

CIP

2024-2028

CAPITAL IMPROVEMENT PLAN

Updated January 19, 2023

Approved February 22, 2023

Appendix B:

Wastewater Business Case Evaluation (BCE)

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



Project Title: WRRF Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery**Project Status:** Closed**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** WRRF**Class Lvl 3:** Primary Treatment☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****0**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**

**Project Manager:** Nicolas Nicolas**Director:** Philip Kora**Managing Dept.:** WW Construction Eng**Date Original Business Case Prepared:**
6/23/2005**Year Project Added to CIP:** 1999**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** WRRF**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: WRRF Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery

Problem Statement:

Rehabilitation of primary clarifier rectangular tanks, drain lines, electrical/mechanical building and pipe gallery to meet NPDES Permit and NEC requirements

Scope of Work/Project Alternatives:

The work to be completed under this project will include installing ventilation and atmospheric control for the pipe gallery, providing new lighting and installing a new fire alarm system. Rehabilitation of the twelve rectangular primary clarifiers. Rehabilitation of circular primary clarifiers 15 and 16 is also part of the scope of this project.

Other Important Info:

Challenges: N/A - Active
Project not scored by review committee because it is complete.

Primary Driver: N/A - Active

Driver Explanation:

N/A - Active

Project Title: WRRF Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery

Scoring

Project Manager Weighted Score: 49.6			
Criteria Name	Score	Score Criteria	Comment
Condition	1	A. Asset has >75% of its design service life remaining, D. Does not impact performance, meets all expected future requirements, C. Little to no wear shown and no repairs outside of regular maint., B. Fully operable, well maint'd, up to current standards	
Performance (Service Level/Reliability)	2	G. Moderate redundancy in the area to limit impacts., C. Project moderate to low positive impact on service levels and/or system reliability, B. Overall good performance; will likely meet future requirements, A. Meets all design requirements under normal conditions; up to date	
Regulatory (Environmental/Legal)	1	E. Opinions/experience of O&M staff but not supported by data, B. Low/no impact on specific reg. compliance issues, A. No risk of causing	
Operations and Maintenance	1	B. Equipment/process/pipeline has no failures or non-routine repairs, A. O&M levels are routine;	
Health and Safety	1	C. Staff/public safety/hazard issues not a concern, B. Project minimal positive impact on staff/public H&S; No major hazard issues/concerns to addressed, A. No failure reasonably expected to occur	
Public Benefit	3	E. /stakeholder relationships/confidence in GLWA, D. May not receive media coverage; positive influence on community, B. Project moderate positive impact by supporting member partner growth; measurable impact on community economic development; somewhat likely to impact quality of life & aesthetics; requires mostly new infrastructure; Moderate impact on public/ GLWA image, A. Project part of GLWA strategic plan*, but no new customers	
Financial	5	F. Total financial consequence >\$5,000,000, D. Major positive financial implications >\$5,000,000/ ROI <=5 yrs, B. Project will result in avoidance of fines, litigation, emergency repairs or damage to asset/public.	
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies, B. Low – moderate positive impact on energy use, conservation, environmental responsibility& sustainability i.e. 1-5% energy reduction, D. Little to no time and cost saving	

Project Title: WRRF Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery

Review Committee Weighted Score: 0		
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	

Project Title: WRRF Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/18/2016

Phase Status:

End Date: 1/30/2021

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$799	\$799	\$799	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/18/2016	1/30/2021
Capital Delivery Salary	7/18/2016	1/30/2021

Project Title: WRRF Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 7/18/2016

Phase Status:

End Date: 1/30/2021

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Professional Services	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services	7/18/2016	1/30/2021

Project Title: WRRF Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery

Phase: Design/Engineering (1802474)

Phase Title: Design/Engineering (1802474)

Phase Budget: Wastewater

Start Date: 7/18/2016

Phase Status:

End Date: 12/31/2020

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering (1802474)	\$202	\$202	\$202	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1802474)	7/18/2016	12/31/2020

Project Title: WRRF Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery

Phase: Design/Engineering (CS-1432A)

Phase Title: Design/Engineering (CS-1432A)

Phase Budget: Wastewater

Start Date: 7/1/2016

Phase Status:

End Date: 6/28/2019

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (CS-1432A)	\$51	\$51	\$51	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-1432A)	7/1/2016	6/28/2019

Project Title: WRRF Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery

Phase: Design/Engineering (CS-1484)

Phase Title: Design/Engineering (CS-1484)

Phase Budget: Wastewater

Start Date: 7/1/2016

Phase Status:

End Date: 6/30/2020

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (CS-1484)	\$516	\$516	\$516	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-1484)	7/1/2016	6/30/2020

Project Title: WRRF Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery

Phase: Design/Engineering (CS-291)

Phase Title: Design/Engineering (CS-291)

Phase Budget: Wastewater

Start Date: 1/1/2020

Phase Status:

End Date: 1/31/2020

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (CS-291)	\$1	\$1	\$1	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-291)	1/1/2020	1/31/2020

Project Title: WRRF Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery

Phase: Construction (Build) # 1 (PC-757)

Phase Title: Construction (Build) # 1 (PC-757)

Phase Budget: Wastewater

Start Date: 7/18/2016

Phase Status:

End Date: 1/30/2021

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction (Build) # 1 (PC-757)	\$51,479	\$51,479	\$51,479	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (PC-757)	7/18/2016	1/30/2021

Project Title: WRRF Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery

Phase: Miscellaneous

Phase Title: Miscellaneous

Phase Budget: Wastewater

Start Date: 5/1/2010

Phase Status:

End Date: 6/30/2015

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Miscellaneous	\$1,702	\$1,702	\$1,702	\$0

Phase Dates

Activity Name	Start Date	End Date
Pre-CAFR Actuals	5/1/2010	6/30/2015

Project Title: WRRF Rehabilitation of Primary Clarifiers Rectangular Tanks, Drain Lines, Electrical/Mechanical Building and Pipe Gallery

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$41,055	\$10,848	\$12,097	\$20,990	\$7,968	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,903
2019	\$30,811	\$10,243	\$12,983	\$16,107	\$8,671	\$6,033	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$54,037
2020	\$11,036	\$0	\$25,098	\$18,724	\$7,982	\$3,054	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$54,858
2021	\$3,775	\$0	\$0	\$45,069	\$6,225	\$3,775	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$55,069
2022	\$0	\$0	\$13,124	\$19,970	\$18,091	\$2,876	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$54,061
2023	\$0	\$10,229	\$13,153	\$20,270	\$7,517	\$1,863	\$220	\$0	\$0	\$0	\$0	\$0	\$0	\$54,968

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$54,748,737	\$54,748,737	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

The construction cash flow projection was adjusted based on the latest schedule update/actual progress of work and provided to AECOM team.

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1**Project Status:** Project Execution - Construction**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** WRRF**Class Lvl 3:** Primary Treatment☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☒ **Multiple Phases****Project Score**
0

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**

**Project Manager:** Vinod Sharma**Director:** Philip Kora**Managing Dept.:** WW Construction Eng**Date Original Business Case Prepared:**
4/30/2003**Year Project Added to CIP:** 2003**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** WRRF**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

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.

Primary Driver: N/A - Active

Driver Explanation:

N/A - Active

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

Scoring

Project Manager Weighted Score: 0			
Criteria Name	Score	Score Criteria	Comment
Condition	0		
Performance (Service Level/Reliability)	0		
Regulatory (Environmental/Legal)	0		
Operations and Maintenance	0		
Health and Safety	0		
Public Benefit	0		
Financial	0		
Efficiency and Innovation	0		

Review Committee Weighted Score: 0		
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/20/2010

Phase Status: Project Execution

End Date: 8/20/2023

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source:

Cost Est. Date: 9/17/2018

Cost Est. Prepared By: P. Kora

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$310	\$290	\$285	\$22	\$3	\$0	\$0	\$0	\$0	\$3	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/20/2010	8/20/2023
Capital Delivery Salary	7/20/2010	8/20/2023

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 7/20/2010**Phase Status:****End Date:** 8/20/2023

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Professional Services	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services	7/20/2010	8/20/2023

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

Phase: Design & Construction Assistance # 1 (CS-255)

Phase Title: CS-1444 Pump Station No. 2 Pumping Improvements

Phase Budget: Wastewater **Start Date:** 7/20/2010

Phase Status: Project Execution **End Date:** 3/31/2021

Phase Comments/Description:

Cost Est. Class: Class 2

Cost Est. Source:

Cost Est. Date: 10/2/2017

Cost Est. Prepared By: Ali Khraizat

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design & Construction Assistance # 1 (CS-255)	\$157	\$157	\$157	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-255)	7/20/2010	3/31/2021

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

Phase: Design/Engineering (CS-1444)**Phase Title:** Design/Engineering (CS-1444)

Phase Budget: Wastewater**Start Date:** 7/1/2015**Phase Status:****End Date:** 6/29/2018

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (CS-1444)	\$64	\$64	\$64	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-1444)	7/1/2015	6/29/2018

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

Phase: Design/Engineering (MISC)**Phase Title:** Design/Engineering (MISC)

Phase Budget: Wastewater**Start Date:** 7/1/2015**Phase Status:****End Date:** 6/30/2016

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (MISC)	\$20	\$20	\$20	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (MISC)	7/1/2015	6/30/2016

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

Phase: Design/Engineering (1900318)**Phase Title:** Design/Engineering (1900318)

Phase Budget: Wastewater**Start Date:** 10/4/2021**Phase Status:****End Date:** 6/30/2023

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (1900318)	\$140	\$68	\$65	\$75

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1900318)	10/4/2021	6/30/2023

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

Phase: Construction (Build) # 1 (PC-795)

Phase Title: PC-795, Pump Station No. 2 Pumping Improvements

Phase Budget: Wastewater **Start Date:** 10/17/2016

Phase Status: Project Execution **End Date:** 8/20/2023

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Contract

Cost Est. Date: 7/31/2019

Cost Est. Prepared By: PMA

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction (Build) # 1 (PC-795)	\$2,971	\$2,044	\$2,044	\$766	\$161	\$0	\$0	\$0	\$0	\$161	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (PC-795)	10/17/2016	8/20/2023

Project Title: WRRF PS No. 2 Pumping Improvements - Phase 1

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$1,920	\$1,157	\$1,304	\$616	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,533
2019	\$3,075	\$109	\$599	\$2,454	\$621	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,783
2020	\$1,222	\$0	\$322	\$2,268	\$1,222	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,812
2021	\$0	\$0	\$0	\$1,912	\$1,860	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,772
2022	\$0	\$0	\$215	\$1,589	\$210	\$1,326	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,340
2023	\$0	\$80	\$215	\$1,589	\$102	\$504	\$946	\$0	\$0	\$0	\$0	\$0	\$0	\$3,463

Reporting Period 49: Ending FY23 M04 Oct

Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$3,661,732	\$2,634,215	\$862,623	\$164,893	\$0	\$0	\$0	\$0	\$164,893	\$0

Description of CIP Changes:

The project is delayed because of the field performance issues associated with new pump # 11.

Project Title: WRRF PS No. 2 Improvements Phase II

Project Status: Future Planned - Within Five Year Plan

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Primary Treatment

☐ **Project New to CIP**

☐ **Useful Life > 20 Yrs**

☒ **Multiple Phases**

Project Score

77.4

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☒ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



Main Raw Sewage Pumps at Pump Station 2

Project Manager: Chris Wilson

Director: Chris Nastally

Managing Dept.: WW Design Eng

Date Original Business Case Prepared:
7/27/2016

Year Project Added to CIP: 2014

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **From Program?**

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ **Is a Predecessor Project?**

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: WRRF PS No. 2 Improvements Phase II**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, I&C Improvements (i.e. automation, etc.), structural, architectural and electrical improvement and design for recommendations made by the study report. The services during construction will include construction assistance, such as reviewing shop drawings, responding to RFIs and attending progress meetings. Construction will follow after the completion of design.

This project has 2 other phases in it. Phase 2 is to replace the VFD's for the stormwater pumps for PS#2 - In design currently.
Phase 3 is to replace the Mag Meters for PS#2 - in design currently.

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 provided better pumping capacity. The VFDs for five (5) pumps were also replaced in 2005 under PC-744 contract.

A new impeller was installed on Pump No. 9 and a rebuilt impeller was installed on Pump No. 16 in 2008, which provided sufficient improvements in pumping capacity. DWSD initiated a CS-1444/PC-795 PS-2 Pumping Improvements project to rehabilitate Pump No. 11 and Pump No. 14 to solidify the long-term wet weather capacity of 1700 MGD.

It was recommended to rehabilitate the remaining pumps with energy efficient, and more reliable control systems that require less maintenance.

Primary Driver: 2 - Performance

Driver Explanation:

The advantage of rehabilitating Pump Station No. 2 is to increase the long-term rated capacity, operational efficiency, and reliability of the pumping system. Replacement of the existing VFDs and adding new VFDs to constant speed pumps would also provide benefit.

Project Title: WRRF PS No. 2 Improvements Phase II

Scoring

Project Manager Weighted Score: 77.4			
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life	
Performance (Service Level/Reliability)	4	E. Not doing the project frequent and repetitive service interruption and/or reliability issues†	
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,, C. Canceling project risk of non-compliance in near term; potential permit violations; regulatory scrutiny; sig. measurable negative environmental impact to wide area	
Operations and Maintenance	3	A. Moderate levels of O/M will keep mean times between failures frequent but tolerable; Repairs total >=20%original value, E. Reduction (25% to 49%) in reactive maintenance	
Health and Safety	4	C. Canceling project continue to pose significant staff/public safety/hazard issues, some potential for significant injury and significant regulatory violations (i.e. OSHA).	
Public Benefit	3	F. Canceling project moderate chance of moderate neg. publicity	
Financial	2	C. Low positive impact on resource capacity	
Efficiency and Innovation	2	D. Little to no time and cost saving	

Review Committee Weighted Score: 77.4		
Criteria Name	Score	Comment
Condition	5	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	3	Scores carried over from previous year
Financial	2	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: WRRF PS No. 2 Improvements Phase II**Phase:** GLWA Salaries**Phase Title:** GLWA Salaries**Phase Budget:** Wastewater**Start Date:** 2/20/2022**Phase Status:** Project Execution**End Date:** 6/3/2039**Phase Comments/Description:****Cost Est. Class:** Class 5**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group**Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$704	\$0	\$0	\$28	\$43	\$42	\$42	\$42	\$43	\$212	\$212

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	2/20/2022	6/3/2039
Capital Delivery Salary	2/20/2022	6/3/2039

Project Title: WRRF PS No. 2 Improvements Phase II

Phase: Professional Services**Phase Title:** Professional Services - CS-272 - 72007B.01 / 72014A.01 / 72029A.05 / 72029A.06 - AECOM

Phase Budget: Wastewater**Start Date:** 9/23/2019**Phase Status:** Project Execution**End Date:** 5/19/2023

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 2/1/2022**Cost Est. Prepared By:** AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$69	\$36	\$15	\$54

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72007B.01 / 72014A.01 / 72029A.05 / 72029A.06)	9/23/2019	5/19/2023

Project Title: WRRF PS No. 2 Improvements Phase II

Phase: Design/Engineering

Phase Title: Design / Construction Assistance - TBD

Phase Budget: Wastewater

Start Date: 12/2/2029

Phase Status: Future Planned Start

End Date: 6/3/2039

Phase Comments/Description:

Cost Est. Class: Class 2

Cost Est. Source: WWE

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: WWE

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$9,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,176

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	12/2/2029	6/3/2039

Project Title: WRRF PS No. 2 Improvements Phase II**Phase:** Design/Engineering (Phase #2)**Phase Title:** Design / Construction Assistance - 2103338 - HDR**Phase Budget:** Wastewater**Start Date:** 2/21/2022**Phase Status:** Project Execution**End Date:** 2/20/2026**Phase Comments/Description:**

Concerns with progress and notice to cure was issued to HDR.

Cost Est. Class: Class 1**Cost Est. Source:** HDR**Cost Est. Date:** 2/21/2022**Cost Est. Prepared By:** HDR**Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	5 Year Total
Design/Engineering (Phase #2)	\$428	\$0	\$0	\$64	\$114	\$152	\$98	\$363

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (Phase #2)	2/21/2022	2/20/2026

Project Title: WRRF PS No. 2 Improvements Phase II**Phase:** Design/Engineering (Phase #3)**Phase Title:** Design/Engineering / Construction Assistance - CS-272 - AECOM**Phase Budget:** Wastewater**Start Date:** 2/20/2022**Phase Status:** Project Execution**End Date:** 5/15/2023**Phase Comments/Description:****Cost Est. Class:** Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 2/20/2022**Cost Est. Prepared By:** AECOM**Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (Phase #3)	\$90	\$0	\$0	\$90

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (Phase #3)	2/20/2022	5/15/2023

Project Title: WRRF PS No. 2 Improvements Phase II

Phase: Construction (Build) # 1

Phase Title: Construction (Build) # 1 - PS2 Improvements Ph II

Phase Budget: Wastewater

Start Date: 12/4/2032

Phase Status: Future Planned Start

End Date: 6/3/2039

Phase Comments/Description:

Cost Est. Class: Class 2

Cost Est. Source: WWE

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: WWE

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction (Build) # 1	\$60,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,284

Phase Dates

Activity Name	Start Date	End Date
Construction (Ph 1)	12/4/2032	6/3/2039

Project Title: WRRF PS No. 2 Improvements Phase II**Phase:** Pump Station #2 VFD Replacement**Phase Title:** Pump Station #2 VFD Replacement**Phase Budget:** Wastewater**Start Date:** 3/13/2024**Phase Status:** Active - Pre-Procurement**End Date:** 2/20/2026**Phase Comments/Description:****Cost Est. Class:** Class 2**Cost Est. Source:** HDR**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** HDR**Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	5 Year Total
Pump Station #2 VFD Replacement	\$7,000	\$0	\$0	\$0	\$1,085	\$3,599	\$2,317	\$7,000

Phase Dates

Activity Name	Start Date	End Date
Construction (Ph 2)	3/13/2024	2/20/2026

Project Title: WRRF PS No. 2 Improvements Phase II

Phase: Pump Station #2 Mag Meter Replacement for Raw Sewage Pumps

Phase Title: Pump Station #2 Mag Meter Replacement for Raw Sewage Pumps

Phase Budget: Wastewater **Start Date:** 1/2/2023

Phase Status: Active - Pre-Procurement **End Date:** 7/1/2025

Phase Comments/Description:

Cost Est. Class: Class 2

Cost Est. Source: AECOM

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	5 Year Total
Pump Station #2 Mag Meter Replacement for Raw Sewage Pumps	\$1,000	\$0	\$0	\$197	\$401	\$400	\$1	\$803

Phase Dates

Activity Name	Start Date	End Date
Construction (Ph 3)	1/2/2023	7/1/2025

Project Title: WRRF PS No. 2 Improvements Phase II

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$10,800	\$600	\$1,700	\$4,800	\$3,700	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,800
2019	\$19,025	\$7	\$0	\$515	\$115	\$9,294	\$9,101	\$3,055	\$0	\$0	\$0	\$0	\$22,087
2020	\$10,674	\$0	\$0	\$0	\$684	\$711	\$611	\$8,668	\$10,925	\$0	\$0	\$0	\$21,599
2021	\$3,665	\$0	\$1	\$0	\$0	\$0	\$471	\$2,245	\$949	\$30,384	\$0	\$0	\$34,050
2022	\$923	\$0	\$1	(\$1)	\$10	\$0	\$0	\$0	\$461	\$461	\$2,545	\$2,544	\$13,797
2023	\$7,000	\$0	\$0	\$0	\$2	\$0	\$0	\$2,333	\$2,333	\$2,333	\$0	\$2,000	\$67,002

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$78,290,390	\$14,864	\$433,535	\$1,642,063	\$4,193,150	\$2,458,225	\$42,411	\$42,527	\$8,378,376	\$12,672,768

Description of CIP Changes:

Added additional detail and re-scored project

Project Title: WRRF PS No. 1 Improvements

Project Status: Active - Pre-Procurement
- Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Primary Treatment

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☒ Multiple Phases

Project Score

78.6

- ☒ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☒ Wet Weather Resiliency
- ☒ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☒ Treatment



Pump Station 1

Project Manager: Kashmira Patel

Director: Chris Nastally

Managing Dept.: WW Design Eng

Date Original Business Case Prepared:
4/13/2017

Year Project Added to CIP: 2016

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ From Program?

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: WRRF PS No. 1 Improvements

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 study/design work will identify all major parts including impellers and wear rings to be refurbished for each pump and all related appurtenances. The construction services will provide rehabilitation or replacement as determined in the study and design along with the sequencing of pump shutdown throughout the rehabilitation period. Investigation and evaluation of all the inlet and outlet gates, associated actuators, Motor Control Centers (MCCs), HVAC system, Control System and provide recommendation and design for rehabilitation or replacement is also part of the scope.

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 pump out of service) of 1,225 MGD during wet weather event. Influent Pumping Station No. 2 (PS-2) has eight raw sewage pumps with a Firm Capacity of 805 MGD during wet weather event. The pumps at PS-1 were rehabilitated in 2004 and 2005.

Primary Driver: 1 - Condition

Driver Explanation:

The station has exceeded its service life and should be rehabilitated. The station plays a key role in plant operations and if left untouched would decrease the ability for the plant to process wastewater.

