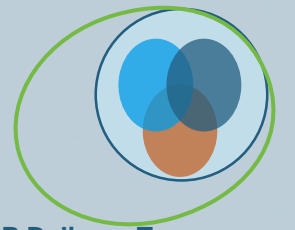


CIP Program Update

CAPITAL PLANNING COMMITTEE

September 12, 2023



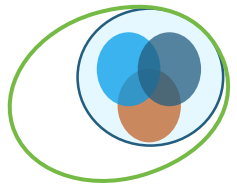
CIP Delivery Team



Jody Caldwell, PE, Chief Planning Officer

Dima El-Gamal, PhD, PE, LEED@AP., Capital Improvement Planning Director

AGENDA



CIP Delivery Team

💧 CIP Update

- 💧 Key Performance Indicators (KPIs)
- 💧 FY 2024 CIP Delivery Targets
- 💧 FY 25-29 Road Map
- 💧 Alignment Update
- 💧 CIP Delivery Teams-Recruitment Update

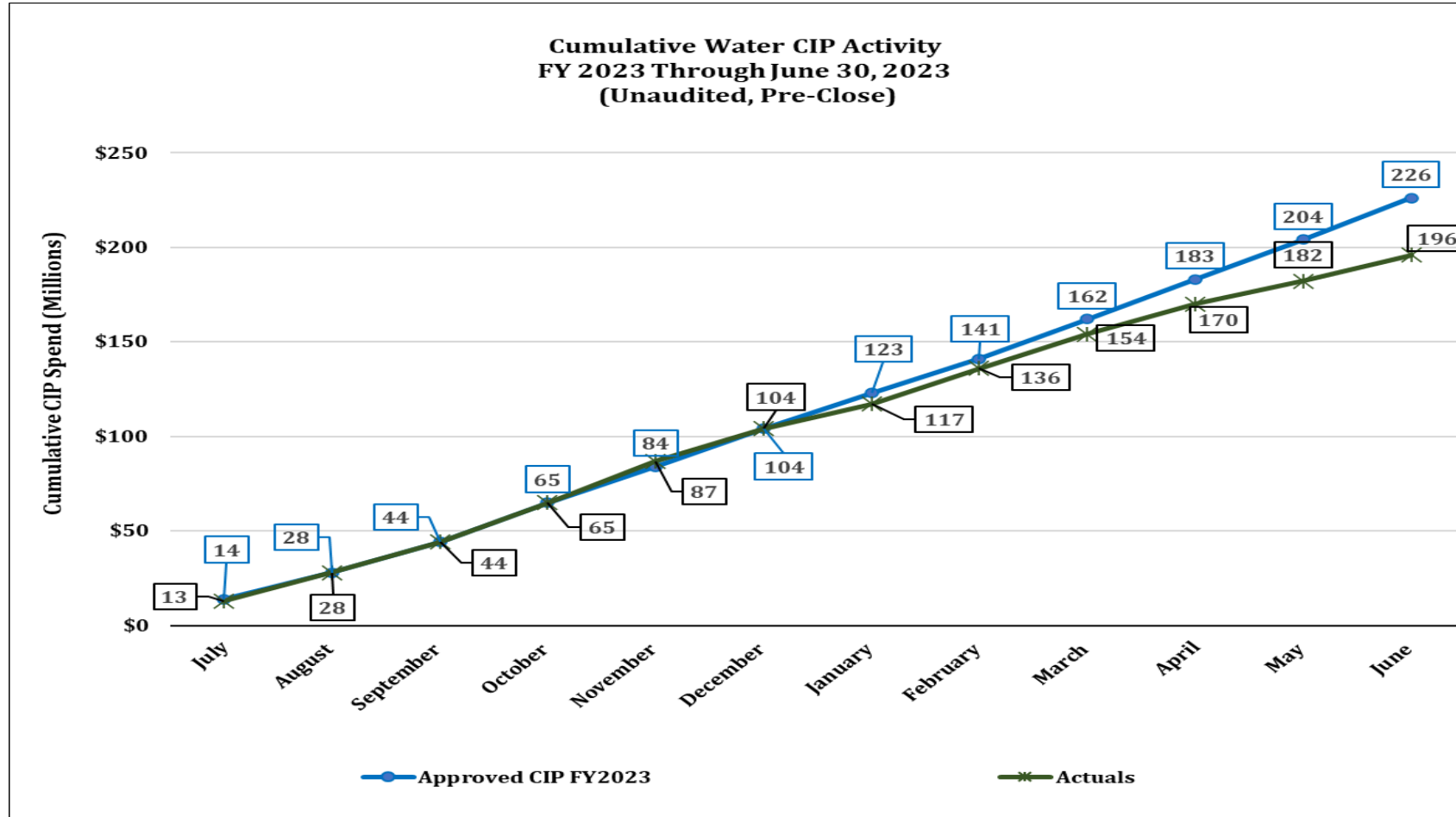
💧 Program Management Updates



ENTERPRISE RESILIENCY FY 2023 TOTAL WATER CIP SPEND



CIP Delivery Team



Current Status:

The water system incurred \$196 million of CIP costs through June 2023.

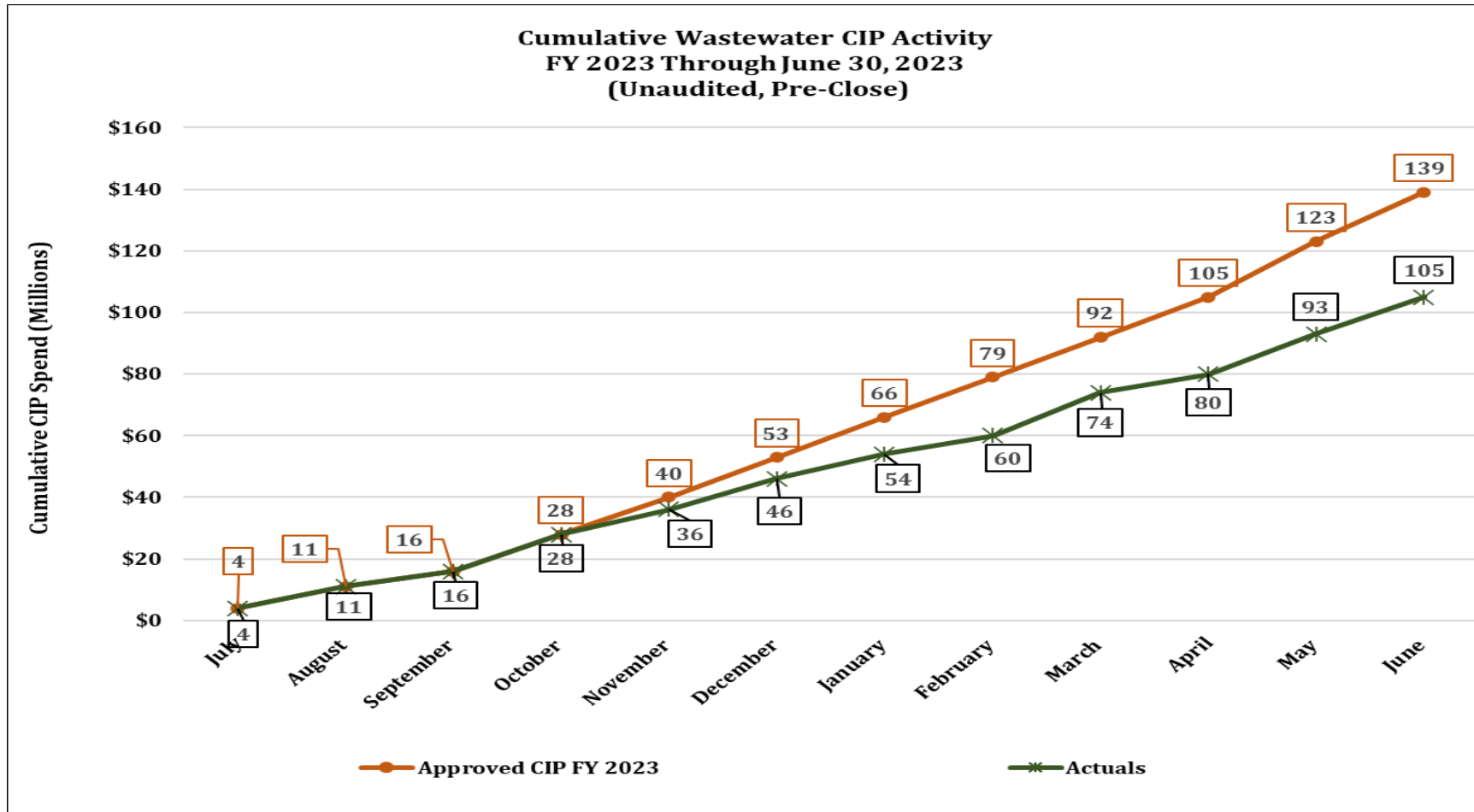
This is 87% of the FY 2023 monthly prorated *Approved CIP2024-2028*.

