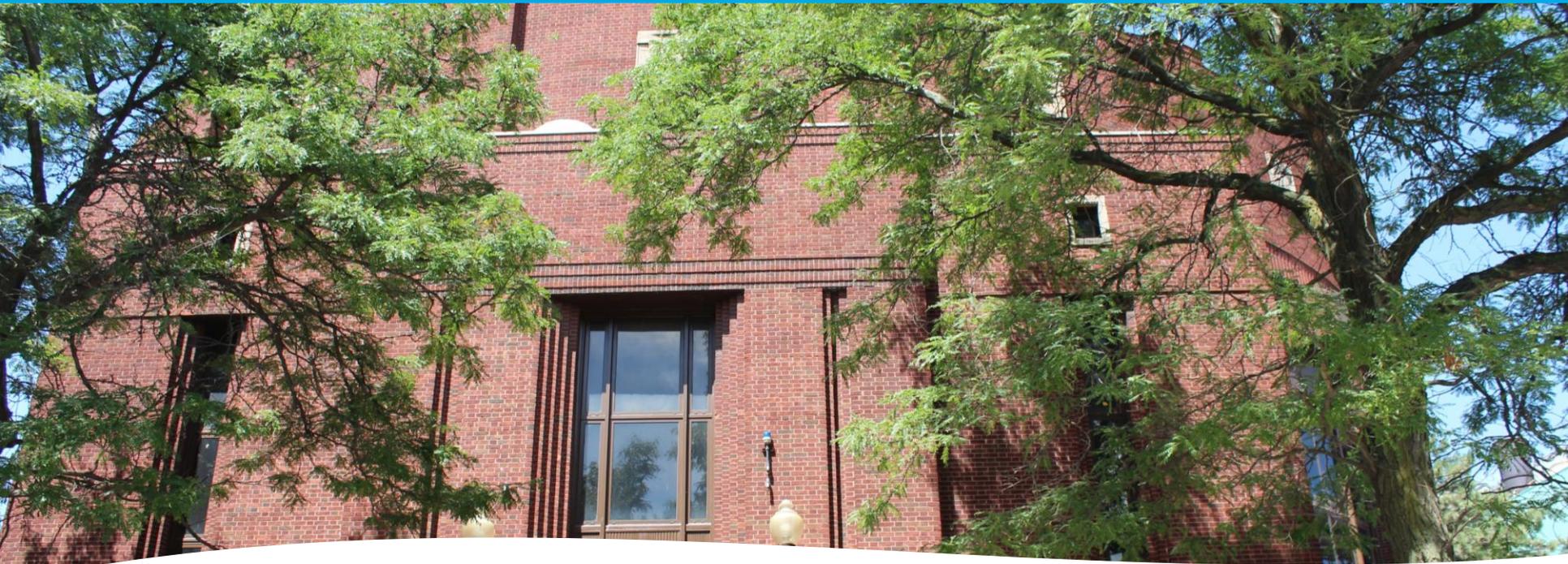




Wastewater Operations CIP Presentation

*Dan Alford, Director of
Wastewater Engineering and
Maintenance*





Capital Improvement Plan (CIP) Project Updates

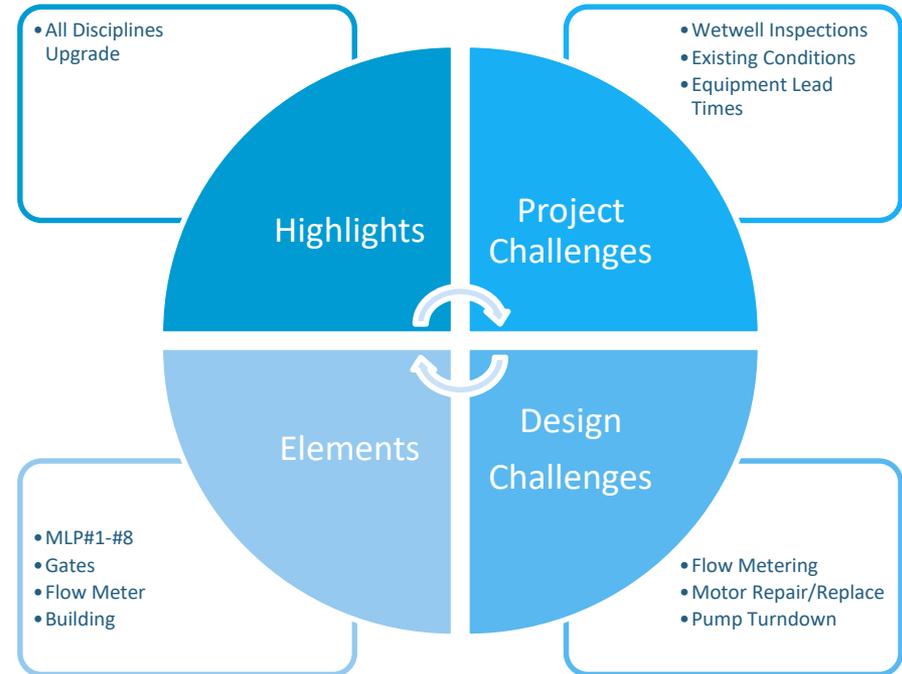
- 211006, PS No. 1 Improvements
- 211007, PS #2 Bar Racks Replacements and Grit Collection System Improvements
- 211009, Rehabilitation of the Circular Primary Clarifier Scum Removal System
- 212007, Rehabilitation of the Secondary Clarifiers
- 212008, Rehabilitation of ILP #1&2 and to Aeration Decks 1&2...