Project Title: WRRF PS No. 1 Improvements

Scoring

Project Manager Weighted Score: 79.2			
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life, C. High risk of breakdown or imminent failure with serious impact on performance, D. Immediate replacement or rehabilitation required, F. Replace. or major rehab needed immediately	
Performance (Service Level/Reliability)	4	B. High risk of performance failure; doesn't meet future requirements, D. Project will have a significant positive impact on service levels and/or system reliability; related to GLWA strategic goals*, E. Not doing the project frequent and repetitive service interruption and/or reliability issues†	
Regulatory (Environmental/Legal)	4	B. Project not part of mandated or enforceable program, but directly related to know expected future requirements; will increase compliance, C. Canceling project risk of non-compliance in near term; potential permit violations; regulatory scrutiny; sig. measurable negative environmental impact to wide area	
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	
Health and Safety	4	C. Canceling project continue to pose significant staff/public safety/hazard issues, some potential for significant injury and significant regulatory violations (i.e. OSHA).	
Public Benefit	3	A. Project part of GLWA strategic plan*, but no new customers	
Financial	3	B. Securing of grants or other external funding that cover 1-10% of project costs.	Trying to get SRF funding
Efficiency and Innovation	3	A. Project attempts to right-size system; small operational efficiencies and increasing revenue/savings, B. Moderate positive impact on Energy use conservation i.e. 10-20% energy reduction; Water use, effluent reuse; Business process optimization, process efficiency for a more robust system and less O&M; time & cost savings	

Review Committee Weighted Score: 78.6		
Criteria Name	Score	Comment
Condition	5	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	3	Scores carried over from previous year
Financial	2	Scores carried over from previous year
Efficiency and Innovation	3	Scores carried over from previous year

Project Title: WRRF PS No. 1 Improvements

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 5/2/2019

Phase Status: Future Planned Start

End Date: 12/10/2029

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: n/a

Cost Est. Date: 7/29/2022

Cost Est. Prepared By: n/a

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$828	\$120	\$112	\$75	\$100	\$99	\$99	\$99	\$100	\$498	\$144

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	5/2/2019	12/10/2029
Capital Delivery Salary	5/2/2019	12/10/2029

Project Title: WRRF PS No. 1 Improvements

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 9/23/2019**Phase Status:** Project Execution**End Date:** 5/19/2023

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** n/a**Cost Est. Date:** 7/29/2022**Cost Est. Prepared By:** n/a

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$179	\$136	\$136	\$43

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72007A.02 / 72007B.02 / 72007B.07 / 72021A.01 / 72029A.01)	9/23/2019	5/19/2023

Project Title: WRRF PS No. 1 Improvements

Phase: Design/Engineering (CS-102)

Phase Title: Design/Engineering (CS-102)

Phase Budget: Wastewater

Start Date: 5/2/2019

Phase Status:

End Date: 12/10/2029

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering (CS-102)	\$12,612	\$5,807	\$5,720	\$506	\$1,046	\$1,043	\$1,043	\$1,043	\$1,046	\$5,223	\$1,163

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-102)	5/2/2019	12/10/2029

Project Title: WRRF PS No. 1 Improvements

Phase: Design/Engineering (1900318)**Phase Title:** Design/Engineering (1900318)

Phase Budget: Wastewater**Start Date:** 2/17/2020**Phase Status:****End Date:** 10/14/2021

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (1900318)	\$50	\$50	\$47	\$4

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1900318)	2/17/2020	10/14/2021

Project Title: WRRF PS No. 1 Improvements

Phase: Construction (Build) # 1**Phase Title:** Rehabilitation of Main Lift Pumps at Pump Station No. 1

Phase Budget: Wastewater **Start Date:** 4/15/2023**Phase Status:** Future Planned Start **End Date:** 2/26/2029

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction (Build) # 1	\$73,922	\$1,013	\$0	\$3,630	\$12,440	\$12,406	\$12,406	\$12,406	\$12,440	\$62,100	\$8,192

Phase Dates

Activity Name	Start Date	End Date
Construction	4/15/2023	2/26/2029

Project Title: WRRF PS No. 1 Improvements

Phase: Equipment/Material Purchase # 1**Phase Title:** Construction (Build) # 2

Phase Budget: Wastewater**Start Date:** 1/1/2023**Phase Status:****End Date:** 12/31/2023

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	5 Year Total
Equipment/Material Purchase # 1	\$1,101	\$0	\$0	\$546	\$555	\$555

Phase Dates

Activity Name	Start Date	End Date
Construction - Materials / Equipment Purchase #1 (HVAC) (2200373)	1/1/2023	12/31/2023

Project Title: WRRF PS No. 1 Improvements**Phase:** Equipment/Material Purchase # 2**Phase Title:** Construction (Build) # 3**Phase Budget:** Wastewater**Start Date:** 1/1/2023**Phase Status:****End Date:** 12/31/2023**Phase Comments/Description:****Cost Est. Class:****Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:****Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	5 Year Total
Equipment/Material Purchase # 2	\$3,377	\$0	\$0	\$1,675	\$1,702	\$1,702

Phase Dates

Activity Name	Start Date	End Date
Construction - Materials / Equipment Purchase #2 (Valves) (2200368)	1/1/2023	12/31/2023

Project Title: WRRF PS No. 1 Improvements

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$13,129	\$600	\$5,350	\$5,125	\$2,054	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$13,129
2019	\$23,401	\$0	\$500	\$1,800	\$2,462	\$9,394	\$9,245	\$719	\$0	\$0	\$0	\$0	\$24,120
2020	\$21,733	\$0	\$498	\$1,803	\$2,325	\$8,424	\$8,370	\$811	\$84	\$0	\$0	\$0	\$22,315
2021	\$25,841	\$0	\$6	\$929	\$645	\$551	\$8,532	\$12,772	\$3,341	\$0	\$0	\$0	\$26,776
2022	\$33,815	\$0	\$6	\$1,278	\$623	\$3,061	\$7,987	\$8,009	\$7,199	\$7,559	\$21,461	\$11,526	\$68,709
2023	\$48,646	\$0	\$6	\$1,278	\$2,207	\$600	\$8,100	\$10,136	\$10,136	\$10,136	\$10,136	\$10,136	\$70,042

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$92,068,833	\$6,014,644	\$6,478,050	\$15,843,863	\$13,549,276	\$13,549,276	\$13,549,276	\$13,586,398	\$70,078,093	\$9,498,048

Description of CIP Changes:

Refined construction cost and schedule based on Design Decisions

Project Title: WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

Project Status: Project Execution - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Primary Treatment

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

75.7

- ☒ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☒ Wet Weather Resiliency
- ☒ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☒ Treatment



Pump Station 2, Grit channels

Project Manager: Jason Williams

Director: Chris Nastally

Managing Dept.: WW Design Eng

Date Original Business Case Prepared:
10/12/2016

Year Project Added to CIP: 2016

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ From Program?

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

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 improve the performance of all downstream processes, reduce maintenance costs and extend life of downstream equipment.

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 handling and load out, including all lighting, HVAC, plumbing, electrical, and architectural work. New instrumentation and controls for operations and monitoring will also be provided. System shall be designed to meet long-term wet weather capacity requirements at PS #2.

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 project through this CIP project will proceed.

Challenges: Maintaining the MDEQ-NPDES required capacity during the construction.

Project History: The Pump Station No. 2 Rack and Grit Collection system have been in service for almost twenty years and is near the end of its useful life. Transport of collected screenings has been an ongoing problem as rags and other floatable materials are not screened thoroughly.

HVAC system was found to be in good condition but needs some rehabilitation.

Modifications are needed to the existing Grit removal system because of the draining issues. Grit Chambers cannot be emptied due to clogged drains.

Grit carry over causes deterioration of the downstream process and equipment

Rehabilitation/Replacement of screening belt since and rehabilitation of Grit Channel Drain Gate stems is needed.

The bar screen foundations, screen frames, and conveyance chutes in PS-2 have been in service for approximately twenty years.

Primary Driver: 2 - Performance

Driver Explanation:

Plant operations report on the failure of shear pins and accelerated wearing and breaking of the bar racks causing downtime for the maintenance and violation of the permit

Project Title: WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

Scoring

Project Manager Weighted Score: 76.6			
Criteria Name	Score	Score Criteria	Comment
Condition	3	C. May have minor failures or diminished efficiency; some performance deterioration, D. Moderate renewal or rehab needed in short term	
Performance (Service Level/Reliability)	4	D. Project will have a significant positive impact on service levels and/or system reliability; related to GLWA strategic goals*	
Regulatory (Environmental/Legal)	4	B. Project not part of mandated or enforceable program, but directly related to know expected future requirements; will increase compliance	
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	
Health and Safety	3	A. Failure not catastrophic, has moderate chance of occurring; failure may be mitigated to minimize safety/health/environmental impacts	
Public Benefit	3	A. Project part of GLWA strategic plan*, but no new customers	
Financial	3	A. Implementing the project will generate moderate increase revenue or savings for GLWA., B. Securing of grants or other external funding that cover 1-10% of project costs.	Trying to get SRF Funding
Efficiency and Innovation	3	B. Moderate positive impact on Energy use conservation i.e. 10-20% energy reduction; Water use, effluent reuse; Business process optimization, process efficiency for a more robust system and less O&M; time & cost savings	

Review Committee Weighted Score: 75.7		
Criteria Name	Score	Comment
Condition	3	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	3	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 6/1/2020

Phase Status: Future Planned Start

End Date: 3/3/2030

Phase Comments/Description:

Cost Est. Class: Class 4

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$848	\$59	\$54	\$76	\$108	\$107	\$107	\$107	\$108	\$538	\$180

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	6/1/2020	3/3/2030
Capital Delivery Salary	6/1/2020	3/3/2030

Project Title: WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 8/17/2020**Phase Status:****End Date:** 12/31/2020

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$95	\$95	\$95	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72021A.02)	8/17/2020	12/31/2020

Project Title: WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

Phase: Design/Engineering (1904337)

Phase Title: Design/Engineering (1904337)

Phase Budget: Wastewater

Start Date: 6/1/2020

Phase Status:

End Date: 3/3/2030

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering (1904337)	\$11,307	\$5,694	\$5,169	\$2,158	\$218	\$663	\$663	\$663	\$665	\$2,871	\$1,110

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1904337)	6/1/2020	3/3/2030

Project Title: WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

Phase: Construction (Build) # 1

Phase Title: Replacement of Bar Racks at Pump Station No.2

Phase Budget: Wastewater **Start Date:** 3/3/2024

Phase Status: Future Planned Start **End Date:** 3/3/2030

Phase Comments/Description:

Cost Est. Class: Class 4

Cost Est. Date: 10/2/2017

Cost Est. Source:

Cost Est. Prepared By: Ali Khraizat

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction (Build) # 1	\$82,000	\$0	\$0	\$0	\$4,489	\$13,654	\$13,654	\$13,654	\$13,692	\$59,143	\$22,857

Phase Dates

Activity Name	Start Date	End Date
Construction	3/3/2024	3/3/2030

Project Title: WRRF PS #2 Bar Racks Replacements and Grit Collection System Improvements

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$9,667	\$650	\$2,900	\$3,300	\$2,817	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,667
2019	\$11,749	\$0	\$7	\$402	\$1,980	\$2,404	\$6,956	\$8,814	\$0	\$0	\$0	\$0	\$20,563
2020	\$17,781	\$0	\$6	\$269	\$1,329	\$2,039	\$6,306	\$7,838	\$49	\$0	\$0	\$0	\$17,836
2021	\$67,697	\$0	\$1	\$256	\$3,098	\$7,546	\$2,120	\$20,899	\$34,034	\$8,642	\$0	\$0	\$76,596
2022	\$60,637	\$0	\$1	\$5	\$2,323	\$2,303	\$6,987	\$18,173	\$18,123	\$15,052	\$13,263	\$0	\$76,229
2023	\$54,878	\$0	\$1	\$5	\$1,504	\$3,000	\$2,461	\$13,105	\$13,104	\$13,104	\$13,104	\$13,105	\$88,771

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$94,249,979	\$5,318,275	\$2,233,467	\$4,814,699	\$14,424,465	\$14,424,465	\$14,424,465	\$14,463,984	\$62,552,077	\$24,146,159

Description of CIP Changes:

Updated status and pictures

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Primary Treatment

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☒ Multiple Phases

Project Score

78.3

- ☒ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☒ Redundancy
- ☐ NE WTP Repurposing
- ☒ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☒ Treatment



Ferric Chloride Storage and Containment Area

Project Manager: Darrel Field

Director: Chris Nastally

Managing Dept.: WW Construction Eng

Date Original Business Case Prepared:
7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ From Program?

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

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. Evaluation and recommended design and construction of the sludge lines in Complex B is also included in the scope.

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 secondary effluent. Effluent limits for phosphorous were lowered in 2016 and now stand at 1.5 mg/l for primary effluent and 0.7 mg/l (October – March) and 0.6 mg/l (April – September) for secondary effluent. GLWA has historically been able to meet the phosphorous limits for both primary and secondary effluent by adding ferric chloride to the primary clarifier influent. The physical/chemical removal in the primary clarifiers lowered the phosphorous concentrations to meet the primary effluent limits. However, GLWA has begun to experience some difficulty with the settling of the secondary biomass in the final clarifiers. Preliminary investigations have indicated that this settling ability issue could be caused by low phosphorous concentrations in the secondary influent wastewater. This is because the biomass in the secondary system requires a certain ratio of carbon (CBOD), nitrogen, and phosphorous to reduce the pollutant concentrations and then settle in the final clarifiers. Therefore there also needs to be a study and possibly pilot test conducted to review the best location for ferric chloride addition to the wastewater.

Primary Driver: 1 - Condition

Driver Explanation:

The current chemical feed systems at PS-1 has deteriorated to the point where it needs to be rehabilitated.

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Scoring

Project Manager Weighted Score: 78.3			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	Project Manager current year score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	4	A. Expected performance failures under normal conditions	Project Manager current year score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,	Project Manager current year score carried over from previous year Project Manager score
Operations and Maintenance	3	A. Moderate levels of O/M will keep mean times between failures frequent but tolerable; Repairs total $\geq 20\%$ original value	Project Manager current year score carried over from previous year Project Manager score
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	Project Manager current year score carried over from previous year Project Manager score
Public Benefit	3	A. Project part of GLWA strategic plan*, but no new customers	Project Manager current year score carried over from previous year Project Manager score
Financial	3	A. Implementing the project will generate moderate increase revenue or savings for GLWA.	Project Manager current year score carried over from previous year Project Manager score
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings	Project Manager current year score carried over from previous year Project Manager score

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Review Committee Weighted Score: 78.3		
Criteria Name	Score	Comment
Condition	4	Committee score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	4	Committee score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	4	Committee score carried over from previous year Project Manager score
Operations and Maintenance	3	Committee score carried over from previous year Project Manager score
Health and Safety	4	Committee score carried over from previous year Project Manager score
Public Benefit	3	Committee score carried over from previous year Project Manager score
Financial	3	Committee score carried over from previous year Project Manager score
Efficiency and Innovation	4	Committee score carried over from previous year Project Manager score

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/1/2018

Phase Status: Project Execution

End Date: 9/30/2023

Phase Comments/Description:

Cost Est. Class: Class 2

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 10/1/2017

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$271	\$273	\$240	\$31	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/1/2018	9/30/2023
Capital Delivery Salary	7/1/2018	9/30/2023

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Phase: Professional Services

Phase Title: Professional Services - CS-272 - 72021A.08 / 72007B.03 / 72007A.03

Phase Budget: Wastewater

Start Date: 7/1/2018

Phase Status: Project Execution

End Date: 9/30/2023

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: AECOM

Cost Est. Date: 9/23/2019

Cost Est. Prepared By: AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	5 Year Total
Professional Services	\$173	\$165	\$165	\$5	\$2	\$2

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72021A.08 / 72007B.03 / 72007A.03)	7/1/2018	9/30/2023

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Phase: Design/Engineering (CS-166)

Phase Title: Professional Services - CS-166 - PMA

Phase Budget: Wastewater

Start Date: 7/1/2018

Phase Status: Closed Out

End Date: 6/30/2020

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: PMA

Cost Est. Date: 7/1/2018

Cost Est. Prepared By: PMA

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (CS-166)	\$34	\$34	\$34	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-166)	7/1/2018	6/30/2020

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Phase: Design/Engineering (1802543)

Phase Title: Design Services - 1802543 - Hazen

Phase Budget: Wastewater

Start Date: 9/16/2019

Phase Status: Closed Out

End Date: 9/30/2023

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Hazen

Cost Est. Date: 9/16/2019

Cost Est. Prepared By: Hazen

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering (1802543)	\$2,322	\$1,899	\$1,857	\$349	\$117	\$0	\$0	\$0	\$0	\$117	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1802543)	9/16/2019	9/30/2023

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Phase: Design/Engineering (2002190)

Phase Title: Cancel this phase

Phase Budget: Wastewater

Start Date: 6/1/2021

Phase Status: Cancelled

End Date: 6/30/2021

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Cancel this

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: Cancel this

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Design/Engineering (2002190)	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (2002190)	6/1/2021	6/30/2021

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Phase: Design/Engineering (MISC)

Phase Title: Cancel this phase

Phase Budget: Wastewater

Start Date: 5/1/2020

Phase Status: Cancelled

End Date: 1/31/2021

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Cancel this

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: Cancel this

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (MISC)	\$3	\$3	\$3	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (MISC)	5/1/2020	1/31/2021

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Phase: Construction (Build) # 1 (2002190)

Phase Title: Construction - 2002190 - Weiss

Phase Budget: Wastewater

Start Date: 4/5/2021

Phase Status: Project Execution

End Date: 9/30/2023

Phase Comments/Description:

Rehabilitation of Ferric Chloride Feed Systems

Cost Est. Class: Class 1

Cost Est. Source: Weiss

Cost Est. Date: 4/5/2021

Cost Est. Prepared By: Weiss

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	5 Year Total
Construction (Build) # 1 (2002190)	\$9,839	\$4,674	\$3,189	\$5,228	\$1,423	\$1,423

Phase Dates

Activity Name	Start Date	End Date
Construction (2002190)	4/5/2021	9/30/2023

Project Title: WRRF Rehabilitation of Ferric Chloride Feed System in PS-1 and Complex B Sludge Lines

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$9,633	\$400	\$1,400	\$5,200	\$2,000	\$633	\$0	\$0	\$0	\$0	\$0	\$0	\$9,633
2019	\$9,650	\$0	\$7	\$115	\$1,259	\$2,732	\$5,537	\$2,363	\$0	\$0	\$0	\$0	\$12,013
2020	\$9,533	\$12	\$1,021	\$2,950	\$4,983	\$1,600	\$0	\$0	\$0	\$0	\$0	\$0	\$10,566
2021	\$9,408	\$0	\$178	\$1,239	\$5,522	\$3,886	\$0	\$0	\$0	\$0	\$0	\$0	\$10,825
2022	\$6,329	\$0	\$165	\$1,464	\$3,429	\$5,358	\$972	\$0	\$0	\$0	\$0	\$0	\$11,388
2023	\$2,507	\$12	\$188	\$1,430	\$240	\$8,267	\$2,507	\$0	\$0	\$0	\$0	\$0	\$12,643

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$12,641,812	\$5,488,309	\$5,612,926	\$1,540,577	\$0	\$0	\$0	\$0	\$1,540,577	\$0

Description of CIP Changes:

This project was moved forward due to SRF funding Source to begin in FY 2019.

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Project Status: Project Execution - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Primary Treatment

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

76.6

- ☒ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☒ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☒ Treatment



Primary Circular Scum House, Inside

Project Manager: Jason Williams

Director: Chris Nastally

Managing Dept.: WW Design Eng

Date Original Business Case Prepared: 7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ From Program?

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: TBD

Partners:

Collaboration Entity:

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

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 of electrical usage). The scum removal system at the rectangular PCs will also be evaluated to determine which aspects can be applied to the circular Secondary Basins (SBs). Design and construction services will be included for the selected scum removal system.

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 a somewhat complex transport and concentration system. New SBs were installed for PCs 17 and 18 when they were constructed. Since their installation, the equipment in the circular clarifier SBs has been complicated to operate and difficult to maintain and is out of service for extended periods of time.

Challenges: Each of the scum removal facility serves two circular clarifiers, so two circular clarifiers at a time are out of services during rehabilitation.

Primary Driver: 1 - Condition

Driver Explanation:

The condition of the existing equipment is old.

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Scoring

Project Manager Weighted Score: 76.6			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining, C. Shows abnormal wear and is likely to cause significant performance deterioration in the near term	
Performance (Service Level/Reliability)	5	C. Project Will have major, measurable positive impact on service levels and/or system reliability; aligns w/ GLWA strategic goals*	
Regulatory (Environmental/Legal)	3	B. Project will have a moderate positive impact on reg. issues	
Operations and Maintenance	2	D. Project moderate to low positive impact on O&M, but no critical assets; alleviate very few ongoing O&M issues	
Health and Safety	2	B. Project limited positive impact on staff/public H&S±; No major staff or hazard issues or concerns addressed	
Public Benefit	2	D. Low impact on public/GLWA image, minor recognition, E. No media coverage, minor impact on comm./stakeholder relations	
Financial	3	B. Securing of grants or other external funding that cover 1-10% of project costs.	Trying to get SRF funding.
Efficiency and Innovation	3	A. Project attempts to right-size system; small operational efficiencies and increasing revenue/savings, B. Moderate positive impact on Energy use conservation i.e. 10-20% energy reduction; Water use, effluent reuse; Business process optimization, process efficiency for a more robust system and less O&M; time & cost savings	

Review Committee Weighted Score: 76.6		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	5	Scores carried over from previous year
Regulatory (Environmental/Legal)	3	Scores carried over from previous year
Operations and Maintenance	2	Scores carried over from previous year
Health and Safety	2	Scores carried over from previous year
Public Benefit	2	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	3	Scores carried over from previous year

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 3/4/2022

Phase Status: Future Planned Start

End Date: 3/3/2031

Phase Comments/Description:

Cost Est. Class: Class 4

Cost Est. Source:

Cost Est. Date: 10/1/2017

Cost Est. Prepared By: Ali Khraizat

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$351	\$14	\$11	\$3	\$0	\$0	\$0	\$16	\$7	\$23	\$314

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	3/4/2022	3/3/2031
Capital Delivery Salary	3/4/2022	3/3/2031

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 5/7/2020**Phase Status:****End Date:** 5/19/2023

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$138	\$59	\$34	\$104

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72014A.02 / 72021A.03)	5/7/2020	5/19/2023

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 3/4/2022

Phase Status:

End Date: 3/3/2031

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$2,040	\$442	\$157	\$285	\$0	\$0	\$0	\$1,059	\$247	\$1,306	\$293

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	3/4/2022	3/3/2031

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Phase: Construction (Build) # 1

Phase Title: Rehabilitation of the Circular Primary Clarifier Scum Removal System

Phase Budget: Wastewater **Start Date:** 6/22/2028

Phase Status: Future Planned Start **End Date:** 3/3/2031

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By: Engineer

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction (Build) # 1	\$20,200	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$185	\$185	\$20,015

Phase Dates

Activity Name	Start Date	End Date
Construction	6/22/2028	3/3/2031

Project Title: WRRF Rehabilitation of the Circular Primary Clarifier Scum Removal System

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$7,801	\$266	\$324	\$1,870	\$2,671	\$2,670	\$2,679	\$0	\$0	\$0	\$0	\$0	\$10,480
2019	\$7,234	\$0	\$0	\$7	\$859	\$572	\$5,796	\$5,005	\$0	\$0	\$0	\$0	\$12,239
2020	\$11,359	\$0	\$0	\$0	\$778	\$619	\$5,237	\$4,725	\$35	\$0	\$0	\$0	\$11,394
2021	\$13,228	\$0	\$0	\$21	\$313	\$1,254	\$802	\$8,715	\$2,144	\$0	\$0	\$0	\$13,249
2022	\$12,762	\$0	\$0	\$3	\$243	\$476	\$2,740	\$5,619	\$3,927	\$0	\$0	\$0	\$13,008
2023	\$16,500	\$0	\$0	\$3	\$37	\$250	\$1,000	\$500	\$5,000	\$5,000	\$5,000	\$5,000	\$21,790

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$22,729,172	\$201,653	\$392,263	\$0	\$0	\$0	\$1,075,192	\$438,282	\$1,513,473	\$20,621,782

Description of CIP Changes:

Minor changes to the timing of projected expenses. Updated cost to reflect changes in Scum Concentrator Building

Project Title: Rehabilitation of Sludge Processing Complexes A and B

Project Status: Future Planned - Within Five Year Plan

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Primary Treatment

☐ **Project New to CIP**

☐ **Useful Life > 20 Yrs**

☐ **Multiple Phases**

Project Score

89.7

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



Complex B, Basement

Project Manager: Chris Wilson

Director: Chris Nastally

Managing Dept.: WW Design Eng

Date Original Business Case Prepared:
8/21/2019

Year Project Added to CIP: 2019

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **From Program?**

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ **Is a Predecessor Project?**

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Rehabilitation of Sludge Processing Complexes A and B

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 process.

Other Important Info:

Maintaining the MDEQ-NPDES required capacity during the construction phase of the project.

Primary Driver: 8 - Efficiency

Driver Explanation:

Equipment has exceeded its design life.

