

Capital Improvement Program Delivery Updates

September 14, 2021

GLWA's Capital Planning Committee

Jody Caldwell
Interim Chief Planning
Officer

Dima El-Gamal
Capital Improvement
Planning Director

Donal Barron
AECOM



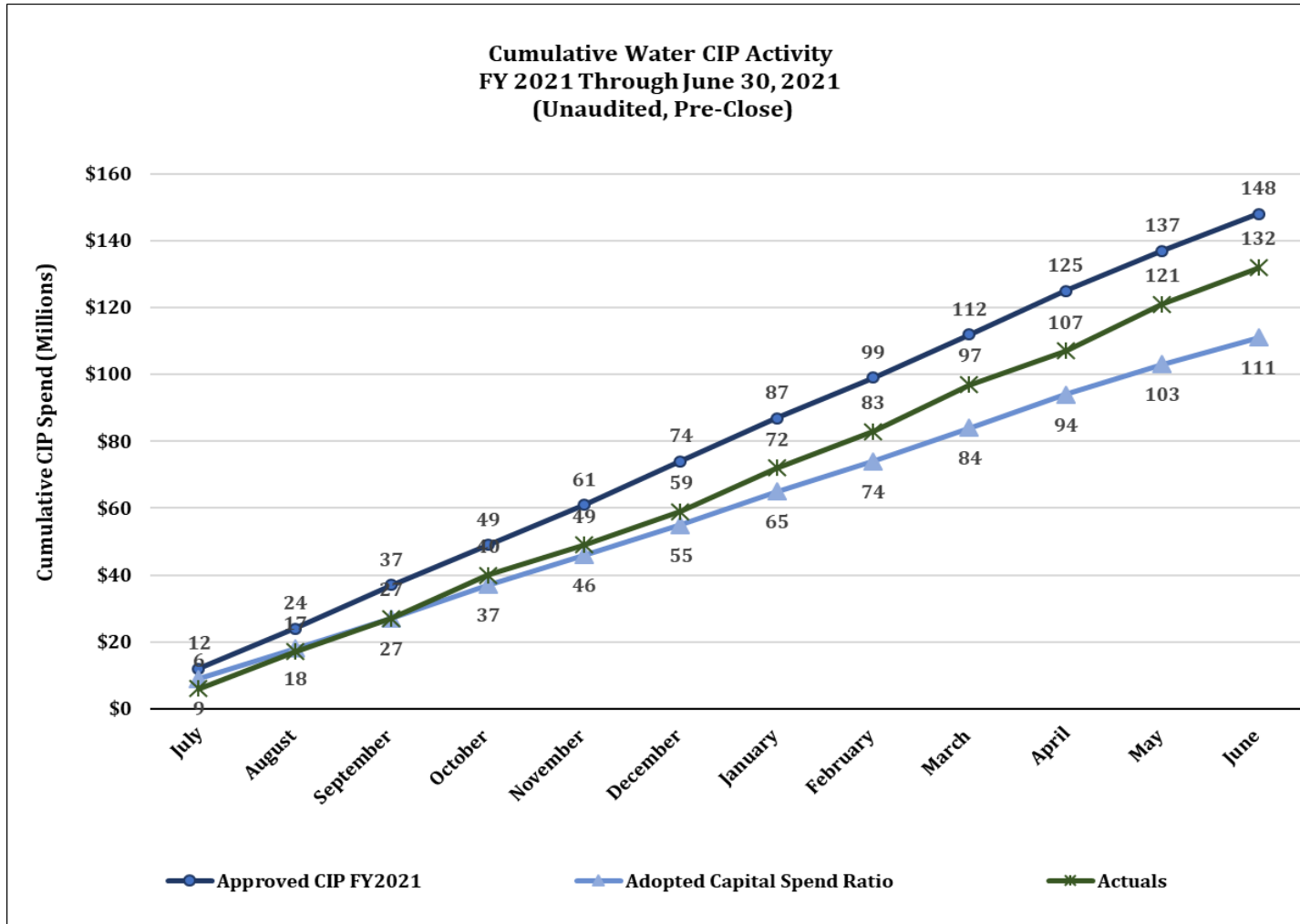
Agenda

- **CIP Success Story**
 - FY 21 Water and Wastewater KPIs
- **CIP Plan Update FY 23-27**
 - Milestone Schedule
 - Scoring Methodology
- **Program Management Contract Update**
 - Where We've Been
 - Where We're Going
 - Task-by-Task Update



