

# GLWA FY 2024–2028 Capital Improvement Plan

*GLWA Board of Directors Meeting  
January 25, 2023, 2:00 p.m.*

**Jody Caldwell, PE**  
Chief Planning Officer

**Dima El-Gamal, PHD, PE, LEED@AP**  
Capital Improvement Planning Director

# CIP

## 2024-2028

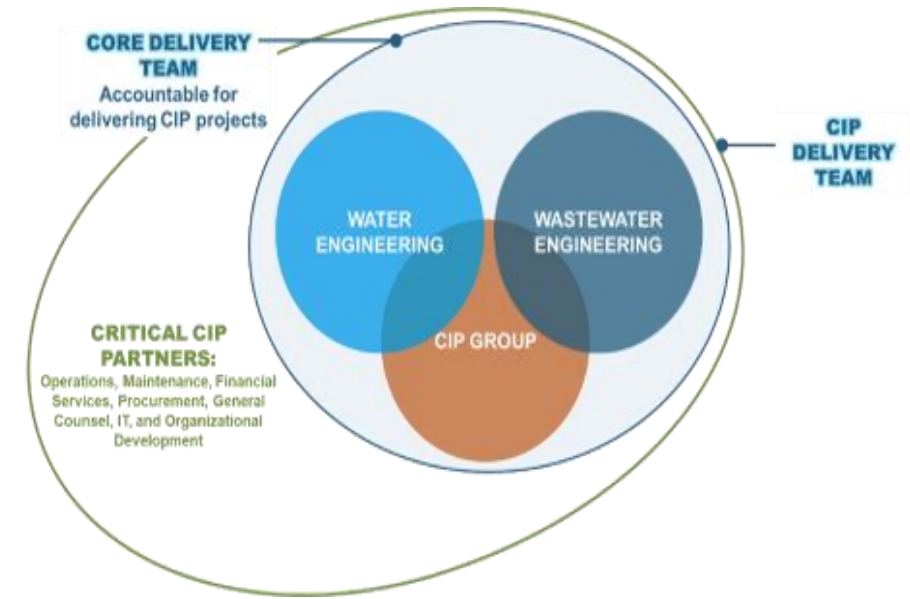
CAPITAL IMPROVEMENT PLAN  
Updated January 19, 2023  
Discussion Draft 2

Pump Station 1 Ferric Chloride Storage Tank #3  
Photo submitted by: Khoder Daher of Wastewater Operating Services

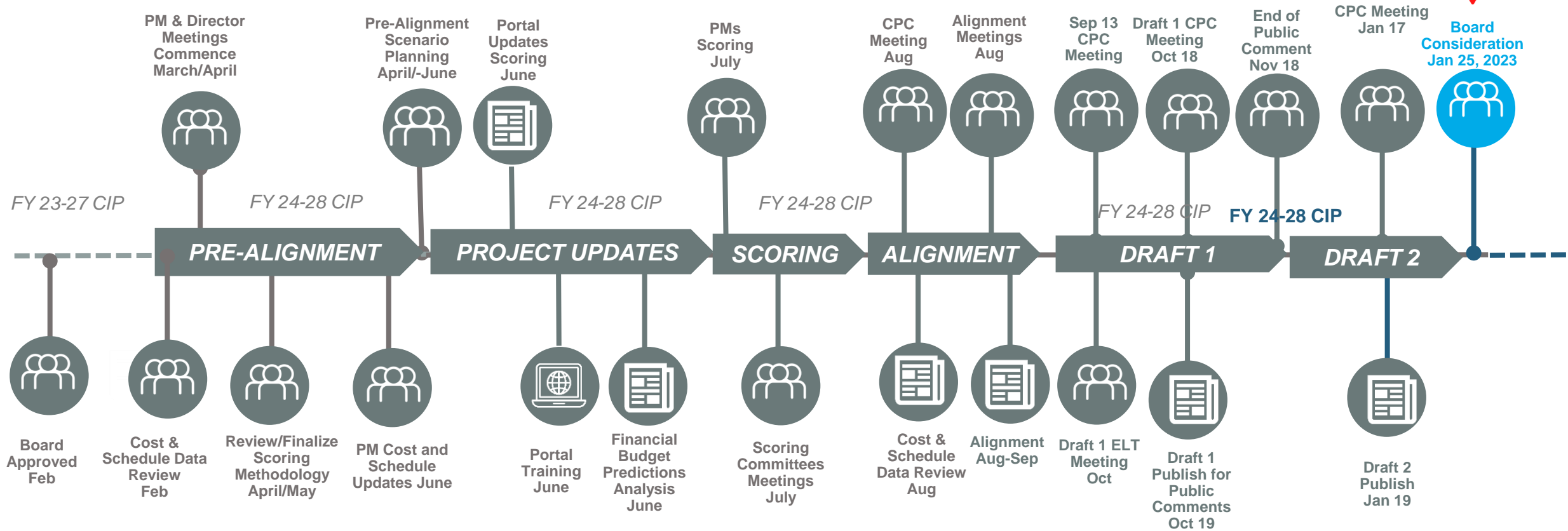
Water Works Park Water Treatment Plant Yard Piping, Valves, and  
Venturi Meters Replacement  
Photo submitted by: Jacob Magnum of Water and Field Services