Project Title: Rehabilitation of Sludge Processing Complexes A and B

Scoring

Project Manager Weighted Score: 89.7			
Criteria Name	Score	Score Criteria	Comment
Condition	2	D. Only minor renewal or rehab may be needed in the near term	
Performance (Service Level/Reliability)	2	B. Overall good performance; will likely meet future requirements, G. Moderate redundancy in the area to limit impacts.	
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	5	B. Project will have a major & measurable positive impact on staff or public H&S+ including working conditions, use and exposure to hazardous materials, exposure to potential accidents	
Public Benefit	4	C. Significant additional revenue/savings for GLWA (\$500K-\$999K /yr); Better utilize existing & new infrastructure	
Financial	2	C. Low positive impact on resource capacity	
Efficiency and Innovation	2	D. Little to no time and cost saving	

Review Committee Weighted Score: 89.7		
Criteria Name	Score	Comment
Condition	2	Scores carried over from previous year
Performance (Service Level/Reliability)	2	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	5	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	2	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: Rehabilitation of Sludge Processing Complexes A and B

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 7/1/2025**Phase Status:** Future Planned Start**End Date:** 6/30/2031

Phase Comments/Description:

Cost Est. Class: Class 4**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$460	\$0	\$0	\$0	\$0	\$0	\$77	\$77	\$77	\$230	\$230

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/1/2025	6/30/2031
Capital Delivery Salary	7/1/2025	6/30/2031

Project Title: Rehabilitation of Sludge Processing Complexes A and B

Phase: Professional Services**Phase Title:** Professional Services - CS-272 - 72014A.03 / 72007B.04 / 72007A.04

Phase Budget: Wastewater**Start Date:** 9/23/2019**Phase Status:** Closed Out**End Date:** 11/4/2022

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** AECOM**Cost Est. Date:** 6/1/2022**Cost Est. Prepared By:** AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$94	\$94	\$94	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72014A.03 / 72007B.04 / 72007A.04)	9/23/2019	11/4/2022

Project Title: Rehabilitation of Sludge Processing Complexes A and B

Phase: Design/Engineering

Phase Title: Design/Engineering / Construction Assistance - TBD

Phase Budget: Wastewater

Start Date: 7/1/2025

Phase Status: Future Planned Start

End Date: 6/30/2031

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: WWE

Cost Est. Date: 6/1/2022

Cost Est. Prepared By: WWE

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$4,050	\$0	\$0	\$0	\$0	\$0	\$1,608	\$692	\$350	\$2,650	\$1,400

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2025	6/30/2031

Project Title: Rehabilitation of Sludge Processing Complexes A and B

Phase: Construction (Build) # 1**Phase Title:** Construction - TBD

Phase Budget: Wastewater**Start Date:** 10/1/2027**Phase Status:** Future Planned Start**End Date:** 6/30/2031

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** WWE**Cost Est. Date:** 6/1/2022**Cost Est. Prepared By:** WWE

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY26	FY27	FY28	5 Year Total	FY29-33
Construction (Build) # 1	\$17,500	\$0	\$0	\$0	\$0	\$0	\$3,503	\$3,503	\$13,997

Phase Dates

Activity Name	Start Date	End Date
Construction	10/1/2027	6/30/2031

Project Title: Rehabilitation of Sludge Processing Complexes A and B

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2021	\$926	\$0	\$0	\$0	\$178	\$748	\$13,113	\$0	\$0	\$14,039
2022	\$2,436	\$64	\$0	\$42	\$112	\$287	\$1,996	\$4,712	\$4,728	\$13,934
2023	\$1,840	\$52	\$0	\$0	\$0	\$0	\$920	\$920	\$4,832	\$19,895

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$22,104,222	\$94,337	\$0	\$0	\$0	\$1,684,851	\$768,375	\$3,929,635	\$6,382,861	\$15,627,025

Description of CIP Changes:

Updated timeline

checked costs/dates - 7/22

Project Title: WRRF PS1 Screening and Grit Improvements**Project Status:** Future Planned - Ten Year CIP**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** WRRF**Class Lvl 3:** Primary Treatment☐ **Project New to CIP**☐ **Useful Life > 20 Yrs**☒ **Multiple Phases****Project Score****77.5**

- ☒ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**

**Project Manager:** Chris Wilson**Director:** Chris Nastally**Managing Dept.:** WW Design Eng**Date Original Business Case Prepared:**
8/7/2019**Year Project Added to CIP:** 2019**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** WRRF**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: WRRF PS1 Screening and Grit Improvements

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 downstream processes, reduce maintenance costs and increase life of downstream equipment.

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 architectural work. New instrumentation and controls for operations and monitoring will also be provided. System should be designed to meet long-term wet weather capacity requirements at PS1.

Other Important Info:

Maintaining the MDEQ-NPDES required capacity during the construction phase of the project. Coordination with the CIP Number 211006

Primary Driver: 2 - Performance

Driver Explanation:

Grit and screen system is not capturing enough material in downstream processes.

Project Title: WRRF PS1 Screening and Grit Improvements

Scoring

Project Manager Weighted Score: 77.5			
Criteria Name	Score	Score Criteria	Comment
Condition	4	B. Equipment/process functions but requires high level of maintenance to remain operational, C. Shows abnormal wear and is likely to cause significant performance deterioration in the near term	
Performance (Service Level/Reliability)	5	A. Will cause, or IS causing significant capacity problems, B. Current performance unacceptable, does not meet current requirements/demands; equipment obsolete/extremely difficult to maintain or find spare parts/repair service; Asset/process OOS 50% or more of the time; Recurring, expected failures, C. Project Will have major, measurable positive impact on service levels and/or system reliability; aligns w/ GLWA strategic goals*, D. Canceling project significant, persistent, ongoing, continuous service interruption and/or reliability issues†	
Regulatory (Environmental/Legal)	2	E. Deferring/canceling project non-compliance risk in 4-6 yrs	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation, D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	
Health and Safety	2	B. Project limited positive impact on staff/public H&S‡; No major staff or hazard issues or concerns addressed	
Public Benefit	2	D. Low impact on public/GLWA image, minor recognition	
Financial	4	E. Canceling project significant financial consequences from revenue loss, repair /restoration/O&M cost, downtime, potential litigation, fines, damage, etc.; some budget implications requiring deferral or cutbacks in other areas.	
Efficiency and Innovation	3	B. Moderate positive impact on Energy use conservation i.e. 10-20% energy reduction; Water use, effluent reuse; Business process optimization, process efficiency for a more robust system and less O&M; time & cost savings	

Project Title: WRRF PS1 Screening and Grit Improvements

Review Committee Weighted Score: 77.5		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	5	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	2	Scores carried over from previous year
Public Benefit	2	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	3	Scores carried over from previous year

Project Title: WRRF PS1 Screening and Grit Improvements

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 8/21/2020

Phase Status: Future Planned Start

End Date: 6/29/2035

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$882	\$0	\$0	\$33	\$50	\$50	\$50	\$50	\$81	\$281	\$406

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	8/21/2020	6/29/2035
Capital Delivery Salary	7/1/2027	6/29/2035

Project Title: WRRF PS1 Screening and Grit Improvements

Phase: Professional Services**Phase Title:** Cancel this phase

Phase Budget: Wastewater**Start Date:** 7/1/2027**Phase Status:** Cancelled**End Date:** 6/29/2035

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Cancel this**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Cancel this

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Professional Services	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services	7/1/2027	6/29/2035

Project Title: WRRF PS1 Screening and Grit Improvements

Phase: Design & Construction Assistance # 1**Phase Title:** Design / Construction Assistance - TBD

Phase Budget: Wastewater**Start Date:** 7/1/2027**Phase Status:** Future Planned Start**End Date:** 6/29/2035

Phase Comments/Description:Addition of Fine Screens, New Grit Collection System

Cost Est. Class: Class 3**Cost Est. Source:** WWE**Cost Est. Date:** 6/18/2022**Cost Est. Prepared By:** WWE

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY26	FY27	FY28	5 Year Total	FY29-33
Design & Construction Assistance # 1	\$15,000	\$0	\$0	\$0	\$0	\$0	\$1,428	\$1,428	\$9,003

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2027	6/29/2035

Project Title: WRRF PS1 Screening and Grit Improvements

Phase: Design & Construction Assistance # 2**Phase Title:** Design & Construction Assistance # 2

Phase Budget: Wastewater**Start Date:** 8/21/2020**Phase Status:****End Date:** 11/4/2025

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design & Construction Assistance # 2	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering # 2	8/21/2020	11/4/2025

Project Title: WRRF PS1 Screening and Grit Improvements

Phase: Construction (Build) # 1**Phase Title:** Construction - TBD

Phase Budget: Wastewater**Start Date:** 4/29/2031**Phase Status:** Future Planned Start**End Date:** 6/29/2035

Phase Comments/Description:Addition of Fine Screens, New Grit Collection System

Cost Est. Class: Class 3**Cost Est. Source:** WWE**Cost Est. Date:** 6/18/2022**Cost Est. Prepared By:** WWE

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY28	5 Year Total	FY29-33
Construction (Build) # 1	\$78,000	\$0	\$0	\$0	\$0	\$0	\$40,664

Phase Dates

Activity Name	Start Date	End Date
Construction	4/29/2031	6/29/2035

Project Title: WRRF PS1 Screening and Grit Improvements

Phase: Construction (Build) # 2**Phase Title:** Construction (Build) # 2

Phase Budget: Wastewater**Start Date:** 4/28/2023**Phase Status:****End Date:** 11/4/2025

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	5 Year Total
Construction (Build) # 2	\$4,000	\$0	\$0	\$278	\$1,588	\$1,584	\$551	\$3,722

Phase Dates

Activity Name	Start Date	End Date
Construction # 2	4/28/2023	11/4/2025

Project Title: WRRF PS1 Screening and Grit Improvements

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY25	FY26	FY27	FY28	Total
2021	\$14	\$14	\$100,733	\$0	\$0	\$100,747
2022	\$175	\$42	\$132	\$3,639	\$15,446	\$93,303
2023	\$0	\$0	\$0	\$0	\$3,947	\$93,000

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$97,882,087	\$0	\$310,726	\$1,637,866	\$1,633,391	\$600,853	\$49,877	\$1,509,781	\$5,431,769	\$50,073,705

Description of CIP Changes:

Updated Scoring

2022 - Added phase 2 for design/construction of HVAC Improvements for PS1 Rack & Grit.

Project Title: WRRF Aeration Improvements 1 and 2

Project Status: Active - Procurement - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Secondary Treatment and Disinfection

☐ **Project New to CIP**
☒ **Useful Life > 20 Yrs**
☐ **Multiple Phases**
Project Score
76.3

- ☒ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



Aeration Basin 1 and ILP's 1 and 2

Project Manager: Charles Reinhart

Director: Chris Nastally

Managing Dept.: WW Design Eng

Date Original Business Case Prepared:
 9/14/2017

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **From Program?**
Program Number:
Delivery Method: DB (Design-Build)

Delivery Method Details:
☐ **Is a Predecessor Project?**
Successor Projects:
Predecessor Projects:
Collaboration Opportunities: No

Partners:
Collaboration Entity:

Project Title: WRRF Aeration Improvements 1 and 2

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 phosphorus removal will reduce oxygen and chemical use resulting in a more sustainable treatment system, and implementation of step feed will improve high flow management through the secondary system increasing the volume of flow that can be treated through the secondary system thus minimizing the volume of flow discharged without secondary system. Hydraulic improvements ease operations and minimize the operator effort on the surface aerators.

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 increased to reduce the variation in the hydraulic grade line across the tank to maintain adequate submergence of mixer/aerators and reduce the frequency of them tripping out on surge. Replacement of Mixer/aerators in Decks 4 through 10 will be evaluated and could be included as an add-alternate to the contract.

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 2,500 hp. The pumps are equipped with variable frequency drives (VFDs) to vary the pump speed. ILP Nos. 1 and 2 can feed Aeration Deck Nos. 1 and 2.

ILP Station No. 2 houses ILP Nos. 3, 4, and 7. The pumps are vertical turbine pumps with a maximum rated design capacity of 350 MGD each and a motor size of 2,500 hp. The pumps are also equipped with VFDs. ILP Nos. 3 and 4 feed Aeration Deck Nos. 3 and 4, while ILP No. 7 is a swing pump and can be used to transfer wastewater to Aeration Deck Nos. 2, 3, or 4.

Primary Driver: 3 - Regulatory

Driver Explanation:

System is required to meet permit

Project Title: WRRF Aeration Improvements 1 and 2

Scoring

Project Manager Weighted Score: 76.3			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	Current year Project Manager score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	3	A. Generally meets design needs; moderate risk of perf. failure	Current year Project Manager score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,	Current year Project Manager score carried over from previous year Project Manager score
Operations and Maintenance	3	A. Moderate levels of O/M will keep mean times between failures frequent but tolerable; Repairs total $\geq 20\%$ original value	Current year Project Manager score carried over from previous year Project Manager score
Health and Safety	3	A. Failure not catastrophic, has moderate chance of occurring; failure may be mitigated to minimize safety/health/environmental impacts	Current year Project Manager score carried over from previous year Project Manager score
Public Benefit	3	A. Project part of GLWA strategic plan*, but no new customers	Current year Project Manager score carried over from previous year Project Manager score
Financial	3	A. Implementing the project will generate moderate increase revenue or savings for GLWA.	Current year Project Manager score carried over from previous year Project Manager score
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings	Current year Project Manager score carried over from previous year Project Manager score

Project Title: WRRF Aeration Improvements 1 and 2

Review Committee Weighted Score: 76.3		
Criteria Name	Score	Comment
Condition	4	Committee score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	3	Committee score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	4	Committee score carried over from previous year Project Manager score
Operations and Maintenance	3	Committee score carried over from previous year Project Manager score
Health and Safety	3	Committee score carried over from previous year Project Manager score
Public Benefit	3	Committee score carried over from previous year Project Manager score
Financial	3	Committee score carried over from previous year Project Manager score
Efficiency and Innovation	4	Committee score carried over from previous year Project Manager score

Project Title: WRRF Aeration Improvements 1 and 2

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 4/28/2023

Phase Status: Project Execution

End Date: 5/2/2030

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$1,337	\$32	\$27	\$37	\$187	\$186	\$186	\$186	\$187	\$931	\$342

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	4/28/2023	5/2/2030
Capital Delivery Salary	4/28/2023	5/2/2030

Project Title: WRRF Aeration Improvements 1 and 2

Phase: Professional Services #1**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 6/15/2020**Phase Status:** Project Execution**End Date:** 2/28/2023

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 6/15/2020**Cost Est. Prepared By:** AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services #1	\$1,353	\$891	\$843	\$511

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72016A.01 / 72021A.04 / 72007B.06 / 72007A.06)	6/15/2020	2/28/2023

Project Title: WRRF Aeration Improvements 1 and 2

Phase: Professional Services #2**Phase Title:** Professional Services - CS-166 - PMA

Phase Budget: Wastewater**Start Date:** 1/12/2022**Phase Status:** Project Execution**End Date:** 12/30/2022

Phase Comments/Description:Helping to write the design build RFP

Cost Est. Class: Class 1**Cost Est. Source:** PMA**Cost Est. Date:** 1/12/2022**Cost Est. Prepared By:** PMA

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services #2	\$60	\$99	\$99	(\$39)

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-166)	1/12/2022	12/30/2022

Project Title: WRRF Aeration Improvements 1 and 2

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 4/28/2023

Phase Status: Cancelled

End Date: 5/2/2030

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: TBD.

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: TBD.

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$1,530	\$0	\$0	\$38	\$219	\$218	\$218	\$218	\$219	\$1,091	\$401

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/28/2023	5/2/2030

Project Title: WRRF Aeration Improvements 1 and 2

Phase: Construction (Build) # 1

Phase Title: Design / Build - 2102926 - TBD

Phase Budget: Wastewater

Start Date: 4/28/2023

Phase Status: Active - Procurement

End Date: 5/2/2030

Phase Comments/Description:

Cost Est. Class: Class 2

Cost Est. Source: AECOM

Cost Est. Date: 1/12/2022

Cost Est. Prepared By: AECOM

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction (Build) # 1	\$73,301	\$0	\$0	\$1,831	\$10,472	\$10,443	\$10,443	\$10,443	\$10,472	\$52,272	\$19,198

Phase Dates

Activity Name	Start Date	End Date
Construction	4/28/2023	5/2/2030

Project Title: WRRF Aeration Improvements 1 and 2

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2019	\$13,707	\$230	\$1,141	\$6,569	\$5,767	\$6,809	\$0	\$0	\$0	\$0	\$20,516
2020	\$14,022	\$229	\$500	\$656	\$6,727	\$5,910	\$6,811	\$0	\$0	\$0	\$20,833
2021	\$76,182	\$183	\$4,612	\$7,977	\$7,619	\$40,638	\$15,336	\$5,149	\$0	\$0	\$81,514
2022	\$65,328	\$16	\$2,264	\$2,566	\$5,391	\$19,423	\$19,370	\$18,576	\$14,323	\$0	\$81,931
2023	\$41,135	\$16	\$567	\$0	\$0	\$1,500	\$13,284	\$13,283	\$13,070	\$10,712	\$73,883

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$77,581,846	\$968,407	\$2,378,585	\$10,876,683	\$10,846,966	\$10,846,966	\$10,846,966	\$10,876,683	\$54,294,267	\$19,940,587

Description of CIP Changes:

Changed timing to Design Build delivery method

Project Title: WRRF Aeration Improvements 3 and 4

Project Status: Future Planned - Ten Year CIP

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Secondary Treatment and Disinfection

☐ **Project New to CIP**

☐ **Useful Life > 20 Yrs**

☐ **Multiple Phases**

Project Score

76.3

- ☒ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☒ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



Aeration Basin 4, and ILP's 3, 4, and 7

Project Manager: Chris Wilson

Director: Chris Nastally

Managing Dept.: WW Design Eng

Date Original Business Case Prepared:
8/7/2019

Year Project Added to CIP: 2019

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **From Program?**

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ **Is a Predecessor Project?**

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: WRRF Aeration Improvements 3 and 4

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 phosphorus removal will reduce oxygen and chemical use resulting in a more sustainable treatment system, and implementation of step feed will improve high flow management through the secondary system increasing the volume of flow that can be treated through the secondary system thus minimizing the volume of flow discharged without secondary system. Hydraulic improvements will ease operations and minimize the operator effort on the surface aerators.

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 reconfiguring decks 3 and 4 to four independent decks will also be evaluated. Weir length will be increased to reduce the variation in the hydraulic grade line across the tank to maintain adequate submergence of mixer/aerators and reduce the frequency of them tripping out on surge. Replacement of Mixer/aerators in Decks 3 through 8 will be evaluated and could be included as an add-alternate to the contract or included as a separate contract.

Other Important Info:

Maintaining the MDEQ-NPDES required capacity during the construction phase of the project.

Primary Driver: 3 - Regulatory

Driver Explanation:

System required to meet permit

Project Title: WRRF Aeration Improvements 3 and 4

Scoring

Project Manager Weighted Score: 76.3			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	
Performance (Service Level/Reliability)	3	A. Generally meets design needs; moderate risk of perf. failure	
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,	
Operations and Maintenance	3	A. Moderate levels of O/M will keep mean times between failures frequent but tolerable; Repairs total $\geq 20\%$ original value, E. Reduction (25% to 49%) in reactive maintenance	
Health and Safety	3	C. Likely to address minor hazard issues or concerns	
Public Benefit	3	A. Project part of GLWA strategic plan*, but no new customers	
Financial	3	A. Implementing the project will generate moderate increase revenue or savings for GLWA.	
Efficiency and Innovation	4	B. Project will remove significant operational hurdles/ obstacles for significant equipment/process, C. Significant positive impact on Energy use conservation i.e. 10-20% energy reduction; Water use, effluent reuse; Business process optimization, process efficiency for a more robust system and less O&M; time & cost savings	

Review Committee Weighted Score: 76.3		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	3	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	4	Scores carried over from previous year

Project Title: WRRF Aeration Improvements 3 and 4

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 5/2/2032**Phase Status:** Future Planned Start**End Date:** 6/29/2040

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$625	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$89

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	5/2/2032	6/29/2040
Capital Delivery Salary	5/2/2032	6/29/2040

Project Title: WRRF Aeration Improvements 3 and 4

Phase: Professional Services**Phase Title:** Cancel this phase

Phase Budget: Wastewater**Start Date:** 5/2/2032**Phase Status:** Cancelled**End Date:** 6/29/2040

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** Cancel this**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Cancel this

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Professional Services	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services	5/2/2032	6/29/2040

Project Title: WRRF Aeration Improvements 3 and 4

Phase: Design & Construction Assistance # 1

Phase Title: Design/Engineering / Construction Assistance - TBD

Phase Budget: Wastewater **Start Date:** 5/2/2032
Phase Status: Future Planned Start **End Date:** 6/29/2040

Phase Comments/Description:

WRRF Rehabilitation of Intermediate Lift Pumps (ILPs) 3,4 and 7

Cost Est. Class: Class 3

Cost Est. Source: WWE

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: WWE

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY26	FY27	FY28	5 Year Total	FY29-33
Design & Construction Assistance # 1	\$10,920	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,233

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	5/2/2032	6/29/2040

Project Title: WRRF Aeration Improvements 3 and 4

Phase: Construction (Build) # 1**Phase Title:** Construction - TBD

Phase Budget: Wastewater**Start Date:** 2/26/2035**Phase Status:** Future Planned Start**End Date:** 6/29/2040

Phase Comments/Description:WRRF Rehabilitation of Intermediate Lift Pumps (ILPs) 3,4 and 7

Cost Est. Class: Class 4**Cost Est. Source:** WWE**Cost Est. Date:** 7/18/2021**Cost Est. Prepared By:** WWE

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY28	5 Year Total	FY29-33
Construction (Build) # 1	\$57,983	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	2/26/2035	6/29/2040

Project Title: WRRF Aeration Improvements 3 and 4

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY25	FY26	FY27	FY28	Total
2021	\$14	\$14	\$73,749	\$0	\$0	\$73,763
2022	\$1,291	\$52	\$1,238	\$2,960	\$11,861	\$73,589
2023	\$0	\$0	\$0	\$0	\$0	\$66,983

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Total Costs	Prior FYs	FY23	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$69,528,226	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,321,696

Description of CIP Changes:

Updated project timing

Project Title: WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

Project Status: Future Planned - Ten Year CIP

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Secondary Treatment and Disinfection

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

89.7

- ☒ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☒ Treatment



Chlorination Building, Inside

Project Manager: TBD

Director: Chris Nastally

Managing Dept.: WW Design Eng

Date Original Business Case Prepared:
8/7/2019

Year Project Added to CIP: 2019

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ From Program?

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

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 assessment will also include the interest for a chemical manufacturer to own and operate a sodium hypochlorite generation facility in close proximity to the facility that would allow piping of sodium hypochlorite to the site (in lieu of providing additional storage, if required, on-site).

Other Important Info:

None

Primary Driver: 5 - Public Health and Safety

Driver Explanation:

The existing system is hazardous to operate and maintain.

Project Title: WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

Scoring

Project Manager Weighted Score: 89.7			
Criteria Name	Score	Score Criteria	Comment
Condition	2	A. Asset has <75% of its design service life remaining	
Performance (Service Level/Reliability)	2	A. Meets all design requirements under normal conditions; up to date	
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	5	A. Catastrophic failure w/ safety/health/environmental impacts imminent (2 years or less) as supported by engineering reports, studies, inspections, historical evidence, etc.	
Public Benefit	4	A. Project key part of a strategic plan* for GLWA (i.e. good probability leads to new customers)	
Financial	2	A. Low financial impact to GLWA; No grants/other external funding	
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	

Review Committee Weighted Score: 89.7		
Criteria Name	Score	Comment
Condition	2	Scores carried over from previous year
Performance (Service Level/Reliability)	2	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	5	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	2	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 7/1/2028**Phase Status:** Future Planned Start**End Date:** 12/31/2036

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$325	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$191

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/1/2028	12/31/2036
Capital Delivery Salary	7/1/2028	12/31/2036

Project Title: WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

Phase: Professional Services

Phase Title: Cancel this phase

Phase Budget: Wastewater

Start Date: 7/1/2028

Phase Status: Cancelled

End Date: 12/31/2036

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Cancel this

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: Cancel this

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Professional Services	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services	7/1/2028	12/31/2036

Project Title: WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

Phase: Design & Construction Assistance # 1

Phase Title: Design / Construction Assistance - TBD

Phase Budget: Wastewater

Start Date: 7/1/2028

Phase Status: Future Planned Start

End Date: 12/31/2036

Phase Comments/Description:

WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

Cost Est. Class: Class 4

Cost Est. Source: WWE

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: WWE

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY26	FY27	FY28	5 Year Total	FY29-33
Design & Construction Assistance # 1	\$1,398	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,097

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2028	12/31/2036

Project Title: WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

Phase: Construction (Build) # 1

Phase Title: Construction - TBD

Phase Budget: Wastewater

Start Date: 10/2/2031

Phase Status: Future Planned Start

End Date: 12/31/2036

Phase Comments/Description:

WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

Cost Est. Class: Class 4

Cost Est. Source: WWE

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: WWE

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY28	5 Year Total	FY29-33
Construction (Build) # 1	\$4,509	\$0	\$0	\$0	\$0	\$0	\$1,500

Phase Dates

Activity Name	Start Date	End Date
Construction	10/2/2031	12/31/2036

Project Title: WRRF Conversion of Disinfection of all Flow to Sodium Hypochlorite and Sodium Bisulfite

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY25	FY26	FY27	FY28	Total
2021	\$14	\$14	\$5,972	\$0	\$0	\$5,986
2022	\$185	\$52	\$132	\$238	\$940	\$5,765
2023	\$0	\$0	\$0	\$0	\$0	\$5,456

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Total Costs	Prior FYs	FY23	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$6,231,557	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,787,717

Description of CIP Changes:

Updates timing

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Project Status: Active - Procurement - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Residuals Management

☐ **Project New to CIP**

☐ **Useful Life > 20 Yrs**

☐ **Multiple Phases**

Project Score

76.6

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**



Sludge Feed pump in Complex A

Project Manager: Jared Buzo

Director: Chris Nastally

Managing Dept.: WW Design Eng

Date Original Business Case Prepared:
7/27/2016

Year Project Added to CIP: 2016

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ **From Program?**

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ **Is a Predecessor Project?**

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

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 Complex II; and sludge from Storage Tanks 5 & 6 supplies the belt filter presses in Dewatering Complex I. However, control valves in the Dewatering Complex II basement allow sludge from any storage tanks to supply any Dewatering area. Under Contract PC-792, Storage Tanks SST-3 & 4 along with Sludge Feed Pumps SFP-3 & 4 are to be dedicated to the BDF Facility.

