$1,243	$1,152	$874	$874	$814	$0	$3,713	$0
Construction (Build) # 1	$49,576	$9,998	$7,475	$5,566	$12,193	$24,342	$0	$0	$0	$36,535	$0
Totals	$57,510	$12,955	$10,009	$6,881	$13,440	$25,310	$969	$902	$0	$40,621	$0

CIP Number: 260205

Project Title: NWI Rehabilitation

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: Systems Control Center
Class Lvl 3: General Purpose
Lookup Location: Sewers and Interceptors
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Mini Panicker

Director: Chris Nastally

Project Score
60.3

Problem Statement:
The North West Interceptor (NWI) was constructed between 1928 and 1950 and is unique among the GLWA interceptors in that the NWI diameter reduces in size at certain locations to restrict downstream conveyance to the Water Resource Recovery Facility (WRRF). Review of available CCTV and PACP information and man entry inspection have indicated a need for ongoing maintenance, typically consisting of spot repairs and debris removal.

Scope of Work/Project Alternatives:
Scope of work is the rehabilitation of NWI from Eight Mile to Tireman. The work includes mainly debris removal, deep concrete repairs, brick repairs, tuck pointing etc. to reduce infiltration and to increase the conveyance capacity.

Other Important Info:
Two flow control structures were constructed under CON-149 contract to facilitate condition assessment and
rehabilitation for portions of the NWI south of McNichols

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$134	$14	$12	$46	$66	$11	$0	$0	$0	$77	$0
Design/Engineering (CS-168)	$1,246	$760	$588	$376	$259	$23	$0	$0	$0	$282	$0
Construction	$6,935	$3,065	$1,704	$5,230	$0	$0	$0	$0	$0	$0	$0
Totals	$8,314	$3,838	$2,304	$5,653	$324	$34	$0	$0	$0	$358	$0

CIP Number: 260206

Project Title: Conveyance System Repairs (Sewers)

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: Systems Control Center
Class Lvl 3: General Purpose
Lookup Location: Sewers and Interceptors
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Mini Panicker

Director: Chris Nastally

Project Score
57.6

Problem Statement:
Rehabilitation program of the existing sewers and interceptors is identified after the the baseline condition assessment. This project is for the rehabilitation of Brush/Bates, Joy Road, & Seven Mile Sewers to extend their service lives and to maximize their transportation capacities.

Scope of Work/Project Alternatives:
Study, design, and construction assistance services associated with reviewing and supplementing information gathered from recent sewer inspections, identifying all required repairs, creating construction documents for repairs, and providing construction phase assistance during the implementation of the repairs for Brush/Bates, Joy Road, & Seven Mile Sewers.

Other Important Info:
This Engineering Services contract also encompasses the remaining CSO outfalls which is being funded by the Outfall Program, 260500

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$407	$13	$8	$175	$224	$0	$0	$0	$0	$224	$0
Design/Engineering Phase #1 (2003443)	$1,554	$841	$700	$449	$405	$0	$0	$0	$0	$405	$0
Design/Engineering Phase #2	$1,554	$0	$0	$0	$0	$261	$450	$451	$393	$1,554	$0
Construction Phase #1	$9,626	$1,559	$489	$4,558	$4,579	$0	$0	$0	$0	$4,579	$0
Construction Phase #2	$10,000	$0	$0	$0	$0	$1,680	$2,892	$2,900	$2,528	$10,000	$0
Totals	$23,141	$2,412	$1,197	$5,182	$5,208	$1,941	$3,342	$3,351	$2,921	$16,762	$0

CIP Number: 260207

Project Title: Rehabilitation of Woodward Sewer Systems

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: Field Services
Class Lvl 3: General Purpose
Lookup Location: Sewers and Interceptors
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Greg Marker

Director: Chris Nastally

Project Score
76.8

Problem Statement:
During the initial condition assessment, Woodward Sewer was ranked higher in the rehabilitation list since there were several grade 3, 4 and 5 defects, root intrusions, as well as instances of missing bricks and infiltration throughout the pipe segments. This rehabilitation is essential to optimize the transportation capacity of the Woodward Sewer and the GLWA collection system and to increase its life expectancy

Scope of Work/Project Alternatives:
The scope of work to be performed on this project includes rehabilitation of existing sewers along Woodward Avenue in Detroit, MI from McNichols Road at the north end to the location of the B-21 regulator south of Jefferson Avenue. In addition it includes two segments that connect to the sewer on Woodward Avenue will be rehabilitated:
1.Woodward Extension-just north of the Detroit-Highland Park city border on Highland Street west from Woodward Avenue to a parallel sewer line running south on...

Other Important Info:
NA

CIP Number: 260207

Project Title: Rehabilitation of Woodward Sewer Systems

Current Expenses (All figures are in $1,000’s)

“Total Costs” include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$362	$69	$54	$131	$176	$0	$0	$0	$0	$176	$0
Professional Services	$730	$478	$401	$329	$0	$0	$0	$0	$0	$0	$0
Design/Engineering #2	$3,117	$2,809	$2,060	$924	$132	$0	$0	$0	$0	$132	$0
Design/Engineering #1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$18,695	$15,303	$9,472	$9,223	$0	$0	$0	$0	$0	$0	$0
Construction Property Acquisition	$21	$21	$21	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$22,924	$18,680	$12,008	$10,608	$308	$0	$0	$0	$0	$308	$0

CIP Number: 260209

Project Title: Sewer Rehabilitation and Repair

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: Systems Control Center
Class Lvl 3: General Purpose
Lookup Location: Sewers and Interceptors
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Mini Panicker

Director: Chris Nastally

Project Score
61.3

Problem Statement:
GLWA collection system has a network of aging and deteriorated sewers. Due to the age and deterioration, immediate sewer repair/rehabilitation services are often necessary to avoid basement flooding and maintain the flows within the wastewater conveyance system. This contract is to continue the as needed sewer repairs, inspection, and rehabilitations to help GLWA optimize the collection system capacity.

Scope of Work/Project Alternatives:
Scope of work to be performed under this contract includes as needed repair, inspection, heavy cleaning, and rehabilitation to bring back the sewer system to its normal capacity and function and to avoid collapse.

Other Important Info:
This is a replacement contract for the current CON-149.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$225	$11	$10	$55	$80	$80	$0	$0	$0	$160	$0
Construction	$14,740	$2,679	$2,088	$3,603	$4,524	$4,524	$0	$0	$0	$9,049	$0
Totals	$14,965	$2,690	$2,098	$3,658	$4,605	$4,605	$0	$0	$0	$9,209	$0

CIP Number: 260210

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee

Project Status: Project Execution - Design
Class Lvl 1: Wastewater
Class Lvl 2: Field Services
Class Lvl 3: General Purpose
Lookup Location: Multiple Locations
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Greg Marker

Director: Chris Nastally

Project Score
59.6

Problem Statement:
When GLWA performed the condition assessment and prioritization of the collection system sewers, Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee fell among the top 20 due for rehabilitation. They revealed infiltration drippers, runners, gushers, and heavy sediment deposits throughout. To optimize the collection system capacity, to prevent additional degradation, and to extend the reliable useful life of these sewers, this project is initiated.

Scope of Work/Project Alternatives:
Scope of work include professional engineering services for the rehabilitation and eventual constructions as necessary to repair and rehabilitate these five (5) sewers, and their associated manholes and other structures.

Other Important Info:
Anticipating at least 2 construction projects from this CIP

CIP Number: 260210

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$335	$12	$9	$31	$42	$42	$42	$42	$42	$211	$84
Professional Services (CS-272)	$2	$2	$5	($2)	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$5,989	$746	$281	$1,722	$207	$807	$1,248	$1,252	$472	$3,986	$0
Construction (Phase #1)	$10,500	$25	$25	$0	$0	$3,684	$5,698	$1,093	$0	$10,475	$0
Construction (Phase #2)	$12,750	$0	$0	$0	$0	$0	$3,173	$6,955	$2,622	$12,750	$0
Totals	$29,576	$784	$320	$1,750	$249	$4,533	$10,162	$9,341	$3,136	$27,422	$84

CIP Number: 260211

Project Title: Emergency and Urgent Sewer Repair II

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: Systems Control Center
Class Lvl 3: General Purpose
Lookup Location: --

☑ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Mini Panicker

Director: Chris Nastally

Project Score
60.2

Problem Statement:
GLWA utilizes condition assessment and the Pipeline Assessment Certification Program (PACP) rating to assess sewer condition to track condition and rate of repair and rehabilitation. Often, an immediate emergency action is required, and sewer rehabilitation services are necessary to repair plugged, damaged, and collapsed sewers to avoid basement flooding, and maintain the flows within the wastewater conveyance system.

Scope of Work/Project Alternatives:
Scope of work is as needed condition assessment, repair, heavy cleaning and rehabilitation to bring the sewer system to its normal capacity and function.

Other Important Info:
This will be a parallel contract to the existing contract, CON- 2102000

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$6,000	$0	$0	$485	$1,499	$1,499	$1,499	$1,018	$0	$5,515	$0
Totals	$6,000	$0	$0	$485	$1,499	$1,499	$1,499	$1,018	$0	$5,515	$0

CIP Number: 260500

Project Title: CSO Outfall Rehabilitation

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Wastewater
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: CSO Outfalls

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Project Engineer/Manager: Mini Panicker

Director: Chris Nastally

Project Score
0

Problem Statement:
Rehabilitation of the CSO outfalls is essential to properly discharge the uncontrolled combined sewer overflows to the receiving waters and to prevent sewer backups in the Conveyance System. Recent inspections of the outfalls revealed structural deficiencies such as fractures, missing mortar from bricks. There are also sediment and debris deposits in many of them.

Scope of Work/Project Alternatives:
The preliminary Scope of Work of the project is construction. The work to review the existing records, evaluate the existing conditions, and provide the necessary design to rehabilitate the outfalls is being done under Contract CS-168. Another Engineering Services contract will be initiated after the CS-168 contract.

Other Important Info:
Projects 222006 AND 233001 have been incorporated into this project.

Project History: The construction of these outfalls dates back to the early 1900s.