# OVERVIEW

- Five-year looking forward document with a 10-year outlook
- CIP alignment with GLWA's overall Financial Plan
- Stakeholder Input – Opportunities for Board, Member Partners & vendor community to provide input during development
- Compilation of projects from all areas of the organization
- Address projects that promote improved redundancy, system resiliency, and health & safety
- Conformance with recommendations of long-term master plans
- Meet regulatory and operational needs



# WE ARE HERE TODAY



# CIP AT A GLANCE



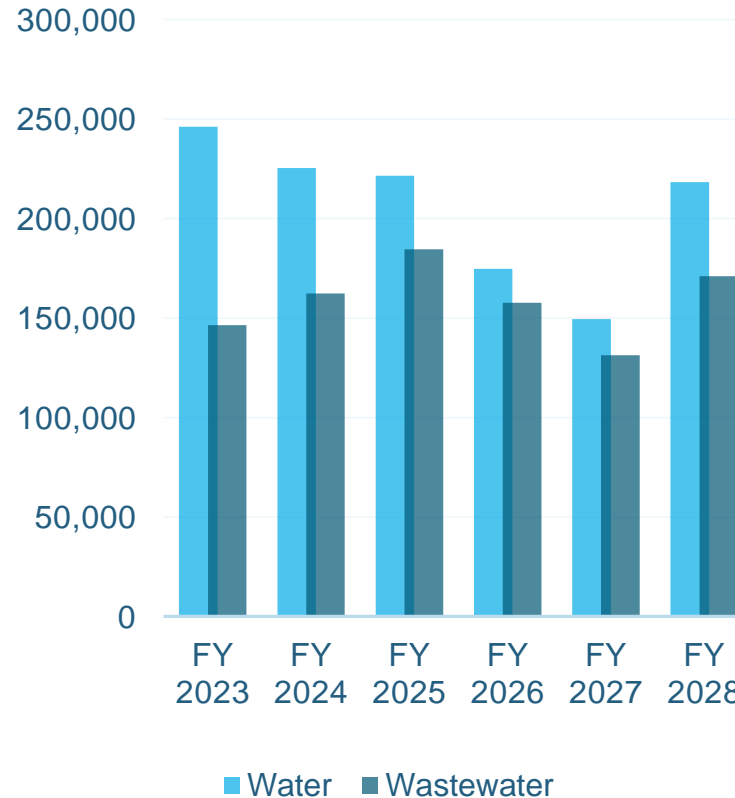
CIP Delivery Team

WATER	
5-Year Total	\$986,616
5-Year Average	\$197,323
10-Year Total	\$1,957,610
10-Year Average	\$195,761

WASTEWATER	
5-Year Total	\$798,176
5-Year Average	\$159,635
10-Year Total	\$1,560,661
10-Year Average	\$156,066

Note : Figures are shown in \$1,000's.