Primary Driver: 2 - Performance

Driver Explanation:

Location of pumps has proven to be problematic due to flooding.

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Scoring

Project Manager Weighted Score: 75.3			
Criteria Name	Score	Score Criteria	Comment
Condition	3	A. Asset has <50% of its design service life remaining	Project Manager score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	3	A. Generally meets design needs; moderate risk of perf. failure	Project Manager score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,	Project Manager score carried over from previous year Project Manager score
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	Project Manager score carried over from previous year Project Manager score
Health and Safety	2	A. Low chance of failure occurring; failure easily mitigated w/ no safety/health/env. impacts	Project Manager score carried over from previous year Project Manager score
Public Benefit	2	A. Low to moderate impact by supporting City/region/neighborhood growth	Project Manager score carried over from previous year Project Manager score
Financial	4	A. Project will generate significant increased revenue/savings	Project Manager score carried over from previous year Project Manager score
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings	Project Manager score carried over from previous year Project Manager score

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Review Committee Weighted Score: 76.6		
Criteria Name	Score	Comment
Condition	4	Committee score carried over from previous year committee score
Performance (Service Level/Reliability)	3	Committee score carried over from previous year committee score
Regulatory (Environmental/Legal)	4	Committee score carried over from previous year committee score
Operations and Maintenance	5	Committee score carried over from previous year committee score
Health and Safety	2	Committee score carried over from previous year committee score
Public Benefit	2	Committee score carried over from previous year committee score
Financial	4	Committee score carried over from previous year committee score
Efficiency and Innovation	4	Committee score carried over from previous year committee score

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 5/12/2023

Phase Status: Future Planned Start

End Date: 5/16/2028

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$259	\$7	\$7	\$7	\$50	\$50	\$50	\$50	\$44	\$244	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	5/12/2023	5/16/2028
Capital Delivery Salary	5/12/2023	5/16/2028

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Phase: Professional Services**Phase Title:** Cancel this phase

Phase Budget: Wastewater**Start Date:** 9/23/2019**Phase Status:** Cancelled**End Date:** 5/19/2023

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** Cancel this**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Cancel this

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$338	\$293	\$290	\$49

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72014A.05 / 72021A.05 / 72007A.07 / 72029A.02)	9/23/2019	5/19/2023

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Phase: Design/Engineering

Phase Title: Design/Engineering / Construction Assistance - 2101915

Phase Budget: Wastewater

Start Date: 5/12/2023

Phase Status: Active - Procurement

End Date: 5/16/2028

Phase Comments/Description:

Cost Est. Class: Class 2

Cost Est. Source: AECOM

Cost Est. Date: 6/1/2022

Cost Est. Prepared By: AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total
Design/Engineering	\$2,060	\$0	\$0	\$137	\$1,000	\$363	\$156	\$215	\$189	\$1,923

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	5/12/2023	5/16/2028

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Phase: Construction (Build) # 1

Phase Title: Construction - TBD

Phase Budget: Wastewater

Start Date: 10/8/2025

Phase Status: Future Planned Start

End Date: 5/16/2028

Phase Comments/Description:

Improvements to Sludge Feed Pumps at Dewatering Facilities

Cost Est. Class: Class 3

Cost Est. Source: AECOM

Cost Est. Date: 6/1/2022

Cost Est. Prepared By: AECOM

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total
Construction (Build) # 1	\$5,000	\$0	\$0	\$0	\$0	\$0	\$1,397	\$1,917	\$1,686	\$5,000

Phase Dates

Activity Name	Start Date	End Date
Construction	10/8/2025	5/16/2028

Project Title: WRRF Improvements to Sludge Feed Pumps at Dewatering Facilities

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$1,152	\$33	\$402	\$750	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,185
2019	\$3,853	\$4	\$0	\$0	\$57	\$275	\$2,391	\$1,130	\$0	\$0	\$0	\$0	\$0	\$3,857
2020	\$1,390	\$0	\$5	\$0	\$0	\$0	\$0	\$24	\$1,366	\$2,331	\$0	\$0	\$0	\$3,726
2021	\$4,646	\$0	\$0	\$5	\$0	\$174	\$385	\$3,371	\$716	\$0	\$0	\$0	\$0	\$4,651
2022	\$4,376	\$0	\$0	\$0	\$6	\$108	\$342	\$2,252	\$1,781	\$0	\$0	\$0	\$0	\$4,490
2023	\$6,500	\$3	\$0	\$0	\$1	\$189	\$400	\$750	\$2,417	\$1,667	\$1,667	\$0	\$0	\$7,094

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$7,657,137	\$296,999	\$192,302	\$1,050,206	\$413,457	\$1,603,599	\$2,181,792	\$1,918,781	\$7,167,835	\$0

Description of CIP Changes:

Updated Scoring based on mitigation projects, updated timeline

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II**Project Status:** Project Execution - Construction**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** WRRF**Class Lvl 3:** Residuals Management☐ **Project New to CIP**☐ **Useful Life > 20 Yrs**☒ **Multiple Phases****Project Score****96.2**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**

**Project Manager:** Darrel Field**Director:** Philip Kora**Managing Dept.:** WW Construction Eng**Date Original Business Case Prepared:**
7/27/2016**Year Project Added to CIP:** 2016**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** WRRF**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

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 replacement or major rehabilitation in order to be used as the primary long-term solids disposal method. GLWA approved contracts to rehabilitate some of the aging problem of the incineration and to meet the new air permit requirements. GLWA also completed a Biosolids Dryer Facility (BDF) with a firm capacity of 316 dry tons per day. The BDF facility is currently in operation under an in-term agreement with NEFCO. The current GLWA plan for Biosolids disposal is to utilize BDF to its capacity first, then send the additional load to Complex-II Incinerators and anything beyond that to the land fill. This Biosolids Disposal Plan requires investment in the Complex-II Incinerators to process the sludge loads for the daily and wet weather events to avoid the highest cost of land fill.

The sludge from Dewatering Complex II travels through a series of conveyor belts before it reaches Incineration Complex II. The conveyor belt structures in Incineration C-II have been rebuilt or repaired several times that may have altered the overall integrity of the structures. The existing "Dusseau" hopper oftentimes plugged resulting to sludge spillage. The existing feed system to the incinerator from the hoppers should be redesigned and replaced. New control systems, safeguards, provision of SFE water, run time meter or tie to ovation system and poor lighting system in the complex needs improvement. Drainage problems have historically existed within the basement of Complex II Incineration and C-II Dewatering. These problems led to excessive demands on operations and maintenance staff, shutdown of process-related equipment, and safety concerns. Improvements to the C-II

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Incinerators building drainage system were completed in 2003. However, the drainage problems were not completely eliminated and further Improvements to the C-II Dewatering are in design. To have an effective sludge conveyer's wash system the drainage improvements in Complex-II Dewatering and Incinerators building are essential.

Primary Driver: 3 - Regulatory

Driver Explanation:

The existing sludge conveyance system is very old and is critical to disposal of biosolids to meet incinerator air permit requirements. The disposal of biosolids to meet allowable permitted inventory of biosolids at the WRRF.

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Scoring

Project Manager Weighted Score:		96.7	
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life	Current year Project Manager score carried over from previous year Project Manager Score
Performance (Service Level/Reliability)	5	A. Will cause, or IS causing significant capacity problems	Current year Project Manager score carried over from previous year Project Manager Score
Regulatory (Environmental/Legal)	5	A. Imminent risk of/is causing Permit/reg. violations; Legal obligation; Unregulated discharges; Health risks to staff/public	Current year Project Manager score carried over from previous year Project Manager Score
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	Current year Project Manager score carried over from previous year Project Manager Score
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	Current year Project Manager score carried over from previous year Project Manager Score
Public Benefit	4	A. Project key part of a strategic plan* for GLWA (i.e. good probability leads to new customers)	Current year Project Manager score carried over from previous year Project Manager Score
Financial	4	A. Project will generate significant increased revenue/savings	Current year Project Manager score carried over from previous year Project Manager Score
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings	Current year Project Manager score carried over from previous year Project Manager Score

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Review Committee Weighted Score: 96.2		
Criteria Name	Score	Comment
Condition	5	Committee score carried over from previous year committee score
Performance (Service Level/Reliability)	5	Committee score carried over from previous year committee score
Regulatory (Environmental/Legal)	5	Committee score carried over from previous year committee score
Operations and Maintenance	4	Committee score carried over from previous year committee score
Health and Safety	4	Committee score carried over from previous year committee score
Public Benefit	4	Committee score carried over from previous year committee score
Financial	4	Committee score carried over from previous year committee score
Efficiency and Innovation	3	Committee score carried over from previous year committee score

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 8/22/2016

Phase Status: Project Execution

End Date: 9/29/2023

Phase Comments/Description:

Cost Est. Class: Class 2

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$754	\$774	\$732	\$28	(\$6)	\$0	\$0	\$0	\$0	(\$6)	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	8/22/2016	9/29/2023
Capital Delivery Salary	8/22/2016	9/29/2023

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Phase: Professional Services**Phase Title:** Cancel this phase

Phase Budget: Wastewater**Start Date:** 8/22/2016**Phase Status:** Cancelled**End Date:** 9/29/2023

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Cancel this**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Cancel this

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Professional Services	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services	8/22/2016	9/29/2023

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Phase: Design/Engineering (CS-060)

Phase Title: Design/Engineering / Construction Assistance - CS-060

Phase Budget: Wastewater **Start Date:** 8/22/2016

Phase Status: Project Execution **End Date:** 9/29/2023

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: B&V

Cost Est. Date: 8/22/2016

Cost Est. Prepared By: B&V

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering (CS-060)	\$2,086	\$596	\$589	\$1,090	\$407	\$0	\$0	\$0	\$0	\$407	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-060)	8/22/2016	9/29/2023

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Phase: Design/Engineering (CS-291)**Phase Title:** ?

Phase Budget: Wastewater**Start Date:** 7/1/2018**Phase Status:** Closed Out**End Date:** 1/29/2021

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Unkown**Cost Est. Date:** 7/18/2018**Cost Est. Prepared By:** Unkown

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (CS-291)	\$58	\$58	\$58	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-291)	7/1/2018	1/29/2021

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Phase: Design/Engineering (CS-1432A)**Phase Title:** ?

Phase Budget: Wastewater**Start Date:** 7/1/2017**Phase Status:** Closed Out**End Date:** 6/29/2018

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Unkown**Cost Est. Date:** 7/18/2017**Cost Est. Prepared By:** Unkown

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (CS-1432A)	\$29	\$29	\$29	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-1432A)	7/1/2017	6/29/2018

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Phase: Design/Engineering (MISC)**Phase Title:** ?

Phase Budget: Wastewater**Start Date:** 7/1/2017**Phase Status:** Closed Out**End Date:** 6/30/2018

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Unkown**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Unkown

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (MISC)	\$130	\$130	\$130	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (MISC)	7/1/2017	6/30/2018

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Phase: Construction (Build) # 1 (CON-197)

Phase Title: CON-197 Modification to Incinerator Sludge Feed Systems at Complex -II

Phase Budget:	Wastewater	Start Date:	4/2/2018
Phase Status:	Project Execution	End Date:	9/29/2023

Phase Comments/Description:

Cost Est. Class: Class 1	Cost Est. Source: BID
Cost Est. Date: 4/2/2018	Cost Est. Prepared By: Weiss

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction (Build) # 1 (CON-197)	\$20,387	\$19,261	\$18,793	\$1,286	\$308	\$0	\$0	\$0	\$0	\$308	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (CON-197)	4/2/2018	9/29/2023

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Phase: Miscellaneous**Phase Title:** Miscellaneous

Phase Budget: Wastewater**Start Date:** 5/1/2010**Phase Status:** Closed Out**End Date:** 6/30/2015

Phase Comments/Description:Chris Nastally has no idea what this is for.

Cost Est. Class: Class 1**Cost Est. Source:** CAFR**Cost Est. Date:** 6/21/2015**Cost Est. Prepared By:** CAFR

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Miscellaneous	\$1,458	\$1,458	\$1,458	\$0

Phase Dates

Activity Name	Start Date	End Date
Pre-CAFR Actuals	5/1/2010	6/30/2015

Project Title: WRRF Modification to Incinerator Sludge Feed Systems at Complex -II

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$17,422	\$1,500	\$9,600	\$7,822	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,922
2019	\$21,620	\$0	\$567	\$6,787	\$11,356	\$3,477	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$22,187
2020	\$12,019	\$0	\$871	\$7,159	\$8,711	\$3,308	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20,049
2021	\$2,258	\$0	\$0	\$9,352	\$8,336	\$2,258	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$19,946
2022	\$2,500	\$0	\$871	\$8,456	\$6,094	\$4,243	\$2,500	\$0	\$0	\$0	\$0	\$0	\$0	\$22,162
2023	\$0	\$0	\$871	\$8,480	\$6,070	\$3,241	\$3,690	\$0	\$0	\$0	\$0	\$0	\$0	\$23,809

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$24,901,968	\$21,788,969	\$2,403,525	\$709,474	\$0	\$0	\$0	\$0	\$709,474	\$0

Description of CIP Changes:

Rehabilitation of incinerators 7-10 are almost complete and expected to perform the start up services likely in October 2020.

Project Title: WRRF Rehabilitation of the Ash Handling Systems

Project Status: Future Planned - Within Five Year Plan

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: Residuals Management

☐ Project New to CIP

☐ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

59.5

- ☒ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☒ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☒ Treatment



Incineration Complex II, Ash System

Project Manager: Chris Wilson

Director: Chris Nastally

Managing Dept.: WW Design Eng

Date Original Business Case Prepared: 7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ From Program?

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: WRRF Rehabilitation of the Ash Handling Systems

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 over five years and there is no backup if the dry ash system goes down. The C-I Incinerators are planned to be decommissioned in the next year or two and there is a potential to link the C-I ash handling system to the C-II system to provide extra storage.

Primary Driver: 1 - Condition

Driver Explanation:

The wet ash system has been out of service for over five years and the dry ash system is nearing the end of its useful life.

Project Title: WRRF Rehabilitation of the Ash Handling Systems

Scoring

Project Manager Weighted Score: 57.8			
Criteria Name	Score	Score Criteria	Comment
Condition	3	A. Asset has <50% of its design service life remaining, B. Functionally sound and acceptable, signs of normal wear, C. May have minor failures or diminished efficiency; some performance deterioration, D. Moderate renewal or rehab needed in short term	
Performance (Service Level/Reliability)	2	A. Meets all design requirements under normal conditions; up to date	
Regulatory (Environmental/Legal)	3	E. Moderate historical evidence gives minor support for project	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	3	C. Likely to address minor hazard issues or concerns	
Public Benefit	1	C. Minimal/no impact on public/GLWA image & relationships	
Financial	3	A. Implementing the project will generate moderate increase revenue or savings for GLWA.	
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	

Review Committee Weighted Score: 59.5		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	3	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: WRRF Rehabilitation of the Ash Handling Systems

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/1/2025

Phase Status: Future Planned Start

End Date: 2/29/2032

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$264	\$26	\$26	\$0	\$0	\$0	\$36	\$36	\$36	\$107	\$131

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/1/2025	2/29/2032
Capital Delivery Salary	7/1/2025	2/29/2032

Project Title: WRRF Rehabilitation of the Ash Handling Systems

Phase: Design/Engineering (1803499)

Phase Title: Study Phase - 1803499

Phase Budget: Wastewater

Start Date: 10/16/2019

Phase Status: Closed Out

End Date: 2/29/2032

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Consultant

Cost Est. Date: 10/16/2019

Cost Est. Prepared By: Consultant

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering (1803499)	\$1,720	\$125	\$125	\$0	\$0	\$0	\$513	\$513	\$49	\$1,075	\$520

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1803499)	10/16/2019	2/29/2032

Project Title: WRRF Rehabilitation of the Ash Handling Systems

Phase: Construction (Build) # 1**Phase Title:** Construction - TBD

Phase Budget: Wastewater**Start Date:** 7/1/2028**Phase Status:** Future Planned Start**End Date:** 2/29/2032

Phase Comments/Description:Rehabilitation of the Ash Handling Systems

Cost Est. Class: Class 4**Cost Est. Source:** WWE**Cost Est. Date:** 6/21/2022**Cost Est. Prepared By:** WWE

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY28	5 Year Total	FY29-33
Construction (Build) # 1	\$5,200	\$0	\$0	\$0	\$0	\$0	\$0	\$5,200

Phase Dates

Activity Name	Start Date	End Date
Construction	7/1/2028	2/29/2032

Project Title: WRRF Rehabilitation of the Ash Handling Systems

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$18,316	\$530	\$1,045	\$6,225	\$5,725	\$4,791	\$0	\$0	\$0	\$0	\$0	\$0	\$18,316
2019	\$11,286	\$0	\$0	\$687	\$916	\$3,614	\$6,069	\$9,330	\$0	\$0	\$0	\$0	\$20,616
2020	\$18,505	\$0	\$0	\$111	\$1,111	\$5,525	\$9,574	\$2,184	\$0	\$0	\$0	\$0	\$18,505
2021	\$18,377	\$0	\$0	\$166	\$1,338	\$636	\$11,061	\$5,342	\$0	\$0	\$0	\$0	\$18,543
2022	\$6,540	\$0	\$0	\$111	\$351	\$295	\$295	\$453	\$1,518	\$3,978	\$1,429	\$0	\$8,432
2023	\$1,000	\$0	\$0	\$111	\$40	\$0	\$0	\$0	\$0	\$500	\$500	\$0	\$6,351

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$7,183,909	\$151,058	\$0	\$0	\$0	\$548,561	\$548,561	\$84,934	\$1,182,057	\$5,850,794

Description of CIP Changes:

Study phase was added on its own to evaluate options prior to design. The schedule was delayed by 1 FY.

Updated costs, dates, and CIP Portal. - 7/22

Project Title: WRRF Biosolids Processing Improvements**Project Status:** Future Planned - Within Five Year Plan**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** WRRF**Class Lvl 3:** Residuals Management☐ **Project New to CIP**☐ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****79.6**

- ☐ **Innovation**
- ☒ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**

**Project Manager:** Chris Wilson**Director:** Chris Nastally**Managing Dept.:** WW Design Eng**Date Original Business Case Prepared:**
7/19/2021**Year Project Added to CIP:** 2021**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** WRRF**Funds and Cost Center:** Wastewater - 5421-892111☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** TBD**Partners:****Collaboration Entity:**

Project Title: WRRF Biosolids Processing Improvements

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 consists of eight multiple hearth incinerators each containing 12 hearths with an outside diameter of 25'-9" as made by Nichols-Herreshoff. The rated capacity of each is 3.2 dry tons per hour (dtph). During the 2006 wet weather evaluation, the average unit capacity was reduced to 2.5 dtph, but increased back to rated capacity following upgrades. Thus, the firm C-II Incineration capacity is 461 dtph based on six of eight incinerators in service and a 25 percent TS feed cake concentration.

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 only for sludge that comes from PS2. PS1 sludge would be sent to digested sludge storage tanks for dewatering and drying.
4. Expand the BDF to process all sludge without any THP or AD. This alternative was added after the previous alternatives had been evaluated. It does not include acceptance of high strength feedstocks or struvite recovery like the other options.

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 ash.

Primary Driver: 2 - Performance

Driver Explanation:

Improving plant operations by re-organizing workflow paths and space utilization.

Project Title: WRRF Biosolids Processing Improvements

Scoring

Project Manager Weighted Score: 79.6			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining, B. Equipment/process functions but requires high level of maintenance to remain operational, D. Replacement or major rehab needed in the short term	
Performance (Service Level/Reliability)	4	A. Expected performance failures under normal conditions, B. High risk of performance failure; doesn't meet future requirements, C. Equipment/process OOS 25% to 50% of the time., E. Not doing the project frequent and repetitive service interruption and/or reliability issues†	
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,, C. Canceling project risk of non-compliance in near term; potential permit violations; regulatory scrutiny; sig. measurable negative environmental impact to wide area	
Operations and Maintenance	5	C. Repairs total >=60% of the asset/process original value, D. Project major, measurable positive impact on O&M; will completely alleviate ongoing O&M issues	
Health and Safety	4	C. Canceling project continue to pose significant staff/public safety/hazard issues, some potential for significant injury and significant regulatory violations (i.e. OSHA).	
Public Benefit	3	F. Canceling project moderate chance of moderate neg. publicity	
Financial	3	D. Canceling project moderate financial consequences (revenue loss, repair/restoration, downtime, fines, litigation)	
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings, B. Project will remove significant operational hurdles/ obstacles for significant equipment/process	

Review Committee Weighted Score: 79.6		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	5	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	3	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	4	Scores carried over from previous year

Project Title: WRRF Biosolids Processing Improvements

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 8/1/2025**Phase Status:** Future Planned Start**End Date:** 1/31/2042

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$1,703	\$0	\$0	\$0	\$94	\$103	\$103	\$301	\$516

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	8/1/2025	1/31/2042
Capital Delivery Salary	8/1/2025	1/31/2042

Project Title: WRRF Biosolids Processing Improvements

Phase: Design/Engineering

Phase Title: Design/Engineering / Construction Assistance - TBD

Phase Budget: Wastewater

Start Date: 8/1/2025

Phase Status: Future Planned Start

End Date: 1/31/2042

Phase Comments/Description:

Cost Est. Class: Class 4

Cost Est. Source: WWE

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: WWE

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$27,720	\$0	\$0	\$0	\$548	\$1,332	\$1,336	\$3,216	\$7,754

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	8/1/2025	1/31/2042

Project Title: WRRF Biosolids Processing Improvements

Phase: Construction**Phase Title:** Construction - TBD

Phase Budget: Wastewater**Start Date:** 7/1/2021**Phase Status:** Future Planned Start**End Date:** 1/31/2042

Phase Comments/Description:

Cost Est. Class: Class 4**Cost Est. Source:** WWE**Cost Est. Date:** 7/18/2021**Cost Est. Prepared By:** WWE

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY29-33
Construction	\$170,000	\$0	\$0	\$0	\$37,242

Phase Dates

Activity Name	Start Date	End Date
Construction	2/2/2031	1/31/2042
Construction Material / Equipment Purchase	7/1/2021	7/31/2021

Project Title: WRRF Biosolids Processing Improvements

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY24	FY25	FY26	FY27	FY28	Total
2023	\$6,700	\$0	\$0	\$2,700	\$4,000	\$4,000	\$180,000

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Total Costs	Prior FYs	FY23	FY26	FY27	FY28	5 Year Total	FY29-33
\$199,423,371	\$0	\$0	\$641,926	\$1,435,500	\$1,439,433	\$3,516,859	\$45,511,822

Description of CIP Changes:

Project added to CIP FY 23 AC.

Project Title: WRRF Relocation of Industrial Waste Control Division and Analytical Laboratory Operations**Project Status:** Closed**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** WRRF**Class Lvl 3:** Industrial Waste Control☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☒ **Multiple Phases****Project Score****0**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**

**Project Manager:** Nicolas Nicolas**Director:** Philip Kora**Managing Dept.:** WW Construction Eng**Date Original Business Case Prepared:**
10/12/2016**Year Project Added to CIP:** 2014**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** System Wide**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: WRRF Relocation of Industrial Waste Control Division and Analytical Laboratory Operations

Problem Statement:

Laboratory Optimization, Continued operation of Industrial Waste Control (IWC) and laboratory, lease termination for analytical laboratory, and utilization of available space in WRRF new Administration Building (NAB)

Scope of Work/Project Alternatives:

Relocate the Industrial Waste Control (IWC) Division and Analytical Laboratory to the New Administration Building (NAB) at WRRF. Consolidate the existing Operations Laboratory with Analytical Laboratory.

Other Important Info:

Challenges: Maintaining the laboratory operations during relocation.

Project History: GLWA implements an Industrial Pretreatment Program (IPP). A key component of the IPP includes the performance of analytical testing on wastewater samples collected from industrial and commercial sources.

The Industrial Waste Control Division (IWC) is responsible for implementation of the IPP. IWC activities are housed at the Livernois Center Building (LCB) while the Analytical Laboratory leases space on Second Avenue.