Challenges: Some outfalls are below the river elevation and rehabilitation may be challenging.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$136	$0	$0	$0	$0	$11	$11	$11	$11	$45	$57
Professional Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TBD Future Allocation	$7,500	$0	$0	$0	$0	$0	$0	$752	$750	$1,501	$3,750
Totals	$7,636	$0	$0	$0	$0	$11	$11	$763	$761	$1,547	$3,807

CIP Number: 260508

Project Title: B-39 Outfall Rehabilitation

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: CSO Outfalls

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Mini Panicker

Director: Chris Nastally

Project Score
75.3

Problem Statement:

The B-39 outfall was constructed in 1928. Findings from the recent investigations indicated that the outfall barrel was structurally compromised, with significant cracking, springline crushing, and general deterioration of the concrete liner. Rehabilitation of this CSO outfall was essential to properly discharge the uncontrolled combined sewer overflows to the receiving waters and to prevent sewer back ups in the Conveyance System.

Scope of Work/Project Alternatives:

The scope of work to be performed for the rehabilitation of this outfall mainly included isolation and dewatering of the outfall, repairing to seal the cracks/leaks, and heavy cleaning

Other Important Info:

Project not scored by risk committee because it was critical or for emergency repairs

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$532	$332	$331	$73	$109	$18	$0	$0	$0	$127	$0
Design/Engineering	$680	$522	$431	$148	$86	$15	$0	$0	$0	$100	$0
Construction	$9,743	$7,635	$5,270	$3,991	$482	$0	$0	$0	$0	$482	$0
Totals	$10,954	$8,489	$6,032	$4,213	$676	$33	$0	$0	$0	$709	$0

CIP Number: 260510

Project Title: Conveyance System Repairs (Outfalls)

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: CSO Outfalls

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [x] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Project Engineer/Manager: Paul Ransom

Director: Chris Nastally

Project Score
73.8

Problem Statement:
Rehabilitation program of the CSO outfalls, sewers, and interceptors was identified after the baseline condition assessment. This project is to rehabilitate the remaining CSO outfalls that are not included under Phase 1, 2, 3,and 4 rehabilitations to increase their useful life.

Scope of Work/Project Alternatives:
Evaluate the existing conditions of the remaining CSO outfalls, provide the necessary rehabilitation to optimize the design capacities.

Other Important Info:
This Engineering Services contract also includes Joy Rd, Seven Mile, and Bates sewers which is being funded by the Sewer and Interceptor Rehabilitation Program, 260200 and this project is combined with 260206

Current Expenses (All figures are in $1,000’s)
“Total Costs” include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$421	$17	$11	$111	$157	$143	$0	$0	$0	$300	$0
Design/Engineering	$2,120	$1,972	$1,861	$149	$57	$52	$0	$0	$0	$110	$0
Design/Engineering Phase #2	$2,120	$0	$0	$0	$0	$0	$458	$791	$789	$2,038	$82
Construction Phase #1	$10,286	$533	$0	$3,049	$3,779	$3,458	$0	$0	$0	$7,237	$0
Construction Phase #2	$10,000	$0	$0	$0	$0	$0	$2,161	$3,731	$3,721	$9,613	$387
Totals	$24,947	$2,522	$1,872	$3,309	$3,993	$3,653	$2,619	$4,522	$4,510	$19,297	$469

CIP Number: 260600

Project Title: CSO Facilities Improvement Program

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: Conner Creek, Seven Mile, Puritan-Fenkell, Hubble-Southfield, Belle Isle, Oakwood CSO Basins, Baby Creek, Leib and St. Aubin Screening and Disinfection Facilities

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**


Conner Creek CSO Facility

Project Engineer/Manager: Chris Nastally

Director: Chris Nastally

Project Score
0

Problem Statement:
This program is being established to facilitate the study, design, construction administration, and construction of improvements necessary to maintain the facilities which contribute to the CSO Control Program and compliance with it.

Scope of Work/Project Alternatives:
This program is established to fund projects that arise in the near term of each fiscal year that were not budgeted for previously, and also serves as accounting of future costs in the CSO CIP that may be a part of long term CSO control, or other significant planning projects. Scopes of work will vary from roof replacement, to equipment replacement, to various other facility improvements.

Other Important Info:
The Total Lifetime cost of this program includes costs projected all the way out to 2044

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$90,250	$0	$0	$167	$251	$251	$251	$252	$503	$1,509	$13,994
Design-Build	$8,500	$0	$0	$270	$406	$406	$406	$407	$762	$2,387	$5,843
Construction	$920,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,542
Totals	$1,018,750	$0	$0	$438	$657	$657	$657	$659	$1,265	$3,897	$24,379

CIP Number: 260603

Project Title: Conner Creek CSO RTB Automation Improvements

Project Status: Closed
Class Lvl 1: Wastewater
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: Conner Creek

☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Effluent Relief Gate Repair

Project Engineer/Manager: Phillip Kora

Director: Chris Nastally

Project Score
0

Problem Statement:

Effluent gates were leaking allowing river water in to the basin. Based on the CS-116 study, seals and seats of some of Effluent Relief gates were found to be damaged. A data network style connection was used (versus hardwired) between the gates and the SCADA system. This network has been unreliable and difficult to maintain. Electrical and control cables were compromised due to their installation on the top of the concrete slab of Retention Treatment Basin (RTB) roof.

Scope of Work/Project Alternatives:

The scope work includes replacement of existing seals and seats of effluent relief gates (ERGs) and effluent launder gates (ELGs), replacement and alignment of stems for ELGs, replacement of ERG stems (based on assessment), existing pull boxes and cover replacement on top of RTB roof, existing fiber optic cable and conduit replacement, hard-wiring ELGs and ERGs actuators for reliable operation, secondary power feed for effluent gates, replacement of RIO5 and RIO6, logic modification to allow SC...

Other Important Info:

CS-172 has been closed out as of 09/23/19. Influent flowmeters replacement work is added as part of CCD-A and CO No. 2 of this contract.

CIP Number: 260603

Project Title: Conner Creek CSO RTB Automation Improvements

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$341	$341	$341	$0	$0	$0	$0	$0	$0	$0	$0
Design & Construction Assistance # 1 (CS-172, CS-116, CS-166, CON-234)	$76	$76	$76	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-116)	$341	$341	$341	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-166)	($47)	($47)	($47)	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (MISC)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1 (CON-234)	$6,900	$6,900	$6,900	$0	$0	$0	$0	$0	$0	$0	$0
Miscellaneous	$66	$66	$66	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$7,675	$7,675	$7,675	$0	$0	$0	$0	$0	$0	$0	$0

CIP Number: 260614

Project Title: Structural Inspection & Structural Improvements

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: Wayne
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**


Existing Structural Condition

Project Engineer/Manager: Kashmira Patel

Director: Chris Nastally

Project Score
53.4

Problem Statement:
A partial structural condition assessment has been performed and structural improvement (types) identified and prioritized. This project will provide Design-Build service to completely inspect all of the CSO Facilities (above and below ground) and prioritize improvements to be carried out over a 3-5 year period.

Scope of Work/Project Alternatives:
The scope of work at each of nine CSO facilities includes a complete field assessment and structural condition report, classification of recommended repairs into levels of urgency, estimating quantities and the costs of repairs, developing a three-year repair program to address high priority repairs, design and implementation of repairs, preparation of as-built drawings and final project report. The Work includes improvements to be designed, administered, and constructed by the D/B Contractor a...

Other Important Info:
Consideration of Shared Service Agreement with DWSD regarding the costing for the Belle Isle facility.
This project not scored by risk committee because it is far advanced

CIP Number: 260614

Project Title: Structural Inspection & Structural Improvements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$141	$51	$48	$54	$40	$0	$0	$0	$0	$40	$0
Professional Services	$12	$12	$15	($2)	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-166)	$1,505	$1,312	$1,216	$204	$85	$0	$0	$0	$0	$85	$0
Design-Build # 1 (1902224)	$13,955	$12,539	$11,447	$2,509	$0	$0	$0	$0	$0	$0	$0
Totals	$15,613	$13,914	$12,725	$2,764	$124	$0	$0	$0	$0	$124	$0

CIP Number: 260618

Project Title: Oakwood HVAC Project

Project Status: Project Execution - Pending Closeout
Class Lvl 1: Wastewater
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: Oakwood CSO Facility
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**


Coroded building crane from failed HVAC system

Project Engineer/Manager: Chris Nastally

Director: Chris Nastally

Project Score
20

Problem Statement:
There is heavy corrosion and the gas detection system in the sanitary pump room is constantly turning off causing operators to leave the overhead door open to keep the space ventilated. The HVAC system pulls gases from the sewer as currently operated. The wet-well supply fans have failed functionally and this is also contributing to heavy corrosion in the sanitary pump room.

Scope of Work/Project Alternatives:
The Odor Control unit intake is being reconfigured, various supply and exhaust fans are being replaced, access for the odor control units will be made for all three units to facilitate proper maintenance. The crane and building structural steel will be assessed and re-coated to ensure proper life.

Other Important Info:
The project is under construction.
Project not scored by risk committee because it is far advanced

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$354	$94	$84	$270	$0	$0	$0	$0	$0	$0	$0
Professional Services	$115	$115	$117	($2)	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$458	$454	$429	$28	$0	$0	$0	$0	$0	$0	$0
Design-Build	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1	$5,992	$4,991	$4,991	$1,001	$0	$0	$0	$0	$0	$0	$0
Totals	$6,918	$5,654	$5,621	$1,298	$0	$0	$0	$0	$0	$0	$0

CIP Number: 260619

Project Title: Control System Upgrade - St Aubin, Lieb & Mile

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: Seven Mile, Leib and St. Aubin Screening and Disinfection Facilities

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Lieb CSO, PLC Panel

Project Engineer/Manager: Chris Wilson

Director: Chris Nastally

Project Score

95.1

Problem Statement:

This project was initiated to facilitate the design build improvements necessary to maintain the facilities which contribute to the CSO Control Program and ensure compliance.

Scope of Work/Project Alternatives:

The project will replace the Obsolete/End of Life Allen Bradley PLC5 control systems at 3 CSO Facilities (Leib, St. Aubin, 7-Mile) and upgrade critical Instrumentation. It includes new Controllers, HMI, network components and controls system integration. It also includes implementation of high-performance graphics and advance alarm management and advanced process control.