- 213006, Improvements to Sludge Feed Pumps at Dewatering Facilities
- 216011, Structural improvements
- Planning and Construction Projects

CIP Project Update, 211006

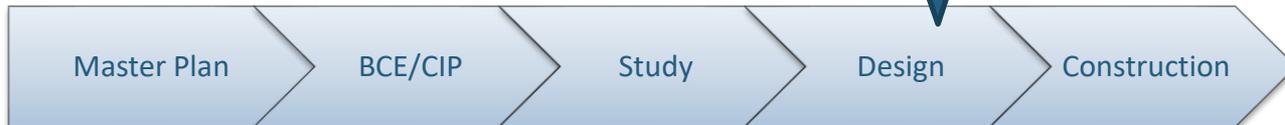
(PS No. 1 Improvements)

☐ Comments

- Main Lift Pump Rehabilitation
- Influent Gate Rehab/Replace
- Effluent Gate Rehabilitation
- Elbow Flow Meter Installation
- Grease Lubrication System
- Entrance/Access Door
- Relocation of Electrical Equipment
- Relocation of SCADA Equipment



We Are Here



January 2022

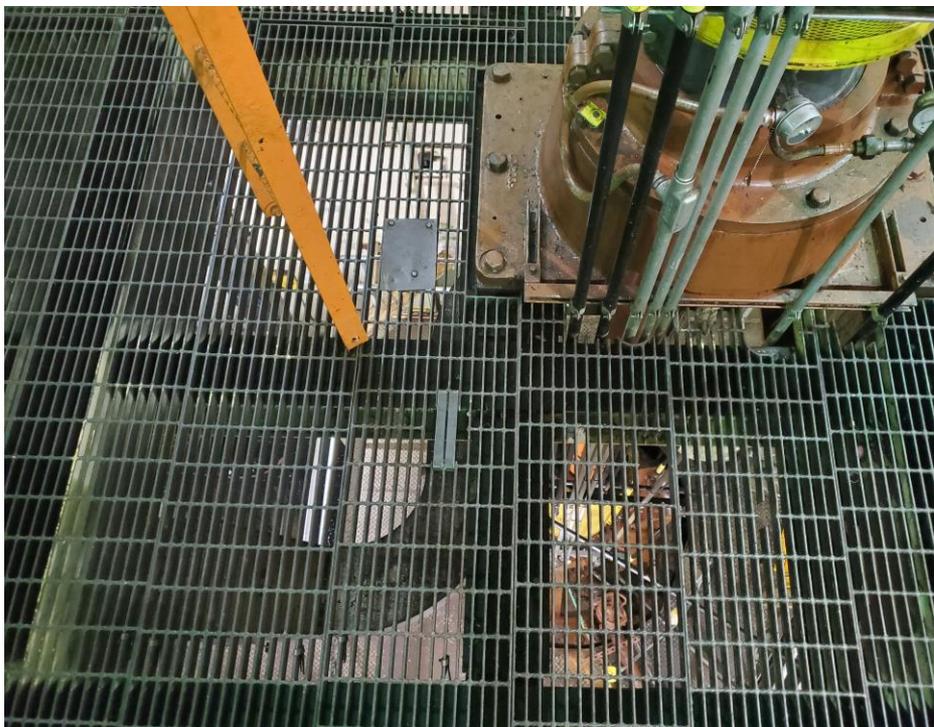
(PS No. 1 Improvements, Cont'd)