Enterprise Resiliency

FY 2021 Total Water CIP Spend



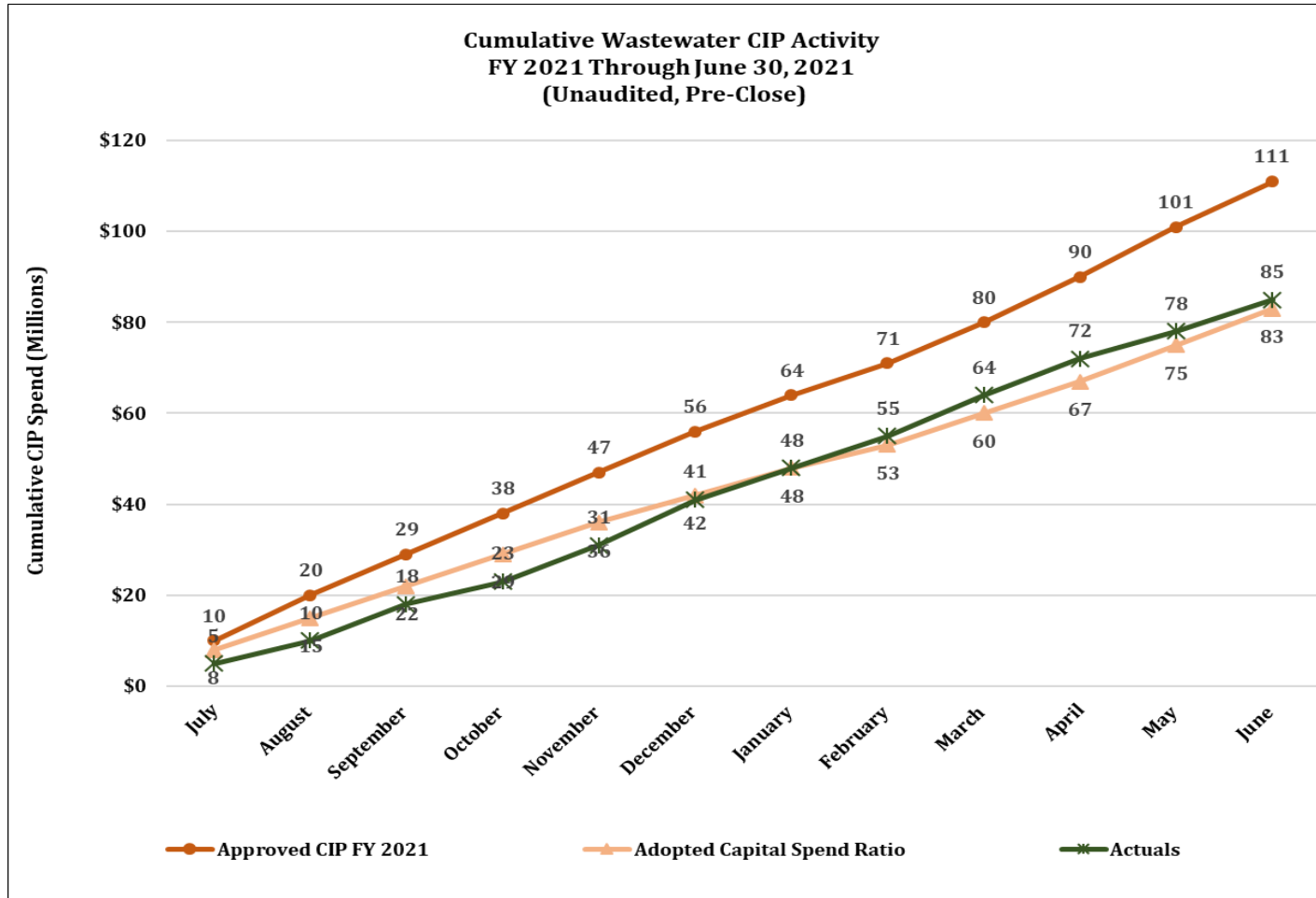
Current Status:

The water system incurred \$132 million of CIP costs through Jun 2021.

This is **89%** of the FY 2021 monthly prorated *Approved CIP* and **119%** of the *Adopted Capital Spend Ratio* which is 75%.

Enterprise Resiliency

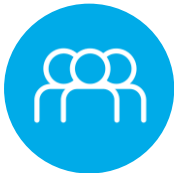
FY 2021 Total Sewer CIP Spend



Current Status:
 The sewer system incurred \$85 million of CIP costs through Jun 2021.

This is **77%** of the FY 2021 monthly Prorated *Approved CIP* and **102%** of the *Adopted Capital Spend Ratio* which is 75%.