Other Important Info:

The intent of this project is to perform field investigation, replace, design, demolish existing, furnish, install and start-up a complete Control system, networks and replacement of all field devices at the above facilities.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$135	$8	$1	$67	$67	$0	$0	$0	$0	$67	$0
Professional Services	$463	$245	$195	$144	$124	$0	$0	$0	$0	$124	$0
Design/Engineering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$7,375	$949	$855	$2,662	$3,858	$0	$0	$0	$0	$3,858	$0
Totals	$7,972	$1,202	$1,050	$2,873	$4,049	$0	$0	$0	$0	$4,049	$0

CIP Number: 260620

Project Title: Baby Creek Roof Replacement

Project Status: Project Execution - Pending Closeout
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Baby Creek
Lookup Location: Baby Creek

☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Improper shingle installation.

Project Engineer/Manager: Vinod Sharma

Director: Chris Nastally

Project Score

78.8

Problem Statement:

The Baby Creek roof leaks on electrical equipment when it rains. The laps in the shingles are sometimes as little as 2". As identified as part of a recent roof inspection the leaking roof has caused the substrate to rot and require replacement. Approximately one third of the roof was previously replaced in 2017. This new portion of roof is sufficient. The remaining two thirds of the roof is exhibiting failure.

Scope of Work/Project Alternatives:

Replace two thirds of the roof at Baby Creek with matching asphalt shingles.

Other Important Info:

N/A

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$33	$33	$33	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-299)	$34	$34	$34	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$917	$917	$917	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$984	$984	$985	$0	$0	$0	$0	$0	$0	$0	$0

CIP Number: 260622

Project Title: CSO Emergency Generator Improvements

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Multiple CSO Facilities
Lookup Location: Various CSO Facilities

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Chris Nastally

Director: Chris Nastally

Project Score
77.5

Problem Statement:
The reliability of the CSO standby generators and automatic transfer switches is declining. During utility power outages when the standby generators are necessary, either the generators may not start automatically, or the automatic transfer switches may not transfer. Neither the generator control panels, nor automatic transfer switches report any status or alarm signals to the operators through the SCADA Ovation Control system. In many cases, CSO Facilities have automatic transfer switch (ATS)...

Scope of Work/Project Alternatives:
Under this project, the CSO facilities with standby generator systems will be upgraded to have a standardized, dedicated automatic transfer control system. This will include upgrades to the automatic transfer switches, upgrades to some generator control panels, and the addition of several alarm and status signals from both the generator control panels and the ATS controllers, which will be monitored by the Ovation Control system.
General Project Objectives are:
1. Replace obsolete Programab...

Other Important Info:
None.

CIP Number: 260622

Project Title: CSO Emergency Generator Improvements

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$36	$36	$30	$6	$0	$0	$0	$0	$0	$0	$0
Professional Services (CS-272 - 72031A.01)	$118	$118	$123	($5)	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CS-299)	$89	$80	$80	$9	$0	$0	$0	$0	$0	$0	$0
Construction	$1,123	$851	$851	$272	$0	$0	$0	$0	$0	$0	$0
	$4	$4	$0	$4	$0	$0	$0	$0	$0	$0	$0
Totals	$1,369	$1,088	$1,084	$286	$0	$0	$0	$0	$0	$0	$0

CIP Number: 260623

Project Title: CSO Baby Creek Screen Rehabilitation

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Baby Creek
Lookup Location: Dearborn

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Partho Ghosh

Director: Chris Nastally

Project Score
93.2

Problem Statement:
Based on the condition assessment conducted as a part of contract CS-299, the screens require rehabilitation to ensure long term viability.

Scope of Work/Project Alternatives:
The rehabilitation of Baby Creek Screens includes replacing/ repairing necessary parts to ensure system reliability and maintainability.

Other Important Info:
N/A

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$28	$28	$16	$13	$0	$0	$0	$0	$0	$0	$0
Professional Services	$15	$15	$16	($1)	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$20	$18	$16	$4	$0	$0	$0	$0	$0	$0	$0
Construction	$2,326	$1,545	$1,400	$895	$31	$0	$0	$0	$0	$31	$0
Totals	$2,388	$1,605	$1,448	$911	$31	$0	$0	$0	$0	$31	$0

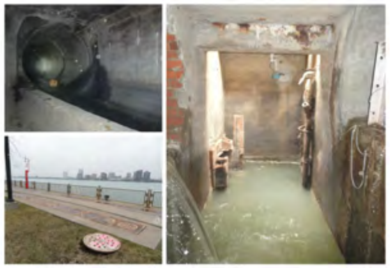
CIP Number: 260700

Project Title: Sewer System Infrastructure Improvements and Pumping Stations

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: Field Services
Class Lvl 3: Interceptor
Lookup Location: CSO Outfalls

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**



Infrastructure

Project Engineer/Manager: Mini Panicker

Director: Chris Nastally

Project Score

0

Problem Statement:

VR-Gates, ISDs, and backwater gates are operational elements in the collection system that minimize untreated overflows and maximize flow to the WRRF and CSO control facilities. They have reached their life expectancy and need rehabilitation. Need to install Backwater gates at the DRI Outfalls that currently do not have backwater gates to prevent river inflow into the collection system. This program is for the rehabilitation of the infrastructural elements and for the as needed updating of the...

Scope of Work/Project Alternatives:

Evaluate the existing conditions of the VR-Gates, ISDs, Backwater Gates and Access Hatches Provide the necessary design, construction, and Construction Assistance for their installation, replacement or rehabilitation. Update of the collection system pumping station assets on an as needed basis.

Other Important Info:

Google map of VR-3 and VR-9 are included. VR-4, 5, 6, 10, 11 &13 are also part of the project.

Project History: GLWA interceptors and sewers were constructed in the early 1900s. The hatches and access covers secure operations and maintenance access points throughout the system for items such as the backwater gates, ISDs, and VRs. The backwater gates, ISDs, and VRs are all critical elements that control and divert flows throughout the system. Most of them have reached their life expectanc...

CIP Number: 260700

Project Title: Sewer System Infrastructure Improvements and Pumping Stations

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

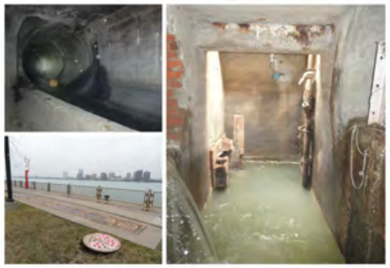
Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
Capital Delivery Salary (was 222004)	$526	$0	$0	$36	$54	$54	$54	$55	$54	$272	$218
TBD/Unallocated	$499	$0	$0	$0	$0	$0	$0	$0	$75	$75	$424
Construction (3 Projects)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$1,025	$0	$0	$36	$54	$54	$54	$55	$129	$347	$642

CIP Number: 260701

Project Title: Conveyance System Infrastructure Improvements

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: Field Services
Class Lvl 3: Interceptor
Lookup Location: City of Detroit, Southfield, and others
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**


Infrastructure

Project Engineer/Manager: Mini Panicker

Director: Chris Nastally

Project Score
60.1

Problem Statement:
VR-Gates, ISDs, and backwater gates are operational elements in the collection system that minimize untreated overflows and maximizing flow to the WRRF and CSO control facilities. They have reached their life expectancy and need rehabilitation.

Scope of Work/Project Alternatives:
Assess the structure and functionality of the VR-Gates, ISDs, Regulators, Backwater Gates, Access Hatches and provide Design, Construction, and Construction Assistance for their replacement or rehabilitation.

Other Important Info:
Rehabilitation will be in 2 different phases. Phase 1 will be the rehabilitation of the mechanical, structural and electrical equipment at 59 combined sewage outfall (CSO). Most of the work includes replacement of timber backwater gates, modifications to the regulator opening and replacement of regulator gates, and replacement of all instrumentation equipment. Phase 2 will be the rehabilitation of 14 ISDs and 2 DR facilities. These facilities are intended to store and release flow during time...

CIP Number: 260701

Project Title: Conveyance System Infrastructure Improvements

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
Capital Delivery Salary (was 222004)	$490	$42	$39	$97	$141	$141	$71	$0	$0	$354	$0
Professional Services (CS-272)	$2	$2	$5	($2)	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (1803709)	$5,154	$2,947	$2,676	$734	$696	$696	$351	$0	$0	$1,744	$0
Construction #1	$36,863	$12,109	$7,842	$12,079	$11,734	$5,208	$0	$0	$0	$16,942	$0
Construction Sewer In -System Storage and Valve Remote Improvements	$15,944	$4,820	$2,612	$4,544	$3,509	$3,509	$1,769	$0	$0	$8,788	$0
Construction #3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$58,453	$19,920	$13,173	$17,453	$16,081	$9,555	$2,191	$0	$0	$27,827	$0

CIP Number: 260702

Project Title: Pump Station Assets Updates

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Wastewater
Class Lvl 2: Field Services
Class Lvl 3: General Purpose
Lookup Location: N/A

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Paul Ransom

Director: Chris Nastally

Project Score
59.6

Problem Statement:
Evaluation and upgrade of the Pumping Station elements needed to improve the conveyance of wastewater to the WRRF.

Scope of Work/Project Alternatives:
Evaluate/upgrade/replace the Sewer Pump Station elements to maintain the collection system transport capacity on an as needed basis.

Other Important Info:
N/A

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$65	$0	$0	$0	$0	$0	$6	$6	$6	$18	$30
Construction	$10,000	$0	$0	$0	$0	$0	$0	$1,002	$999	$2,001	$4,999
Totals	$10,065	$0	$0	$0	$0	$0	$6	$1,008	$1,005	$2,019	$5,028

CIP Number: 260800

Project Title: WRRF Roof Replacement for Multiple Facilities Program

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: General Purpose
Lookup Location: WRRF

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**


Complex I

Project Engineer/Manager: Chris Wilson

Director: Chris Nastally

Project Score
0

Problem Statement:
Some of the roofs at GLWA WRRF facilities are near the end of their useful life. The roofs help to protect the expensive equipment by preventing rainwater entering into the facilities.

Scope of Work/Project Alternatives:
Inspect the roofing system conditions and assess drainage conditions on all the GLWA wastewater facility buildings. Document the roofing system inspections with high-quality photographs, scaled drawings, sketches, and inspection notes to describe the conditions and deficiencies of the roofing systems. Recommend the extent of roofing repairs and replacements required. Document the roof for each building inspected on the project. Classify the roofs into three main categories, 1) Roofs that requir...