(PS No. 1 Improvements, Cont'd)



(PS No. 1 Improvements, Cont'd)

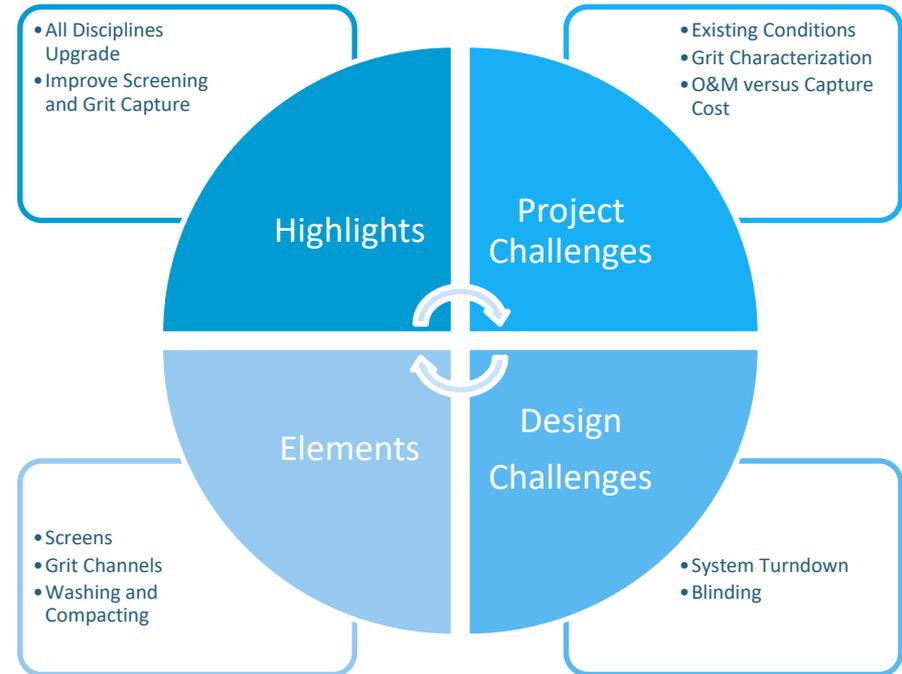


CIP Project Update, 211007

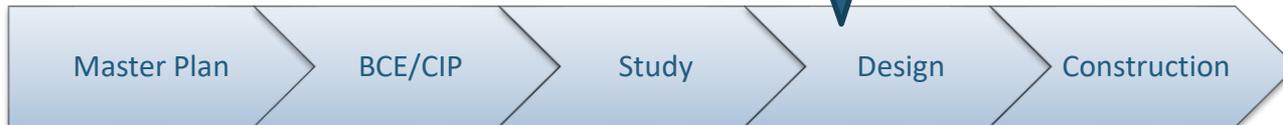
(PS #2 Bar Racks Replacements & Grit Collection System Improvements)

☐ Comments

- Type of Screening Equipment
- Type of screening conveyance
- Vortex Grit Removal Equipment
- Grit Processing (adding PS#1 to loading location)
- Bypass channels