FY23 – FY 27 CIP Milestone Schedule Part 1



CIP Training
June 23rd & 29th



Director Reviews
August 2nd –
August 9th



Alignment
August 30th –
September 13th

CIP Portal
Opened
July 12th



CIP Portal
Closed
July 30th

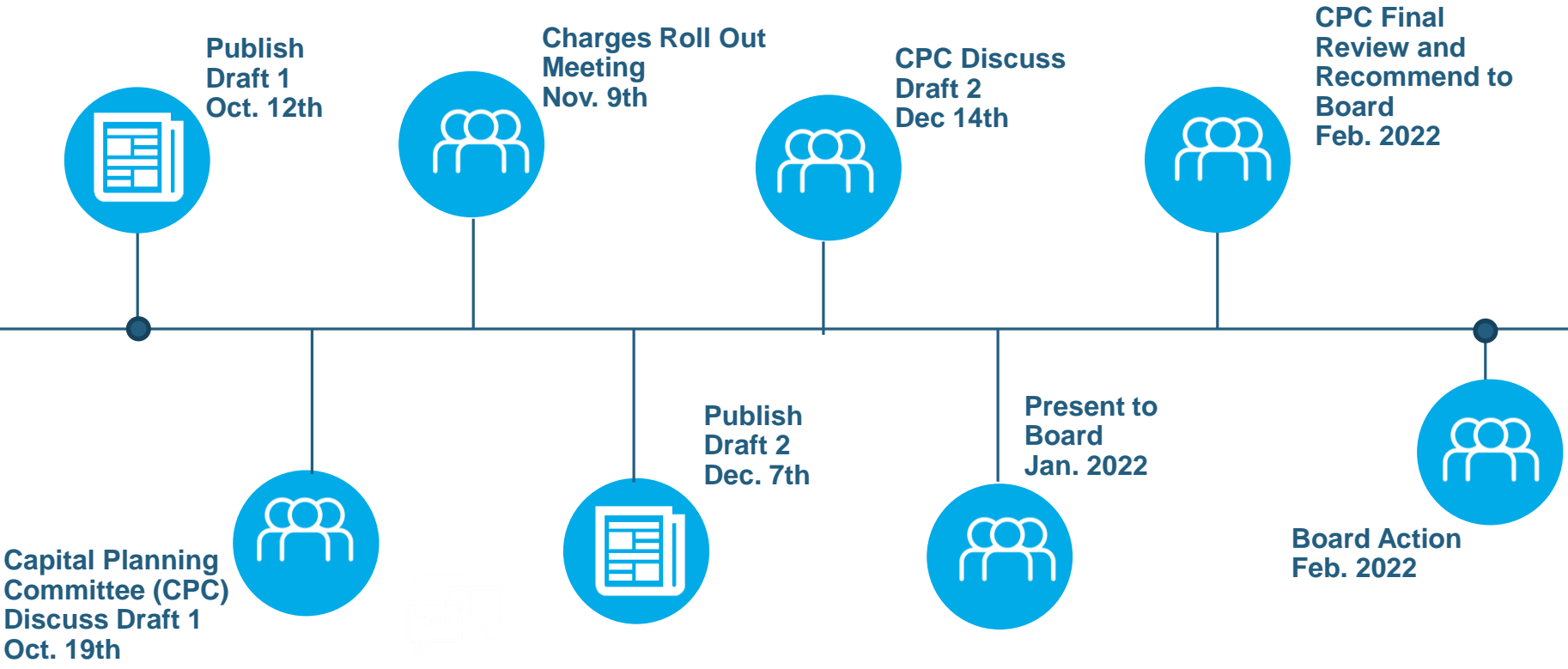


CIP Portal
Adjustments



Present to ELT
September 28

FY23 – FY 27 CIP Milestone Schedule Part 2



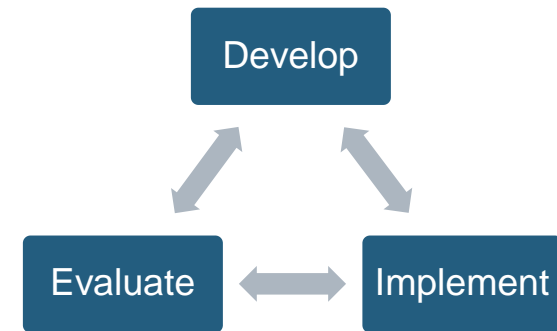
CIP Scoring Methodology Update



Why:

- Every process should be evaluated periodically to verify its effectiveness and to determine if the intent is being met.

Goal:

- Consider appropriate revisions that would improve the prioritization of projects to better align project scoring with the purpose and need of the projects.