Other Important Info:
Challenges: Roof material testing for asbestos before demolition and flashing will be challenging to manage as low levels of asbestos are very common in the GLWA’s old roof type systems.

Project History: Majority of GLWA WRRF facilities have Built-Up-Roof (BUR) membrane systems commonly referred to as "tar and gravel" roofs. The old Administration building, and the Newer Administration building have tar and gravel type roof systems. The CSO RTB’s and SDF’s have metal and shingle type roofing...

Current Expenses (All figures are in $1,000’s)
“Total Costs” include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$2,700	$0	$0	$0	$0	$0	$500	$200	$200	$900	$900
Construction	$12,000	$0	$0	$0	$0	$0	$0	$2,003	$1,997	$4,000	$4,000
Totals	$14,700	$0	$0	$0	$0	$0	$500	$2,203	$2,197	$4,900	$4,900

CIP Number: 260802

Project Title: 2022 WRRF Roof Improvements Project

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: General Purpose
Lookup Location: WRRF

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Chris Nastally

Director: Chris Nastally

Project Score
77.9

Problem Statement:
This project stems from the 260800 WRRF Roof Replacement Program. This project will perform assessment on nearly all of the rooves at the WRRF, and prioritize the worst condition rooves for design of improvements to restore proper function to the rooves.

Scope of Work/Project Alternatives:
Perform assessment of all existing rooves and supporting structures, including parapets, penetrations, roof system, flashing, and coping. Provide report on rooves and prioritize highest need, perform design, bid out for construction and construct improvements.

Other Important Info:
N/A

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$44	$0	$0	$9	$14	$14	$6	$0	$0	$34	$0
Professional Services	$250	$24	$23	$98	$129	$0	$0	$0	$0	$129	$0
Design/Engineering	$500	$386	$279	$145	$59	$11	$5	$0	$0	$76	$0
Construction	$3,958	$0	$0	$302	$1,901	$1,755	$0	$0	$0	$3,655	$0
Totals	$4,751	$409	$302	$555	$2,103	$1,780	$11	$0	$0	$3,894	$0

CIP Number: 260900

Project Title: WRRF Facility Optimization Program

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: General Purpose
Lookup Location: WRRF

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [ ] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**


Administration Building

Project Engineer/Manager: Chris Wilson

Director: Chris Nastally

Project Score
0

Problem Statement:
The existing WRRF is a product of numerous construction projects over nearly 90 years and consists of numerous process and other buildings with varying levels of use and practicality. It is critical to convey an image that reflects the pride and importance of the work that is done every day at this facility. This project will create a visitor center focusing on public education to impress the next generation of wastewater engineers, scientists and operators and enhance the facility creating a m...

Scope of Work/Project Alternatives:
The work consists of extending the evaluation performed as a part of Master Planning to design and construct site modifications including a new visitor center, demolition or repurposing of existing structures that are no longer used, consolidation or reconfiguration of administration, operations and maintenance staff and spaces, vehicle and equipment storage spaces, shops, etc. The project also includes site modifications to include improved site circulation, parking and fencing, green infrastr...

Other Important Info:
N/A

Current Expenses (All figures are in $1,000’s)
“Total Costs” include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$85,000	$0	$0	$0	$0	$0	$0	$0	$2,124	$2,124	$21,424
Totals	$85,000	$0	$0	$0	$0	$0	$0	$0	$2,124	$2,124	$21,424

CIP Number: 260901

Project Title: Rehabilitation of HAZMAT Facility at WRRF

Project Status: Active - Procurement - Construction
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: General Purpose
Lookup Location: WRRF

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Chris Nastally

Director: Chris Nastally

Project Score
52.1

Problem Statement:
The HAZMAT Security Specialists at the Water Resource Recovery Facility (WRRF) provide rapid response for GLWA operations, including site security and emergency response relating to leaks or spills of hazardous substances. There are approximately 3-4 specialists occupying the existing HAZMAT building daily, with a maximum of 5-6 specialists at certain times. The HAZMAT facility, which is located on the opposite side of Jefferson Road from the WRRF, is a single story, steel framed and concrete b...

Scope of Work/Project Alternatives:
The scope of work will renovate the existing HAZMAT building to right size the facility to:
•accommodate the GLWA HAZMAT team.
•accommodate the parking of one (1) pick-up truck type vehicle, two (2) response vehicles and a response trailer.
•demolish and construct new officer booth to accommodate one officer

Other Important Info:
N/A

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$19	$5	$0	$19	$0	$0	$0	$0	$0	$0	$0
Professional Services	$180	$32	$27	$68	$84	$0	$0	$0	$0	$84	$0
Design/Engineering (1900318)	$376	$290	$252	$124	$0	$0	$0	$0	$0	$0	$0
Construction	$2,932	$192	$50	$2,882	$0	$0	$0	$0	$0	$0	$0
Totals	$3,506	$519	$330	$3,093	$84	$0	$0	$0	$0	$84	$0

CIP Number: 260902

Project Title: WRRF 4th Floor Renovation

Project Status: Project Execution - Pending Closeout
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: General Purpose
Lookup Location: WRRF

☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

New Administration Building

Project Engineer/Manager: Alfredo Lava

Director: Chris Nastally

Project Score
59.5

Problem Statement:

The Wastewater Master Plan 'non-process space programming task' for the WRRF provided an overview of space needs, both current and future, to provide GLWA with the knowledge of space needs and a "roadmap" for building improvements utilizing holistic planning principles that yield several benefits including:
•Increased efficiencies and space utilizations in the Admin Building complex, consolidating operations work flows and optimizing the use of existing space.
•Standardization of office and...

Scope of Work/Project Alternatives:

GLWA plans to renovate a significant portion of the existing fourth floor of the New Administration Building, in order to house Engineering Design & CSO, Construction Engineering, and Local Asset Management groups. The area of renovation is approximately 15,980 gross square feet and will be a combination of enclosed perimeter offices and conference rooms, coupled with furniture cubicles, collaboration space, and a break area.

Other Important Info:

N/A

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$147	$147	$122	$24	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$105	$81	$81	$24	$0	$0	$0	$0	$0	$0	$0
Construction	$3,475	$3,216	$2,940	$535	$0	$0	$0	$0	$0	$0	$0
Totals	$3,726	$3,443	$3,143	$583	$0	$0	$0	$0	$0	$0	$0

CIP Number: 260903

Project Title: WRRF Front Entrance Rehabilitation

Project Status: Active - Procurement - Board Approved - Construction
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: General Purpose
Lookup Location: WRRF

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

WRRF Front Entrance

Project Engineer/Manager: Paul Ransom

Director: Chris Nastally

Project Score

52.4

Problem Statement:

The Great Lakes Water Authority's (GLWA) Water Resource Recovery Facility (WRRF) is the largest single wastewater treatment facility in the United States with nearly five hundred individuals that report to the facility on a regular basis including team members, visitors, and contractors. The main entry point to the facility is the entrance from Jefferson closest to the Rouge River bridge which handles the majority of the traffic entering the plant. Team members and Contractors with badge acces...

Scope of Work/Project Alternatives:

The project will re-design the Front Entrance at WRRF to accommodate the traffic flow at the entrance, provide visitor parking prior to the automated barrier gate arm, improvement to the turnstiles and the Guard House. This may require relocation of existing infrastructure to provide the best workflow at the entrance. The scope of work includes the following:
•Re-design the parking and traffic flow at the front entrance.
•Minimize the pedestrian-vehicle conflicts at the north entrance to ...

Other Important Info:

N/A

CIP Number: 260903

Project Title: WRRF Front Entrance Rehabilitation

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$36	$18	$10	$17	$9	$0	$0	$0	$0	$9	$0
Professional Services (CS-272)	$150	$32	$20	$62	$68	$0	$0	$0	$0	$68	$0
Design/Engineering	$634	$338	$337	$162	$135	$0	$0	$0	$0	$135	$0
Construction	$6,997	$0	$0	$5,924	$1,073	$0	$0	$0	$0	$1,073	$0
Totals	$7,817	$387	$368	$6,165	$1,284	$0	$0	$0	$0	$1,284	$0

CIP Number: 260904

Project Title: WRRF 3rd Floor Renovation

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: General Purpose
Lookup Location: WRRF

☐ **Project New to CIP:**

☐ **Innovation**
☑ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Alfredo Lava

Director: Chris Nastally

Project Score

40.5

Problem Statement:

GLWA is in the process of renovating the 4th floor of the New Administration Building. This renovation will consolidate document management, the CIP/Asset Management Teams, and Engineering. As a result of this renovation, and the previous renovation to the 2nd Floor, the 3rd floor is now ready for the next phase of renovation in accordance with the Wastewater Masterplan.

Scope of Work/Project Alternatives:

The plan is to renovate the 3rd floor to permit relocation of administration staff, OD, safety, and facilities teams to the 3rd floor to make room on the 1st floor (the last floor to be renovated). This plan will also make the 3rd floor more secure and in line with renovations performed on the 2nd floor and being performed on the 4th floor.

Other Important Info:

Project is currently in procurement.

Current Expenses (All figures are in $1,000’s)
“Total Costs” include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$31	$16	$11	$9	$7	$4	$0	$0	$0	$11	$0
Design/Engineering	$215	$86	$57	$29	$76	$54	$0	$0	$0	$130	$0
Construction	$3,300	$0	$0	$0	$1,934	$1,366	$0	$0	$0	$3,300	$0
Totals	$3,546	$101	$68	$37	$2,017	$1,424	$0	$0	$0	$3,440	$0

CIP Number: 260905

Project Title: WRRF Plumbing Shop Renovation - 260905

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: General Purpose
Lookup Location: N/A

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Chris Nastally

Director: Chris Nastally

Project Score

0

Problem Statement:

The plumbing shop building is approximately 35 years old. It requires renovations to ensure proper function of the building for the next 20 years.

Scope of Work/Project Alternatives:

Do noting is not an option. Rehab is recommended and while performing these renovations, we will ensure the building's function will be sufficient to suit the needs of the WRRF for the next 20 years. By renovating the building and providing a proper space for logistics and materials team to properly store and access items frequently used at the plan for operations and maintenance to ensure continuity of operations. This will include demolition of interior floor space, establishment of storage r...