The State of Michigan Department of Transportation and the Govt. of Canada have proposed to construct a new bridge crossing across the Detroit River. The Livernois Center Building lies within the area designated for the Bridge and support services and need to be relocated.

Primary Driver: 3 - Regulatory

Driver Explanation:

Length and reorganization is not yet established.

Project Title: WRRF Relocation of Industrial Waste Control Division and Analytical Laboratory Operations

Scoring

Project Manager Weighted Score: 0			
Criteria Name	Score	Score Criteria	Comment
Condition	0		
Performance (Service Level/Reliability)	0		
Regulatory (Environmental/Legal)	0		
Operations and Maintenance	0		
Health and Safety	0		
Public Benefit	0		
Financial	0		
Efficiency and Innovation	0		

Review Committee Weighted Score: 0		
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	

Project Title: WRRF Relocation of Industrial Waste Control Division and Analytical Laboratory Operations

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 10/12/2016

Phase Status: Closed Out

End Date: 8/27/2021

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
GLWA Salaries	\$222	\$222	\$222	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	10/12/2016	8/27/2021
Capital Delivery Salary	10/12/2016	8/27/2021

Project Title: WRRF Relocation of Industrial Waste Control Division and Analytical Laboratory Operations

Phase: Professional Services

Phase Title: Cancel this phase

Phase Budget: Wastewater

Start Date: 10/12/2016

Phase Status: Cancelled

End Date: 8/27/2021

Phase Comments/Description:

Cost Est. Class: Class 4

Cost Est. Source: Cancel this

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: Cancel this

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Professional Services	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services	10/12/2016	8/27/2021

Phase: Design & Construction Assistance # 1 (CS-262, CS-1481, 1901083)

Phase Title: General Engineering Services for design of CON-280 and Analytical Lab (Sigma)

Project Title: WRRF Relocation of Industrial Waste Control Division and Analytical Laboratory Operations

Phase Budget: Wastewater

Start Date: 7/1/2016

Phase Status: Closed Out

End Date: 1/29/2021

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Contract

Cost Est. Date: 9/12/2018

Cost Est. Prepared By: Sigma

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design & Construction Assistance # 1 (CS-262, CS-1481, 1901083)	\$993	\$993	\$993	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-262)	10/12/2016	6/30/2020
214001 Design/Engineering (1901083)	1/1/2021	1/29/2021
Design/Engineering (CON-280)	7/1/2017	6/29/2018
Design/Engineering (CS-1481)	7/1/2016	6/30/2017
Design/Engineering (MISC)	7/1/2017	6/30/2019

Project Title: WRRF Relocation of Industrial Waste Control Division and Analytical Laboratory Operations

Phase: Construction (Build) # 2 (1803776, CON-280)

Phase Title: Relocation of Analytical Lab

Phase Budget: Wastewater

Start Date: 6/25/2018

Phase Status: Active

End Date: 8/27/2021

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Eng Est.

Cost Est. Date: 9/12/2018

Cost Est. Prepared By: Ali Khraizat

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Construction (Build) # 2 (1803776, CON-280)	\$13,085	\$13,085	\$13,085	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (1803776)	6/25/2018	8/27/2021
Construction (CON-280)	7/1/2018	6/28/2019

Project Title: WRRF Relocation of Industrial Waste Control Division and Analytical Laboratory Operations

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$7,000	\$5,000	\$2,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,000
2019	\$12,765	\$0	\$4,001	\$7,764	\$1,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$12,947
2020	\$7,567	\$573	\$2,828	\$7,567	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,968
2021	\$1,331	\$0	\$2,301	\$10,369	\$1,331	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$14,001
2022	\$0	\$391	\$400	\$9,792	\$2,067	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$12,651
2023	\$0	\$391	\$1,726	\$8,285	\$3,648	\$50	\$0	\$0	\$0	\$0	\$0	\$0	\$14,282

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$14,300,183	\$14,300,183	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

Reallocated engineering services from CIP No. 380901 (contact was moved from as-needed to appropriate CIP). Separated IWC and Lab construction phases due to GHIB project schedule. IWC was relocated to WRRF. Relocation of analytical lab construction is progressing and is expected to be completed by end of 2020.

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF**Project Status:** Project Execution - Construction**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** WRRF**Class Lvl 3:** General Purpose☐ **Project New to CIP**☐ **Useful Life > 20 Yrs**☒ **Multiple Phases****Project Score****94.7**

- ☒ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**

**Project Manager:** Ihsan Wahab**Director:** Philip Kora**Managing Dept.:** WW Construction Eng**Date Original Business Case Prepared:**
8/1/2016**Year Project Added to CIP:** 2010**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** WRRF**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF**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, associated Valves and Appurtenances.

Providing Flow meters and new control strategies to meet future demands of Ferric Chloride at Pump Station # 2.

The CIP is for construction only.

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 construction phase of the project.

Project History: The Sampling sites are located at Oakwood, MPI-2, NEIA, PEAS1, 3 & 4, ML1 thru 4, and RAS1 thru 4, C2SE 3& 4. These sampling stations are required to be rehabilitated or replaced for meeting the permit sampling requirements. These sampling stations regularly fails to collect samples due to the clogging problem in the sample line. Replacement of existing sampling equipment, installing new samplers, pumps, HVAC, etc. is needed.

The WRRF sampling station rehabilitation design and WRRF PS# 2 Ferric Chloride rehabilitation design were completed under another As Needed Engineering Services Contract. These two projects are now combined together for construction.

Primary Driver: 2 - Performance

Driver Explanation:

Plant operations report on the failure of shear pins and accelerated wearing and tearing of the bar racks causing downtime for the maintenance and violation of the permit.

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Scoring

Project Manager Weighted Score:		94.7	
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life	Project Manager score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	5	A. Will cause, or IS causing significant capacity problems	Project Manager score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	5	A. Imminent risk of/is causing Permit/reg. violations; Legal obligation; Unregulated discharges; Health risks to staff/public	Project Manager score carried over from previous year Project Manager score
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	Project Manager score carried over from previous year Project Manager score
Health and Safety	3	A. Failure not catastrophic, has moderate chance of occurring; failure may be mitigated to minimize safety/health/environmental impacts	Project Manager score carried over from previous year Project Manager score
Public Benefit	3	A. Project part of GLWA strategic plan*, but no new customers	Project Manager score carried over from previous year Project Manager score
Financial	4	A. Project will generate significant increased revenue/savings	Project Manager score carried over from previous year Project Manager score
Efficiency and Innovation	3	A. Project attempts to right-size system; small operational efficiencies and increasing revenue/savings	Project Manager score carried over from previous year Project Manager score

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Review Committee Weighted Score: 94.7		
Criteria Name	Score	Comment
Condition	5	Committee score carried over from previous year committee score
Performance (Service Level/Reliability)	5	Committee score carried over from previous year committee score
Regulatory (Environmental/Legal)	5	Committee score carried over from previous year committee score
Operations and Maintenance	4	Committee score carried over from previous year committee score
Health and Safety	3	Committee score carried over from previous year committee score
Public Benefit	3	Committee score carried over from previous year committee score
Financial	4	Committee score carried over from previous year committee score
Efficiency and Innovation	3	Committee score carried over from previous year committee score

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 2/18/2019

Phase Status: Project Execution

End Date: 8/6/2023

Phase Comments/Description:

Cost Est. Class: Class 2

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$305	\$371	\$328	(\$14)	(\$9)	\$0	\$0	\$0	\$0	(\$9)	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	2/18/2019	8/6/2023
Capital Delivery Salary	2/18/2019	8/6/2023

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 2/18/2019

Phase Status: Cancelled

End Date: 8/6/2023

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: Cancel this

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: Cancel this

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Professional Services	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services	2/18/2019	8/6/2023

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Phase: Design/Engineering (CS-292)

Phase Title: Construction Assistance - CS-292 - Metco

Phase Budget: Wastewater

Start Date: 8/17/2019

Phase Status: Project Execution

End Date: 8/6/2023

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Metco

Cost Est. Date: 2/8/2019

Cost Est. Prepared By: Metco

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering (CS-292)	\$136	\$118	\$118	\$16	\$2	\$0	\$0	\$0	\$0	\$2	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-292)	8/17/2019	8/6/2023

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Phase: Design/Engineering (CS-301)

Phase Title: Engineering Services - CS-301

Phase Budget: Wastewater

Start Date: 8/17/2019

Phase Status: Project Execution

End Date: 8/6/2023

Phase Comments/Description:

Providing design services for the project

Cost Est. Class: Class 1

Cost Est. Source: Sigma

Cost Est. Date: 2/18/2019

Cost Est. Prepared By: Sigma

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	5 Year Total
Design/Engineering (CS-301)	\$889	\$423	\$419	\$409	\$62	\$62

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-301)	8/17/2019	8/6/2023

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF**Phase:** Design/Engineering (CS-1481)**Phase Title:** ?**Phase Budget:** Wastewater**Start Date:** 7/1/2016**Phase Status:** Closed Out**End Date:** 6/29/2018**Phase Comments/Description:****Cost Est. Class:** Class 1**Cost Est. Source:** WWE**Cost Est. Date:** 2/18/2019**Cost Est. Prepared By:** WWE**Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (CS-1481)	\$271	\$271	\$271	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-1481)	7/1/2016	6/29/2018

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF**Phase:** Design/Engineering (CS-1499)**Phase Title:** CS-1499**Phase Budget:** Wastewater**Start Date:** 7/1/2016**Phase Status:** Closed Out**End Date:** 6/29/2018**Phase Comments/Description:****Cost Est. Class:** Class 1**Cost Est. Source:** WWE**Cost Est. Date:** 7/1/2016**Cost Est. Prepared By:** WWE**Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (CS-1499)	\$124	\$124	\$124	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-1499)	7/1/2016	6/29/2018

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Phase: Design/Engineering (MISC)

Phase Title: No idea what this is for

Phase Budget: Wastewater

Start Date: 7/1/2017

Phase Status: Closed Out

End Date: 6/30/2021

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (MISC)	\$49	\$49	\$49	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (MISC)	7/1/2017	6/30/2021

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Phase: Construction (Build) # 1 (1802410)

Phase Title: Construction (Build) # 1 (1802410)

Phase Budget: Wastewater **Start Date:** 2/18/2019

Phase Status: Project Execution **End Date:** 8/6/2023

Phase Comments/Description:

Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Cost Est. Class: Class 1

Cost Est. Source: BID

Cost Est. Date: 2/18/2019

Cost Est. Prepared By: Weiss

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction (Build) # 1 (1802410)	\$6,556	\$5,498	\$4,974	\$1,441	\$140	\$0	\$0	\$0	\$0	\$140	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (1802410)	2/18/2019	8/6/2023

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF**Phase:** Construction (1900744)**Phase Title:** Construction (1900744)**Phase Budget:** Wastewater**Start Date:** 7/1/2022**Phase Status:****End Date:** 6/30/2023**Phase Comments/Description:****Cost Est. Class:****Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:****Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Construction (1900744)	\$0	\$56	\$56	(\$56)

Phase Dates

Activity Name	Start Date	End Date
Construction (1900744)	7/1/2022	6/30/2023

Project Title: Rehabilitation of Various Sampling Sites and PS#2 Ferric Chloride System at WRRF

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$5,000	\$2,500	\$2,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000
2019	\$5,073	\$40	\$551	\$3,957	\$565	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,425
2020	\$4,528	\$439	\$609	\$3,921	\$607	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,576
2021	\$1,421	\$0	\$815	\$3,493	\$1,300	\$121	\$0	\$0	\$0	\$0	\$0	\$0	\$5,729
2022	\$76	\$4	\$316	\$1,318	\$4,932	\$76	\$0	\$0	\$0	\$0	\$0	\$0	\$6,645
2023	\$0	\$127	\$376	\$823	\$1,433	\$2,211	\$0	\$0	\$0	\$0	\$0	\$0	\$5,282

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$8,330,395	\$6,338,792	\$1,795,764	\$195,839	\$0	\$0	\$0	\$0	\$195,839	\$0

Description of CIP Changes:

Reallocated as-needed contracts from CIP No. 380901 (Sigma-Sampling Sta.) and CIP No. 380901 (Metco-Ferric). Pump station No.2 ferric chloride system re-design is completed and the contractor started the work at site. Re-design of various sampling sites will be completed in few months.

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: General Purpose

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☒ Multiple Phases

Project Score

79

- ☒ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☒ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☒ Treatment



Secondary Area

Project Manager: Nicolas Nicolas

Director: Philip Kora

Managing Dept.: WW Design Eng

Date Original Business Case Prepared:
7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ From Program?

Program Number:

Delivery Method: CMAR (Construction Management At Risk)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

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 adequate supply of water systems required for treatment processes during assessment and rehabilitation of underground utilities will be the most significant challenge. Temporary power, air, water, natural gas system shutdowns may be required to perform the work.

Primary Driver: 2 - Performance

Driver Explanation:

Some underground utilities are original to the plant and are critical to the plant treatment processes.

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

Scoring

Project Manager Weighted Score: 49.1			
Criteria Name	Score	Score Criteria	Comment
Condition	3	A. Asset has <50% of its design service life remaining, D. Moderate renewal or rehab needed in short term, C. May have minor failures or diminished efficiency; some performance deterioration, B. Functionally sound and acceptable, signs of normal wear	
Performance (Service Level/Reliability)	3	F. Some likelihood for noticeable inconveniences for 2-5 wholesale, 10K retail, but no critical customers, E. Canceling project potential for service/reliability issues† a few times/yr, D. Project moderate positive impact on service levels/reliability/lower risk, C. Equipment/process is out of service 5% to 25% of the time, B. Performance acceptable–marginal; likely not to meet future req’s, A. Generally meets design needs; moderate risk of perf. failure	
Regulatory (Environmental/Legal)	2	B. Project will have a moderate to low impact on reg. issues, A. Low risk of causing, F. Compliance failure not result in a significant fine, enforcement, environmental impact, but may have some local impact	
Operations and Maintenance	2	E. Measurable cost reductions 2% to 4%/year of current budget, A. Low levels of O/M keeps meantime between failure standard	E. The cost reduction in E is in terms of less maintenance cost/budget
Health and Safety	2	C. Canceling project unlikely to impact staff/public H&S†, B. Project limited positive impact on staff/public H&S†; No major staff or hazard issues or concerns addressed, A. Low chance of failure occurring; failure easily mitigated w/ no safety/health/env. impacts	
Public Benefit	2	F. Canceling project minor chance off public impact; no neg. gov’t/reg. interest, E. No media coverage, minor impact on comm./stakeholder relations, D. Low impact on public/GLWA image, minor recognition, A. Low to moderate impact by supporting City/region/neighborhood growth	
Financial	2	C. Low positive impact on resource capacity, B. Low positive financial implications\$100K-\$250K or ROI 15-20 yrs, A. Low financial impact to GLWA; No grants/other external funding, D. Canceling project limited/low financial consequences	
Efficiency and Innovation	3	A. Project attempts to right-size system; small operational efficiencies and increasing revenue/savings	project will not increase revenues

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

Review Committee Weighted Score: 79		
Criteria Name	Score	Comment
Condition	5	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	3	Scores carried over from previous year

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater **Start Date:** 12/28/2020

Phase Status: Future Planned Start **End Date:** 6/30/2025

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Date: 7/18/2022

Cost Est. Source: GLWA CIP Group

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$366	\$196	\$168	\$70	\$64	\$64	\$0	\$0	\$0	\$128	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	12/28/2020	6/30/2025
Capital Delivery Salary	12/28/2020	6/30/2025

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

Phase: Professional Services

Phase Title: Professional Services - CS-272 - 72021A.06 / 72007B.09 / 72007A.09

Phase Budget: Wastewater **Start Date:** 9/23/2019

Phase Status: Project Execution **End Date:** 5/19/2023

Phase Comments/Description:

Cost Est. Class: Class 2

Cost Est. Source: AECOM

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$142	\$137	\$137	\$6

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72021A.06 / 72007B.09 / 72007A.09)	9/23/2019	5/19/2023

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

Phase: Design/Engineering (1903601)

Phase Title: Design Services for CMAR - 1903601 - CDM Smith

Phase Budget: Wastewater **Start Date:** 12/28/2020

Phase Status: Project Execution **End Date:** 6/30/2025

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: CDM

Cost Est. Date: 1/15/2021

Cost Est. Prepared By: CDM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering (1903601)	\$3,348	\$1,460	\$1,265	\$665	\$710	\$708	\$0	\$0	\$0	\$1,418	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1903601)	12/28/2020	6/30/2025

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

Phase: Construction (Build) # 1

Phase Title: Construction CMAR - 1903598 - Chrisman

Phase Budget: Wastewater

Start Date: 1/15/2021

Phase Status: Project Execution

End Date: 6/30/2025

Phase Comments/Description:

Assessment and Rehabilitation of WRRF yard piping and underground utilities

Cost Est. Class: Class 1

Cost Est. Source: Chrisman

Cost Est. Date: 1/15/2021

Cost Est. Prepared By: Chrisman

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	5 Year Total
Construction (Build) # 1	\$22,449	\$2,665	\$2,192	\$5,393	\$7,442	\$7,422	\$0	\$14,863

Phase Dates

Activity Name	Start Date	End Date
Construction	1/15/2021	6/30/2025

Project Title: Assessment and Rehabilitation of WRRF yard piping and underground utilities

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$47,579	\$1,700	\$2,000	\$12,000	\$15,600	\$16,279	\$4,141	\$0	\$0	\$0	\$0	\$0	\$51,720
2019	\$30,430	\$0	\$0	\$1,718	\$4,008	\$7,174	\$17,530	\$24,026	\$0	\$0	\$0	\$0	\$54,456
2020	\$17,430	\$0	\$0	\$323	\$5,258	\$3,849	\$4,500	\$3,500	\$7,423	\$0	\$0	\$0	\$24,853
2021	\$23,966	\$0	\$3	\$270	\$4,291	\$4,754	\$4,754	\$4,767	\$5,400	\$273	\$0	\$0	\$24,512
2022	\$23,221	\$0	\$3	\$70	\$580	\$558	\$2,858	\$9,808	\$9,782	\$214	\$0	\$0	\$23,875
2023	\$19,864	\$0	\$18	\$56	\$965	\$206	\$2,963	\$9,432	\$7,468	\$0	\$0	\$0	\$21,108

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$26,305,188	\$3,761,533	\$6,134,259	\$8,215,922	\$8,193,474	\$0	\$0	\$0	\$16,409,396	\$0

Description of CIP Changes:

This project was separated from of SFE PS rehabilitation and the schedule was advanced by 1 FY.

Project Title: DTE Primary Electric 3rd Feed Supply to WRRF**Project Status:** Closed**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** WRRF**Class Lvl 3:** General Purpose☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☒ **Multiple Phases****Project Score****0**

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☒ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☒ Treatment

**Project Manager:** Phillip Kora**Director:** Philip Kora**Managing Dept.:** WW Construction Eng**Date Original Business Case Prepared:**
7/27/2016**Year Project Added to CIP:** 2017**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** WRRF**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** Other (Design In-house and Bid Out for Construction)**Delivery Method Details:** Project designed/delivered by DTE☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: DTE Primary Electric 3rd Feed Supply to WRRF

Problem Statement:

The scope of this project includes design and construction of 3rd 120 KV primary electric supply transmission line (design, build and maintain by DTE) tapping into the 120 kv waterman-Zug line in the vicinity of Dearborn St. and Copland St right of way at Tower 1368 per the agreement between DTE and GLWA dated May 2, 2019. GLWA is responsible to secure the property right-of-way from the property owners as well as environmental remediation and cleanup including hauling and disposal of any soil.

Scope of Work/Project Alternatives:

GLWA also is responsible to provide the connection from the service point (last steel pole installed by DTE) to GLWA's equipment on GLWA's property. This primary transmission power line will energize the already installed new 120-13.8 industrial substation owned by GLWA near EB-1.

Other Important Info:

Challenges: Negotiation with private property owners and testing of the automatic switch required co-ordination with operations.
GLWA and DTE executed the new agreement in May 2019.

Primary Driver: 3 - Regulatory

Driver Explanation:

GLWA's WWTP requires a reliable and redundant primary electrical power supply in order to be in compliance with its NPDES permit requirements. The disconnection and removal of backup power supply line and substation from PLD left GLWA vulnerable.

Project Title: DTE Primary Electric 3rd Feed Supply to WRRF**Scoring**

Project Manager Weighted Score: 0			
Criteria Name	Score	Score Criteria	Comment
Condition	0		
Performance (Service Level/Reliability)	0		
Regulatory (Environmental/Legal)	0		
Operations and Maintenance	0		
Health and Safety	0		
Public Benefit	0		
Financial	0		
Efficiency and Innovation	0		

Review Committee Weighted Score: 0		
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	

Project Title: DTE Primary Electric 3rd Feed Supply to WRRF

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 7/1/2018**Phase Status:** Active**End Date:** 6/30/2022

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:****Cost Est. Date:** 7/31/2019**Cost Est. Prepared By:** PMA

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
GLWA Salaries	\$553	\$553	\$553	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/1/2018	6/30/2022
Capital Delivery Salary	7/1/2018	6/30/2022
Other Capital Improvement Costs	7/1/2018	6/30/2022

Project Title: DTE Primary Electric 3rd Feed Supply to WRRF

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 6/3/2019**Phase Status:****End Date:** 6/30/2022

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$33	\$33	\$33	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services	6/3/2019	6/30/2022

Project Title: DTE Primary Electric 3rd Feed Supply to WRRF

Phase: Design & Construction Assistance # 1 (CS-189)**Phase Title:** DTE Primary Electric 3rd Feed Supply to WRRF

Phase Budget: Wastewater**Start Date:** 7/1/2018**Phase Status:** Active**End Date:** 6/30/2022

Phase Comments/Description:

Cost Est. Class: Class 4**Cost Est. Source:** Estimate**Cost Est. Date:** 7/31/2019**Cost Est. Prepared By:** Engineering

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design & Construction Assistance # 1 (CS-189)	\$53	\$53	\$53	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-189)	7/1/2018	6/30/2022

Project Title: DTE Primary Electric 3rd Feed Supply to WRRF**Phase:** Design/Engineering (CS-1433)**Phase Title:** Design/Engineering (CS-1433)**Phase Budget:** Wastewater**Start Date:** 7/1/2016**Phase Status:****End Date:** 6/30/2017**Phase Comments/Description:****Cost Est. Class:****Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:****Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (CS-1433)	\$15	\$15	\$15	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-1433)	7/1/2016	6/30/2017

Project Title: DTE Primary Electric 3rd Feed Supply to WRRF**Phase:** Design/Engineering (1900318)**Phase Title:** Design/Engineering (1900318)**Phase Budget:** Wastewater**Start Date:** 7/1/2017**Phase Status:****End Date:** 6/30/2018**Phase Comments/Description:****Cost Est. Class:****Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:****Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (1900318)	\$65	\$65	\$65	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1900318)	7/1/2017	6/30/2018

Project Title: DTE Primary Electric 3rd Feed Supply to WRRF

Phase: Construction (Build) # 1**Phase Title:** DTE Primary Electric 3rd Feed Supply to WRRF

Phase Budget: Wastewater**Start Date:** 7/1/2018**Phase Status:** Active**End Date:** 6/30/2022

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:****Cost Est. Date:** 7/31/2019**Cost Est. Prepared By:** PMA

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Construction (Build) # 1	\$3,277	\$3,277	\$3,277	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (Fund 5421)	7/1/2018	6/30/2022
Construction (Fund 5404)	7/1/2018	6/30/2022

Project Title: DTE Primary Electric 3rd Feed Supply to WRRF

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY18	FY19	FY20	FY21	FY22	Total
2018	\$7,000	\$3,500	\$3,500	\$0	\$0	\$0	\$7,000
2019	\$6,654	\$0	\$2,002	\$1,326	\$3,326	\$0	\$6,669
2020	\$4,755	\$584	\$2,108	\$1,381	\$3,374	\$0	\$7,447
2021	\$2,023	\$0	\$738	\$3,062	\$1,296	\$727	\$5,823
2022	\$393	\$0	\$405	\$2,493	\$1,253	\$393	\$4,544
2023	\$0	\$317	\$2,405	\$161	\$1,014	\$0	\$3,912

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Total Costs	Prior FYs	FY23
\$3,996,247	\$3,996,247	\$0

Description of CIP Changes:

DTE has completed the design/construction of the 3rd feeder and the testing/commissioning of the 3rd feeder was completed too.