 Page 1 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 <input type="checkbox"/> Project New to CIP:	<input type="checkbox"/> Innovation <input type="checkbox"/> WW Master Plan <input type="checkbox"/> Water Master Plan Right Sizing <input checked="" type="checkbox"/> Redundancy <input type="checkbox"/> NE WTP Repurposing <input type="checkbox"/> Linear Assets Outside of Facilities <input type="checkbox"/> Predecessor Project(s)
 <p style="text-align: center;">DRI Shaft Construction</p>	
Project Engineer/Manager: Mini Panicker Director: Todd King	Project Score 65.4
Problem Statement: Evaluation of the existing condition of the Detroit River interceptor (DRI), and rehabilitation/replacement of portions based on the evaluation results are essential to optimize the transportation capacity of the GLWA collection system and to increase its service life.	Scope of Work/Project Alternatives: Preliminary Scope of Work of the Project is as follows: Review the existing records, investigate the existing conditions , provide the necessary cleaning/rehabilitation/replacement to optimize the design capacity of the collection system and to minimize the inflow and infiltration into the collection system.
Other Important Info: Challenges: DRI may have flow control challenges for both inspection and rehabilitation. Recommendations from these inspections may reveal further need for cleaning, rehabilitation or replacement. Project History: The installation of some of the GLWA interceptors and sewers are dated back to 1912 under various contracts. Detroit River Interceptor inspection was completed in 5 different phases and there were portions deteriorated with visible surface aggregates, attached encrustation and i...	

CIP Scoring Methodology Update- Criteria

CRITERIA NUMBER	CRITERIA	DESCRIPTION	SCORE
1	Condition	Physical Condition as an indicator of probability of failure	1-5
2	Performance Service (Level/Responsibility)	Ability to meet operational requirements	1-5
3	Regulatory (Environmental/Legal)	Evaluates consequence of non-compliance	1-5
4	Operations and Maintenance	Evaluates impacts to overall O&M	1-5
5	Health and Safety	Evaluates impacts to health and safety on the public and staff	1-5
6	Public Benefit	Evaluates benefits to the public of completing the project	1-5
7	Financial	Evaluates financial benefits of implementing the project	1-5
8	Efficiency and Innovation	Addresses utilization of new technologies	1-5

CIP Scoring Methodology Update- Weightings

- No change to criteria is warranted
- Increased Health and Safety weighting (17% to 18%)
- Decreased Efficiency & Innovation (9% to 8%)

CRITERIA

Regulatory (Environmental/ Legal)	Health & Safety	Performance (Service Level/ Reliability)	Condition	O&M	Financial	Efficiency & Innovation	Public Benefit
18%	18%	15%	12%	11%	10%	8%	8%

Current Project Scoring Methodology

- Based on ratings of weighted criteria
- Each BCE gets two scores:
 - Project Sponsor/Manager
 - Review Committee

Table 5. Project Manager Criteria Score Breakdown: Wastewater

RANK	CIP NO.	TITLE	1	2	3	4	5	6	7	PM SCORE	2	3	4	5	6	7	RC SCORE
1	274001	Leib Improvements for Meldrum Diversion	4	4	3	4	3	5	4	71.0	4	4	4	3	5	4	78.2
2	278001	Oakwood Improvements for NWI Diversion	4	3	4	4	2	5	2	64.2	4	4	4	3	5	4	74.6

CIP Scoring Methodology Update- New Equation

A two-step prioritization process accomplished with one equation:

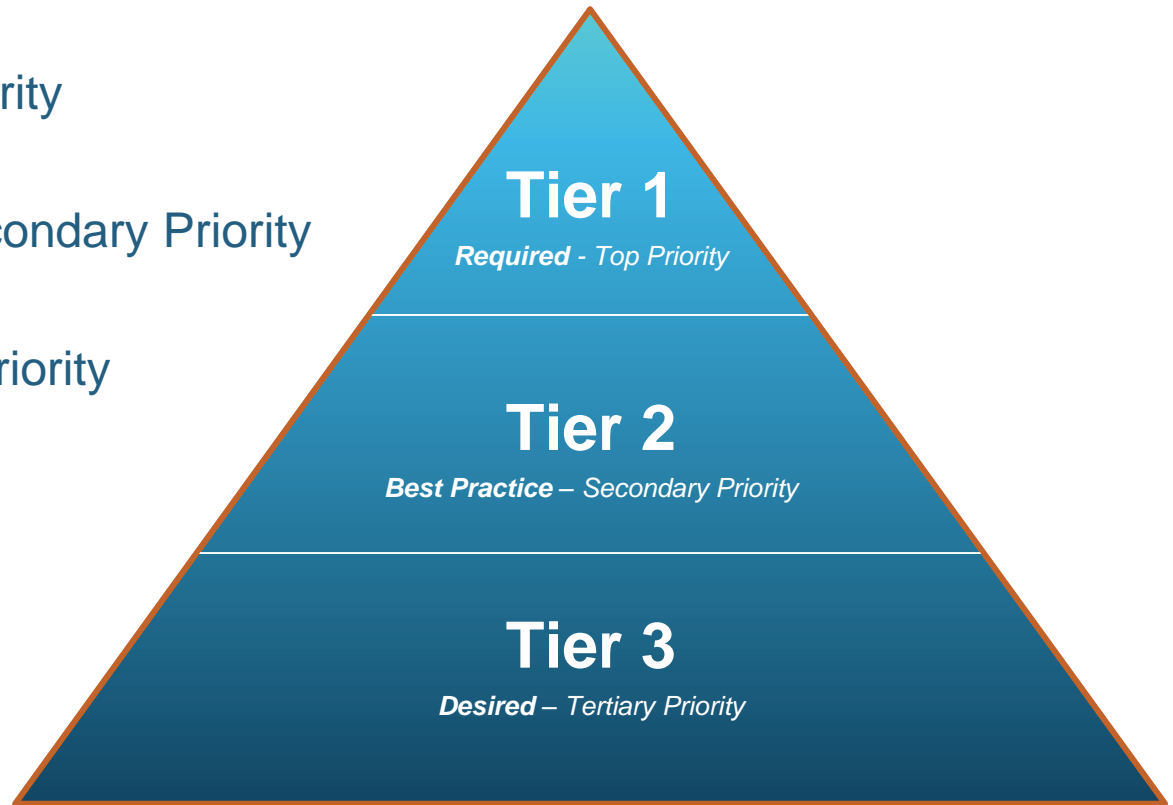
- Highest Weightings * Highest Scores:
*70% of Equation = Highest Weighting * Highest Score*
- Prioritize those projects amongst each other using the rest of the weights & scores: *30% of Equation = Criteria weighting * Scores*

Category	CIP NO.	CRITERIA								New Score
		Regulatory (Environmental/ Legal)	Health & Safety	Performance (Service Level/ Reliability)	Condition	O&M	Financial	Efficiency & Innovation	Public Benefit	
		18%	18%	15%	12%	11%	10%	8%	8%	
Water	116002	5	5	5	5	5	2	5	1	96.3
Water	111012	5	2	4	5	4	2	4	2	91.5
Water	132014	5	4	3	2	4	3	3	3	91.2

Considering Tiered Approach

Tiers :

- **Required** - Top Priority
- **Best Practice** - Secondary Priority
- **Desired** - Tertiary Priority



Considering Scoring by Project Types

Recommendations:

- Prioritize based on Lvl 2 after consolidation

Future Considerations:

- Capital Improvements
 - Water Treatment
 - Transmission & Distribution
 - Pump Stations
 - Wastewater Treatment
 - Lift Stations

WATER

Class Lvl 2	Class Lvl 3
Treatment Plants and Facilities	General Purpose
	Lake Huron
	Northeast
	Southwest
	Springwells
	Water Works Park
Field Services	Transmission System
Systems Control Center Programs	Pump Station/Reservoir Programs

WASTEWATER

Class Lvl 2	Class Lvl 3
CSO Facilities	Baby Creek
Field Services	Multiple CSO Facilities
	Interceptor
Systems Control Center	In System Devices
	Pump Stations
WRRF	General Purpose
	Industrial Waste Control
	Primary Treatment
	Residuals Management
Programs	Secondary Treatment & Disinfection Programs

CENTRALIZED SERVICES

Class Lvl 2	Class Lvl 3
Energy Mangement	General Purpose
Facilities	General Purpose
Programs	Programs



Program Management Contract Update

Where We've Been



Where We've Been

Key Progress

Gained Understanding

- Discovery and information gathering phase complete *PMP Plan in Development*

Recommendations Made & Under Consideration

- Line of Reporting Recommendations
- Lifecycle Project Manager Role and Responsibility
- Changes
- Highest Priority Business Process Changes

Completed draft of the Resource Development Plan

- Updated CIP Roles and FTE projections

Received proposals in response to PMIS Request for Proposal

Completed Year 2 Validation of All Projects in the CIP

Ramping up Use of Staff Augmentation Task

- Initiated more than 149 individual tasks
- Committed about 74% of the task (\$23M/\$31M)

GLWA FISCAL YEAR



Notice To Proceed: 5/20/19

Final Completion: 5/19/23

Comparison to What We Expected

		<i>When We Started Last Year, We Expected</i>	ON-TRACK	UNDERWAY	COMPLETE
YEAR 1	1	Improved business processes		●	
	2	Improved reporting			●
	3	Start of staff augmentation			●
YEAR 2	1	Recommendations on resources			●
	2	IT solution requirements		●	
	3	CIP project changes (packaging, delivery methods and sequencing)			●
	4	Increased staff augmentation		●	
	5	Standup the Program Management Office			●
YEAR 3	1	Possible organizational structure changes		●	
	2	Begin implementation of IT solutions		●	
	3	Maintain staff augmentation		●	
YEAR 4	1	Completion of IT solutions	●		
	2	Further improved reporting	●		
	3	Decreased staff augmentation	●		
	4	Phasing out of consultant	●		