Other Important Info:

Repurpose of a building that is not being properly utilized to a space that can best serve the WRRF.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$29	$8	$0	$17	$12	$0	$0	$0	$0	$12	$0
Professional Services (CS-272)	$125	$15	$13	$50	$63	$0	$0	$0	$0	$63	$0
Design/Engineering	$227	$129	$121	$53	$53	$0	$0	$0	$0	$53	$0
Consruction	$2,288	$0	$0	$1,063	$1,225	$0	$0	$0	$0	$1,225	$0
Totals	$2,669	$152	$134	$1,183	$1,352	$0	$0	$0	$0	$1,352	$0

CIP Number: 261000

Project Title: WRRF Rehabilitation of the Secondary Clarifiers

Project Status: Future Planned - Ten Year CIP
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: Secondary Treatment and Disinfection
Lookup Location: WRRF

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Chris Wilson

Director: Chris Nastally

Project Score
0

Problem Statement:
The secondary clarifiers need to be inspected and rehabilitated for certain components such as the rake arms.

Scope of Work/Project Alternatives:
This project will provide for inspection, study, design, and construction for refurbishing the secondary clarifiers. A key component will be the inspection of the concrete and the rake arms. Once the condition of these components is determined, alternatives will be evaluated, and the selected alternative will be designed and constructed. The scope will also include evaluating and designing isolation gates for the individual clarifiers. The B Houses have energy intensive HVAC units. These w...

Other Important Info:
Challenges: This will be a long-term project because only one or two clarifiers can be taken out of service at a time. Also, there may be different levels of rehabilitation for each clarifier depending upon the results of the inspection.

Project History: There are 25 secondary clarifiers at the WRRF. They have been rehabilitated in the past for other components such as RAS pumps, troughs and weirs, and center drives. It is time to refurbish some of the other key components.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$337	$0	$0	$0	$0	$0	$0	$0	$37	$37	$187
Design/Engineering	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$39,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$15,591
Totals	$39,337	$0	$0	$0	$0	$0	$0	$0	$37	$37	$15,779

CIP Number: 261001

Project Title: WRRF Rehabilitation of the Secondary Clarifiers Phase 1

Project Status: Project Execution - Design
Class Lvl 1: Wastewater
Class Lvl 2: WRRF
Class Lvl 3: Secondary Treatment and Disinfection
Lookup Location: WRRF

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Chris Wilson

Director: Chris Nastally

Project Score
72

Problem Statement:

The secondary clarifiers need to be inspected and rehabilitated for certain components such as the rake arms.

Scope of Work/Project Alternatives:

This project will provide for inspection, study, design, and construction for refurbishing the first two secondary clarifiers. A key component will be the inspection of the concrete and the rake arms. Once the condition of these components is determined, alternatives will be evaluated, and the selected alternative will be designed and constructed. The scope will also include evaluating and designing isolation gates for the individual clarifiers. The B Houses have energy intensive HVAC units...

Other Important Info:

Challenges: This will be a long-term project because only one or two clarifiers can be taken out of service at a time. Also, there may be different levels of rehabilitation for each clarifier depending upon the results of the inspection.

Project History: There are 25 secondary clarifiers at the WRRF. They have been rehabilitated in the past for other components such as RAS pumps, troughs and weirs, and center drives. It is time to refurbish some of the other key components.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$170	$30	$22	$13	$17	$17	$17	$17	$17	$83	$53
Professional Services	$2	$2	$2	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$3,174	$0	$0	$203	$815	$815	$306	$200	$200	$2,336	$634
Construction	$15,000	$0	$0	$0	$0	$0	$2,067	$2,505	$2,498	$7,069	$7,931
Totals	$18,346	$32	$24	$216	$832	$832	$2,389	$2,722	$2,714	$9,488	$8,618

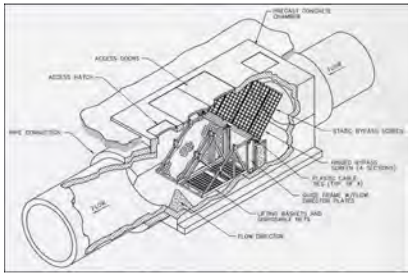
CIP Number: 270001

Project Title: Pilot CSO Netting Facility

Project Status: Active - Pre-Procurement - Design
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Multiple CSO Facilities
Lookup Location: Detroit River - near MacArthur Bridge

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [x] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [ ] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**



Netting Facility

Project Engineer/Manager: Vincent Genco

Director: Chris Nastally

Project Score

89.6

Problem Statement:

This problem statement has been revised based on updates and negotiations currently taking place between MDOT, DWSD, and GLWA for the I-94 Modernization project planned by MDOT. The use of the drainage system and negotiations between the three entities has resulted in the pilot location for netting facilities to be shifted to Outfalls B-3, B-4, and B-5. These outfalls are on the GLWA list for outfalls that require treatment to satisfy long term CSO control. This project is anticipated to be ...

Scope of Work/Project Alternatives:

Inspect the 3 outfalls, perform a study to establish requirements for the netting facilities with respect to screening, disinfection, flow measurement, sampling, hydraulic gradeline, and bypass. Perform design services to carry the elements identified in the study forward for construction drawings and specifications. Perform services to establish locations for the required facilities, and assistance in land and easement acquisition to facilitate the improvements. Provide bidding, constructi...

Other Important Info:

GLWA staff conducted a field inspection in 2019 of CSO outfall netting facilities constructed in Cleveland in 2004. There are different types of CSO net installations, and GLWA believes that in-line nets provide for the most efficient operation and maintenance.

CIP Number: 270001

Project Title: Pilot CSO Netting Facility

Current Expenses (All figures are in $1,000’s)
“Total Costs” include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$412	$10	$2	$8	$0	$0	$0	$0	$0	$0	$0
Professional Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$6,015	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering (CA)	$2,607	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1	$28,850	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$37,884	$10	$2	$8	$0	$0	$0	$0	$0	$0	$0

CIP Number: 270002

Project Title: Meldrum Sewer Diversion and VR-15 Improvements

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Multiple CSO Facilities
Lookup Location: Sewers and Interceptors
☐ **Project New to CIP:**

☐ **Innovation**
☑ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Mini Panicker

Director: Chris Nastally

Project Score
88.7

Problem Statement:
The Meldrum Sewer is an uncontrolled CSO that discharges through outfall B-07. Currently, this is an untreated CSO discharge. Untreated CSO discharges allow debris and bacteria make their way into fresh water bodies and are damaging to public health and the environment. The NPDES permit requires control of this outfall to Michigan water quality standards. The Leib Screening and Disinfection Facility was designed with capacity to screen and disinfect the Meldrum Sewer CSO flow, but current...

Scope of Work/Project Alternatives:
The scope of work involves connecting the Meldrum sewer to the Conant-Mt. Elliot Sewer with a diversion pipe that is 5 feet in diameter. New gates will be installed in the Meldrum sewer which direct flow through this diversion and into the Conant-Mt. Elliot sewer, which would then be processed through the Leib Screening and Disinfection Facility. These gates would allow dry weather flow to pass through the Meldrum sewer to the DRI, and would divert wet-weather to Leib SDF. This would reduce ...

Other Important Info:
Recommended in DWSD LTCSO Plan of 2008. This project is driven by recommendations from the Long Term CSO Control Plan from 2008 and further evaluation and recommendation from the Wastewater Masterplan Project (2019).

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$354	$0	$0	$0	$0	$0	$71	$71	$71	$212	$142
Design & Construction Assistance # 1	$1,047	$0	$0	$0	$0	$0	$547	$72	$142	$761	$285
Construction (Build) # 1	$5,000	$0	$0	$0	$0	$0	$0	$722	$1,425	$2,147	$2,853
Totals	$6,400	$0	$0	$0	$0	$0	$617	$865	$1,638	$3,120	$3,280

CIP Number: 270003

Project Title: Long Term CSO Control Plan

Project Status: Project Execution - Design
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Multiple CSO Facilities
Lookup Location: City of Detroit

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☑ **Predecessor Project(s)**

Project Engineer/Manager: Tim Kuhns

Director: Chris Nastally

Project Score
88

Problem Statement:

The NPDES permit which governs CSO Discharges for GLWA requires GLWA to provide for prohibition, elimination, or adequate treatment of combined sewer discharges containing raw sewage. The current plans of 2008 and 2010 were approved by the EGLE (formerly MDEQ) and are the current plans of record. The new NPDES permit issued in July of 2019 opened the door for GLWA to refresh the Long Term Plan and submit to EGLE for review and approval by 11/15/2022. There are 56 total untreated outfalls ope...

Scope of Work/Project Alternatives:

This project will be a predecessor project to executing a long term CSO control plan, as required by the NPDES permit. This project will include evaluation of the requirements and work done under the 2008 and 2010 current plans of record, evaluation of elements within the Wastewater Masterplan aimed at CSO Control, evaluation of affordability, evaluation and siting of specific projects to be executed, and evaluation and programming of recommended projects to address affordability. The RFP for...

Other Important Info:

The wastewater masterplan, has identified elements that are a part of the Long Term Plan, including a new storage conduit on the west-side for first flush capture, in-system storage dams, system diversions, and some strategically selected netting facility locations . These will need to be evaluated further under this project and also evaluated against current system requirements, and former Long Term requirements and plans set forth in 2008 and 2010.

CIP Number: 270003

Project Title: Long Term CSO Control Plan

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$105	$0	$0	$42	$63	$0	$0	$0	$0	$63	$0
Professional Services	$1,122	$1,122	$1,122	$0	$0	$0	$0	$0	$0	$0	$0
Contractual Professional Services (CS-200)	$240	$240	$240	$0	$0	$0	$0	$0	$0	$0	$0
Contractual Professional Services (1904197)	$7,749	$5,127	$4,867	$1,358	$1,523	$0	$0	$0	$0	$1,523	$0
Contractual Professional Services (U of M 2001434)	$361	$361	$361	$0	$0	$0	$0	$0	$0	$0	$0
Design & Construction Assistance	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$9,576	$6,849	$6,590	$1,400	$1,587	$0	$0	$0	$0	$1,587	$0

CIP Number: 270004

Project Title: Oakwood and Leib CSO Facilities Improvement Project

Project Status: Project Execution - Design
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Multiple CSO Facilities
Lookup Location: Oakwood/Leib

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [x] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [ ] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [x] **Predecessor Project(s)**

Oakwood / Leib Cover photo

Project Engineer/Manager: Phillip Kora

Director: Chris Nastally

Project Score

79.4

Problem Statement:

The Leib CSO Facility has been under utilized for the last 20 years. The WWMP recommended a diversion to the facility which will increase utilization and close an untreated CSO outfall. To prepare for this increased utilization, improvements to the facility are required. The chemical system has functionally failed and the screening system presents operational and maintenance difficulties (pilot facility with different types of screens requiring different maintenance and having different fail...