## 5-Year Outlook



\*5 NEW PROJECTS FROM PROGRAMS

\*\*IN ADDITION TO THE 168 PROJECTS, THERE ARE:  
+2 RECLASSIFIED PROJECTS  
+1 CANCELLED PROJECT



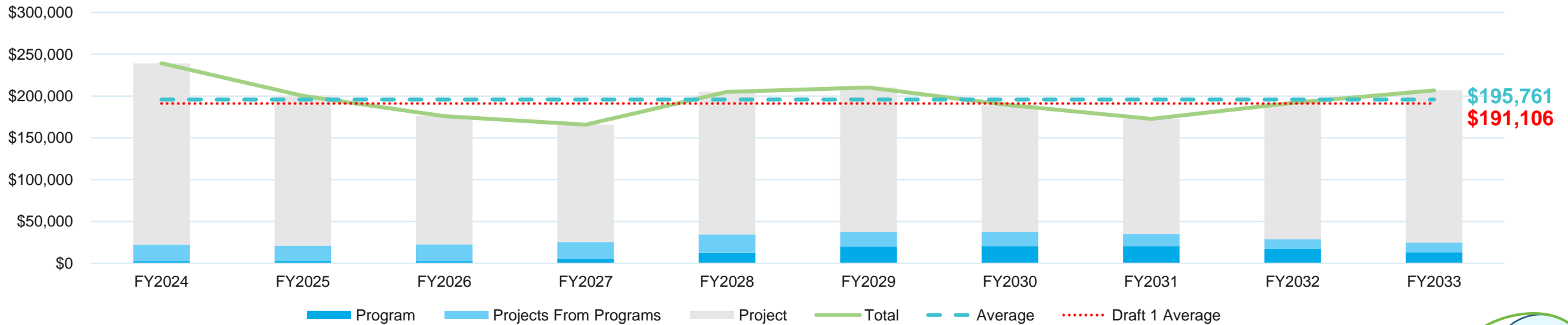
Financial figures in \$1,000s and rounded

# FY2024-2033 10-YEAR WATER CIP OUTLOOK UPDATES

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033
Programs	\$169	\$2,327	\$2,665	\$2,410	\$5,319	\$12,393	\$19,861	\$20,567	\$20,541	\$16,958	\$13,011
Projects From Programs	\$20,412	\$19,775	\$18,434	\$20,210	\$20,040	\$22,148	\$17,666	\$16,988	\$14,430	\$11,940	\$11,907
Projects	\$220,876	\$233,304	\$199,117	\$153,490	\$155,766	\$133,277	\$133,939	\$122,543	\$156,709	\$181,359	\$171,762
<b>Total</b>	<b>\$225,789</b>	<b>\$239,260</b>	<b>\$200,422</b>	<b>\$176,034</b>	<b>\$165,813</b>	<b>\$205,087</b>	<b>\$210,312</b>	<b>\$189,062</b>	<b>\$172,765</b>	<b>\$191,957</b>	<b>\$206,898</b>

Financial figures in \$1,000s and rounded

10-Year Water CIP Outlook



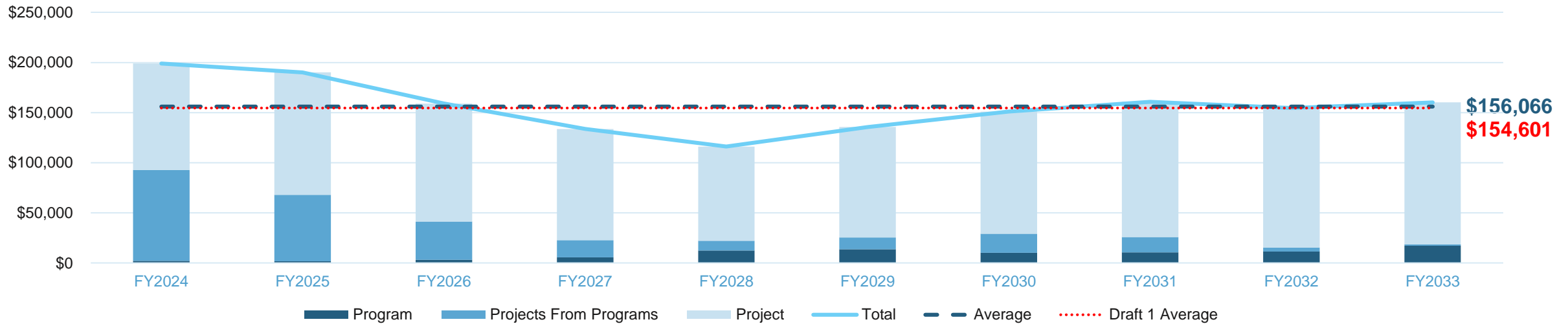


# FY2024-2033 10-YEAR WASTEWATER CIP OUTLOOK UPDATES

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033
Programs	\$802	\$2,240	\$1,730	\$3,243	\$5,716	\$12,502	\$13,623	\$10,117	\$10,637	\$11,391	\$17,150
Projects From Programs	\$71,503	\$90,527	\$66,322	\$38,202	\$17,140	\$9,625	\$11,772	\$19,005	\$15,244	\$3,956	\$1,513
Projects	\$67,108	\$106,294	\$122,107	\$117,599	\$110,875	\$94,053	\$110,268	\$121,954	\$134,987	\$139,287	\$141,581
<b>Total</b>	<b>\$139,412</b>	<b>\$199,061</b>	<b>\$190,159</b>	<b>\$159,044</b>	<b>\$133,732</b>	<b>\$116,180</b>	<b>\$135,663</b>	<b>\$151,075</b>	<b>\$160,868</b>	<b>\$154,635</b>	<b>\$160,244</b>