We Are Here



August 2022

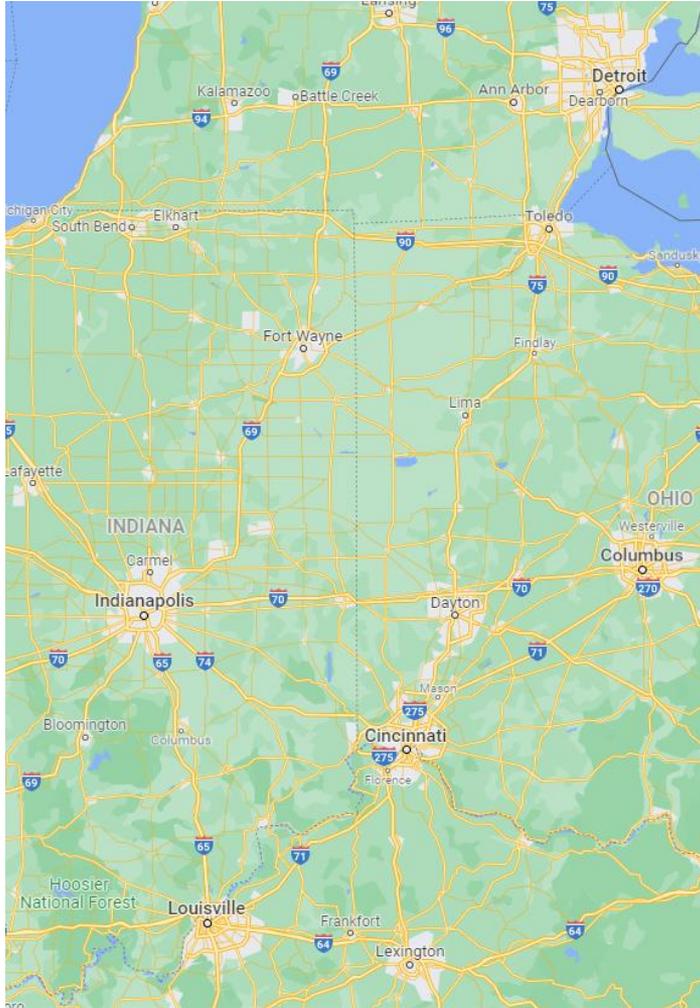
(PS #2 Bar Racks Replacements & Grit Collection System Improvements, Cont'd)



(PS #2 Bar Racks Replacements & Grit Collection System Improvements, Cont'd)



(PS #2 Bar Racks Replacements & Grit Collection System Improvements, Cont'd)



Visit and Virtual Meeting with Monroe, MI and Louisville, KY to see and discuss proposed technology

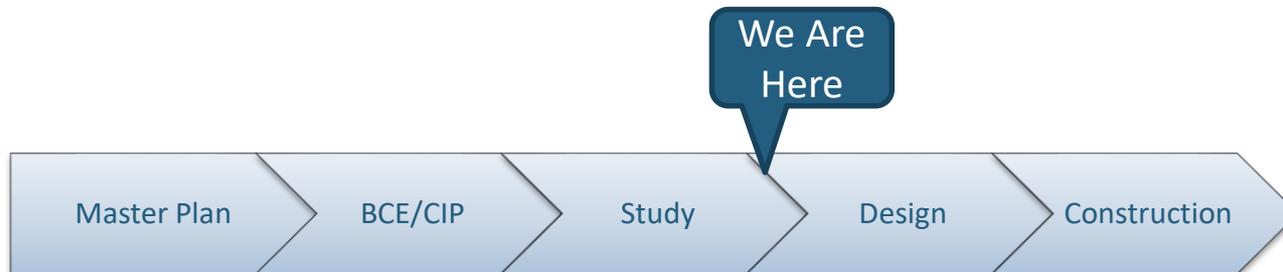
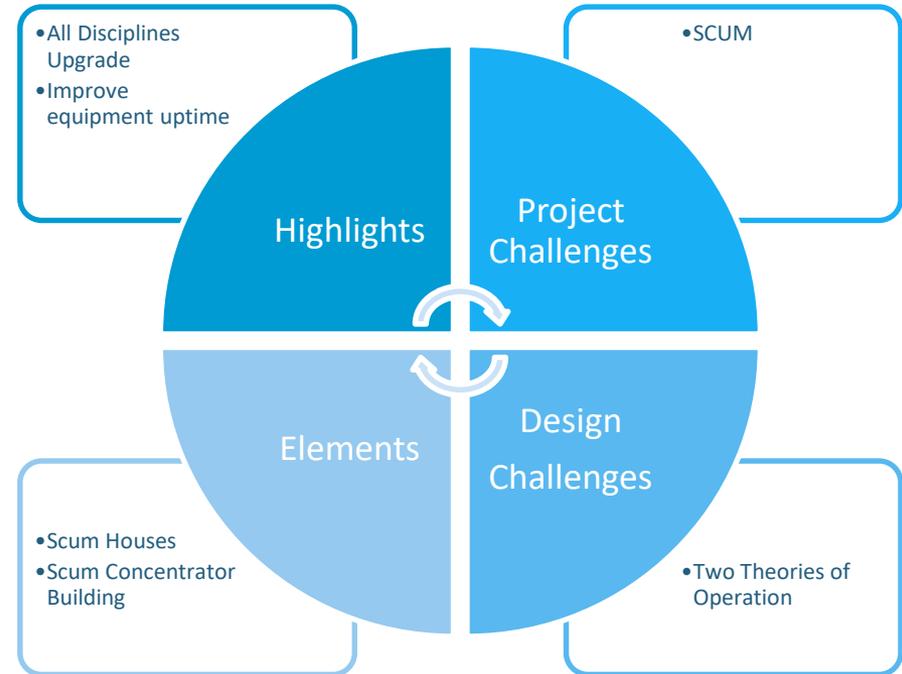