Scope of Work/Project Alternatives:

To be prepare for the Meldrum Diversion project, the following are needed. Replacement of fine screens, the chemical feed system, improved automation for chemical dosing, improved access, miscellaneous electrical/HVAC and I&C improvements, a new road to improve safety, as well as various safety improvements to facility hatches. The scope of work was refined under CS-299 (CSO Facilities Assessment Project). The following improvements will be planned for: The manual screening in the pump stati...

Other Important Info:

This is a predecessor project to the Meldrum diversion project and should be constructed prior to completion of the Meldrum Diversion to permit use and testing of equipment installed as a part of that project. This project is intended to be completed within a 24 month window from the completion of the NWI diversion project. Given anticipated difficulties of that project, it is likely that this project will be completed much earlier than the NWI diversion and ideally before the NWI diversion to...

CIP Number: 270004

Project Title: Oakwood and Leib CSO Facilities Improvement Project

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$187	$53	$31	$31	$14	$14	$14	$14	$14	$71	$54
Professional Services	$375	$160	$130	$96	$99	$50	$0	$0	$0	$149	$0
Design/Engineering (NEW to CIP 2023)	$7,333	$2,518	$1,910	$2,029	$1,281	$0	$0	$0	$0	$1,281	$2,113
Design/Engineering (CS-166)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction	$34,700	$0	$0	$0	$0	$0	$4,537	$5,222	$5,208	$14,967	$19,733
Totals	$42,595	$2,730	$2,071	$2,157	$1,394	$64	$4,551	$5,236	$5,222	$16,468	$21,900

CIP Number: 270006

Project Title: CSO Facilities Improvements II

Project Status: Project Execution - Design
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Multiple CSO Facilities
Lookup Location: Various CSO Facilities

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

270006_08-24-2021

Project Engineer/Manager: Chris Nastally

Director: Chris Nastally

Project Score

61

Problem Statement:

There is a need to update the Ovation control system to the latest version and increase monitoring capabilities at Baby Creek and Belle Isle CSO Facilities. The lighting at these facilities is poor or non-existent in some locations, which makes for unsafe working conditions. At Baby Creek, there is a need for additional flow meters, level sensors, process cameras, and local control for the screens. At Belle Isle, there is a need to have the ability to control this facility from the Conner Creek...

Scope of Work/Project Alternatives:

This project addresses O&M and safety issues at Baby Creek and Belle Isle to make them more reliable. This project updates the Ovation control system to the latest version which will enhance the overall performance of these facilities. Additional lighting will be provided at selected locations at both the facilities. At Baby Creek, redundant level sensors will be removed and additional flow meters, level sensors, process cameras and local control for the screens will be provided. At Belle Isle,...

Other Important Info:

N/A

CIP Number: 270006

Project Title: CSO Facilities Improvements II

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$133	$25	$16	$26	$26	$26	$26	$14	$0	$91	$0
Professional Services (CS-272)	$171	$171	$157	$14	$0	$0	$0	$0	$0	$0	$0
Professional Services (CS-166)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$5,267	$1,044	$564	$1,463	$1,030	$568	$1,061	$581	$0	$3,241	$0
Construction	$15,000	$0	$0	$0	$0	$2,893	$7,821	$4,286	$0	$15,000	$0
Totals	$20,571	$1,240	$737	$1,503	$1,056	$3,487	$8,908	$4,881	$0	$18,331	$0

CIP Number: 270007

Project Title: Disinfection System Improvements at Baby Creek, Belle Isle, Conner Creek, and Puritan Fenkell CSO Facilities

Project Status: Active - Pre-Procurement - Design
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Multiple CSO Facilities
Lookup Location: Wayne

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Vincent Genco

Director: Chris Nastally

Project Score
57

Problem Statement:

The chemical feed pumps and systems at these facilities are expensive to maintain and there is a lack of automation of the feed systems. Each facility has a different type of chemical pump, making O&M more difficult and site-specific.
At Baby Creek, the floor in the Chemical Room is flat and the coating has been degraded by sodium hypochlorite spills.

Scope of Work/Project Alternatives:

This project replaces the chemical feed systems at each facility with standardized and automated feed systems. Other improvements include providing a sloped floor with a corrosion resistant coating in the Baby Creek Chemical Room and installation of a ladder and railing system to access the top of the carbon vessel of the Belle Isle odor control system for carbon replacement.

Other Important Info:

The Belle Isle portion of this work needs to be approved by DWSD.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$75	$3	$1	$2	$2	$10	$10	$10	$10	$43	$29
Professional Services (2202942)	$55	$20	$0	$22	$4	$4	$4	$4	$4	$21	$12
Design/Engineering	$4,323	$0	$0	$0	$199	$1,071	$1,071	$1,074	$519	$3,934	$389
Construction	$3,893	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,893
Totals	$8,345	$22	$1	$24	$206	$1,085	$1,085	$1,088	$534	$3,998	$4,323

CIP Number: 270008

Project Title: Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Multiple CSO Facilities
Lookup Location: Various CSO Facilities
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Chris Nastally

Director: Chris Nastally

Project Score
74.4

Problem Statement:

At Conner Creek, a significant amount of solids accumulate in the influent area just upstream of the bar screens. The original flushing system is ineffective and is non-functional. Currently, GLWA staff use a bobcat to fill a dumpster to remove some of the solids and rely on fire hoses to remove the rest - both of which are labor intensive, costly, and involve safety issues.

Also at Conner Creek, the flushing reservoirs in the basin require the use of potable water (after the initial flus...

Scope of Work/Project Alternatives:

This project provides improvements in the influent area of Conner Creek to allow for more efficient removal of accumulated solids and to make the entire influent area more accessible for bobcat maneuverability throughout the entire influent area.

This project also provides for river water as a source of flushing water in the basin, which will provide water savings and will significantly reduce the time to fill the reservoirs.

At St. Aubin, the project includes a new effluent conduit f...

Other Important Info:

The Conner Creek flushing work is being combined with St. Aubin because of the similarity of the design and nature of construction.

CIP Number: 270008

Project Title: Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$64	$0	$0	$0	$0	$0	$2	$9	$9	$20	$44
Design/Engineering	$1,401	$0	$0	$0	$0	$0	$58	$315	$314	$688	$714
Construction	$5,605	$0	$0	$0	$0	$0	$0	$0	$0	$0	$5,605
Totals	$7,070	$0	$0	$0	$0	$0	$59	$324	$324	$707	$6,363

CIP Number: 270009

Project Title: Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Multiple CSO Facilities
Lookup Location: Wayne

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Kashmira Patel

Director: Chris Nastally

Project Score
54.6

Problem Statement:

A number of site-related improvements were identified at St. Aubin, Belle Isle and Baby Creek CSO Facilities under CS-299. At the St. Aubin outfall these include: 1) poor drainage in the access drive area between Atwater St. and the fenced area; 2) fencing in disrepair; 3) difficulty in removing hatch plates and 4) limited access to the backwater gates. Poor drainage of the access drive has damaged the road surface and created issues with accessibility to the secured area. In addition, the conc...

Scope of Work/Project Alternatives:

This project includes site improvements at these three CSO facilities. At St. Aubin, various site improvements will be made to address the problems noted above. At Belle Isle, the concrete pavement will be extended to provide an adequate turning radius for the chemical delivery trucks, and other site improvements will be made to address drainage issues. At Baby Creek, a new stop log storage shelter will be constructed to provide protection from UV light for the stop log seals.

Other Important Info:

None

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$12	$0	$0	$0	$0	$0	$0	$2	$2	$5	$8
Design/Engineering	$276	$0	$0	$0	$0	$0	$15	$76	$74	$165	$110
Construction	$1,102	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,102
Totals	$1,389	$0	$0	$0	$0	$0	$15	$78	$76	$170	$1,220

CIP Number: 270010

Project Title: HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Project Status: Active - Pre-Procurement - Design
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Multiple CSO Facilities
Lookup Location: Various CSO Facilities

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Project Engineer/Manager: Chris Nastally

Director: Chris Nastally

Project Score
57.8

Problem Statement:

A number of HVAC-related improvements were identified as needed at Puritan-Fenkell and Seven Mile CSO Facilities under CS-299. The improvements at both facilities require replacement of a large amount of HVAC equipment, due to age of the equipment or need to improve access for maintenance, and to provide monitoring for code compliance in the Odor Control and Headworks area.

Scope of Work/Project Alternatives:

This project includes replacement of HVAC equipment including PACU-1, HVU-1, HVU-2, HVU-3, SF-1, SF-2, and exhaust fans at both Puritan-Fenkell and Seven Mile CSO Facilities. Also, the project includes improvements to enhance safety in the Odor Control and Headworks areas at both the facilities to comply with NFPA 820. It also includes removal of HVAC equipment from the shunt channel and effluent channel since it is not used and are inoperable.

Other Important Info:

NA

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$14	$3	$1	$3	$2	$2	$2	$2	$2	$9	$0
Professional Services (CS-272)	$15	$15	$8	$8	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$347	$0	$0	$57	$86	$32	$40	$64	$64	$286	$3
Construction	$1,207	$0	$0	$0	$0	$0	$283	$452	$451	$1,186	$21
Totals	$1,582	$18	$9	$68	$88	$34	$325	$518	$517	$1,482	$24

CIP Number: 270011

Project Title: HVAC Improvements at Conner Creek and Belle Isle CSO Facilities

Project Status: Future Planned - Ten Year CIP
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Multiple CSO Facilities
Lookup Location: Detroit

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Kashmira Patel

Director: Chris Nastally

Project Score
70.5

Problem Statement:
A number of HVAC-related improvements were identified at Conner Creek and Belle Isle CSO Facilities under the CS-299 Facilities Assessment. Most of the improvements are related to ventilation, access to HVAC equipment and heating/cooling systems.