Financial figures in \$1,000s and rounded

10-Year Wastewater CIP Outlook



# FY 2024-2028 CIP DOCUMENT



CIP Delivery Team

- 10-Year outlook table is now broken into three categories
- New project status: added future planned beyond 10 years
- Improved BCE reporting
- Actuals as of October 30, 2022



Project Title: Water Works Park Substation Basin Structural Upgrade

Project Status: Future Planned - Ten-Year CIP

Project Score: 76.3

Project Manager Weighted Score: 76.1

Criteria Name	Score	Score Criteria
Condition	5	D. Immediate replacement or rehabilitation required
Performance (Service Level/Reliability)	2	C. Project moderate to low positive impact on service levels and/or system reliability
Regulatory (Environmental/Legal)	4	B. Project not part of mandated or enforceable program, but directly related to expected future requirements; will increase compliance
Operations and Maintenance	3	C. Project moderate positive impact on O&M; alleviate some ongoing O&M issues
Health and Safety	3	C. Likely to address minor hazard issues or concerns
Public Benefit	2	C. Additional revenue/savings for GLWA (<\$100K/yr)
Financial	3	D. Canceling project moderate financial consequences (revenue loss, repair/restoration, downtime, fines, litigation)
Efficiency and Innovation	5	D. efficiency: Water use, effluent reuse/recycling or other GLWA strategic initiatives; Business process optimization and institutional knowledge; Process efficiency for a more robust system and less O&M; knowledge capture; or time & cost savings

**GLWA CIP Summary**  
 Annual Five-Year Capital Improvement Plan  
 FY 2021 through FY 2025  
 Proposed as of January 10, 2022

Water System Cost Allocation	S-Yr Total	% of 5-Year Total
CCA	\$ 528,861	93.3%
Suburban Only	\$ 6,450	0.7%
Sub Total	\$ 535,311	100.0%

**Water System Cost Allocation**

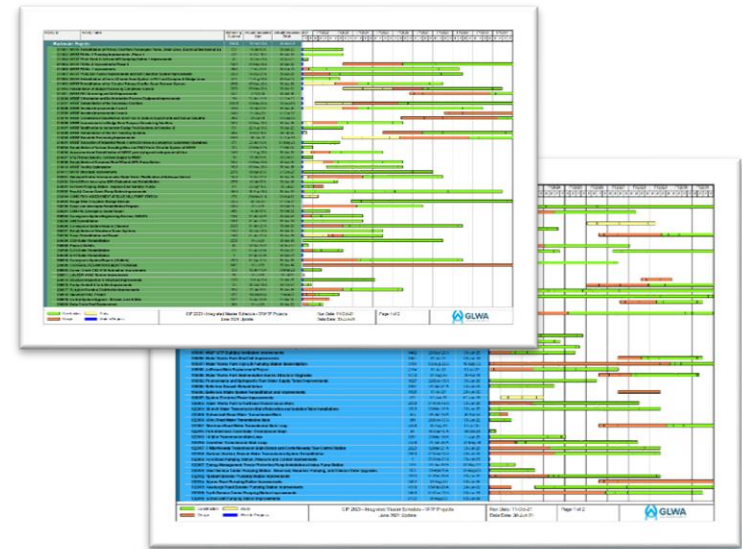
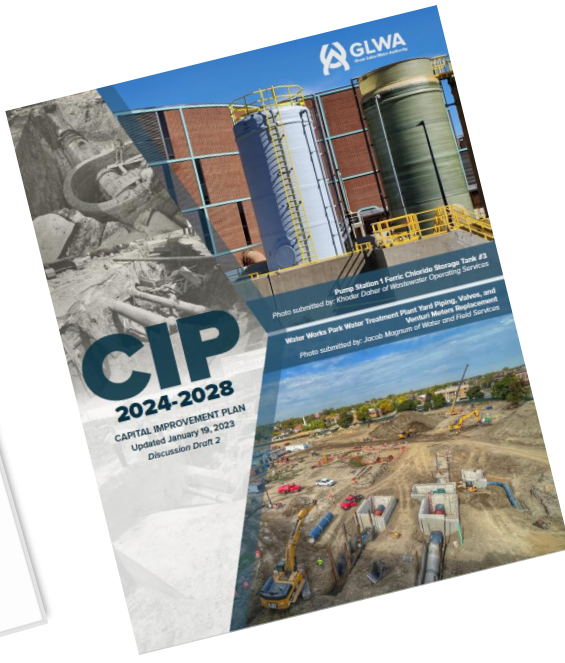
Water System Cost Allocation	S-Yr Total	% of 5-Year Total
CCA	\$ 462,435	86.3%
CD 03/17	\$ 71,980	0.7%
Sub Total	\$ 534,415	100.0%