Where We've Going



Where We're Going

Key Milestones

Year 3

- Organizational structure changes roll out
- Begin IT solutions vendor selection and negotiation
- Maintain level of staff augmentation
- Annual CIP project changes (packaging, delivery methods and sequencing)
- Define and implement the to-be process

Year 4

- Continue implementation of IT solutions
- Further improved reporting
- Decreased staff augmentation
- Phasing out of consultant support

GLWA FISCAL YEAR



Task by Task Update



CS-272: Capital Improvement Program Delivery

GLWA FISCAL YEAR



Key Progress

- Meeting with GLWA ELT to advance visioning and alignment around CIP business process improvements
- Reviewing PMP chapters and accompanying SOPs.
- Advancing change management with second Town Hall in September
- Advancing alignment of this years CIP plan
- Working on BODR for Springwell's WTP Header & Yard Piping project
- Starting Year 3 CIP Validation Report
- Working on Alternatives Analysis Report for NE WTP pumping Station Improvements project
- Preparing scope for Task 8 assignment

Progress

Contract Duration 1,461 Calendar Days
832 Calendar Days since NTP
(as of August 29, 2021)
56.9 % Time Elapsed

Total
\$54,934,034

Spent to Date
\$24,125,050 = 43.9%

*NTP = Notice to Proceed

**FC = Final Substantial Completion

Task 1: CIP Business Process Improvements

Lump Sum Task



Key Progress

- Complete



Budget

Total

\$1,043,816

Spent to Date

\$1,043,816 = 100%



Progress

Estimated 378 Calendar Days

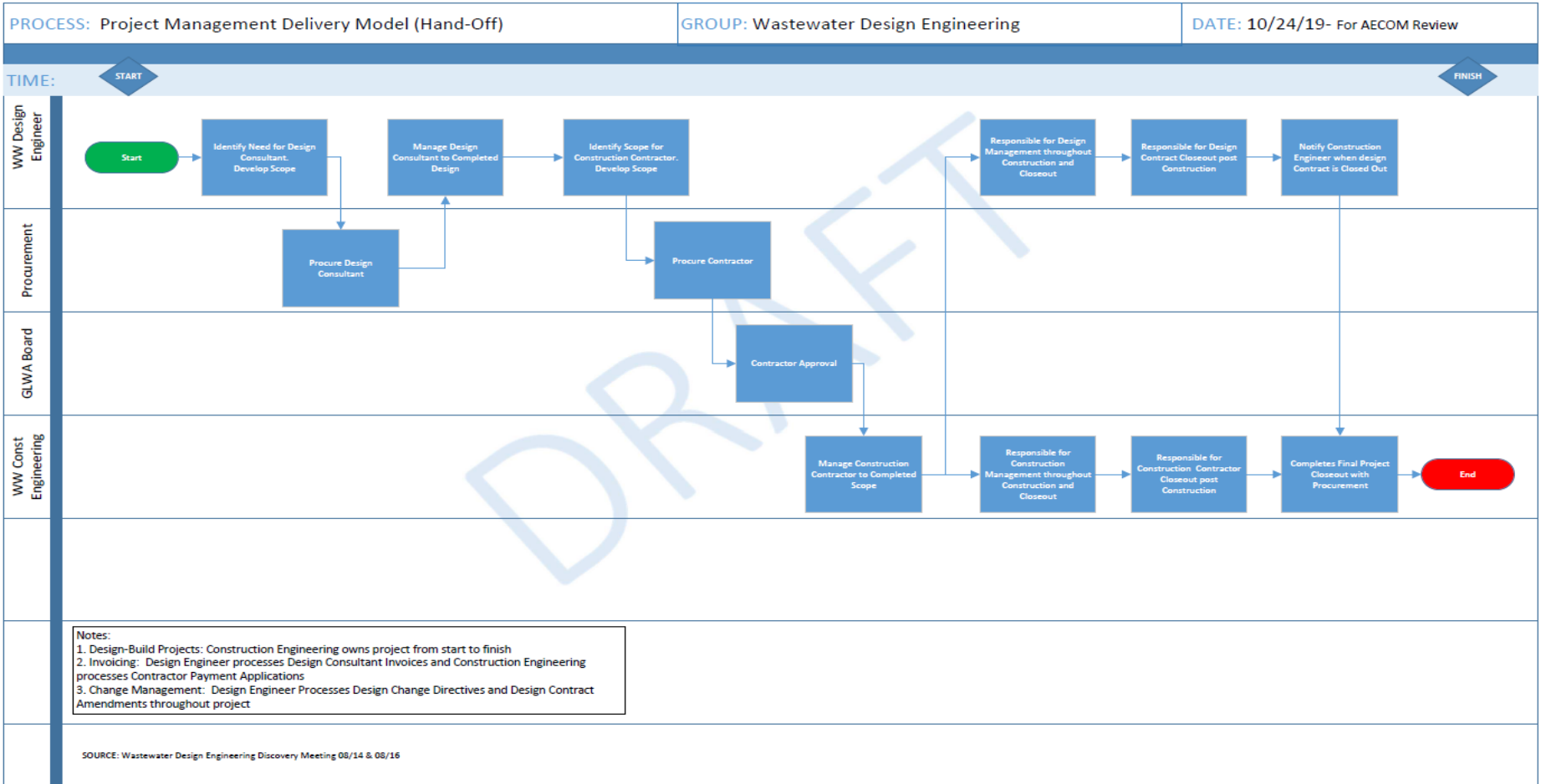
Completed 682 Calendar Days after NTP

100% Complete

Example Deliverable



BUSINESS PROCESS WORKFLOW



Task 2: CIP Delivery Standard Operating Procedure (SOP) Development

Lump Sum Task



Key Progress

- Completed Chapters 6 and 9
- Almost complete with Chapter 14
- Chapter 5 underway
- Chapter 10 underway



Budget

Total

\$1,181,756

Spent to Date

\$699,286.23 = 59.2%



Progress

Estimated 577 Calendar Days
832 Calendar Days since NTP
(as of August 29, 2021)