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Project Status: Project Execution - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: General Purpose

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☒ Multiple Phases

Project Score

63.2

- ☒ Innovation
- ☒ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☒ Treatment



SFE Building, Basement

Project Manager: Chris Wilson

Director: Chris Nastally

Managing Dept.: WW Design Eng

Date Original Business Case Prepared:
6/21/2017

Year Project Added to CIP: 2018

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ From Program?

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

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 include additional SFE treatment such as chemical addition to accommodate process needs.

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 transformers that supply power from EB-3 are approximately 40 years old and are in need of replacement.

Challenges: Maintaining adequate supply of SFE to the plant treatment processes during construction.

Primary Driver: 1 - Condition

Driver Explanation:

The SFE pump station is very old and is critical to other treatment processes meeting permit requirements. The Secondary Water System is very corroded and needs to be rehabilitated.

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Scoring

Project Manager Weighted Score: 64.7			
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life, D. Immediate replacement or rehabilitation required	
Performance (Service Level/Reliability)	2	A. Meets all design requirements under normal conditions; up to date	
Regulatory (Environmental/Legal)	2	A. Low risk of causing	The score should be higher (not sure where to put increasing Resiliency) this will backup the WRRF water system
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	
Health and Safety	1	C. Staff/public safety/hazard issues not a concern	
Public Benefit	5	C. Additional revenue/savings for GLWA(\$1M+ per year) w/ minimal risk; better utilize existing infrastructure	
Financial	4	A. Project will generate significant increased revenue/savings, D. Significant financial implications \$1M - \$5M or ROI of 5-10 yrs	
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings, C. Significant positive impact on Energy use conservation i.e. 10-20% energy reduction; Water use, effluent reuse; Business process optimization, process efficiency for a more robust system and less O&M; time & cost savings	

Review Committee Weighted Score: 63.2		
Criteria Name	Score	Comment
Condition	5	Scores carried over from previous year
Performance (Service Level/Reliability)	2	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	1	Scores carried over from previous year
Public Benefit	2	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	4	Scores carried over from previous year

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 4/5/2021**Phase Status:** Project Execution**End Date:** 5/15/2027

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	5 Year Total
GLWA Salaries	\$574	\$22	\$19	\$84	\$122	\$122	\$122	\$106	\$472

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	4/5/2021	5/15/2027
Capital Delivery Salary	4/5/2021	5/15/2027

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Phase: Professional Services**Phase Title:** Professional Services - CS-272 - 72014A.06 / 72021A.07 / 72024A.01

Phase Budget:	Wastewater	Start Date:	5/7/2020
Phase Status:	Project Execution	End Date:	5/19/2023

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Date:** 5/7/2020**Cost Est. Source:** AECOM**Cost Est. Prepared By:** AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$903	\$299	\$233	\$670

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72014A.06 / 72021A.07 / 72024A.01)	5/7/2020	5/19/2023

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Phase: Design/Engineering (1802887)

Phase Title: Design/Engineering / Construction Assistance - 2000970

Phase Budget: Wastewater

Start Date: 4/5/2021

Phase Status: Project Execution

End Date: 5/15/2027

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: Noresco

Cost Est. Date: 4/5/2021

Cost Est. Prepared By: Noresco

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	5 Year Total
Design/Engineering (1802887)	\$3,960	\$29	\$29	\$2,490	\$63	\$479	\$479	\$419	\$1,440

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1802887)	4/5/2021	5/15/2027

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Phase: Design/Engineering (CS-166)

Phase Title: GLWA Project Controls - CS-166 - Task D.14

Phase Budget: Wastewater

Start Date: 7/1/2021

Phase Status: Project Execution

End Date: 5/15/2027

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: PMA

Cost Est. Date: 7/1/2021

Cost Est. Prepared By: PMA

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	5 Year Total
Design/Engineering (CS-166)	\$238	\$35	\$29	\$35	\$45	\$45	\$45	\$39	\$174

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-166)	7/1/2021	5/15/2027

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Phase: Construction (Build) # 1

Phase Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Phase Budget: Wastewater **Start Date:** 5/14/2024

Phase Status: Future Planned Start **End Date:** 5/15/2027

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: Eng

Cost Est. Date: 9/12/2018

Cost Est. Prepared By: Ali Khraizat

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	5 Year Total
Construction (Build) # 1	\$58,300	\$1,989	\$1,355	\$633	\$2,464	\$18,736	\$18,736	\$16,375	\$56,311

Phase Dates

Activity Name	Start Date	End Date
Construction (2000970)	5/14/2024	5/15/2027

Project Title: Rehabilitation of Screened Final Effluent (SFE) Pump Station

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	Total
2020	\$24,897	\$51	\$1,091	\$991	\$9,475	\$7,805	\$5,535	\$0	\$0	\$0	\$24,948
2021	\$24,364	\$0	\$590	\$1,362	\$1,507	\$15,571	\$5,924	\$0	\$0	\$0	\$24,954
2022	\$26,923	\$0	\$6	\$500	\$906	\$6,504	\$6,504	\$6,504	\$6,504	\$13,390	\$40,821
2023	\$38,464	\$0	\$6	\$257	\$1,500	\$2,510	\$10,848	\$10,848	\$14,258	\$0	\$40,226

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	5 Year Total
\$63,975,132	\$1,665,008	\$3,912,943	\$2,693,951	\$19,381,963	\$19,381,963	\$16,939,305	\$58,397,183

Description of CIP Changes:

2022 - Updated Project Timing

Project Title: WRRF Structural Improvements

Project Status: Active - Procurement -
Negotiation Phase - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: General Purpose

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

64.4

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☒ Treatment



Incineration Building

Project Manager: Alfredo Lava

Director: Chris Nastally

Managing Dept.: WW Design Eng

Date Original Business Case Prepared:
8/24/2020

Year Project Added to CIP: 2020

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-
892211

☐ From Program?

Program Number:

Delivery Method: DB (Design-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: WRRF Structural Improvements

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, architectural, and structural, engineering disciplines and construction trades.

Other Important Info:

None

Primary Driver: 1 - Condition

Driver Explanation:

Many older structures around the site are at the end of life and are requiring excessive cost to maintain them.

Project Title: WRRF Structural Improvements

Scoring

Project Manager Weighted Score: 63.3			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	Project Manager score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	4	A. Expected performance failures under normal conditions	Project Manager score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	3	A. Moderate risk of causing	Project Manager score carried over from previous year Project Manager score
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	Project Manager score carried over from previous year Project Manager score
Health and Safety	1	A. No failure reasonably expected to occur	Project Manager score carried over from previous year Project Manager score
Public Benefit	2	A. Low to moderate impact by supporting City/region/neighborhood growth	Project Manager score carried over from previous year Project Manager score
Financial	3	A. Implementing the project will generate moderate increase revenue or savings for GLWA.	Project Manager score carried over from previous year Project Manager score
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	Project Manager score carried over from previous year Project Manager score

Project Title: WRRF Structural Improvements

Review Committee Weighted Score: 64.4		
Criteria Name	Score	Comment
Condition	4	Committee score carried over from previous year committee score
Performance (Service Level/Reliability)	4	Committee score carried over from previous year committee score
Regulatory (Environmental/Legal)	3	Committee score carried over from previous year committee score
Operations and Maintenance	4	Committee score carried over from previous year committee score
Health and Safety	2	Committee score carried over from previous year committee score
Public Benefit	2	Committee score carried over from previous year committee score
Financial	3	Committee score carried over from previous year committee score
Efficiency and Innovation	1	Committee score carried over from previous year committee score

Project Title: WRRF Structural Improvements

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 9/15/2022**Phase Status:** Active - Procurement - Negotiation
Phase**End Date:** 6/15/2027

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total
GLWA Salaries	\$371	\$8	\$5	\$55	\$79	\$79	\$79	\$75	\$0	\$311

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	9/15/2022	6/15/2027
Capital Delivery Salary	9/15/2022	6/15/2027

Project Title: WRRF Structural Improvements

Phase: Professional Services #1**Phase Title:** Professional Services - AECOM - I do not know what this task is for

Phase Budget: Wastewater **Start Date:** 9/27/2021**Phase Status:** Future Planned Start **End Date:** 5/19/2023

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services #1	\$116	\$45	\$20	\$96

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272)	9/27/2021	5/19/2023

Project Title: WRRF Structural Improvements

Phase: Professional Services #2**Phase Title:** Professional Services #2

Phase Budget: Wastewater**Start Date:** 4/9/2021**Phase Status:****End Date:** 6/15/2027

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	5 Year Total
Professional Services #2	\$2,030	\$0	\$0	\$291	\$440	\$439	\$439	\$421	\$1,739

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-166 -Task C.27)	4/9/2021	6/15/2027

Project Title: WRRF Structural Improvements

Phase: Design-Build**Phase Title:** Design Build - 2100239

Phase Budget: Wastewater **Start Date:** 9/15/2022**Phase Status:** Active - Procurement - Negotiation **End Date:** 6/15/2027
Phase

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Kokosing**Cost Est. Date:** 3/15/2022**Cost Est. Prepared By:** Kokosing

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total
Design-Build	\$12,639	\$0	\$0	\$1,812	\$2,740	\$2,733	\$2,733	\$2,621	\$0	\$10,827

Phase Dates

Activity Name	Start Date	End Date
Design-Build	9/15/2022	6/15/2027

Project Title: WRRF Structural Improvements

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2022	\$10,235	\$52	\$2,052	\$2,046	\$2,046	\$2,046	\$2,046	\$2,046	\$0	\$12,333
2023	\$10,350	\$0	\$0	\$400	\$2,487	\$2,488	\$2,488	\$2,488	\$1,049	\$11,400

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total
\$15,156,195	\$25,011	\$2,254,089	\$3,259,348	\$3,250,442	\$3,250,442	\$3,116,863	\$0	\$12,877,096

Description of CIP Changes:

New Project

Project Title: Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

Project Status: Project Execution - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Field Services

Class Lvl 3: Interceptor

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

62.7

- ☐ Innovation
- ☒ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☒ Wet Weather Resiliency
- ☒ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☒ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment



Overall Plan for NWI Diversion to Oakwood Facilities

Project Manager: Biren Saparia

Director: Biren Saparia

Managing Dept.: SCC

Date Original Business Case Prepared:
7/27/2016

Year Project Added to CIP: 2014

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: Oakwood District

Funds and Cost Center: Wastewater - 5421-892411 (Field Engineering)

☐ From Program?

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

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 topographies. Much of the combined sewer drainage system was originally designed and built since the 1930's with laterals and larger trunk and intercepting sewers tributary to the Oakwood Pumping Station. In early years, combined sanitary and intercepted storm runoff flow drained to that pump station was conveyed through two discharge conduits tributary to a segment of O'Brien Drain--a natural and man-made (modified) stream confluent to the Rouge River--without further treatment.

Much of the remaining area of the District (i.e Oakwood Heights), is situated on relatively higher terrain. Originally, significant portions of this area connected to public sewers drained to other streams or outfalls tributary to the Rouge and drained to the wastewater treatment plant (WWTP) via an original 24" siphon connection constructed beneath the Rouge River to the city's 12'-9" Oakwood Interceptor. In the 1940's, a 3'-0" sewer was constructed from the original pump station's discharge channel which connected with a 24" siphoned sewer running easterly beneath the Rouge River and connecting to the City's 12'-9" Oakwood Northwest Interceptor (ONWI) tributary to the WWTP (now WRRF). Continued sewer modifications in the District promoted the interception and routing of combined flows in other areas underserved by the pump station via larger intercepting sewers connecting with the main Liddesdale Interceptor—the primary influent sewer to the pump station.

Primary Driver: 2 - Performance

Driver Explanation:

Preferred alternative wet weather relief sewer

Project Title: Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

modifications to mitigate historical basement and street flooding in impacted districts and otherwise provide increased flow transport and treatment for economic, ecologic and societal benefit of customers

Project Title: Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

Scoring

Project Manager Weighted Score: 74.8			
Criteria Name	Score	Score Criteria	Comment
Condition	1	D. Does not impact performance, meets all expected future requirements	
Performance (Service Level/Reliability)	4	D. Project will have a significant positive impact on service levels and/or system reliability; related to GLWA strategic goals*	
Regulatory (Environmental/Legal)	4	C. Canceling project risk of non-compliance in near term; potential permit violations; regulatory scrutiny; sig. measurable negative environmental impact to wide area	
Operations and Maintenance	1	D. Project low/negative impact on O&M; no critical assets involved; not expected to significantly impact any O&M issues.	
Health and Safety	4	B. Project significant positive impact on staff/public H&S+; Likely to address significant hazard issues or concerns	
Public Benefit	4	E. Canceling project chance to have major negative public impact	
Financial	3	E. Unlikely to have wider budget implications.	
Efficiency and Innovation	3	A. Project attempts to right-size system; small operational efficiencies and increasing revenue/savings	

Review Committee Weighted Score: 62.7		
Criteria Name	Score	Comment
Condition	1	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	1	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	4	Scores carried over from previous year

Project Title: Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 3/15/2021

Phase Status: Future Planned Start

End Date: 12/31/2033

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$732	\$11	\$10	\$1	\$0	\$0	\$0	\$0	\$0	\$0	\$617

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	3/15/2021	12/31/2033
Capital Delivery Salary	3/15/2021	12/31/2033

Project Title: Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

Phase: Design/Engineering (2002655)

Phase Title: Design/Engineering (2002655)

Phase Budget: Wastewater

Start Date: 3/15/2021

Phase Status:

End Date: 12/31/2033

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering (2002655)	\$5,696	\$2,287	\$1,802	\$580	\$0	\$0	\$0	\$0	\$0	\$0	\$2,837

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (2002655)	3/15/2021	12/31/2033

Project Title: Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

Phase: Construction (Build) # 1

Phase Title: Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

Phase Budget: Wastewater **Start Date:** 7/1/2030

Phase Status: Future Planned Start **End Date:** 12/31/2033

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction (Build) # 1	\$75,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$64,219

Phase Dates

Activity Name	Start Date	End Date
Construction	7/1/2030	12/31/2033

Project Title: Oakwood District Intercommunity Relief Sewer Modification at Oakwood District

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$11,000	\$550	\$2,750	\$5,500	\$2,200	\$0	\$0	\$0	\$0	\$0	\$0	\$11,000
2019	\$17,635	\$0	\$10	\$1,372	\$5,961	\$10,292	\$20,365	\$0	\$0	\$0	\$0	\$38,000
2020	\$23,954	\$0	\$0	\$0	\$3,800	\$10,077	\$10,077	\$14,077	\$0	\$0	\$0	\$38,031
2021	\$32,147	\$0	\$0	\$975	\$3,128	\$3,371	\$11,234	\$13,439	\$21,365	\$0	\$0	\$53,512
2022	\$23,700	\$0	\$0	\$925	\$790	\$786	\$779	\$4,870	\$16,474	\$16,431	\$12,340	\$53,397
2023	\$40,312	\$0	\$0	\$476	\$1,182	\$1,182	\$1,185	\$10,818	\$14,123	\$13,004	\$11,498	\$53,466

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$81,428,171	\$1,812,690	\$581,584	\$0	\$0	\$0	\$0	\$0	\$0	\$67,672,774

Description of CIP Changes:

NA

Project Title: Detroit River Interceptor (DRI) Evaluation and Rehabilitation**Project Status:** Project Execution - Construction**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** Field Services**Class Lvl 3:** Interceptor☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****66.4**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Mini Panicker**Director:** Todd King**Managing Dept.:** SCC**Date Original Business Case Prepared:**
10/11/2016**Year Project Added to CIP:** 2016**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** Detroit River Interceptor**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Detroit River Interceptor (DRI) Evaluation and Rehabilitation

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 failure of this major interceptor. As a result GLWA initiated this design build project to inspect, design, and construct needed repairs to the DRI.

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.

Primary Driver: 1 - Condition

Driver Explanation:

Inspections prior to the initiation of this project revealed portions with significant encrustation, sediment deposition, and deterioration.

Project Title: Detroit River Interceptor (DRI) Evaluation and Rehabilitation

Scoring

Project Manager Weighted Score: 78.3			
Criteria Name	Score	Score Criteria	Comment
Condition	4	C. Shows abnormal wear and is likely to cause significant performance deterioration in the near term	
Performance (Service Level/Reliability)	4	B. High risk of performance failure; doesn't meet future requirements	
Regulatory (Environmental/Legal)	4	D. Some historical evidence of permit/regulatory/contract violations support the decision	
Operations and Maintenance	3	C. Project moderate positive impact on O&M; alleviate some ongoing O&M issues	
Health and Safety	3	A. Failure not catastrophic, has moderate chance of occurring; failure may be mitigated to minimize safety/health/environmental impacts	
Public Benefit	4	D. Significant, noticeable impact on the public & GLWA image; seen as achievement for GLWA/communities/regions served	
Financial	4	B. Project will likely result in avoidance of fines, potential litigation, emergency repairs or damage to asset/public, E. Canceling project significant financial consequences from revenue loss, repair /restoration/O&M cost, downtime, potential litigation, fines, damage, etc.; some budget implications requiring deferral or cutbacks in other areas.	
Efficiency and Innovation	4	B. Project will remove significant operational hurdles/ obstacles for significant equipment/process	Cross over connection is an enhancement to the entire GLWA collection system

Review Committee Weighted Score: 66.4		
Criteria Name	Score	Comment
Condition	5	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	3	Scores carried over from previous year
Operations and Maintenance	1	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	5	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: Detroit River Interceptor (DRI) Evaluation and Rehabilitation

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/3/2017

Phase Status:

End Date: 1/29/2033

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$1,905	\$195	\$193	\$113	\$167	\$167	\$167	\$167	\$167	\$835	\$765

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/3/2017	1/29/2033
Capital Delivery Salary	7/3/2017	1/29/2033
Other Capital Improvement Costs	7/3/2017	1/29/2033
Capitalized Interest	7/3/2017	1/29/2033

Project Title: Detroit River Interceptor (DRI) Evaluation and Rehabilitation

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 7/3/2017**Phase Status:****End Date:** 1/29/2033

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Professional Services	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services	7/3/2017	1/29/2033

Project Title: Detroit River Interceptor (DRI) Evaluation and Rehabilitation

Phase: Construction (DB-226)

Phase Title: Construction (DB-226)

Phase Budget: Wastewater

Start Date: 7/3/2017

Phase Status:

End Date: 5/22/2026

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction (DB-226)	\$86,231	\$42,125	\$37,678	\$12,779	\$17,087	\$9,871	\$8,816	\$0	\$0	\$35,774	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (DB-226)	7/3/2017	5/22/2026

Project Title: Detroit River Interceptor (DRI) Evaluation and Rehabilitation

Phase: Design-Build # 2 (CON-183)**Phase Title:** Design-Build # 2 (CON-183, DB-226)

Phase Budget: Wastewater**Start Date:** 7/1/2017**Phase Status:****End Date:** 5/29/2020

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design-Build # 2 (CON-183)	\$4,408	\$4,408	\$4,408	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (CON-183)	7/1/2017	5/29/2020

Project Title: Detroit River Interceptor (DRI) Evaluation and Rehabilitation

Phase: TBD/Unallocated

Phase Title: TBD/Unallocated

Phase Budget: Wastewater

Start Date: 1/1/2028

Phase Status:

End Date: 1/29/2033

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
TBD/Unallocated	\$21,015	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,061	\$2,061	\$18,954

Phase Dates

Activity Name	Start Date	End Date
TBD/Unallocated	1/1/2028	1/29/2033

Project Title: Detroit River Interceptor (DRI) Evaluation and Rehabilitation

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$20,000	\$321	\$10,000	\$5,000	\$5,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20,321
2019	\$39,697	\$5	\$2,232	\$1,084	\$8,052	\$10,187	\$10,187	\$10,187	\$2,491	\$0	\$0	\$0	\$0	\$44,425
2020	\$32,000	\$0	\$2,647	\$9,424	\$10,000	\$10,000	\$10,000	\$1,000	\$1,000	\$5,000	\$0	\$0	\$0	\$49,071
2021	\$54,885	\$0	\$0	\$10,592	\$16,199	\$23,634	\$9,786	\$1,465	\$10,014	\$9,986	\$0	\$0	\$0	\$81,676
2022	\$35,825	\$0	\$7	\$5,353	\$14,791	\$11,192	\$11,192	\$10,057	\$5,696	\$5,235	\$3,645	\$5,608	\$0	\$72,775
2023	\$21,615	\$5	\$2,642	\$7,965	\$9,539	\$16,947	\$10,471	\$9,416	\$3,060	\$3,047	\$3,047	\$3,047	\$8,000	\$77,184

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$113,559,604	\$42,278,908	\$12,891,659	\$17,254,478	\$10,037,655	\$8,982,960	\$166,784	\$2,227,979	\$38,669,855	\$19,719,183

Description of CIP Changes:

Funds increased due to anticipated DB-226 scope increase.

Project Title: North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure**Project Status:** Future Planned - Within Five Year Plan**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** Field Services**Class Lvl 3:** Interceptor☒ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****63.9**

- ☐ **Innovation**
- ☒ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Jody Caldwell**Director:** Jody Caldwell**Managing Dept.:** AM/CIP**Date Original Business Case Prepared:**
7/11/2022**Year Project Added to CIP:** 2023**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** --**Funds and Cost Center:** Wastewater - 5421-892411 (Field Engineering)☐ **From Program?****Program Number:****Delivery Method:** Other (Design In-house and Bid Out for Construction)**Delivery Method Details:** Project will be procured and managed by OMIDDD. Cost sharing of this project is still under consideration.☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** Yes**Partners:** Other**Collaboration Entity:** Oakland Macomb Drain Drainage District

Project Title: North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure**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 First-Hamilton, Conant-Mt. Elliott and Meldrum sewers. The gated connections are operated by GLWA and discharge dry weather and low wet weather flow from the First-Hamilton, Conant-Mt Elliott, and Meldrum sewers to the NIEA through valve remote gates VR-13, VR-15 and VR-16, respectively. When these valve remote gates are closed, wastewater flow continues downstream to the Detroit River Interceptor (DRI).

Presently, reaches of the NIEA can be isolated and drained for part of the day in dry weather by storing wastewater in the OMID interceptor system upstream of the NESPS and closing the VR-15 and VR-16 gates. The available storage times in the interceptors upstream of the NESPS vary daily, seasonally, and with preceding rainfall and snowmelt events. If the NESPS is shut off at certain conditions, it is estimated that about 3 hours of storage time is available. The storage times range between 9 and 11 hours if storage is also occurring at three upstream OMIDDD control structures, at two MIDDD control facilities, and flow diversion is occurring at the OCWRC's Perry Street Pumping Station. These activities will preclude any other currently planned work in the OMIDDD and MIDDD interceptors and require a substantial amount of well-planned coordination

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 structure by performing a bottom up feasibility analysis. The evaluation considers GLWA's use of the diversion structure over the 25 year asset life cycle. Assumptions were made as to the type of use (inspection, maintenance, renewal) along the NIEA. In addition, frequencies, durations and costs were estimated to evaluate the cost savings of automatic gate use versus a manual gate use. Considerations of multiple crane use and traffic control were financial drivers in the calculation for manual gate use.

The dollar value identified within this project (\$5,000,000) is only an estimate of GLWA's portion of the overall diversion structure budget. This amount has yet to be negotiated and finalized with OMIDD. The overall project amount is greater than (\$10,000,000).

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 not scored by risk committee since it is critical or for emergency repairs

Primary Driver: 2 - Performance

Driver Explanation:

Related to the performance driver, the use of the automated gate structure would provide dry weather flow redundancy that would improve performance related to inspection, maintenance and renewal needs within the NIEA.

Project Title: North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure

between multiple jurisdictions.

Reaches of the NIEA have the potential to be isolated continuously during dry weather conditions without any flow storage in the upstream OMIDDD or MIDDD sewers, by rehabilitating a stop gate structure on the NIEA south of Seven Mile Road that was constructed under DWSD contract PC-663 and restoring and improving an abandoned interconnection with the Seven Mile Relief sewer at Seven Mile Road. The current gate structure is not automated and would require significant resources to operate if needed. The proposed diversion structure would be automated to allow for more frequent usage for inspection, maintenance, and repairs.

Once rehabilitated, it is proposed that the PC-663 stop gate structure be closed, the adit gates be opened, and wastewater diverted from the NIEA into the Seven Mile Relief sewer. Under this mode of operation, the flow from the NESPS can be diverted around a majority of the NIEA in dry weather conditions and will provide a reasonable amount of working time in the sewer while the OMIDDD and MIDDD systems can operate under normal conditions.