**Budget Spending Plan Summary**  
 5-Year Total - \$2.2 billion  
 5-Year Annual Average - \$435 million  
 10-Year Total - \$2.3 billion  
 10-Year Annual Average - \$230 million

**5 Year Plan Project Total**  
 Total number of projects 110  
 Total number of cost projects 15

**5 Year Total of Water Capital Projects**  
 Increased by 10% - Digging efforts to achieve maximum reliability and redundancy of the water system before the increase in the planned capital expenditures will be realized during the CIP development process. This resulted in a 10% increase in water services view behavioral during the development process. This resulted in a 10% increase in water services view behavioral during the development process. This resulted in a 10% increase in water services view behavioral during the development process.

**5 Year Total of Wastewater Capital Projects**  
 Increased by 20% - As with the water plan, the wastewater plan will achieve maximum reliability and redundancy of the wastewater system before the increase in the planned capital expenditures will be realized during the CIP development process. This resulted in a 20% increase in wastewater services view behavioral during the development process. This resulted in a 20% increase in wastewater services view behavioral during the development process.



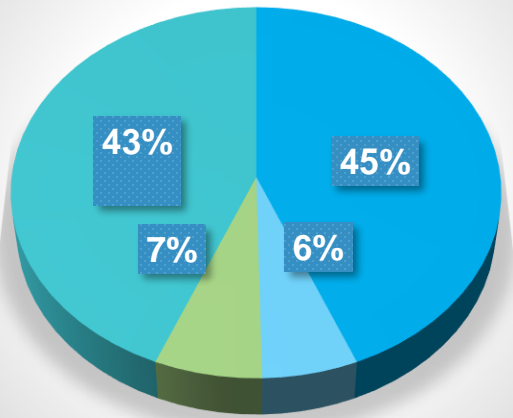
Review Committee Weighted Score: 50.7

# FY 24-28 STATISTICS and RECAP

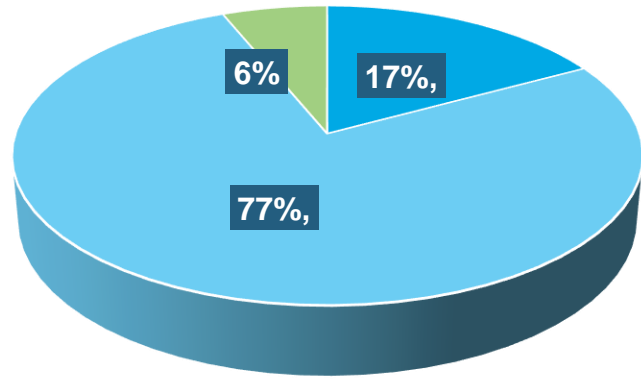


CIP Delivery Team