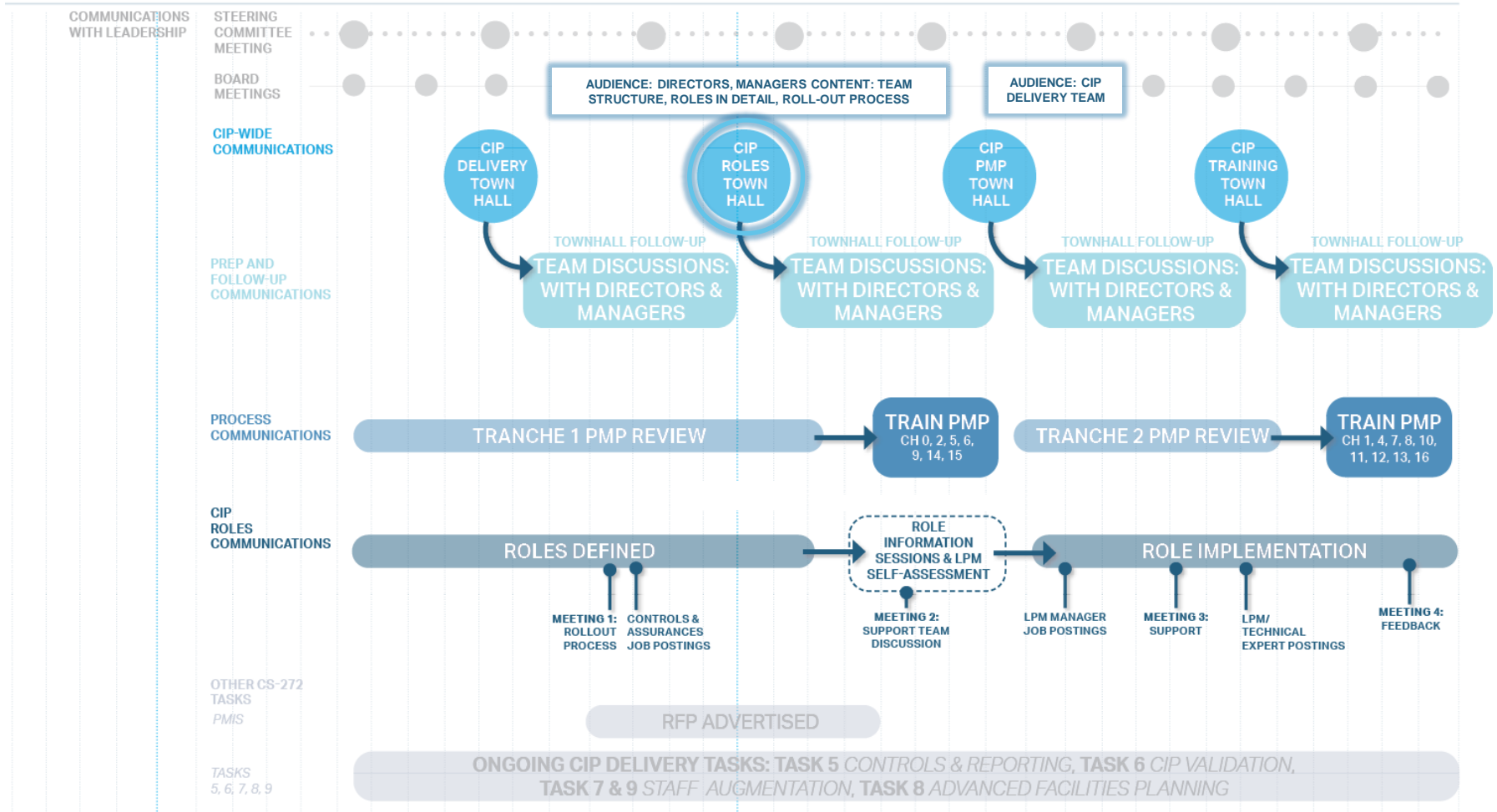
35% Complete

Timeline















WE ARE HERE

May June July August **September** October November December



PMP Chapters and Contents

 = In progress
 = Complete

PMP 00  PMP Overview							
PMP 01 Program Description 	PMP 02 Organization & Governance 	PMP 03 Comms Management 	PMP 04 Document Management 	PMP 05 Schedule & Budget 	PMP 06 Contract Change Management 	PMP 07 Quality Management 	PMP 08 Risk Management 
PMP 09 Engineering & Design 	PMP 10 Procurement & Contracts 	PMP 11 Permitting & Regulatory 	PMP 12 E, H & S 	PMP 13 Public Information, Stakeholders 	PMP 14 Construction Management 	PMP 15 Program Design Manual 	PMP 16 Planning & CIP Development 

Task 3: CIP Delivery Resource Evaluation

Lump Sum Task



Key Progress

- Complete
- Change Management underway



Budget

Total
\$676,847

Spent to Date
\$676,847 = 100%



Progress

Estimated 1,461 Calendar Days
Completed 803 Calendar Days after NTP

100% Completed

Task 4: Project Management Information System (PMIS) Selection & Implementation

Lump Sum Task



Key Progress

- Responses have been received by procurement



Budget

Total

\$1,493,744

Spent to Date

\$510,860.45 = 34.2%



Progress

Estimated 1,461 Calendar Days

832 Calendar Days since NTP
(as of August 29, 2021)

34% Complete

Task 5: Project Controls & Reporting Support

Time & Materials



Key Progress

- Working on 2023 – 27 CIP Plan including new enhancements
- Rolled out new enhancements to the alignment tool
- Updating and improving CIP Dashboard



Budget

Total
\$14,427,520

Spent to Date
\$9,676,901 = 67%



Progress