Note: "Actuals" are preliminary unaudited amounts

ENTERPRISE RESILIENCY FY 2023 TOTAL WASTEWATER CIP SPEND



CIP Delivery Team



Current Status:

The wastewater system incurred \$105 million of CIP costs through June 2023.

This is 76% of the FY 2023 monthly Prorated Approved CIP2024-2028.

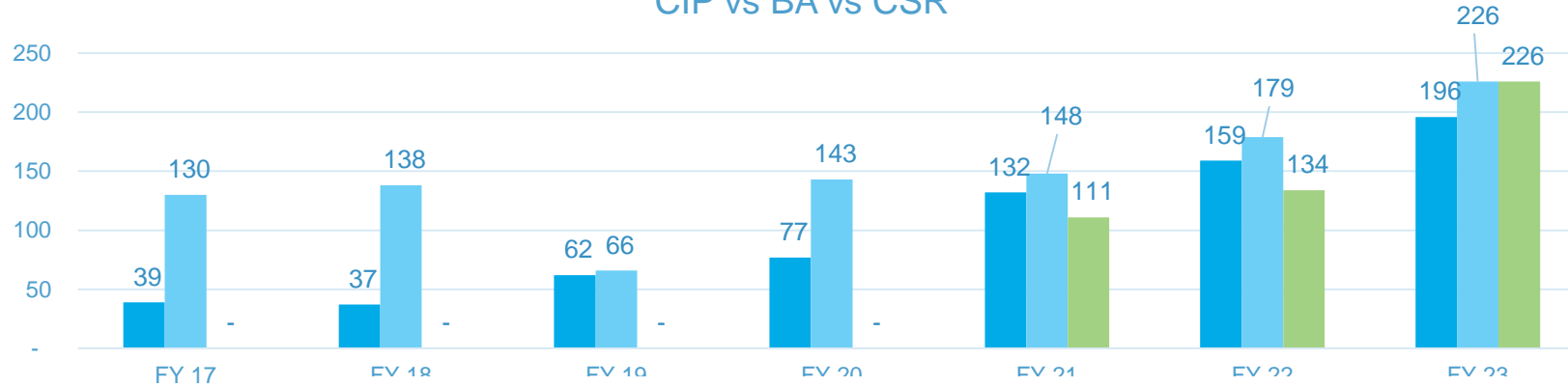
Note: "Actuals" are preliminary unaudited amounts

ENTERPRISE RESILIENCY WATER CIP SPEND-HISTORY



CIP Delivery Team

WATER
CIP vs BA vs CSR



WATER CIP DELIVERY

	CIP Actual Spend*	BA *	% BA	CSR*	% CSR
FY 17	39	130	30%	-	
FY 18	37	138	27%	-	
FY 19	62	66	94%	-	
FY 20	77	143	54%	-	
FY 21	132	148	89%	111	119%
FY 22	159	179	89%	134	119%
FY 23	196	226	87%	226	87%



**In Million Dollars*

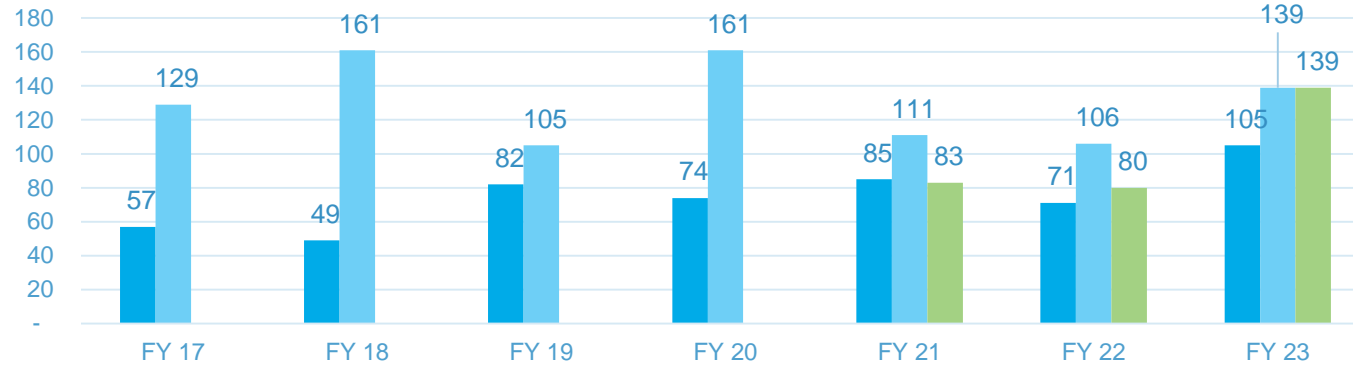
CIP – Capital Improvement Plan | CSR – Capital Spend Rate | BA – Board Approved

ENTERPRISE RESILIENCY WASTEWATER CIP SPEND-HISTORY



CIP Delivery Team

WASTEWATER
CIP vs BA vs CSR



WASTEWATER DELIVERY

	CIP Actual Spend*	BA *	% BA	CSR*	% CSR
FY 17	57	129	44%	-	-
FY 18	49	161	30%	-	-
FY 19	82	105	78%	-	-
FY 20	74	161	46%	-	-
FY 21	85	111	77%	83	102%
FY 22	71	106	67%	80	89%
FY 23	105	139	76%	139	76%

BOARD APPROVED FY 24 WATER AND WASTEWATER BUDGETS



WATER CIP COMPARISON

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

CIP Document	2023	2024	2025	2026	2027	2028	5-Year Total
Approved Water CIP FY 2023-2027	\$194,376	\$225,436	\$221,616	\$174,681	\$149,539	\$218,354	\$965,648
Water CIP FY 2024-2028	\$225,790	\$239,260	\$200,422	\$176,034	\$165,813	\$205,087	\$986,616
Difference	\$31,414	\$13,823	\$-21,194	\$1,353	\$16,275	\$-13,267	\$20,968
Difference %	16.16%	6.13%	-9.56%	0.77%	10.88%	-6.08%	2.17%