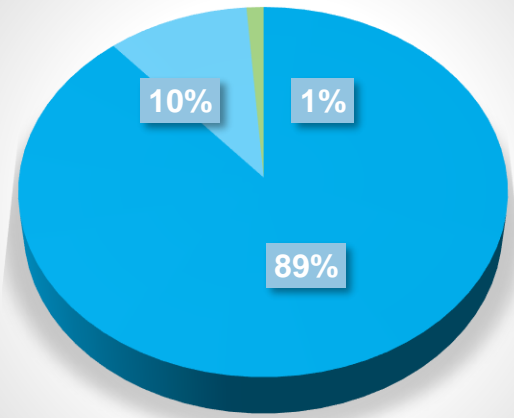
## Water



■ Transmission ■ Pumps ■ Storage ■ Treatment

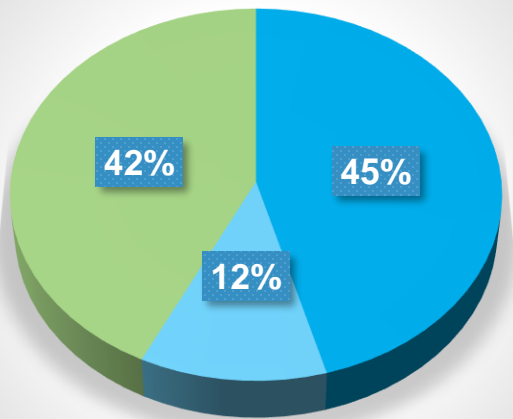


■ Active ■ Project Execution ■ Future Planned

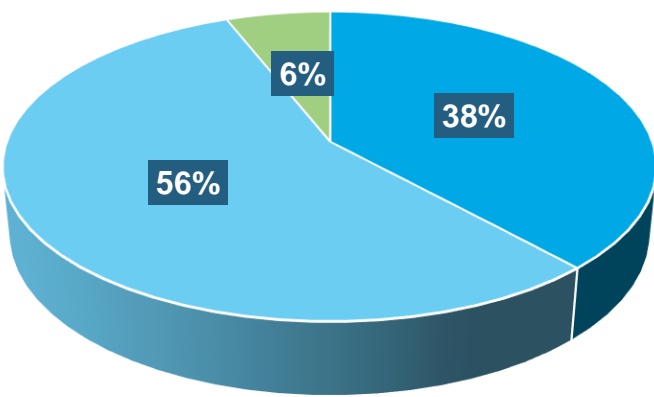


■ Construction ■ Design ■ Salary/Professional Services

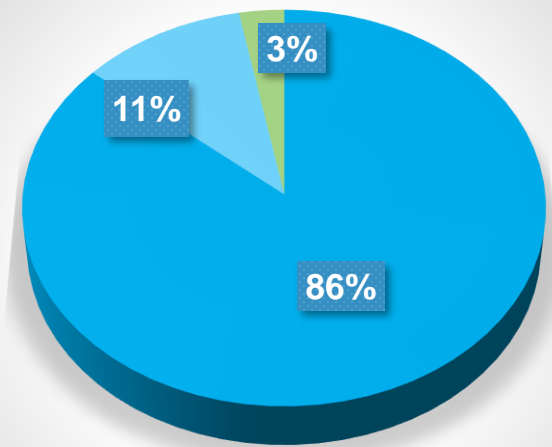
## Wastewater



■ Conveyance/Pumps ■ CSO ■ Treatment



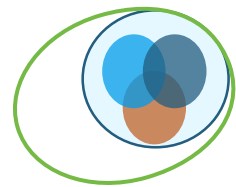
■ Active ■ Project Execution ■ Future Planned



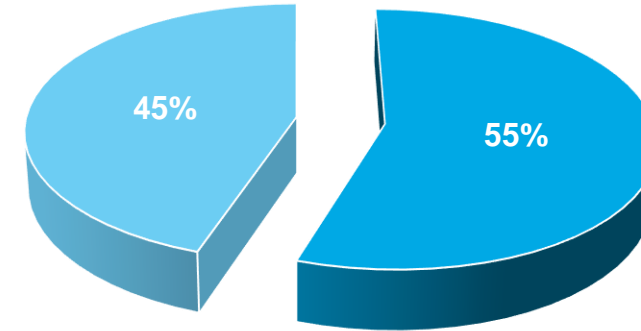
■ Construction ■ Design ■ Salary/Professional Services



# FY 24-28 STATISTICS AND RECAP

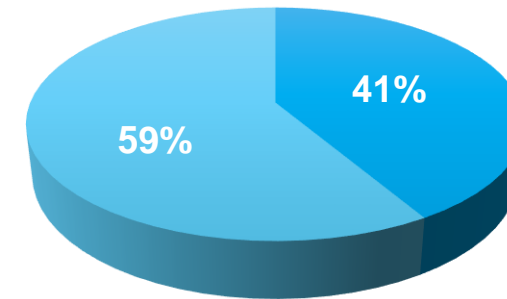


CIP Delivery Team



■ Water ■ Wastewater

## WET WEATHER RESILIENCY



■ WWR

# 96-inch Water Transmission Main Relocation and Isolation Valve Installations



**CIP Number:** 122004

**Project Status:** Project Execution – Construction

**Delivery Method:** Construction Management At RISK (CMAR)

**Score:** 77.5

**Design/Engineering:** June 20 to Nov 28

**Construction:** Feb 22 to Aug 28

**Total Project Budget:** ~ \$269 M

**Funding:** Drinking Water Revolving Fund (DWRF)



- Addition of isolation valves along the 96-inch water transmission main to provide isolation and redundancy to Lake Huron WTP supply.
- Relocation of 2.5 miles of 96-inch transmission main currently located in the former G&H Industrial Landfill
- Installation of a new parallel main along 96" main between North Service Center station and Almont's master meter