Estimated 1,461 Calendar Days
832 Calendar Days since NTP
(as of August 29, 2021)

67% Complete

Task 6: CIP Validation

Lump Sum Task



Key Progress

- Working on Year 3 Validation scope
- Working on scoring methodology



Budget

Total
\$2,381,024

Spent to Date
\$1,719,846 = 72.2%



Progress

Estimated 1,461 Calendar Days
832 Calendar Days since NTP
(as of august 29, 2021)

67% Complete

Task 7 & 9: Staff Augmentation Time & Materials



Key Progress

- Aeration Decks 1 and 2 improvement project preliminary design progressing
- Developing Basis of Design Report for Springwell WTP Header and Yard Piping Project
- Developing Alternatives Analysis for Northeast WTP Pumping Station Improvements
- Front end document support progressing
- CIP Portal Enhancements underway



Budget

Total Task 7

\$30,249,764

Spent to Date

\$9,045,336 = 30%

Total Task 9

\$1,034,100

Spent to Date

\$528,014 = 51.1%



Progress

Estimated 1,461 Calendar Days

832 Calendar Days since NTP
(as of August 29, 2021)

31% Complete

Task 8: Advanced Facilities Planning (AFP)

Lump Sum Task



Key Progress

- Rehab of WRRF Secondary Clarifiers assignment under consideration



Budget

Total

\$2,006,563

Spent to Date

\$75,786 = 3.8%



Progress

Estimated 1,461 Calendar Days

832 Calendar Days since NTP

(as of August 29, 2021)

4% Complete

Task 10: Enterprise-wide Energy Optimization and Sustainability Planning

Lump Sum Task



Key Progress

- Not started



Budget

Total

\$438,900

Spent to Date

\$0



Progress

Estimated 1,461 Calendar Days

832 Calendar Days since NTP

(as of August 29, 2021)

0% Complete



Thank you

Questions and Discussion