Scope of Work/Project Alternatives:
The project includes improvements to enhance safety in the Odor Control area at Belle Isle to comply with NFPA 820, as well as improve access to HVAC equipment in the Chemical Room and Odor Control Area. Other improvements at Belle Isle include the replacement of the unit heaters and improvements in the cooling of the Control Room and Sample Room. At Conner Creek, the project includes improvements to the heating of the Maintenance Shop, Electrical Room, and Control Room, and access to the Chemi...

Other Important Info:
None

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4
Design/Engineering	$107	$0	$0	$0	$0	$0	$0	$0	$0	$0	$107
Construction	$307	$0	$0	$0	$0	$0	$0	$0	$0	$0	$307
Totals	$418	$0	$0	$0	$0	$0	$0	$0	$0	$0	$418

CIP Number: 270012

Project Title: Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Multiple CSO Facilities
Lookup Location: Various CSO Facilities

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Brooke Ballard

Director: Chris Nastally

Project Score
59

Problem Statement:
There is a need to update the existing control system to the latest version of Ovation in order to standardize equipment and increase monitoring capabilities at Conner Creek, Oakwood, and Puritan-Fenkell CSO Facilities. In addition, lighting at these facilities is poor or non-existent in some locations, which makes for unsafe working conditions. There is a need for additional flow meters, level sensors, and process cameras at these facilities. Similar issues related to lighting, remote control ...

Scope of Work/Project Alternatives:
This project addresses control system and I&C issues at Conner Creek, Oakwood, and Puritan-Fenkell. The Ovation control system will be updated to the latest version, which will enhance overall performance. Additional lighting will be provide at these facilities to improve worker safety. At Conner Creek, redundant level sensors will be removed, a new flow meter for dewatering flow downstream of the junction chamber will be provided, and chemical tank level indication and process cameras will be ...

Other Important Info:
N/a

Current Expenses (All figures are in $1,000’s)
“Total Costs” include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$54	$0	$0	$0	$0	$0	$2	$9	$9	$21	$33
Design/Engineering	$1,184	$0	$0	$0	$0	$0	$63	$328	$320	$711	$474
Construction	$4,737	$0	$0	$0	$0	$0	$0	$0	$0	$0	$4,737
Totals	$5,974	$0	$0	$0	$0	$0	$65	$337	$329	$731	$5,243

CIP Number: 270013

Project Title: Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Multiple CSO Facilities
Lookup Location: Various CSO Facilities

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Chris Nastally

Director: Chris Nastally

Project Score
56.8

Problem Statement:

At Puritan Fenkell and Seven Mile, there are various issues that need to be addressed based on the CS-299 Facilities Assessment. There is poor accessibility to the bearing assemblies of the basin's tipping buckets and to the dewatering forcemain for inspection and cleaning. There are drainage issues at both facilities, which become a safety concern for personnel accessing the buildings during the winter months due to ice. At Puritan Fenkell, there is no means to isolate the dry and wet weather ...

Scope of Work/Project Alternatives:

This project improves surface access to the tipping buckets and dewatering forcemains to facilitate O&M at both the facilities. Similarly, the project will improve the drainage of water at both facilities. At Puritan-Fenkell, isolation of the wet weather and dry weather wet wells will be provided and a stop log removal system will be provided. At Seven Mile, the hatch cover plates will be replaced with lighter-weight hatches. The effluent stop log and effluent hatch replacement would not be nee...

Other Important Info:

The stop log and hatch replacement will not be needed if these basins are converted to complete capture.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$8	$0	$0	$0	$0	$0	$0	$0	$2	$2	$6
Design/Engineering	$179	$0	$0	$0	$0	$0	$0	$18	$89	$107	$72
Construction	$715	$0	$0	$0	$0	$0	$0	$0	$0	$0	$715
Totals	$902	$0	$0	$0	$0	$0	$0	$18	$91	$109	$793

CIP Number: 270014

Project Title: Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Multiple CSO Facilities
Lookup Location: Various CSO Facilities

☐ **Project New to CIP:**

☑ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Brooke Ballard

Director: Chris Nastally

Project Score
72

Problem Statement:
The Wastewater Master Plan identified that Puritan Fenkell and Seven Mile can be operated in complete capture mode for flows up to the 10-year 1-hour design storm. These facilities have not experienced the originally anticipated level of flows and, in fact, the facilities had no discharge for 3 years from 2016 to 2018 and only a few discharges from Puritan Fenkell in 2019 and 2020.

Scope of Work/Project Alternatives:
This project includes modifying Puritan-Fenkell and Seven Mile Facilities to capture-only facilities.

Other Important Info:
NA

Current Expenses (All figures are in $1,000’s)
“Total Costs” include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$40	$0	$0	$0	$0	$0	$0	$1	$6	$7	$29
Design/Engineering	$888	$0	$0	$0	$0	$0	$0	$38	$200	$238	$568
Construction	$3,554	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,724
Totals	$4,482	$0	$0	$0	$0	$0	$0	$39	$205	$245	$3,320

CIP Number: 273001

Project Title: Hubbell Southfield CSO Facility Improvements

Project Status: Project Execution - Design
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Hubbell Southfield
Lookup Location: Dearborn

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Kashmira Patel

Director: Chris Nastally

Project Score
75.7

Problem Statement:
The Hubbell Southfield CSO Basin was constructed in the late 1990s and is in need of major capital improvements. The spray-flushing system is ineffective for removing solids and debris from the floor of the basin and shunt channel after a storm event. Currently, operators must manually use fire hoses and lower a bobcat into the basin after storm events, which is a safety concern due to the confined space, sloped and slippery floors, and poor lighting. The dewatering pumps are unable to handle h...

Scope of Work/Project Alternatives:
A new basin flushing system was recommended by the CS-299 Facilities Assessment consisting of flushing gates and reservoirs (similar to those installed at Conner Creek, Oakwood, and Belle Isle CSO Facilities). The project will include new dewatering pumps to replace the existing and new basin sump pumps with a solids system to fluidize accumulated grit to replace non-functional pumps. The project also includes chemical feed system improvements, including pump replacement to standardize pumping ...

Other Important Info:
Additional required repairs were identified in preliminary BODR performed by AECOM under CS272 Task 7-2-030-A.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$654	$24	$21	$54	$77	$77	$77	$77	$77	$386	$193
Professional Services	$417	$417	$417	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$11,418	$0	$0	$1,967	$2,955	$372	$997	$1,140	$1,137	$6,601	$2,850
Construction	$42,031	$0	$0	$0	$0	$0	$6,841	$7,825	$7,803	$22,469	$19,562
Totals	$54,520	$441	$438	$2,021	$3,032	$449	$7,915	$9,042	$9,017	$29,455	$22,605

CIP Number: 273002

Project Title: CSO Hubbell Southfield VR-8 Gate Improvements

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Hubbell Southfield
Lookup Location: Dearborn

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Brooke Ballard

Director: Chris Nastally

Project Score
50.2

Problem Statement:
The VR-8 Regulator is located upstream of the Hubbell-Southfield CSO Facility in the center median of Michigan Avenue east of the Southfield Freeway. The regulator consists of two stainless steel slide gates that are adjusted by SCADA control to regulate flow from the Hubbell-Southfield sewer to the NWI. A rehabilitation project was designed in 2013, but not implemented. Rehabilitation of the VR-8 Regulator is still needed.

Scope of Work/Project Alternatives:
The rehabilitation of the VR-8 Regulator includes replacement of the slide gates and actuator together with access improvements in the median near the gates and the control panel. The improvements will help maintain system reliability and functionality.

Other Important Info:
n/a

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$16	$0	$0	$0	$0	$0	$1	$3	$3	$6	$10
Design/Engineering	$354	$0	$0	$0	$0	$0	$19	$98	$95	$212	$142
Construction	$1,416	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,416
Totals	$1,785	$0	$0	$0	$0	$0	$20	$101	$98	$219	$1,567

CIP Number: 276002

Project Title: Replacement of Make-up Air Unit No. 2 at Conner Creek CSO Facility

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Conner Creek
Lookup Location: Detroit

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Partho Ghosh

Director: Chris Nastally

Project Score
92.5

Problem Statement:
The existing Make-up Air Unit No. 2 (MUA 2) at the Conner Creek CSO facility is original installation since the facility was put in operation in 2005. The fan/blower sections have catastrophically failure. Rebuilding/repairing damage of this unit is not cost effective due to the age and extent of the repair needed. The unit's overall condition is poor. Therefore, this unit needs a replacement for the reliable and efficient operation.

Scope of Work/Project Alternatives:
A replacement of the existing Make-up Air Unit No.2 (MUA-2) and associated appurtenances with replaced-in-kind unit and its appurtenances. The purpose of this project includes furnishing, installing, start-up testing and commissioning of the new unit to provide successful and complete operational system as intended and accepted by GLWA.

Other Important Info:
N/A

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$36	$27	$27	$9	$0	$0	$0	$0	$0	$0	$0
Construction	$322	$322	$322	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$357	$348	$349	$9	$0	$0	$0	$0	$0	$0	$0

CIP Number: 277001

Project Title: Baby Creek Outfall Improvements Project

Project Status: Project Execution - Construction
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Baby Creek
Lookup Location: Baby Creek CSO Facility
☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Example of Proposed Facility

Project Engineer/Manager: Paul Ransom

Director: Chris Nastally

Project Score

80.1

Problem Statement:

A facility is required to be constructed in order to ensure continued access to the Baby Creek Outfall. In addition system improvements which address sediment accumulation are needed to ensure the CSO can meet NPDES requirements. This system improvement will likely be a flushing system installed inside the outfall, but the best solution is not known at this time. The triple barrel Baby Creek Outfall consists of (3) 14'-6" wide by 17'-6" tall concrete box culverts which extend from the Baby Cree...

Scope of Work/Project Alternatives:

This project consists of a study and design. Construction is anticipated but since the flushing system solution is not known at this time this phase is not included in the project due to the variability in alternatives and their associated costs. The study and design will assess the proper ways to clean the pipes, facilitate future maintenance, flushing of the pipes after rain events, and perform assessments of the backwater gates ensuring proper instrumentation is installed in the outfall to...

Other Important Info:

The current outfall cannot be flushed and the solids level builds up after each rain event. Furthermore, the rising river level continues to impact this facility and its outfall capacity. The build up of sludge inhibits does not favor Baby Creek in passing the necessary flows because the capacity of the pipes are reduced due to the reduction in cross-sectional area.