# REHABILITATION OF SCREENED FINAL EFFLUENT (SFE) PUMP STATION



CIP Number: 216008

Project Status: Project Execution – Design

Delivery Method: Progressive Design Build ( PDB)

Score: 63.2

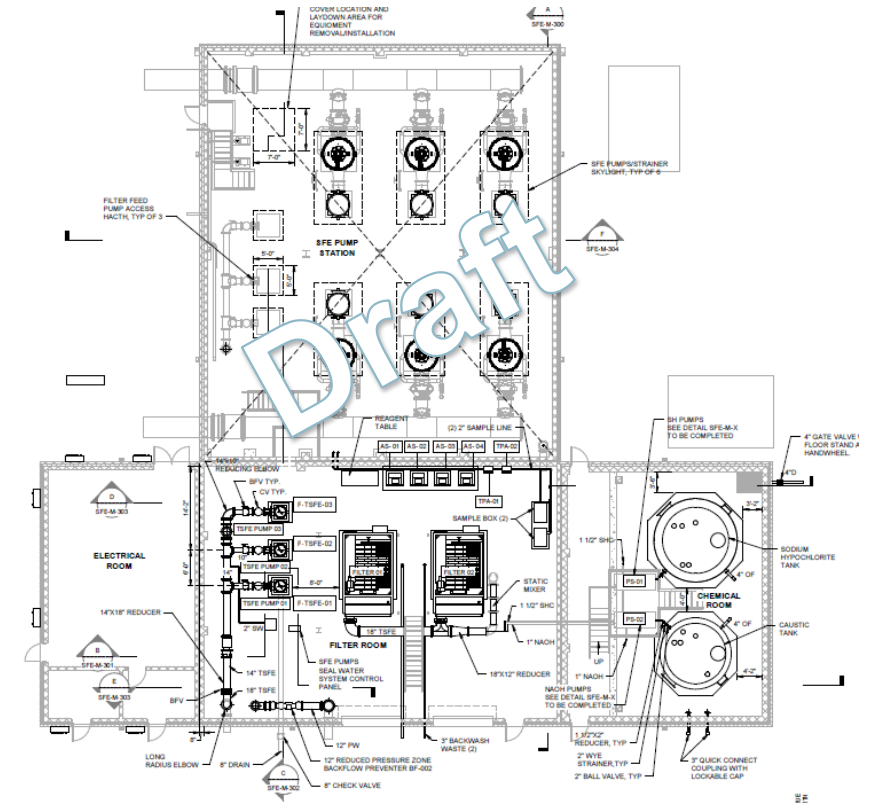
Design/Engineering ( 30% ) : April 21-May 27