WASTEWATER CIP COMPARISON

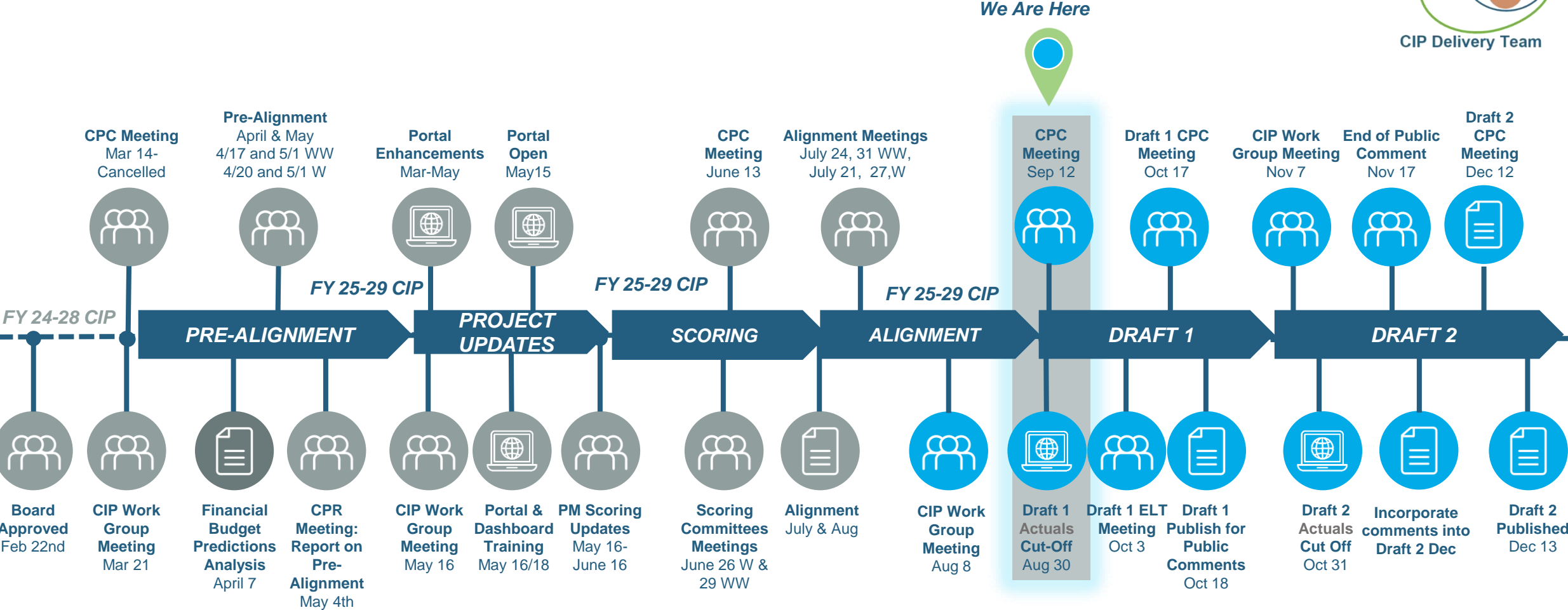
Financial figures are in thousands of dollars (\$1,000s)

CIP Document	2023	2024	2025	2026	2027	2028	5-Year Total
Approved Wastewater CIP FY 2023-2027	\$125,932	\$162,313	\$184,523	\$157,689	\$131,307	\$171,068	\$761,764
Wastewater CIP FY 2024-2028	\$139,442	\$199,061	\$190,159	\$159,044	\$133,732	\$116,180	\$798,176
Difference	\$13,510	\$36,748	\$5,636	\$1,355	\$2,424	\$-54,888	\$36,412
Difference %	10.73%	22.64%	3.05%	0.86%	1.85%	-32.09%	4.78%

FY 25-29 ROADMAP-WE ARE HERE



CIP Delivery Team



CPC – Capital Improvement Planning | CIP – Capital Improvement Plan
 CPR – Capital Program Review | PM – Project Manager | ELT – Executive Leadership Team

ALIGNMENT PROGRESS-WATER

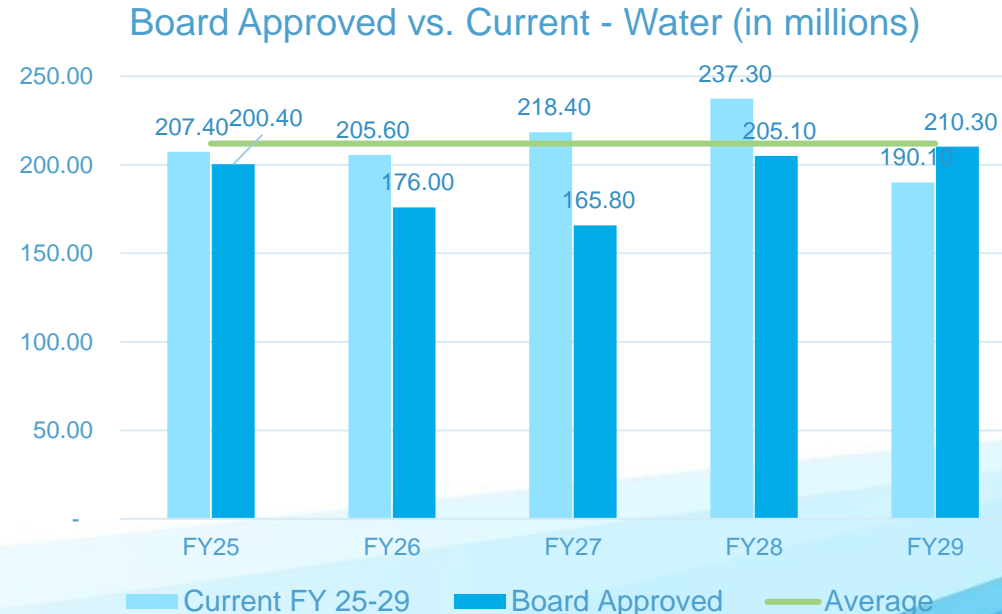


CIP Delivery Team

💧 FY 25-29 CIP – Alignment with Financial Plan

FY 25-29	Water					Total	Average
	FY 25	FY 26	FY 27	FY 28	FY 29	FY 25-29	FY 25-29
Board Approved	\$200.4 M	\$176 M	\$165.8 M	\$205.1 M	\$210.3 M	\$957.6 M	\$192 M
Current Planning Scenario*	\$207.4 M	\$205.6 M	\$218.4 M	\$237.3 M	\$190.1 M	\$1,058.8 M	\$212 M

* As of July actuals and August 30, 2023, PMs cost and schedule update



ALIGNMENT PROGRESS-WASTEWATER



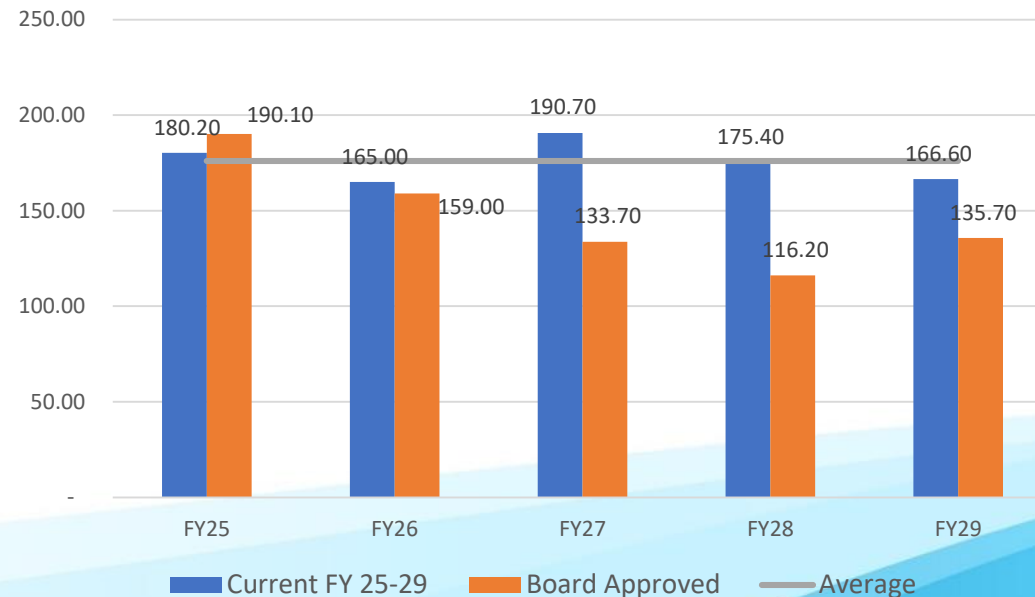
CIP Delivery Team

💧 FY 25-29 CIP- Alignment with Financial Plan

FY 25-29	Wastewater					Total	Average
	FY 25	FY 26	FY 27	FY 28	FY 29	FY 25-29	FY 25-29
Board Approved	\$190.1 M	\$159 M	\$133.7 M	\$116.2 M	\$135.7 M	\$734.7 M	\$147 M
Current Planning Scenario*	\$180.2 M	\$165 M	\$190.7 M	\$175.4 M	\$166.6 M	\$877.9 M	\$176M