The basis for re-establishing this automated connection is summarized as follows.

- Minimizes the need for significant project coordination and sequencing in multiple jurisdictions
- 7 Mile Diversion can provide continuous dry weather flow by-pass
- 7 Mile Diversion utilizes the GLWA system to divert the flow rather than relying on OMID and other jurisdictions
- 7 Mile Diversion provides redundancy of the NIEA sewer downstream of 7 Mile to the WRRF for routine inspections and maintenance
- 7 Mile Diversion in place will provide GLWA the ability to divert flow within a matter of hours in

Project Title: North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure

case of emergency

Project Title: North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure

Scoring

Project Manager Weighted Score: 63.9			
Criteria Name	Score	Score Criteria	Comment
Condition	3	B. Functionally sound and acceptable, signs of normal wear, C. May have minor failures or diminished efficiency; some performance deterioration	This score relates to the NIEA and not the existing gate structure. Currently, the manual gate could be operated and the bulkhead removed if the need arose. It is unknown if this diversion has been used.
Performance (Service Level/Reliability)	4	D. Project will have a significant positive impact on service levels and/or system reliability; related to GLWA strategic goals*, E. Not doing the project frequent and repetitive service interruption and/or reliability issues†, G. Limited redundancy	Having the ability to divert dry weather flow at this location will allow for greater amount of time within the interceptor for inspection, maintenance and renewal, will reduce the timing issues and coordination issues with OMIDDD and other jurisdictions when flow withholding is needed for the like.
Regulatory (Environmental/Legal)	1	A. No risk of causing, B. Low/no impact on specific reg. compliance issues	No risk
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	Ability to utilize the automated gate will allow for longer, more frequent access to the NIEA for maintenance, inspections and renewals.
Health and Safety	3	B. Project moderate positive impact on staff/public H&S‡, C. Likely to address minor hazard issues or concerns	Dry weather flow will be addressed by this diversion to the 7 Mile Relief Sewer in the event of a failure within the NIEA, however wet weather flows will still need to be pumped/bypassed.
Public Benefit	3	C. Moderate additional revenue/savings for GLWA (\$100K-\$499K/yr), E. /stakeholder relationships/confidence in GLWA	Project would be coordinated with OMIDDD as a regional partners to address access issues with NIEA. Evaluation of costs related to the manual operation of the existing diversion structure is estimated at \$5M over 25 years.

Project Title: North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure

Financial	2	B. Low positive financial implications\$100K-\$250K or ROI 15-20 yrs	Evaluation of costs related to the manual operation of the existing diversion structure is estimated at \$5M over 25 years.
Efficiency and Innovation	4	B. Project will remove significant operational hurdles/ obstacles for significant equipment/process	The ability to automatically operate the diversion structure to divert dry weather flow on an immediate basis provides for greater redundancy, limits coordination of projects with multiple jurisdictions which will allow for more concurrent projects to be taken on by multiple entities.

Review Committee Weighted Score: 63.9

Criteria Name	Score	Comment
Condition	3	Committee score carried over from current year Project Manager score
Performance (Service Level/Reliability)	4	Committee score carried over from current year Project Manager score
Regulatory (Environmental/Legal)	1	Committee score carried over from current year Project Manager score
Operations and Maintenance	4	Committee score carried over from current year Project Manager score
Health and Safety	3	Committee score carried over from current year Project Manager score
Public Benefit	3	Committee score carried over from current year Project Manager score
Financial	2	Committee score carried over from current year Project Manager score
Efficiency and Innovation	4	Committee score carried over from current year Project Manager score

Project Title: North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 1/1/2023**Phase Status:****End Date:** 12/31/2023

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
GLWA Salaries	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	1/1/2023	12/31/2023
Capital Delivery Salary	1/1/2023	12/31/2023

Project Title: North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 1/1/2023**Phase Status:****End Date:** 12/31/2023

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	5 Year Total
Construction	\$5,000	\$0	\$0	\$2,479	\$2,521	\$2,521

Phase Dates

Activity Name	Start Date	End Date
Construction	1/1/2023	12/31/2023

Project Title: North Interceptor East Arm (NIEA) 7 Mile Road Diversion Structure

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP

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Total Costs	Prior FYs	FY23	FY24	5 Year Total
\$5,000,000	\$0	\$2,479,452	\$2,520,548	\$2,520,548

Description of CIP Changes:

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Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps**Project Status:** Project Execution - Construction**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** Systems Control Center**Class Lvl 3:** Pump Stations☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☒ **Multiple Phases****Project Score****63.6**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☒ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Jorge Nicolas**Director:** Chris Nastally**Managing Dept.:** Water Eng**Date Original Business Case Prepared:**
3/9/2011**Year Project Added to CIP:** 2011**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** Fairview Pumping Station**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

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.

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

Primary Driver: 1 - Condition

Driver Explanation:

Age of pumps - Active

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Scoring

Project Manager Weighted Score: 63.6			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining, B. Equipment/process functions but requires high level of maintenance to remain operational	
Performance (Service Level/Reliability)	4	D. Project will have a significant positive impact on service levels and/or system reliability; related to GLWA strategic goals*	
Regulatory (Environmental/Legal)	2	A. Low risk of causing	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	2	A. Low chance of failure occurring; failure easily mitigated w/ no safety/health/env. impacts	
Public Benefit	4	A. Project key part of a strategic plan* for GLWA (i.e. good probability leads to new customers), B. Supports City/regional/neighborhood growth (i.e. measurable impact on public/community through economic development)	
Financial	1	A. Minimal to no impact to GLWA	
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies, B. Low – moderate positive impact on energy use, conservation, environmental responsibility& sustainability i.e. 1-5% energy reduction	

Review Committee Weighted Score: 63.6			
Criteria Name	Score	Comment	
Condition	4	Committee score carried over from current year Project Manager score	
Performance (Service Level/Reliability)	4	Committee score carried over from current year Project Manager score	
Regulatory (Environmental/Legal)	2	Committee score carried over from current year Project Manager score	
Operations and Maintenance	4	Committee score carried over from current year Project Manager score	
Health and Safety	2	Committee score carried over from current year Project Manager score	
Public Benefit	4	Committee score carried over from current year Project Manager score	
Financial	1	Committee score carried over from current year Project Manager score	
Efficiency and Innovation	2	Committee score carried over from current year Project Manager score	

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 4/25/2016

Phase Status:

End Date: 1/31/2024

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$432	\$312	\$300	\$75	\$57	\$0	\$0	\$0	\$0	\$57	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	4/25/2016	1/31/2024
Capital Delivery Salary	4/25/2016	1/31/2024
Capitalized Interest	4/25/2016	1/31/2024

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 7/1/2016**Phase Status:****End Date:** 6/30/2017

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$19	\$19	\$19	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services	7/1/2016	6/30/2017

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Phase: Design & Construction Assistance # 1 (CS-1747, CON-297, CS-1488)

Phase Title: Design & Construction Assistance # 1 (CS-1747, CON-297, CS-1488)

Phase Budget: Wastewater

Start Date: 4/25/2016

Phase Status:

End Date: 1/31/2024

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design & Construction Assistance # 1 (CS-1747, CON-297, CS-1488)	\$7,278	\$6,062	\$5,754	\$952	\$572	\$0	\$0	\$0	\$0	\$572	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-1747)	4/25/2016	1/31/2024

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Phase: Design/Engineering (CON-297)**Phase Title:** Design/Engineering (CON-297)

Phase Budget: Wastewater**Start Date:** 7/1/2017**Phase Status:****End Date:** 6/28/2019

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (CON-297)	\$41	\$41	\$41	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CON-297)	7/1/2017	6/28/2019

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Phase: Design/Engineering (CS-1488)**Phase Title:** Design/Engineering (CS-1488)

Phase Budget: Wastewater**Start Date:** 7/1/2017**Phase Status:****End Date:** 6/29/2018

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (CS-1488)	\$30	\$30	\$30	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-1488)	7/1/2017	6/29/2018

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Phase: Miscellaneous (Insurance) #1**Phase Title:** Miscellaneous (Insurance)

Phase Budget: Wastewater**Start Date:** 4/25/2016**Phase Status:****End Date:** 1/31/2024

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Miscellaneous (Insurance) #1	(\$41)	(\$41)	(\$41)	\$0

Phase Dates

Activity Name	Start Date	End Date
Miscellaneous (Insurance)	4/25/2016	1/31/2024

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Phase: Construction (Build) # 1 (CON-297)

Phase Title: Construction (Build) # 1 (CON-297)

Phase Budget: Wastewater

Start Date: 1/1/2019

Phase Status:

End Date: 11/30/2023

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction (Build) # 1 (CON-297)	\$38,670	\$33,891	\$32,989	\$3,830	\$1,851	\$0	\$0	\$0	\$0	\$1,851	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (CON-297)	1/1/2019	11/30/2023

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Phase: Miscellaneous (Insurance) #2**Phase Title:** Miscellaneous (Insurance)

Phase Budget: Wastewater**Start Date:** 1/1/2019**Phase Status:****End Date:** 11/30/2023

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Miscellaneous (Insurance) #2	(\$305)	(\$305)	(\$305)	\$0

Phase Dates

Activity Name	Start Date	End Date
Miscellaneous (Insurance)	1/1/2019	11/30/2023

Project Title: Fairview Pumping Station - Replace Four Sanitary Pumps

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$31,800	\$472	\$2,100	\$14,350	\$15,350	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$32,400
2019	\$30,482	\$778	\$508	\$12,094	\$14,414	\$3,974	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$31,768
2020	\$22,891	\$0	\$1,551	\$6,000	\$18,000	\$4,891	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$30,442
2021	\$6,320	\$0	\$0	\$3,404	\$27,552	\$5,336	\$984	\$0	\$0	\$0	\$0	\$0	\$0	\$37,276
2022	\$12,810	\$0	\$772	\$1,852	\$11,648	\$12,990	\$12,781	\$28	\$0	\$0	\$0	\$0	\$0	\$40,074
2023	\$38	\$778	\$772	\$1,924	\$10,798	\$16,098	\$9,346	\$38	\$0	\$0	\$0	\$0	\$0	\$39,757

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$46,124,283	\$38,787,010	\$4,857,672	\$2,479,602	\$0	\$0	\$0	\$0	\$2,479,602	\$0

Description of CIP Changes:

Change Order No.4 Added. This CO #4 extended the contract time and increased the contract budget.

Project Title: Freud & Conner Creek Pump Station Improvements

Project Status: Project Execution - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Systems Control Center

Class Lvl 3: Pump Stations

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☒ Multiple Phases

Project Score

94.1

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☒ Wet Weather Resiliency
- ☒ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☐ CSO
- ☒ Pumps
- ☐ Storage
- ☐ Treatment



Both PSs pictures

Project Manager: Mini Panicker

Director: Biren Saparia

Managing Dept.: SCC

Date Original Business Case Prepared:
10/12/2016

Year Project Added to CIP: 2016

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Conner Creek & Freud Pump Stations

Funds and Cost Center: Wastewater - 5421-882301

☐ From Program?

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Freud & Conner Creek Pump Station Improvements

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 design and building an operational strategy to optimize the utilization of interconnected piping and operation between both pumping stations and the Connor Creek Retention and Treatment Basin.

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 flooding of the discharge channel siphon to maintain a water seal, which allows the pumps to be primed. Since the Conner Creek CSO RTB went into operation in November 2005, the discharge channel for the CCPS is drained when the CC RTB is dewatered. Therefore, the vacuum priming system cannot prime the pumps. This results in the CCPS pumps being unable to start until the discharge channel is flooded and the vacuum priming system has a seal on the discharge to prime the pumps.

The Freud Pump Station (FPS) was originally built in 1954 with eight storm water pumps, each with a 450 cfs capacity. Two additional pumps were subsequently installed for dewatering and to act as sanitary pumps during dry weather flows. These two pumps are rated at 35 cfs and 20 cfs and are not operated when the storm water pumps are in service. Under the current operating protocol, the FPS is operated first and results in water flowing to the discharge channel of the CCPS, providing sufficient water to ensure submergence of the vacuum siphon block to allow the vacuum system to prime the CCPS pumps.

The FPS pumps do not require priming during normal operations. The discharge pipe from each pump is tied to three 14' x 14' box conduits which transport flow to the CC RTB. The crown elevation of these conduits is approximately 95' and the lowest ground elevation along these conduits ranges from 96' to 100'. Surcharging and flooding have been reported when the CC RTB is filled to the overflow elevation of 98' and more than three of the FPS storm water pumps are in operation

Project Title: Freud & Conner Creek Pump Station Improvements

Primary Driver: 2 - Performance

Driver Explanation:

During peak wet weather there is a potential for the sewers to surcharge and flood the street.

Project Title: Freud & Conner Creek Pump Station Improvements

Scoring

Project Manager Weighted Score: 97.4			
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life	
Performance (Service Level/Reliability)	5	B. Current performance unacceptable, does not meet current requirements/demands; equipment obsolete/extremely difficult to maintain or find spare parts/repair service; Asset/process OOS 50% or more of the time; Recurring, expected failures	
Regulatory (Environmental/Legal)	5	A. Imminent risk of/is causing Permit/reg. violations; Legal obligation; Unregulated discharges; Health risks to staff/public	
Operations and Maintenance	5	A. Unsustainable levels of O/M required to keep in service that will still not ensure future stable/proper operation	
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	
Public Benefit	4	D. Significant, noticeable impact on the public & GLWA image; seen as achievement for GLWA/communities/regions served	
Financial	4	E. Canceling project significant financial consequences from revenue loss, repair /restoration/O&M cost, downtime, potential litigation, fines, damage, etc.; some budget implications requiring deferral or cutbacks in other areas.	
Efficiency and Innovation	4	B. Project will remove significant operational hurdles/ obstacles for significant equipment/process	

Review Committee Weighted Score: 94.1		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	5	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	5	Scores carried over from previous year
Financial	5	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: Freud & Conner Creek Pump Station Improvements

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 9/30/2016

Phase Status: Active

End Date: 7/31/2035

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$7,483	\$2,700	\$2,595	\$358	\$381	\$380	\$356	\$356	\$381	\$1,854	\$1,889

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	9/30/2016	7/31/2035
Capital Delivery Salary	9/30/2016	7/31/2035
Other Capital Improvement Costs (5421)	9/30/2016	7/31/2035
Other Capital Improvement Costs (5404 - Clairpointe)	9/30/2016	7/31/2035
Capitalized Interest	9/30/2016	7/31/2035

Project Title: Freud & Conner Creek Pump Station Improvements

Phase: Professional Services

Phase Title: Professional Services

Phase Budget: Wastewater

Start Date: 2/16/2017

Phase Status:

End Date: 6/30/2018

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Professional Services	\$49	\$49	\$49	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (Contractor OH)	2/16/2017	6/30/2018

Project Title: Freud & Conner Creek Pump Station Improvements

Phase: Design/Engineering (CS-120)

Phase Title: Design/Engineering (CS-120)

Phase Budget: Wastewater

Start Date: 3/27/2017

Phase Status:

End Date: 7/31/2035

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering (CS-120)	\$24,411	\$8,769	\$8,372	\$492	\$550	\$549	\$3,809	\$3,809	\$559	\$9,276	\$4,336

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-120)	3/27/2017	7/31/2035

Project Title: Freud & Conner Creek Pump Station Improvements

Phase: Design/Engineering (MISC)**Phase Title:** Design/Engineering (MISC)

Phase Budget: Wastewater**Start Date:** 7/1/2016**Phase Status:****End Date:** 6/30/2017

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (MISC)	\$8	\$8	\$8	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (MISC)	7/1/2016	6/30/2017

Project Title: Freud & Conner Creek Pump Station Improvements

Phase: Construction (Build) # 1 (CON-109)**Phase Title:** CON-109, Freud & Conner Creek Pump Station Improvements

Phase Budget: Wastewater **Start Date:** 9/30/2016**Phase Status:** Active **End Date:** 7/1/2021

Phase Comments/Description:Freud Pump Rehabilitation and procurement of new pump and a switchgear.

Cost Est. Class: Class 4**Cost Est. Source:** Engineering**Cost Est. Date:** 8/31/2017**Cost Est. Prepared By:** Biren Saparia

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Construction (Build) # 1 (CON-109)	\$5,086	\$5,086	\$5,086	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (CON-109)	9/30/2016	7/1/2021

Project Title: Freud & Conner Creek Pump Station Improvements

Phase: Construction (Phase 2) - Freud Pump Station

Phase Title: Construction (Phase 2) - Freud Pump Station

Phase Budget: Wastewater

Start Date: 7/1/2016

Phase Status:

End Date: 10/20/2028

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction (Phase 2) - Freud Pump Station	\$90,460	\$460	\$460	\$2,745	\$16,470	\$16,425	\$16,425	\$16,425	\$16,470	\$82,215	\$5,040

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase 2) - Freud Pump Station	5/1/2023	10/20/2028
Construction Materials (2103384)	4/1/2022	7/6/2026
Construction (MISC - Land Purchase)	7/1/2016	6/30/2018

Project Title: Freud & Conner Creek Pump Station Improvements

Phase: Construction (Phase 3) - Connor Pump Station

Phase Title: Construction (Phase 3) - Connor Pump Station

Phase Budget: Wastewater

Start Date: 1/1/2024

Phase Status:

End Date: 7/31/2035

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction (Phase 3) - Connor Pump Station	\$431,000	\$0	\$0	\$0	\$4,415	\$8,854	\$8,854	\$8,854	\$24	\$31,000	\$273,167

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase 3) - Connor Pump Station	1/1/2024	7/31/2035

Project Title: Freud & Conner Creek Pump Station Improvements

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$14,460	\$8,040	\$5,900	\$5,100	\$2,460	\$1,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$22,500
2019	\$13,997	\$2,101	\$1,384	\$1,192	\$0	\$223	\$1,582	\$11,000	\$15,000	\$0	\$0	\$0	\$0	\$32,482
2020	\$155,078	\$0	\$5,110	\$1,984	\$17,029	\$13,014	\$50,014	\$50,014	\$25,007	\$257	\$0	\$0	\$0	\$162,429
2021	\$71,033	\$0	\$0	\$5,631	\$7,364	\$6,445	\$57	\$9,898	\$23,830	\$30,803	\$138,071	\$0	\$0	\$222,099
2022	\$91,041	\$0	\$2,301	\$134	\$4,908	\$6,445	\$3,357	\$12,646	\$17,446	\$23,446	\$34,146	\$41,846	\$41,846	\$229,279
2023	\$126,094	\$2,101	\$3,010	\$521	\$1,712	\$3,217	\$3,779	\$10,753	\$19,818	\$32,653	\$32,692	\$30,177	\$34,270	\$262,798

Reporting Period 49: Ending FY23 M04 Oct

Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$558,497,672	\$16,571,040	\$3,595,002	\$21,815,785	\$26,207,210	\$29,443,848	\$29,443,847	\$17,434,200	\$124,344,890	\$284,431,905

Description of CIP Changes:

90% design estimates for the Freud and BOD estimates for Connor Creek construction projects are higher, so construction funds are increased.

Project Title: Condition Assessment at Blue Hill Pump Station**Project Status:** Future Planned - Within Five Year Plan**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** Systems Control Center**Class Lvl 3:** Pump Stations☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****60.6**

- ☐ **Innovation**
- ☒ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☒ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Mini Panicker**Director:** Todd King**Managing Dept.:** Field Services**Date Original Business Case Prepared:**
8/28/2019**Year Project Added to CIP:** 2019**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** Blue Hill Pump Station- Detroit**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Condition Assessment at Blue Hill Pump Station

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.

Primary Driver: 1 - Condition

Driver Explanation:

Nearing end of useful life

Project Title: Condition Assessment at Blue Hill Pump Station

Scoring

Project Manager Weighted Score:		60.6	
Criteria Name	Score	Score Criteria	Comment
Condition	3	A. Asset has <50% of its design service life remaining	Project Manager score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	3	A. Generally meets design needs; moderate risk of perf. failure	Project Manager score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	3	A. Moderate risk of causing	Project Manager score carried over from previous year Project Manager score
Operations and Maintenance	3	A. Moderate levels of O/M will keep mean times between failures frequent but tolerable; Repairs total $\geq 20\%$ original value	Project Manager score carried over from previous year Project Manager score
Health and Safety	3	A. Failure not catastrophic, has moderate chance of occurring; failure may be mitigated to minimize safety/health/environmental impacts	Project Manager score carried over from previous year Project Manager score
Public Benefit	4	A. Project key part of a strategic plan* for GLWA (i.e. good probability leads to new customers)	Project Manager score carried over from previous year Project Manager score
Financial	4	A. Project will generate significant increased revenue/savings	Project Manager score carried over from previous year Project Manager score
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	Project Manager score carried over from previous year Project Manager score

Project Title: Condition Assessment at Blue Hill Pump Station

Review Committee Weighted Score: 60.6		
Criteria Name	Score	Comment
Condition	3	Committee score carried over from current year Project Manager score
Performance (Service Level/Reliability)	3	Committee score carried over from current year Project Manager score
Regulatory (Environmental/Legal)	3	Committee score carried over from current year Project Manager score
Operations and Maintenance	3	Committee score carried over from current year Project Manager score
Health and Safety	3	Committee score carried over from current year Project Manager score
Public Benefit	4	Committee score carried over from current year Project Manager score
Financial	4	Committee score carried over from current year Project Manager score
Efficiency and Innovation	2	Committee score carried over from current year Project Manager score

Project Title: Condition Assessment at Blue Hill Pump Station

Phase: GLWA Salaries**Phase Title:** Salaries

Phase Budget: Wastewater**Start Date:** 7/1/2022**Phase Status:** Future Planned Start**End Date:** 11/30/2022

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
GLWA Salaries	\$58	\$0	\$0	\$58

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/1/2022	11/30/2022
Capital Delivery Salary	7/1/2022	11/30/2022
Other Capital Improvement Costs	7/1/2022	11/30/2022
Capitalized Interest	7/1/2022	11/30/2022

Project Title: Condition Assessment at Blue Hill Pump Station

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 7/1/2022**Phase Status:****End Date:** 11/30/2022

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Professional Services	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services	7/1/2022	11/30/2022

Project Title: Condition Assessment at Blue Hill Pump Station

Phase: Design/Engineering**Phase Title:** Design/Engineering

Phase Budget: Wastewater**Start Date:** 7/1/2022**Phase Status:****End Date:** 11/30/2022

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering	\$200	\$0	\$0	\$200

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2022	11/30/2022

Project Title: Condition Assessment at Blue Hill Pump Station

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY21	FY22	Total
2021	\$286	\$286	\$0	\$286
2022	\$0	\$257	\$0	\$257
2023	\$0	\$0	\$257	\$257

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Total Costs	Prior FYs	FY23
\$257,935	\$0	\$257,935

Description of CIP Changes:

N.A.

Project Title: Rouge River In-system Storage Devices**Project Status:** Future Planned - Within Five Year Plan**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** Systems Control Center**Class Lvl 3:** In System Devices (Dams, ISD's)☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****88.2**

- ☐ **Innovation**
- ☒ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Mini Panicker**Director:** Biren Saparia**Managing Dept.:** SCC**Date Original Business Case Prepared:**
8/1/2019**Year Project Added to CIP:** 2019**CIP Budget:** Wastewater**Project Jurisdiction:** Wayne County - Outside Detroit**Lookup Location:** Rouge Riiver**Funds and Cost Center:** Wastewater - 5421-882301☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Rouge River In-system Storage Devices

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 east of the Rouge River are considered feasible for storing 25 million gallons of CSO during small storms (less than 1-inch of rainfall).

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 pneumatic control systems and instrumentation for remote operation. Provide connection for a mobile standby generator.

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.

Primary Driver: 3 - Regulatory

Driver Explanation:

The NPDES permit requires GLWA to control untreated CSO discharge. This project serves to increase in-system storage to prevent smaller storms from discharging untreated CSO.