Construction: May 2024 to May 27

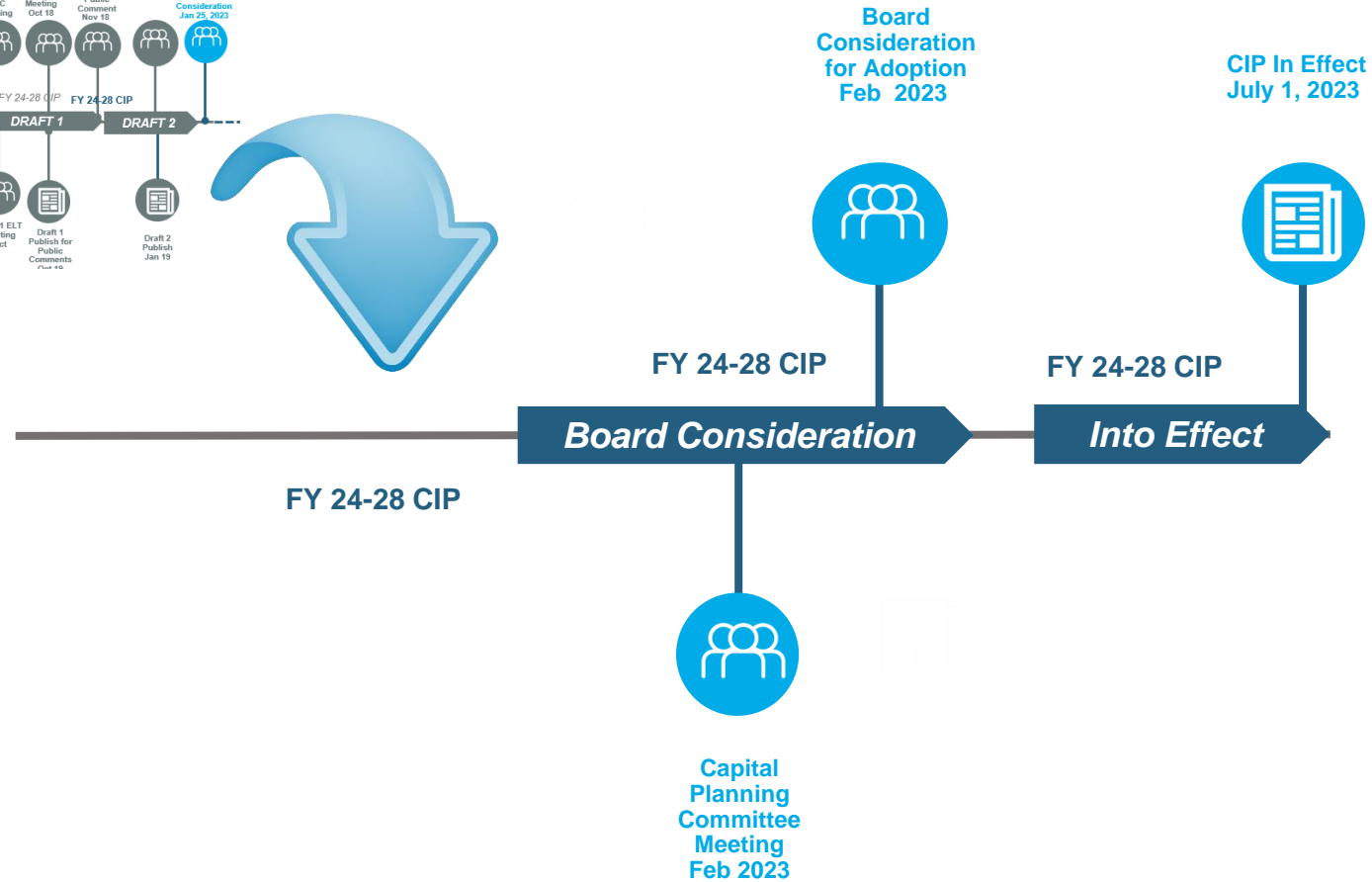
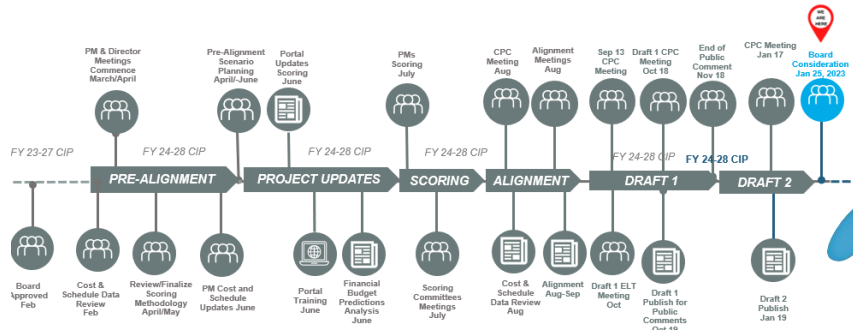
Total Project Budget: ~ \$63M

Funding: Bonds

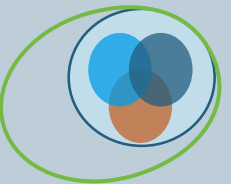
- The SFE Pump Station provides SFE water to many of the GLWA WRRF treatment processes and needs to be completely rehabilitated to maintain uninterrupted supply of SFE water to these processes
- Project will provide service water for the plant
- Will be energy and resource efficient (Innovation). Provide a re-use of treated effluent.



# FY 24-28 CIP-WHAT'S NEXT ?







CIP Delivery Team

# QUESTIONS & THANK YOU