* As of July actuals and August 30, 2023, PMs cost and schedule update

Board Approved vs. Current - Wastewater (in millions)



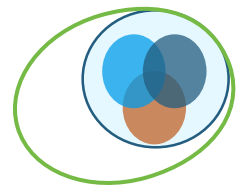
ALIGNMENT PROGRESS-WATER PROJECT LIST



CIP Delivery Team

CIP No.	Description	Alignment Change
111013	Lake Huron Water Treatment Plant Fireloop and Plant Water Improvements	Delay Start
112003	Northeast Water Treatment Plant High-Lift Pumping Station Improvements	
113003	Southwest Water Treatment Plant, Low- and High-Lift Pumping Station, Flocculation and Filtration System Improvements	
114010	Springwells Water Treatment Plant, Yard Piping and High-Lift Header Improvements	
115007	Water Works Park High Lift Pumping Station Modernization	
132012	Ypsilanti Booster Pumping Station Improvements	
132019	Wick Road Pumping Station Improvements	
132020	Franklin Pumping Station Improvements	
122017	7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station	
122017	7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station	EAC Change (+)
132016	North Service Center Pumping Station Improvements	
132020	Franklin Pumping Station Improvements	Cancelled
114007	Springwells Water Treatment Plant Powdered Activated Carbon System Improvements	
122003	Water Works Park to Northeast Transmission Main	
122018	Garland, Hurlbut, Bewick Water Transmission System Rehabilitation	Early Start
132015	Newburgh Road Booster Pumping Station Improvements	
122017	7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station	Change Duration (-)

ALIGNMENT PROGRESS-WASTEWATER PROJECT LIST



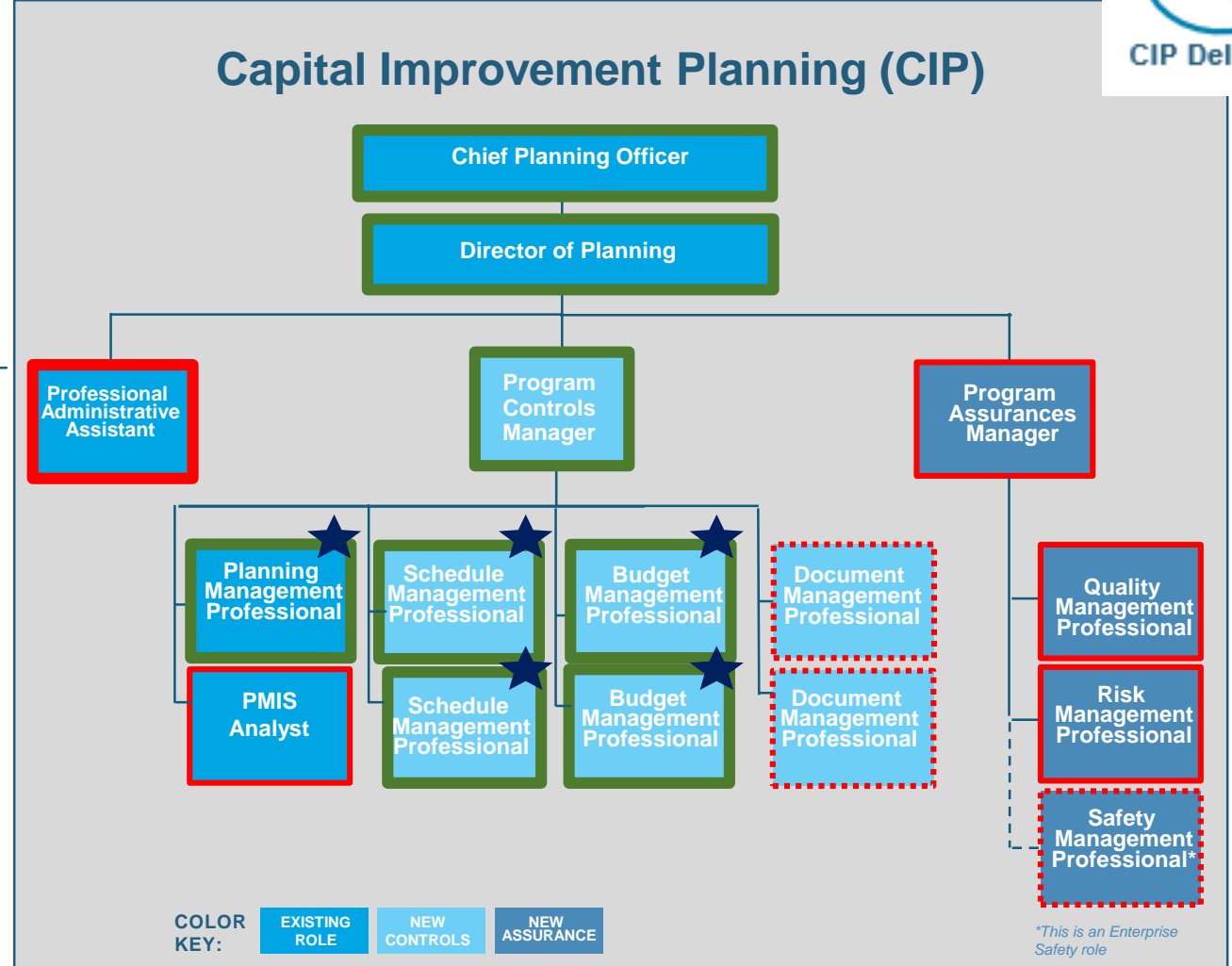
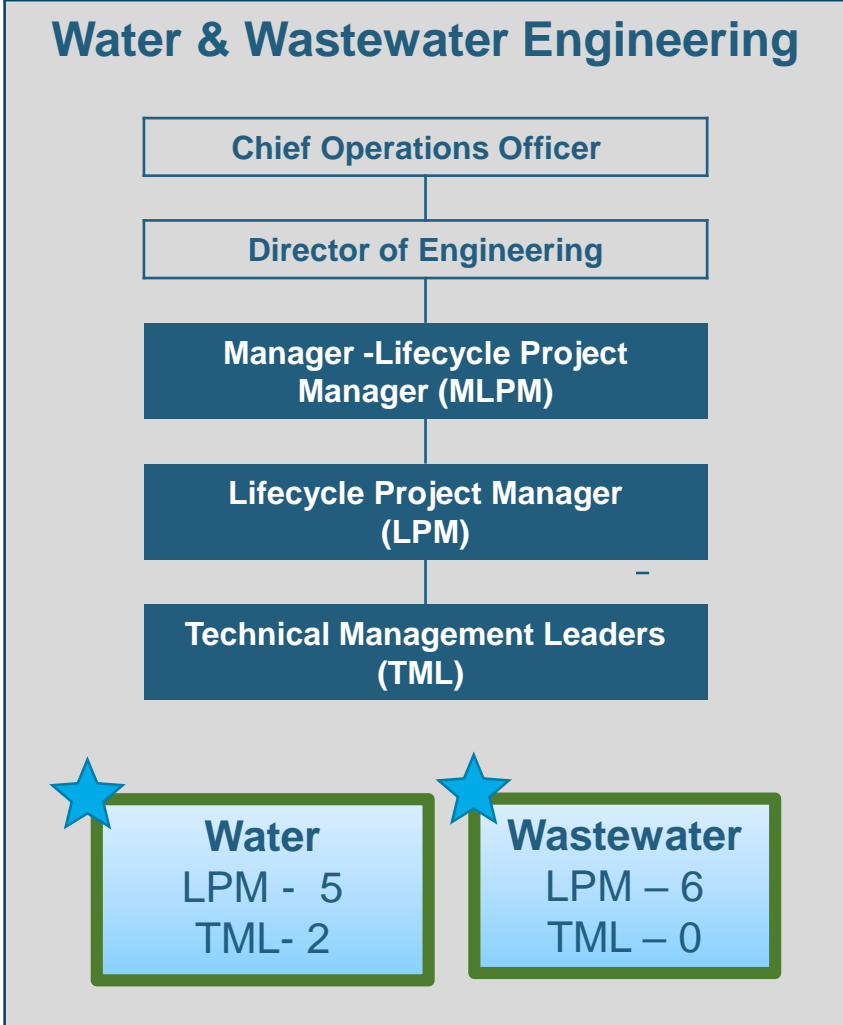
CIP Delivery Team