CIP Project Update, 211009

(Rehabilitation of the Circular Primary Clarifier Scum Removal System)

☐ Comments

- Large Amount of Equipment in Existing Process, Difficult to Keep in Operation
- Plugging
- RFP on Bonfire, Bids do on 10/8/2021



Start Design in December 2021

(Rehabilitation of the Circular Primary Clarifier Scum Removal System, Cont'd)



(Rehabilitation of the Circular Primary Clarifier Scum Removal System, Cont'd)

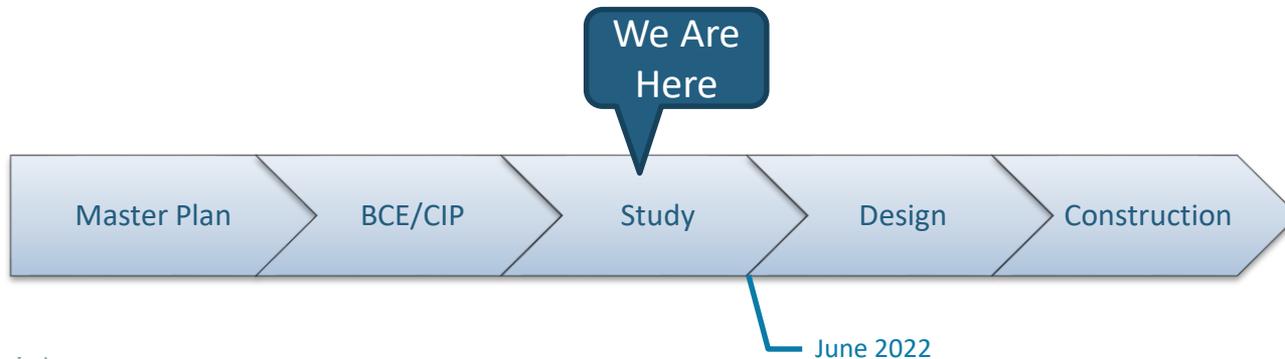
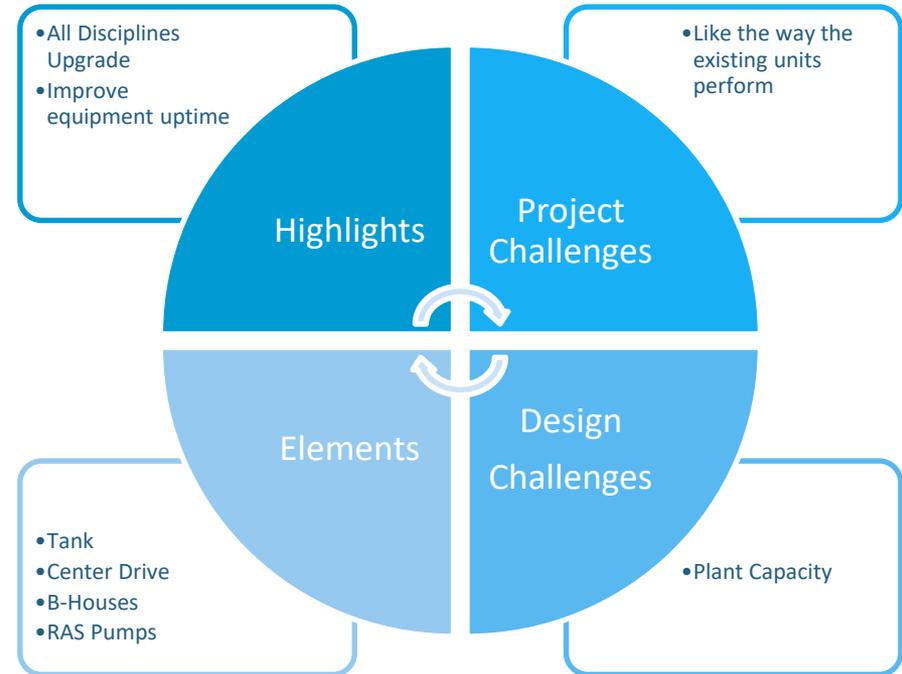