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$1,782	$453	$446	$271	$396	$396	$272	$0	$0	$1,065	$0
Professional Services	$1,400	$1,218	$1,232	$64	$104	$0	$0	$0	$0	$104	$0
Design-Build # 1	$13,131	$2,890	$1,594	$3,329	$3,054	$3,054	$2,100	$0	$0	$8,208	$0
Totals	$16,312	$4,561	$3,273	$3,664	$3,554	$3,450	$2,372	$0	$0	$9,376	$0

CIP Number: 277002

Project Title: Baby Creek CSO Facility Influent Flushing System

Project Status: Future Planned - Ten Year CIP
Class Lvl 1: Wastewater
Class Lvl 2: CSO Facilities
Class Lvl 3: Baby Creek
Lookup Location: Baby Creek

- [ ] **Project New to CIP:**

- [ ] **Innovation**
- [ ] **WW Master Plan**
- [ ] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Project Engineer/Manager: Brooke Ballard

Director: Chris Nastally

Project Score

72.3

Problem Statement:

A significant amount of solids can accumulate in the Baby Creek influent channel area, immediately upstream of the weir wall at the Headworks. Significant solids buildup can cause hydraulic restrictions and impede inspection of the influent flow meters. There is no flushing system at this location and solids removal must be performed periodically by a contractor which is costly. In addition, the S-2-1 sluice gate opening does not extend to the bottom of the influent channel to allow for complet...

Scope of Work/Project Alternatives:

This project includes evaluation and construction of a new flushing system in the influent area. The project will also include modifying the opening of the sluice gate S-2-1 to make the bottom of the gate opening at a lower elevation which would allow the flushed solids to enter the dewatering well.

Other Important Info:

NA

Current Expenses (All figures are in $1,000's)

"Total Costs" include costs outside of the 10 year planning window

***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$7	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Design/Engineering	$148	$0	$0	$0	$0	$0	$0	$0	$0	$0	$15
Construction	$591	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$744	$0	$0	$0	$0	$0	$0	$0	$0	$0	$15

07 CENTRALIZED SERVICES PROJECTS

ONE-PAGERS

1 FUTURE PLANNED
2 ACTIVE
0 PENDING CLOSEOUT
0 CLOSED
0 RECLASSIFIED

CENTRALIZED SERVICES

PROJECTS ARE FUNDED BY THE WATER OR WASTEWATER SPEND PLANS, OR IN THE PAST COULD BE SPLIT BETWEEN THE TWO

C MORE: APPENDIX C

FIND THE FULL BUSINESS CASE EVALUATIONS FOR CENTRALIZED SERVICES IN APPENDIX C

CIP Number: 380700

Project Title: As-Needed Geotechnical and Related Engineering Services

Project Status: Project Execution - Design
Class Lvl 1: Centralized Services
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: System-wide

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☑ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Great Lakes Water Authority

Project Engineer/Manager: Peter Fromm

Director: Tim Kuhns

Project Score
0

Problem Statement:
GLWA engineering and operations needed a contract mechanism to obtain professional engineering services in a timely manner to investigate environmental, geotechnical and specialized engineering problems that occur on a regular basis throughout the system.

Scope of Work/Project Alternatives:
This engineering/technical services contract involves as-needed engineering and technical services related to geotechnical investigations, related geotechnical engineering, construction materials sampling and testing, environmental media sampling and testing, soils sampling and testing, land surveying, corrosion testing and inspection, computer-aided design, and construction inspection. This contract includes design, construction services, and resident project representation for the follow tr...

Other Important Info:
N/A

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Professional Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Construction (Build) # 1 (CS-259)	$11	$0	$0	$11	$0	$0	$0	$0	$0	$0	$0
Totals	$10	$0	$0	$11	$0	$0	$0	$0	$0	$0	$0

CIP Number: 381000

Project Title: Power Quality: Electric Metering Improvement Program

Project Status: Active - Pre-Procurement - Design
Class Lvl 1: Centralized Services
Class Lvl 2: Programs
Class Lvl 3: Programs
Lookup Location: System-wide

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☑ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Power Quality Meters

Project Engineer/Manager: Eric Griffin

Director: John Norton

Project Score

0

Problem Statement:

This includes advanced meters for measuring power usage in real-time to reduce the electrical demands and further optimize load management practices,
GLWA experienced a lot of power outages at facilities. The installation of the New Power Monitors provide real wave form data to determine the cause of the outages and the time period of sagging or swelling voltage which effects the integrity of the equipment. MFG 7/25/2019

Scope of Work/Project Alternatives:

This program will increase the number of electric meters at pumping stations and treatment facilities to facilitate active demand management to reduce electricity rates. The meters can be tied to the existing data management system for data archival and use.
The installation of the New Power Monitors will provide real wave form data to determine the cause of outages and the time period of sagging or swelling voltage which effects the integrity of equipment. MFG 07/25/2019

Other Important Info:

Project History: Project will find high demand (kW) sites i.e all the water treatment plants (Phase 1)
We would like to change the project to design build and move up on the CIP. The outages are affecting the pressures resulting in water main breaks and boil water advisories, This will help to better communicate DTE problems that occur and lead to solutions to improve the process or equipment. MFG 7/25/2019

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$125	$0	$0	$0	$5	$20	$20	$20	$20	$85	$40
Design/Engineering	$5,000	$0	$0	$0	$0	$0	$999	$1,002	$999	$3,001	$1,999
Totals	$5,125	$0	$0	$0	$5	$20	$1,020	$1,022	$1,020	$3,086	$2,039

CIP Number: 383300

Project Title: Masonry Replacement and Rehabilitation Program

Project Status: Future Planned - Within Five Year Plan
Class Lvl 1: Centralized Services
Class Lvl 2: General Purpose
Class Lvl 3: General Purpose
Lookup Location: Multiple Counties

☐ **Project New to CIP:**

☐ **Innovation**
☐ **WW Master Plan**
☐ **Water Master Plan Right Sizing**
☐ **Redundancy**
☐ **Linear Assets Outside of Facilities**
☐ **Predecessor Project(s)**

Project Engineer/Manager: Douglas Atkinson

Director: Paula Anderson

Project Score
0

Problem Statement:

Cracks and deterioration have been identified in masonry walls, exterior concrete, retaining walls, concrete decks and floor repair or replacement causing safety concerns. Repair or replacement is needed to address this deterioration

Scope of Work/Project Alternatives:

For NE WTP: Analyze the movement and moisture penetration problem, rebuild portions of masonry and concrete walls, floors, roof parapets and deck elements.
For SW WTP: Assess the panels and support structure, replace panels, repair or restore rusted steel members.
For Imlay City: Remove or rebuild retaining walls to withstand soils pressure.

Other Important Info:

Three sites have been identified for this project all have some failing concrete.
1)Northeast WTP
2)Southwest WTP
3) Imlay City Pumping Station

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$230	$0	$0	$0	$0	$0	$0	$0	$0	$0	$57
TBD/Unallocated	$24,770	$0	$0	$0	$0	$0	$0	$0	$0	$0	$6,188
Totals	$25,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$6,246

CIP Number: 111001

Project Title: Lake Huron Water Treatment Plant, Low-Lift, High Lift and Filter Backwash Pumping System Improvements

Project Status: Project Execution - Design
Class Lvl 1: Water
Class Lvl 2: Treatment Plants and Facilities
Class Lvl 3: Lake Huron
Lookup Location: Lake Huron WTP

- [ ] **Project New to CIP:**

- [x] **Innovation**
- [ ] **WW Master Plan**
- [x] **Water Master Plan Right Sizing**
- [x] **Redundancy**
- [ ] **Linear Assets Outside of Facilities**
- [ ] **Predecessor Project(s)**

Representative Switchgear to be Replaced under CIP 111001

Project Engineer/Manager: Eric Kramp

Director: Tim Kuhns

Project Score

79.7

Problem Statement:

This project addresses multiple issues at the LHWTP, primarily focused on electrical, pumping, and limited chemical feed system improvements.

Improvements are needed to align the existing low lift pumping rate with the Lake Huron WTP production rate per the 2015 Water Master Plan Update. Currently, constant speed pumping at the low-lift portion of the plant can force it to operate in a semi-batch mode during night-time, low-demand periods. Existing electrical gear for low- and high-lift pum...

Scope of Work/Project Alternatives:

This CIP will be delivered using a design-bid-build project delivery method. The project's scope of improvements will generally include rehabilitation or replacement of the following systems and equipment:
1. High and medium voltage electrical system
2. Low-lift pumps, to be right-sized to current and projected demands.
3. High-lift pumping units, right-sized to current and projected demands.
4. Filter wash water pumps and related equipment.
5. Phosphoric acid storage tanks and fill piping...

Other Important Info:

*Innovation note: Ensure energy efficiency. Coordination between existing pumping unit and motor required during design. Critical speed analysis may show the pump improvements needed to operate at reduced speeds. Developing an innovative rehabilitation design to minimize maintenance of existing drives.

This project will also replace the existing 60 MGD wash water "on-demand" system with an elevated tank system, decreasing the potential of filter upset by control loss.

CIP Number: 111001

Project Title: Lake Huron Water Treatment Plant, Low-Lift, High Lift and Filter Backwash Pumping System Improvements

Current Expenses (All figures are in $1,000's)
"Total Costs" include costs outside of the 10 year planning window
***Design & Construction costs are inclusive of salaries where salaries are not defined**

Activity Name	Total Costs	Actual Costs	Prior FYs	FY24	FY25	FY26	FY27	FY28	FY29	5 Year Total	FY30-34
GLWA Salaries	$1,307	$154	$147	$121	$171	$171	$171	$172	$171	$856	$183
Design & Construction Assistance # 1 (1803769)	$15,003	$3,603	$3,389	$1,215	$1,503	$2,593	$2,640	$1,391	$1,136	$9,263	$1,136
Construction (Build) # 1	$25,000	$0	$0	$0	$0	$9,476	$9,854	$5,670	$0	$25,000	$0
Construction (Build) # 2	$97,000	$0	$0	$0	$0	$0	$0	$31,617	$32,692	$64,308	$32,692
Construction (Build) # 3	$2,100	$0	$0	$0	$0	$0	$0	$0	$1,014	$1,014	$1,086
Totals	$140,410	$3,757	$3,536	$1,335	$1,674	$12,240	$12,665	$38,849	$35,013	$100,442	$35,097

08

APPENDICES