CIP	Description	Alignment Change	
211007	WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements	Change Duration (+)	
212008	WRRF Aeration Improvements 1 and 2		
216006	Assessment and Rehabilitation of WRRF yard piping and underground utilities		
216008	Rehabilitation of Screened Final Effluent (SFE) Pump Station		
232002	Freud & Conner Creek Pump Station Improvements		
260204	Conveyance System Engineering Services-1802575		
260207	Rehabilitation of Woodward Sewer Systems		
260210	Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee		
260510	Conveyance System Repairs (Outfalls)		
260510	Conveyance System Repairs (Outfalls)		
260701	Conveyance System Infrastructure Improvements		
270002	Meldrum Sewer Diversion and VR-15 Improvements		
270004	Oakwood and Leib CSO Facilities Improvement Project		
270008	Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities		
270008	Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities		
232002	Freud & Conner Creek Pump Station Improvements		EAC Change (-)
260600	CSO Facilities Improvement Program		EAC Change (+)
213009	WRRF Biosolids Processing Improvements	Early Start	
273001	Hubbell Southfield CSO Facility Improvements		

CIP DELIVERY TEAMS-RECRUITMENT UPDATE



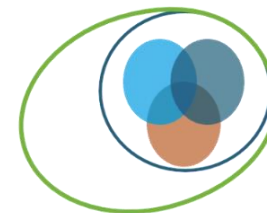
CIP Delivery Team



Roles outlined in dotted red will be filled in the future

Roles outlined in solid red are in the process of being filled

Roles outlined in solid green have been filled

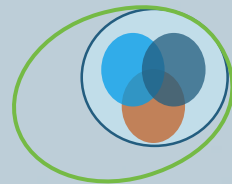


CIP Delivery Team

CIP-What's Next

- FY 25-29 CIP Draft 1 in progress
- PMP Training
- Change Leaders Training
- PMP Implementation and Rollout





CIP Delivery Team

QUESTIONS THANK YOU

September 12, 2023



Contract No. GLWA - CS - 272

PROGRAM MANAGEMENT UPDATE

Michael McClure, AECOM



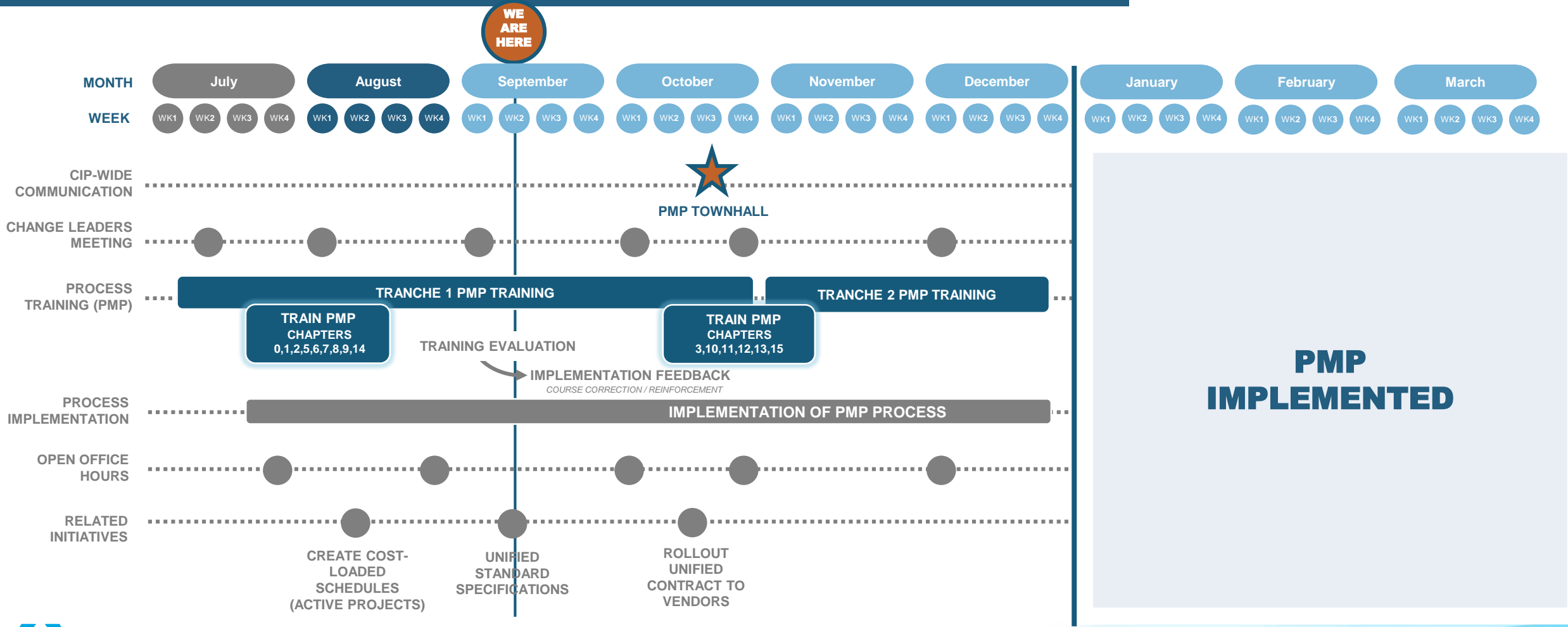
Today's Agenda

- **Task 2 Status Update**
- **Task 4 & 5 Status Updates**
- **Task 7 Status Update**
- **Task 9 Status Update**

Task 2

Updates

PMP Implementation Timeline





PMP Chapter Release


Chapters **published:**

PMP 00 – **PMP Overview**
PMP 01 – **CIP Program Overview**
PMP 02 – **Org. & Governance**
PMP 05 – **Schedule & Budget Mgt**
PMP 06 – **Contract Change Mgt**
PMP 07 – **Quality Mgt**
PMP 08 – **Risk Mgt**
PMP 09 – **Engineering & Design Mgt**
PMP 10 – **Procurement & Contracts**
PMP 11 – **Permitting & Reg. Comp. Mgt**
PMP 14 – **Construction Mgt**


Chapters being **finalized:**


PMP 12
H&S Mgt


PMP 13
Public Info. & Stakeholder Mgt


PMP 03
Communications Management


Final chapters:

PMP 04
Document Management


PMP 15
CIP Planning & Development


PMP Training Release

Chapter-Specific Training in process for Tranche 1

- Allocated using GLWA's Training Management System (TMS)
- Video-based to allow ongoing use as new LPMs are hired, with test questions at the end and continuing education credits
- "Office hours" sessions also provided

Tranche 1

CH 00, 01, 02 - Introductory Chapters
CH 09 – Engineering & Design Management
CH 14 – Construction Management
CH 05 – Schedule & Budget Management
CH 07 – Quality Management
CH 08 – Risk Management
CH 06 – Contract Change Management