CIP Project Update, 212007

(Rehabilitation of the Secondary Clarifiers)

☐ Comments

- Future Project
- Programmatic Approach
- 25 Clarifiers, Only 1 can be Turned Over to Contractor
- Working with AECOM on RFP



(Rehabilitation of the Secondary Clarifiers, Cont'd)



(Rehabilitation of the Secondary Clarifiers, Cont'd)

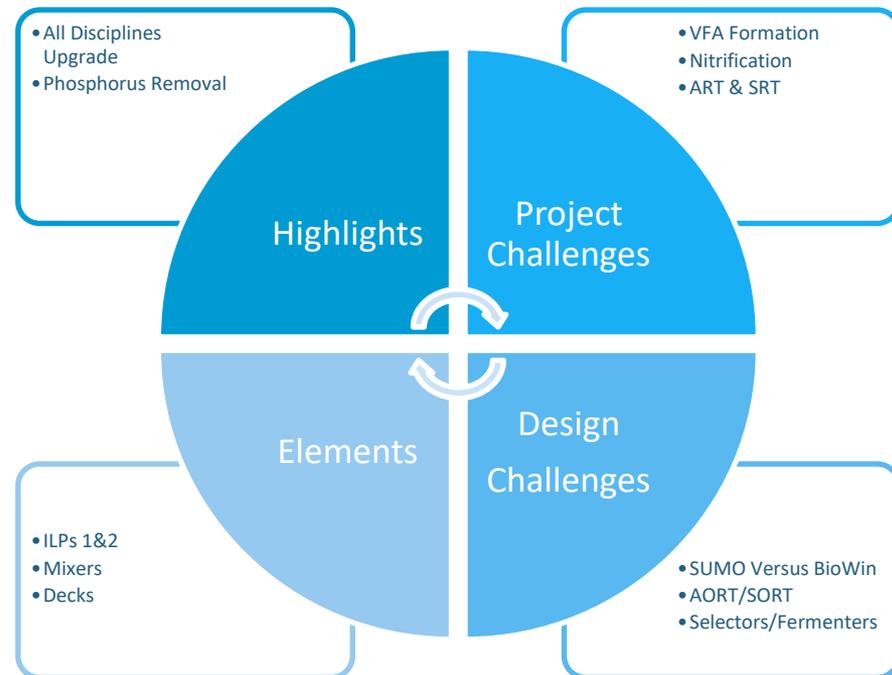


CIP Project Update, 212008

(Rehabilitation of ILPs 1&2 and Modifications to Aeration Decks 1&2 to Incorporate Biological Phosphorus Removal and Step Feed)

☐ Comments

- Working with Consultant, University of Michigan, and University of California Los Angeles
- Primary Effluent Discharge
- Primary Tank Efficiency
- Step Feed / Solids Holdup
- pH Adjustment



We Are Here



(Rehabilitation of ILPs 1&2 and Modifications to Aeration Decks 1&2 to Incorporate Biological Phosphorus Removal and Step Feed, Cont'd)



(Rehabilitation of ILPs 1&2 and Modifications to Aeration Decks 1&2 to Incorporate Biological Phosphorus Removal and Step Feed, Cont'd)