Tranche 2

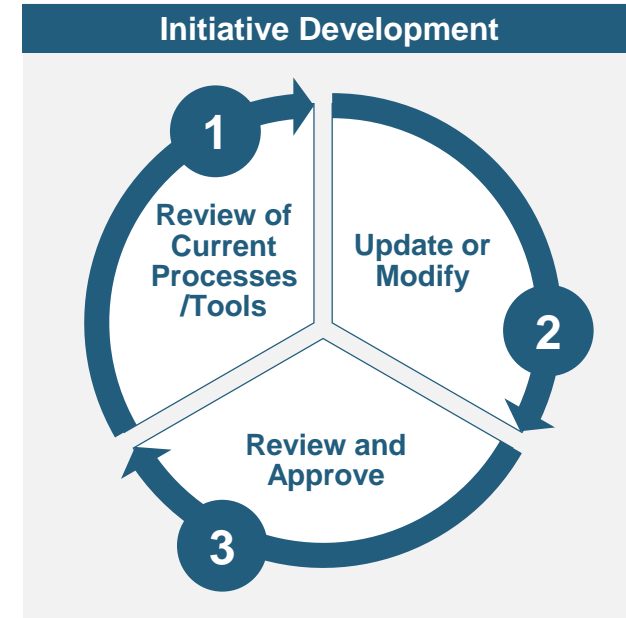
CH 03 – Communications Management
CH 04 – Document Management
CH 10 – Procurement Management
CH 11 – Permit Management
CH 12 – H&S Management
CH 13 – Public Outreach Management
CH 15 – CIP Planning and Development

Note: **Bold Chapters** are complete, **green and bold** is currently assigned to LPMs

PMP Related Initiatives

Initiatives in Progress

- 1. Modify Existing Contract**
- 2. Unified Standard Specifications**



Task 4 & 5

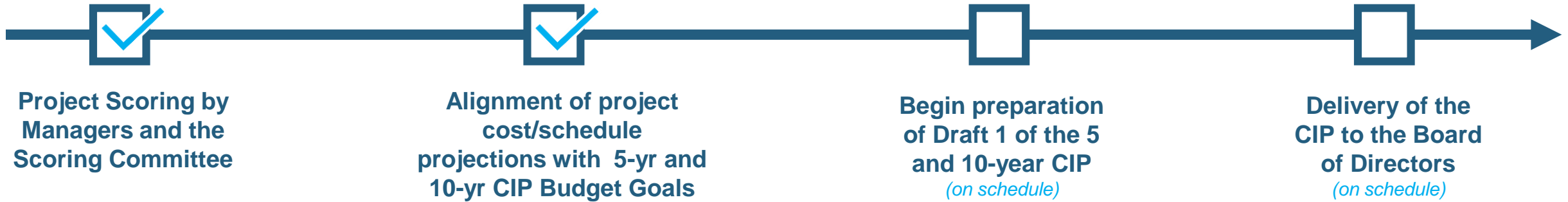
Updates

Task 4 – PMIS Support – ON HOLD

- Recently confirmed PMIS tentative schedule with GLWA IT:
 - Begin preparation for PMIS March 2024
 - Begin implementation of PMIS software expected October 2024

Task 5 – PM Controls and CIP Support

Key CIP Milestones



Ongoing CIP Support Efforts

- Continuing to refine CIP data management tools and build-in lessons learned
- Developing an automated system to prepare CIP Documents and Presentations to Board
- Training GLWA Team Members on the operation and management of CIP tools
- QA/QC of data systems and repositories
- Conducting IT system maintenance

Task 7

Updates

Task 7 – Engineering Support



**Task limited to
two years
following the
5/19/23 start.**



**Wastewater
Projects Only.
Primarily Focused
on 3 Projects**



**Four dedicated
Consultant Staff
over 2 years**

Task 7 – Engineering Support

Task Memorandum No.	Task No. / Subtask	Project Description	CIP No. / O&M	Staff Augmentation / Technical Services	Continuation of Professional Services	Current Completion Date
7-2-006-D	72006D.01	72006D.01-Wastewater Design Manager for COO (Amendment to 7-2-006-C)	O&M	Sham Sihabdeen (0.7 FTE)	Yes	5/19/2025
7-2-007-C	72007C.01	72007C.03-Wastewater Design Manager (Amendment to 7-2-007-B) CIP213004	211006	Sham Sihabdeen (0.7 FTE)	Yes	2/21/2029
7-2-007-C	72007C.03	72007C.03-Wastewater Design Manager (Amendment to 7-2-007-B) CIP213006	213006	Sham Sihabdeen (0.7 FTE)	Yes	2/21/2029
7-2-007-C	72007C.07	72007C.07-Wastewater Design Manager (Amendment to 7-2-007-B) CIP211007	211007	Sham Sihabdeen (0.7 FTE)	Yes	4/02/2026
7-2-016-A	72016A.01	WRRF Aeration Decks 1-2 Improvements Project	212008	Technical Services	Yes	6/20/2027
7-2-019-A	72019A.01	72019A.01-GLWA Baby Creek CSO Easement Study	277001	Technical Services	Yes	1/18/2024
7-2-024-A	72024A.01	72024A.01-Project Management Support for NORESKO Contract No. 2000970, Rehabilitation of Screened Final Effluent (SFE) Pump Station	216008	Edwin Champenois (1 FTE)	Yes	4/15/2025
7-2-024-A	72024A.02	72024A.02-I&C System Replacement at St. Aubin, Seven Mile, and Leib Combined Sewer Overflow CSO Facilities - CIP 260619	260619	Edwin Champenois (1 FTE)	Yes	5/19/2025
7-2-027-A	72027A.01	72027A.01-Advanced Facilities Planning - WRRF - Secondary Clarifier Rehabilitation Project	212008	Technical Services	Yes	6/20/2027

Task 7 - Engineering Support

Task Memorandum No.	Task No. / Subtask	Project Description	CIP No. / O&M	Staff Augmentation / Technical Services	Continuation of Professional Services	Current Completion Date
7-2-028-A	72028A.01	72028A.01-Wastewater Project Manager for O&M Projects - WRRF	O&M	Jared Buzo (1 FTE)	Yes	5/19/2025
7-2-029-A	72029A.02	72029A.02-Wastewater Project Manager for CIP Projects - WRRF - CIP213006	213006	Jared Buzo (1 FTE)	Yes	5/19/2023
7-2-029-A	72029A.03	72029A.03-Wastewater Project Manager for CIP Projects - WRRF - CIP260901	260901	Jared Buzo (1 FTE)	Yes	5/19/2025
7-2-029-A	72029A.04	72029A.04-Wastewater Project Manager for CIP Projects - WRRF - CIP260802	260802	Jared Buzo (1 FTE)	Yes	5/19/2025
7-2-029-A	72029A.05	72029A.05-Wastewater Project Manager for CIP Projects - WRRF - CIP211005.2 PS2 VFD Replacement	211005	Jared Buzo (1 FTE)	Yes	3/22/2026
7-2-029-A	72029A.06	72029A.06-Wastewater Project Manager for CIP Projects - WRRF - CIP211005.3 PS2 Mag Meter Replacement	211005	Jared Buzo (1 FTE)	Yes	3/22/2026
7-2-029-A	72029A.07	72029A.07-Wastewater Project Manager for CIP Projects – WRRF – CIP260905-Plumbing Shop Rehab	260905	Jared Buzo (1 FTE)	Yes	5/19/2025
7-2-033-A	72033A.01	CSO Facilities Improvements II	270006	Josh Windle (1 FTE)	Yes	6/14/2023
7-2-033-A	72033A.02	HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities	270010	Josh Windle (1 FTE)	Yes	9/25/2025
7-2-033-A	72033A.03	WRRF Front Entrance Rehabilitation	260903	Josh Windle (1 FTE)	Yes	6/12/2023
7-2-034-A	72034.01	O&M	O&M	Staff Augmentation / Technical Services	Yes	5/19/2025

Task 9

Updates

Training and Development Support

- Communication tools to support CIP Delivery Team Members through role transition period
- PE/PMI continuing education credits for GLWA Courses
- LPM Annual Goal setting recommendations
- Training Catalog for CIP Delivery Roles (resource tool)

The collage features several key documents:

- CIP Delivery - Change Leader PMP Implementation Sessions:** A document detailing the implementation of the Program Management Plan (PMP) for CIP Delivery, including sections on 'Who needs to attend?', 'How will this be delivered?', and 'What will we be discussing?'.
- Lifecycle Project Manager:** A document outlining the '2023 Growth and Development Pathway' for CIP Delivery. It includes a flowchart with stages: Pre-Assessment and Performance Review, PMP Chapter Review, Change Leader Sessions, Training & Certification, and Implementation & Evaluation.
- Stage 1 FY 2024:** A document detailing the first year of the PMP implementation, with a goal of 'Training and Application' and four specific objectives.

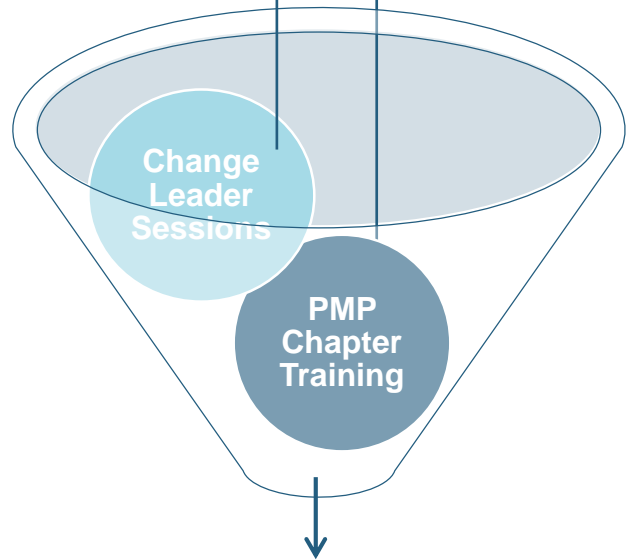
Change Leader Sessions & PMP Training

The HOW:

- Collaborative
- Discuss HOW CIP Roles engage in new processes and procedures
- Mitigate barriers to successful implementation

The WHAT:

- Self-directed
- Read PMP Chapters and view accompanying video, and take and pass exam
- Understand and adopt new processes, tools, forms, and templates



Cross-Functional Team

Desired Objectives

- Provide guidance to determine which new processes, tools, forms, and templates should be applied immediately and which require a planned approach
- Minimize susceptibility of reverting back to old ways of working
- Increase understanding of cross-functional teams and the interdependencies needed for project improvement success
- Discuss actions required to encourage ownership and provide support of new roles and accountabilities

Desired Objectives

- Topic based discussion of who will support and how changes in process, tools, forms, and templates along the phases of a project
- Determine what actions are needed to implement on the current project portfolio

Change Leaders Session 1 - Kickoff




A DIFFERENT SCENARIO ASSIGNED TO EACH GROUP

EACH GROUP CONSISTED OF A CROSS-FUNCTIONAL TEAM MAKEUP

GROUP A (DESIGN REVIEW) :
DURING A DESIGN REVIEW THE OPERATIONS & MAINTENANCE TEAM DISAGREES WITH SOME DESIGN ELEMENTS

Who is involved **today** in the change review?




How early in the process is O&M invited to review the design? What are the challenges if there are design disagreements? And who is responsible for resolving them?

GROUP B (CHANGE REQUEST) :
THE CONTRACTOR REQUESTS A DESIGN CHANGE DEEMED NECESSARY, LENGTHENING THE CONSTRUCTION SCHEDULE BY 1 YEAR

Who is involved **today** in reviewing Change Requests for design or construction scope?




How do you determine if the change is necessary? What considerations are needed if the change is denied?


GROUP C (CONSTRUCTION PROGRESS) :
DURING A REGULARLY SCHEDULED CONSTRUCTION PROGRESS MEETING, AN ITEM IS BROUGHT FORWARD WHERE CONSTRUCTION IS NOT TO CONTRACT

Who is involved **today** in construction reviews?

What do you do to determine if requiring rework or accepting a change is necessary? Who within GLWA should provide input to this decision?

EACH GROUP HAD A SET OF ROLE CARDS HIGHLIGHTING FUTURE ROLE TASKS BUT ASKED TO COMPARE WITH CURRENT DAY SCENARIOS



PROJECT MANAGEMENT (PM)

- Reports to the Leadership team member (LTM)
- Is accountable for defining and maintaining scope, schedule, and budget for assigned projects from inception to completion and closeout
- Works closely with the CIP Delivery Team to ensure that changes to CIP project scope, schedule, or budget are mitigated and budget is met or re-allocated to meet overall plan needs
- Monitors and reports on the status, progress, and costs of projects


See Chapter: 3 4 5 6 7 8
9 10 11 12 13 14



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See Chapter: 3 4 5 6 7 8
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See Chapter: 3 4 5 6 7 8
9 10 11 12 13 14

Change Leaders Session 1 - Kickoff



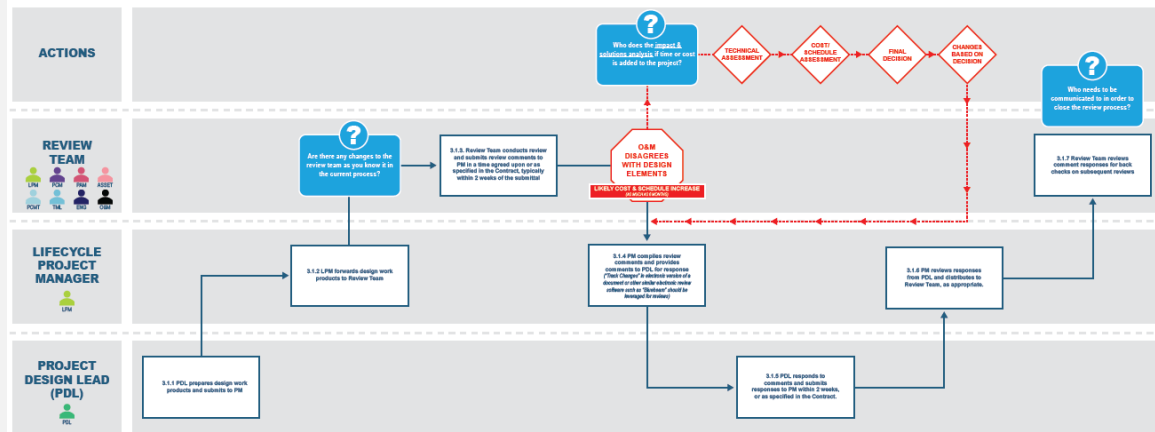
Change Leaders Session 2 – Project Reviews

GIVEN A DESIGN OR CONSTRUCTION PHASE SCENARIO EACH GROUP HAD A SET OF ROLE AND ACTION CARDS TO IDENTIFY CHALLENGES AND OPPORTUNITIES IN IMPLEMENTING THE PROCESS WITHIN CH. 9 & 14

GROUP A DESIGN DELIVERABLE REVIEW

SCENARIO

During a Design Review, the operations and maintenance team disagrees with some design elements. The expected changes in the design would impact the project cost and schedule as much as 6 months.