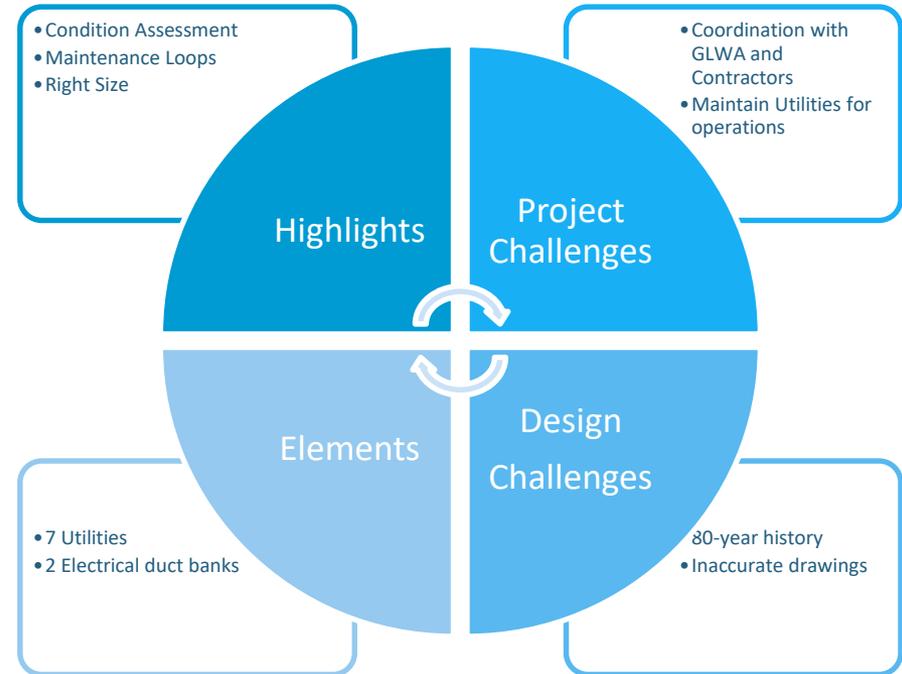


CIP Project Update, 216006

(Assessment and Rehab of WRRF Yard Piping and Underground Utilities)

☐ Comments

- Separated into 2 contracts
 - CMAR
 - Design Engineer
- Surveying
- Excavation for testing access



March 2023

CIP Project Update, 216006

(Assessment and Rehab of WRRF Yard Piping and Underground Utilities)

Utility	Estimated total length (feet)
Potable Water	17,200
Secondary Water	31,200
Screened Final Effluent	11,800
Natural Gas	12,700
Compressed Air	10,300
Steam	3,500
Sewer	55,700
High Voltage Conduit	21,300
Low Voltage Conduit	38,000

CIP Project Update, 216006

(Assessment and Rehab of WRRF Yard Piping and Underground Utilities)

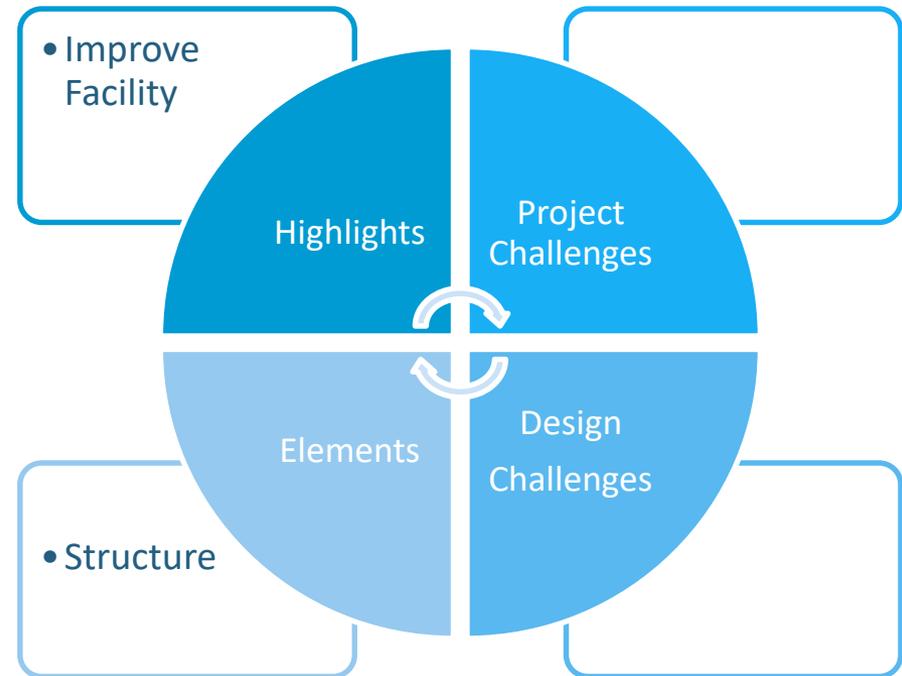


CIP Project Update, 216011

(Structural improvements)

☐ Comments

- Primary Clarifiers #17 and #18
- Aeration
- Sludge Storage Tanks
- Complex B Gravity Thickeners
- Secondary Clarifiers B-Houses
- Administration Building
- Chlorination and Dechlorination



We Are Here



September 2021

(Structural improvements, Cont'd)



(Structural improvements, Cont'd)



Questions?



THANK YOU



GLWA

Great Lakes Water Authority