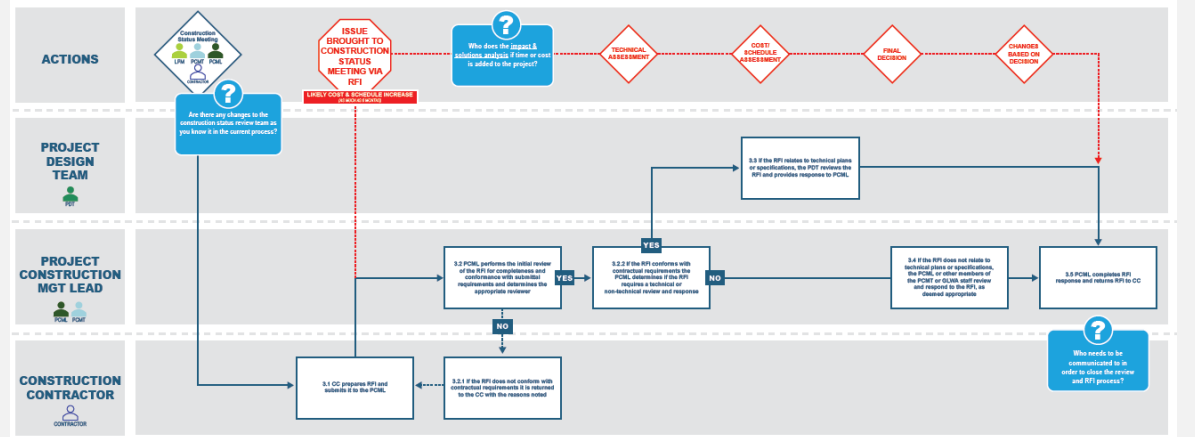


Note: Workflow based on Standard Operating Procedure - 0901 - Design Deliverable Review

GROUP B CONSTRUCTION STATUS MEETING

SCENARIO

During a regularly scheduled construction progress meeting, an item is brought forward in an RFI where construction is not to contract. The contractor requests a design change deemed necessary, lengthening the construction project cost and schedule as much as 6 months.



Note: Workflow based on Standard Operating Procedure - 1404 Request for Information Form



PROJECT MANAGEMENT (LPM)

CIP GROUP CONTROLS MGMT (PCM)

PROCUREMENT (PRC)

CONSTRUCTION MGT LEAD

CONSTRUCTION CONTRACTOR

PROJECT DESIGN TEAM

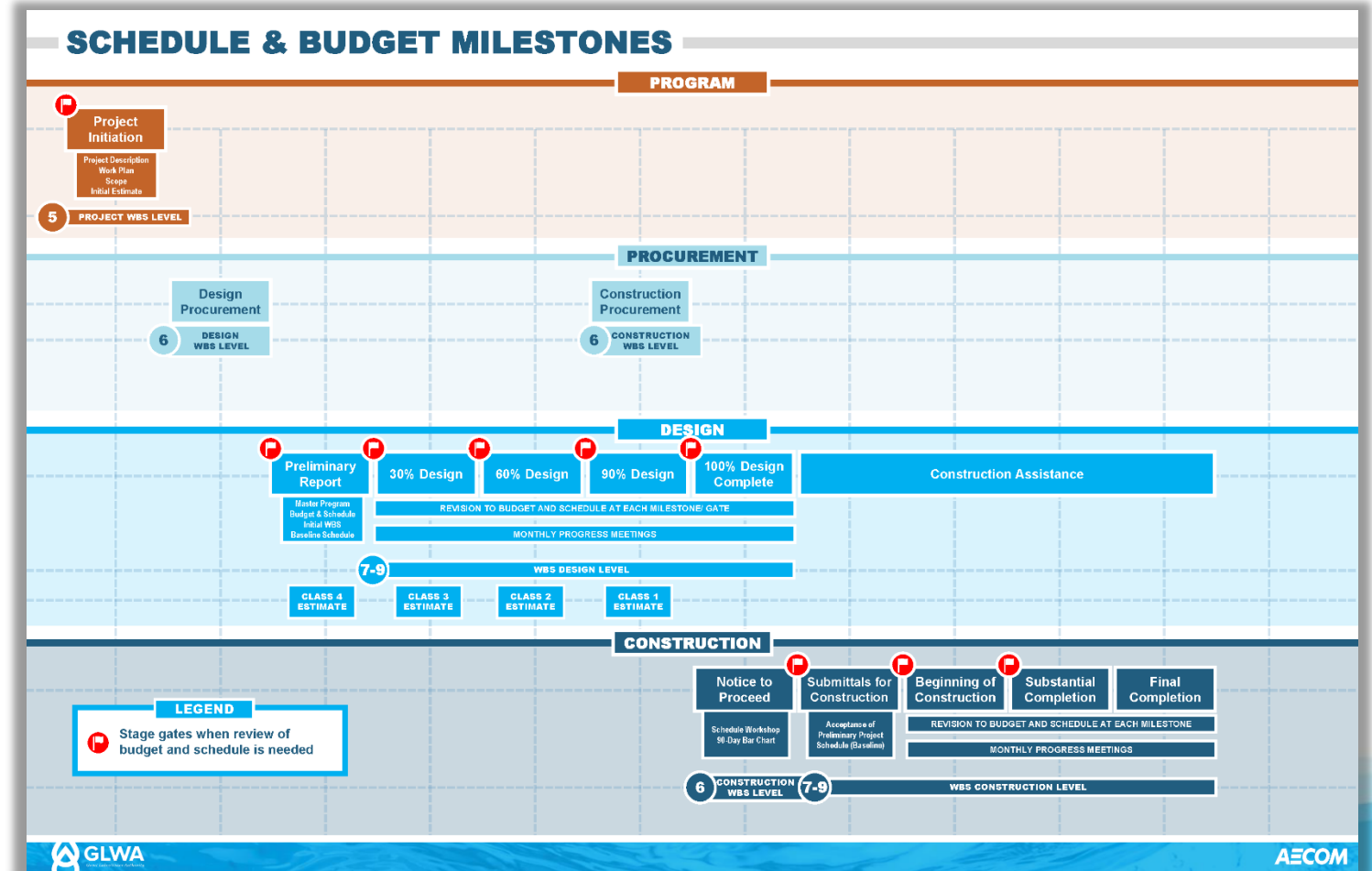
Through discussions about the future state, opportunities for support from CIP Group and Partners was realized especially in analyzing the impacts of the scenario on the project budget/schedule or program.

Change Leaders Session 2 – Project Reviews



Change Leaders Session 3 – Baseline & CPM

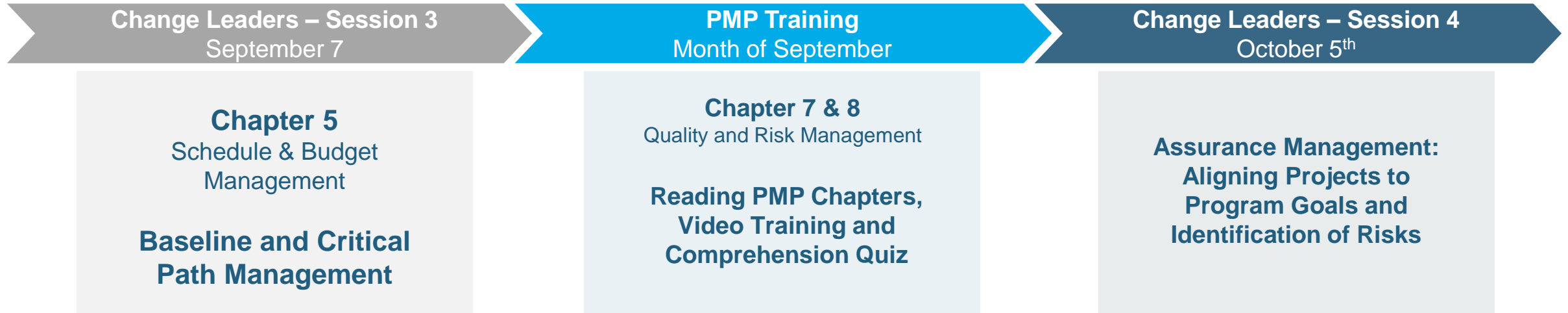
Discuss tools and resources available to assess project baseline change impacts using cost-loaded schedules to support decision-making



Recruiting Support



What is Next?



Scenarios

- Using real project scenarios, the groups will continue the dialogue and apply what has been learned from the PMP training.