Project Title: Rouge River In-system Storage Devices

Scoring

Project Manager Weighted Score: 88.8			
Criteria Name	Score	Score Criteria	Comment
Condition	1	D. Does not impact performance, meets all expected future requirements	
Performance (Service Level/Reliability)	3	D. Project moderate positive impact on service levels/reliability/lower risk	
Regulatory (Environmental/Legal)	5	B. Project part of a mandated or otherwise enforceable program	
Operations and Maintenance	1	C. Measurable cost reductions 1%–negligible, could raise O&M costs	
Health and Safety	4	B. Project significant positive impact on staff/public H&S+; Likely to address significant hazard issues or concerns, C. Canceling project continue to pose significant staff/public safety/hazard issues, some potential for significant injury and significant regulatory violations (i.e. OSHA).	
Public Benefit	4	D. Significant, noticeable impact on the public & GLWA image; seen as achievement for GLWA/communities/regions served	
Financial	2	B. Low positive financial implications\$100K-\$250K or ROI 15-20 yrs	
Efficiency and Innovation	4	B. Project will remove significant operational hurdles/ obstacles for significant equipment/process	

Review Committee Weighted Score: 88.2			
Criteria Name	Score	Comment	
Condition	1	Scores carried over from previous year	
Performance (Service Level/Reliability)	3	Scores carried over from previous year	
Regulatory (Environmental/Legal)	5	Scores carried over from previous year	
Operations and Maintenance	1	Scores carried over from previous year	
Health and Safety	4	Scores carried over from previous year	
Public Benefit	4	Scores carried over from previous year	
Financial	1	Scores carried over from previous year	
Efficiency and Innovation	4	Scores carried over from previous year	

Project Title: Rouge River In-system Storage Devices

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater **Start Date:** 12/30/2034

Phase Status: Future Planned Start **End Date:** 6/20/2040

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$497	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	12/30/2034	6/20/2040
Capital Delivery Salary	12/30/2034	6/20/2040

Project Title: Rouge River In-system Storage Devices

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 12/31/2032

Phase Status:

End Date: 6/20/2040

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$8,839	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,761

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	12/31/2032	6/20/2040

Project Title: Rouge River In-system Storage Devices

Phase: Construction (Build) # 1

Phase Title: Construction of in-system storage devices (West-side System)

Phase Budget: Wastewater **Start Date:** 12/30/2034

Phase Status: Future Planned Start **End Date:** 6/20/2040

Phase Comments/Description:

This phase constructs the designed improvements for the in-system storage devices at the 9 (or more) locations within the west-side sewer system which serve to protect the Rouge River during small precipitation events.

Cost Est. Class: Class 4

Cost Est. Source: CDM Smith (WWMP)

Cost Est. Date: 8/1/2019

Cost Est. Prepared By: Carl Johnson

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction (Build) # 1	\$37,100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	12/30/2034	6/20/2040

Project Title: Rouge River In-system Storage Devices

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2021	\$5,476	\$32	\$86	\$3,374	\$1,984	\$41,321	\$0	\$0	\$46,797
2022	\$3,075	\$0	\$0	\$1,026	\$1,024	\$1,024	\$9,477	\$9,503	\$46,317
2023	\$3,690	\$0	\$0	\$232	\$1,000	\$1,230	\$1,230	\$9,480	\$46,317

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$46,435,734	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,761,348

Description of CIP Changes:

This is a new project to the FY 2021 CIP being driven by recommendations from the Wastewater Masterplan Project (2019).

Project Title: Sewer and Interceptor Rehabilitation Program**Project Status:** Project Execution - Construction**CIP Type:** Program**Class Lvl 1:** Wastewater**Class Lvl 2:** Systems Control Center**Class Lvl 3:** General Purpose☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score**
0

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Mini Panicker**Director:** Todd King**Managing Dept.:** SCC**Date Original Business Case Prepared:**
10/11/2016**Year Project Added to CIP:** 2013**CIP Budget:** Wastewater**Project Jurisdiction:** Multiple Counties**Lookup Location:** Sewers and Interceptors**Funds and Cost Center:** Wastewater - 5421-882301☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Sewer and Interceptor Rehabilitation Program

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 necessary to repair plugged, damaged, and collapsed sewers to avoid basement flooding, and to maintain the flows within the wastewater conveyance system.

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.

Primary Driver: 1 - Condition

Driver Explanation:

Some sewers have sediment deposits that results in transportation capacity limitation. Most of them have deterioration.

Project Title: Sewer and Interceptor Rehabilitation Program

Scoring

Project Manager Weighted Score: 0			
Criteria Name	Score	Score Criteria	Comment
Condition	0		
Performance (Service Level/Reliability)	0		
Regulatory (Environmental/Legal)	0		
Operations and Maintenance	0		
Health and Safety	0		
Public Benefit	0		
Financial	0		
Efficiency and Innovation	0		

Review Committee Weighted Score: 0		
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	

Project Title: Sewer and Interceptor Rehabilitation Program

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/1/2023

Phase Status: Active

End Date: 6/30/2033

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$172	\$0	\$0	\$0	\$17	\$17	\$17	\$17	\$17	\$86	\$86

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/1/2023	6/30/2033
Capital Delivery Salary	7/1/2023	6/30/2033

Project Title: Sewer and Interceptor Rehabilitation Program

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 3/9/2024**Phase Status:****End Date:** 3/3/2032

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Professional Services	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services	3/9/2024	3/3/2032

Project Title: Sewer and Interceptor Rehabilitation Program

Phase: Design/Engineering**Phase Title:** Design/Engineering

Phase Budget: Wastewater**Start Date:** 7/1/2023**Phase Status:****End Date:** 6/30/2033

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$5,258	\$0	\$0	\$0	\$0	\$0	\$0	\$1,955	\$1,960	\$3,914	\$1,344

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2023	6/30/2033

Project Title: Sewer and Interceptor Rehabilitation Program

Phase: TBD/Unallocated

Phase Title: TBD/Unallocated

Phase Budget: Wastewater

Start Date: 7/1/2027

Phase Status:

End Date: 3/3/2032

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
TBD/Unallocated	\$13,687	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,933	\$2,933	\$10,754

Phase Dates

Activity Name	Start Date	End Date
TBD/Unallocated	7/1/2027	3/3/2032

Project Title: Sewer and Interceptor Rehabilitation Program

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 3/9/2024**Phase Status:****End Date:** 6/30/2027

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	3/9/2024	6/30/2027

Project Title: Sewer and Interceptor Rehabilitation Program

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$76,000	\$2,612	\$8,000	\$8,000	\$20,000	\$20,000	\$20,000	\$0	\$0	\$0	\$0	\$0	\$0	\$78,612
2019	\$55,201	\$3,397	\$7,751	\$10,601	\$10,400	\$11,400	\$11,400	\$11,400	\$11,400	\$0	\$0	\$0	\$0	\$77,749
2020	\$75,000	\$0	\$13,555	\$8,609	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$95,000	\$0	\$0	\$0	\$192,164
2021	\$103,737	\$0	\$0	\$18,637	\$19,029	\$12,976	\$36,047	\$24,872	\$15,495	\$14,347	\$13,240	\$0	\$0	\$154,643
2022	\$37,371	\$0	\$0	\$0	\$0	\$3,138	\$0	\$7,214	\$7,915	\$10,695	\$11,547	\$13,240	\$0	\$53,749
2023	\$25,935	\$0	\$0	\$0	\$0	\$0	\$4,911	\$6,603	\$6,644	\$5,793	\$5,793	\$1,100	\$15,000	\$65,845

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$19,117,198	\$0	\$0	\$17,224	\$17,177	\$17,177	\$1,971,696	\$4,909,990	\$6,933,262	\$12,183,934

Description of CIP Changes:

NA

Project Title: CON-149, Emergency Sewer Repair**Project Status:** Project Execution - Construction**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** Systems Control Center**Class Lvl 3:** General Purpose☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****76.9**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Mini Panicker**Director:** Todd King**Managing Dept.:** SCC**Date Original Business Case Prepared:**
10/11/2016**Year Project Added to CIP:** 2013**CIP Budget:** Wastewater**Project Jurisdiction:** Multiple Counties**Lookup Location:** Sewers and Interceptors**Funds and Cost Center:** Wastewater - 5421-882301☒ **From Program?****Program Number:** 260200**Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: CON-149, Emergency Sewer Repair

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.

Primary Driver: 1 - Condition**Driver Explanation:**

Some sewers have sediment deposits that results in transportation capacity limitation. Some have deterioration.

Project Title: CON-149, Emergency Sewer Repair

Scoring

Project Manager Weighted Score: 76.9			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	Project Manager score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	4	A. Expected performance failures under normal conditions	Project Manager score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	3	A. Moderate risk of causing	Project Manager score carried over from previous year Project Manager score
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	Project Manager score carried over from previous year Project Manager score
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	Project Manager score carried over from previous year Project Manager score
Public Benefit	3	A. Project part of GLWA strategic plan*, but no new customers	Project Manager score carried over from previous year Project Manager score
Financial	3	A. Implementing the project will generate moderate increase revenue or savings for GLWA.	Project Manager score carried over from previous year Project Manager score
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	Project Manager score carried over from previous year Project Manager score

Project Title: CON-149, Emergency Sewer Repair

Review Committee Weighted Score: 76.9		
Criteria Name	Score	Comment
Condition	4	Committee score carried over from current year Project Manager score
Performance (Service Level/Reliability)	4	Committee score carried over from current year Project Manager score
Regulatory (Environmental/Legal)	3	Committee score carried over from current year Project Manager score
Operations and Maintenance	4	Committee score carried over from current year Project Manager score
Health and Safety	4	Committee score carried over from current year Project Manager score
Public Benefit	3	Committee score carried over from current year Project Manager score
Financial	3	Committee score carried over from current year Project Manager score
Efficiency and Innovation	2	Committee score carried over from current year Project Manager score

Project Title: CON-149, Emergency Sewer Repair

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/14/2017

Phase Status: Active

End Date: 8/23/2025

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$724	\$124	\$121	\$144	\$214	\$213	\$32	\$0	\$0	\$458	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (882301.000)	7/14/2017	8/23/2025
Capital Delivery Salary (892211.000)	7/14/2017	8/23/2025
Capital Delivery Salary (882301.000)	7/14/2017	8/23/2025
Capital Delivery Salary (892211.000)	7/14/2017	8/23/2025

Project Title: CON-149, Emergency Sewer Repair

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 8/23/2019**Phase Status:****End Date:** 9/2/2020

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$221	\$221	\$221	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 71003A.01)	8/23/2019	9/2/2020

Project Title: CON-149, Emergency Sewer Repair

Phase: Design/Engineering (CS-168)

Phase Title: Design/Engineering (CS-168)

Phase Budget: Wastewater

Start Date: 7/14/2017

Phase Status:

End Date: 8/23/2025

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering (CS-168)	\$4,686	\$2,516	\$2,497	\$531	\$773	\$771	\$114	\$0	\$0	\$1,658	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-168)	7/14/2017	8/23/2025

Project Title: CON-149, Emergency Sewer Repair

Phase: Construction (CON-149)

Phase Title: Construction (CON-149)

Phase Budget: Wastewater

Start Date: 7/14/2017

Phase Status:

End Date: 12/30/2023

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction (CON-149)	\$35,339	\$35,059	\$32,086	\$3,132	\$121	\$0	\$0	\$0	\$0	\$121	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (CON-149)	7/14/2017	12/30/2023

Project Title: CON-149, Emergency Sewer Repair

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2022	\$1,479	\$11,301	\$1,479	\$0	\$0	\$0	\$0	\$0	\$0	\$32,282
2023	\$3,051	\$9,603	\$6,096	\$3,051	\$0	\$0	\$0	\$0	\$0	\$38,252

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$40,969,341	\$34,925,393	\$3,807,068	\$1,107,291	\$984,010	\$145,580	\$0	\$0	\$2,236,880	\$0

Description of CIP Changes:

CON-149 has CO-002 for time extension only and CO-003 for time extension and additional funds. CO-003 is to assess and address the flood related damages

Project Title: Conveyance System Engineering Services-1802575

Project Status: Active - Procurement - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Systems Control Center

Class Lvl 3: General Purpose

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

78.3

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☒ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☒ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment



Woodward Sewer System

Project Manager: Mini Panicker

Director: Biren Saparia

Managing Dept.: SCC

Date Original Business Case Prepared:
10/11/2016

Year Project Added to CIP: 2013

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: Sewers and Interceptors

Funds and Cost Center: Wastewater - 5421-892411 (Field Engineering)

☒ From Program?

Program Number: 260200

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Conveyance System Engineering Services-1802575

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.

Primary Driver: 1 - Condition**Driver Explanation:**

Some sewers have sediment deposits that results in transportation capacity limitation. Some have deterioration.

Project Title: Conveyance System Engineering Services-1802575

Scoring

Project Manager Weighted Score: 77.4			
Criteria Name	Score	Score Criteria	Comment
Condition	4	C. Shows abnormal wear and is likely to cause significant performance deterioration in the near term	
Performance (Service Level/Reliability)	4	B. High risk of performance failure; doesn't meet future requirements	
Regulatory (Environmental/Legal)	4	E. Reg compliance failure moderate fines, enforcement actions, environmental impact	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	3	D. Canceling project pose limited-moderate staff/public safety/hazard issues, some potential for minor injury/regulatory violations	
Public Benefit	4	D. Significant, noticeable impact on the public & GLWA image; seen as achievement for GLWA/communities/regions served	
Financial	3	D. Canceling project moderate financial consequences (revenue loss, repair/restoration, downtime, fines, litigation)	
Efficiency and Innovation	2	D. Little to no time and cost saving	

Review Committee Weighted Score: 78.3		
Criteria Name	Score	Comment
Condition	4	
Performance (Service Level/Reliability)	4	
Regulatory (Environmental/Legal)	4	
Operations and Maintenance	4	
Health and Safety	3	
Public Benefit	4	
Financial	3	
Efficiency and Innovation	4	

Project Title: Conveyance System Engineering Services-1802575

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 8/8/2019**Phase Status:** Active**End Date:** 12/11/2025

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$500	\$32	\$31	\$101	\$151	\$150	\$67	\$0	\$0	\$368	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	8/8/2019	12/11/2025
Capital Delivery Salary	8/8/2019	12/11/2025

Project Title: Conveyance System Engineering Services-1802575

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 8/8/2019**Phase Status:****End Date:** 12/11/2025

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Professional Services	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services	8/8/2019	12/11/2025

Project Title: Conveyance System Engineering Services-1802575

Phase: Design/Engineering (1802575)

Phase Title: Design/Engineering (1802575)

Phase Budget: Wastewater

Start Date: 8/8/2019

Phase Status:

End Date: 12/11/2025

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	5 Year Total
Design/Engineering (1802575)	\$5,475	\$1,943	\$1,893	\$802	\$1,137	\$1,134	\$509	\$2,780

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1802575)	8/8/2019	12/11/2025

Project Title: Conveyance System Engineering Services-1802575

Phase: Construction (Build) # 1**Phase Title:** Construction from 1802575

Phase Budget: Wastewater**Start Date:** 8/30/2022**Phase Status:** Future Planned Start**End Date:** 12/11/2025

Phase Comments/Description:Sewer rehabilitation projects arising from 1802575

Cost Est. Class: Class 5**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	5 Year Total
Construction (Build) # 1	\$49,576	\$1,005	\$0	\$11,343	\$15,635	\$15,592	\$7,006	\$38,233

Phase Dates

Activity Name	Start Date	End Date
Construction	8/30/2022	12/11/2025

Project Title: Conveyance System Engineering Services-1802575

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2022	\$39,589	\$11,656	\$11,646	\$9,476	\$9,250	\$9,216	\$0	\$0	\$0	\$52,157
2023	\$47,834	\$31	\$1,276	\$11,169	\$18,357	\$18,307	\$0	\$0	\$0	\$50,054

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$55,550,537	\$1,923,103	\$12,245,623	\$16,922,618	\$16,876,381	\$7,582,813	\$0	\$0	\$41,381,812	\$0

Description of CIP Changes:

Schedule Extension Conveyance System Engineering Services-1802575. The construction for Conner Creek Sewer System will be under this CIP. 7/23/21 AC

Project Title: NWI Rehabilitation**Project Status:** Project Execution - Construction**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** Systems Control Center**Class Lvl 3:** General Purpose☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****60.3**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Mini Panicker**Director:** Biren Saparia**Managing Dept.:** SCC**Date Original Business Case Prepared:**
12/1/2019**Year Project Added to CIP:** 2021**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** Sewers and Interceptors**Funds and Cost Center:** Wastewater - 5421-892111☒ **From Program?****Program Number:** 260200**Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: NWI Rehabilitation

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

Primary Driver: 1 - Condition

Driver Explanation:

NWI was constructed between 1928 and 1950 and its size varies significantly from segment to segment.

Project Title: NWI Rehabilitation

Scoring

Project Manager Weighted Score: 67.1			
Criteria Name	Score	Score Criteria	Comment
Condition	4	C. Shows abnormal wear and is likely to cause significant performance deterioration in the near term	
Performance (Service Level/Reliability)	4	B. High risk of performance failure; doesn't meet future requirements	
Regulatory (Environmental/Legal)	3	B. Project will have a moderate positive impact on reg. issues	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	3	D. Canceling project pose limited-moderate staff/public safety/hazard issues, some potential for minor injury/regulatory violations	
Public Benefit	3	D. May not receive media coverage; positive influence on community	
Financial	4	B. Project will likely result in avoidance of fines, potential litigation, emergency repairs or damage to asset/public	
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	

Review Committee Weighted Score: 60.3		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	3	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	2	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: NWI Rehabilitation

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 6/1/2019**Phase Status:****End Date:** 7/1/2024

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
GLWA Salaries	\$134	\$7	\$5	\$52	\$77	\$0	\$77

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	6/1/2019	7/1/2024
Capital Delivery Salary	6/1/2019	7/1/2024

Project Title: NWI Rehabilitation**Phase:** Design/Engineering (CS-168)**Phase Title:** Design/Engineering (CS-168)**Phase Budget:** Wastewater**Start Date:** 6/1/2019**Phase Status:****End Date:** 7/1/2024**Phase Comments/Description:****Cost Est. Class:****Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:****Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
Design/Engineering (CS-168)	\$665	\$354	\$329	\$148	\$187	\$1	\$188

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-168)	6/1/2019	7/1/2024

Project Title: NWI Rehabilitation

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 7/1/2022**Phase Status:****End Date:** 7/1/2024

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
Construction	\$6,935	\$331	\$0	\$2,955	\$3,968	\$11	\$3,979

Phase Dates

Activity Name	Start Date	End Date
Construction	7/1/2022	7/1/2024

Project Title: NWI Rehabilitation

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	Total
2022	\$9,092	\$1,767	\$5,046	\$4,046	\$0	\$0	\$10,938
2023	\$10,075	\$188	\$37	\$5,044	\$5,030	\$0	\$10,379

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Total Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
\$7,734,426	\$334,749	\$3,155,662	\$4,232,450	\$11,564	\$4,244,014

Description of CIP Changes:

Schedule is changed to extend the construction into FY24

Project Title: Conveyance System Repairs (Sewers)**Project Status:** Project Execution - Design**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** Systems Control Center**Class Lvl 3:** General Purpose☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☒ **Multiple Phases****Project Score****57.6**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Mini Panicker**Director:** Biren Saparia**Managing Dept.:** SCC**Date Original Business Case Prepared:**
7/24/2020**Year Project Added to CIP:** 2020**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** Sewers and Interceptors**Funds and Cost Center:** Wastewater - 5421-892411 (Field Engineering)☒ **From Program?****Program Number:** 260200**Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Conveyance System Repairs (Sewers)**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

Primary Driver: 1 - Condition**Driver Explanation:**

There are PACP grades 4 and 5 Structural and O&M deficiencies in these sewers. Rehabilitating them will increase the capacity of the system as well as reduce I/I into the sewer system

Project Title: Conveyance System Repairs (Sewers)

Scoring

Project Manager Weighted Score: 63.2			
Criteria Name	Score	Score Criteria	Comment
Condition	4	C. Shows abnormal wear and is likely to cause significant performance deterioration in the near term	
Performance (Service Level/Reliability)	4	A. Expected performance failures under normal conditions	
Regulatory (Environmental/Legal)	3	B. Project will have a moderate positive impact on reg. issues	
Operations and Maintenance	3	C. Project moderate positive impact on O&M; alleviate some ongoing O&M issues	
Health and Safety	2	A. Low chance of failure occurring; failure easily mitigated w/ no safety/health/env. impacts	
Public Benefit	2	F. Canceling project minor chance off public impact; no neg. gov't/reg. interest	
Financial	2	D. Canceling project limited/low financial consequences	
Efficiency and Innovation	1	B. Low impact on business process optimization; no time/cost saving	

Review Committee Weighted Score: 57.6		
Criteria Name	Score	Comment
Condition	4	
Performance (Service Level/Reliability)	3	
Regulatory (Environmental/Legal)	3	
Operations and Maintenance	3	
Health and Safety	2	
Public Benefit	2	
Financial	2	
Efficiency and Innovation	1	

Project Title: Conveyance System Repairs (Sewers)**Phase:** GLWA Salaries**Phase Title:** GLWA Salaries**Phase Budget:** Wastewater**Start Date:** 12/5/2021**Phase Status:****End Date:** 5/30/2025**Phase Comments/Description:****Cost Est. Class:****Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:****Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$407	\$5	\$5	\$104	\$156	\$142	\$0	\$0	\$0	\$299	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	12/5/2021	5/30/2025
Capital Delivery Salary	12/5/2021	5/30/2025

Project Title: Conveyance System Repairs (Sewers)**Phase:** Professional Services**Phase Title:** Professional Services**Phase Budget:** Wastewater**Start Date:** 12/5/2021**Phase Status:****End Date:** 5/30/2025**Phase Comments/Description:****Cost Est. Class:****Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:****Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Professional Services	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services	12/5/2021	5/30/2025

Project Title: Conveyance System Repairs (Sewers)

Phase: Design/Engineering Phase #1 (2003443)

Phase Title: Design/Engineering Phase #1 (2003443)

Phase Budget: Wastewater

Start Date: 6/7/2021

Phase Status:

End Date: 10/12/2026

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	5 Year Total
Design/Engineering Phase #1 (2003443)	\$1,554	\$467	\$391	\$129	\$316	\$315	\$315	\$90	\$1,035

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering Phase #1	6/7/2021	10/12/2026
Design/Engineering Phase #1 (WW Field Services) (2003443)	6/7/2021	10/12/2026

Project Title: Conveyance System Repairs (Sewers)

Phase: Design/Engineering Phase #2

Phase Title: Design/Engineering Phase #2

Phase Budget: Wastewater

Start Date: 6/7/2021

Phase Status:

End Date: 5/15/2029

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering Phase #2	\$1,554	\$0	\$0	\$456	\$0	\$0	\$184	\$318	\$318	\$820	\$278

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering Phase #2	6/7/2021	5/15/2029

Project Title: Conveyance System Repairs (Sewers)

Phase: Construction Phase #1

Phase Title: Construction Phase #1

Phase Budget: Wastewater

Start Date: 5/1/2023

Phase Status:

End Date: 5/30/2025

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction Phase #1	\$16,000	\$0	\$0	\$1,283	\$7,695	\$7,022	\$0	\$0	\$0	\$14,717	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase #1)	5/1/2023	5/30/2025

Project Title: Conveyance System Repairs (Sewers)**Phase:** Construction Phase #2**Phase Title:** Construction Phase #2**Phase Budget:** Wastewater**Start Date:** 12/1/2025**Phase Status:****End Date:** 5/15/2029**Phase Comments/Description:****Cost Est. Class:****Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:****Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction Phase #2	\$15,000	\$0	\$0	\$0	\$0	\$0	\$2,520	\$4,338	\$4,350	\$11,208	\$3,792

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase #2)	12/1/2025	5/15/2029

Project Title: Conveyance System Repairs (Sewers)

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2022	\$36,230	\$523	\$7,046	\$7,046	\$7,046	\$7,046	\$8,046	\$6,046	\$5,023	\$47,821
2023	\$20,611	\$22	\$5,149	\$2,149	\$3,000	\$5,163	\$5,149	\$5,149	\$5,149	\$35,271

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$34,515,617	\$395,679	\$1,971,424	\$8,166,750	\$7,479,441	\$3,018,921	\$4,745,578	\$4,668,678	\$28,079,368	\$4,069,148

Description of CIP Changes:

NA

Project Title: Rehabilitation of Woodward Sewer Systems**Project Status:** Project Execution - Construction**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** Field Services**Class Lvl 3:** General Purpose☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****76.8**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Mini Panicker**Director:** Biren Saparia**Managing Dept.:** SCC**Date Original Business Case Prepared:**
7/8/2020**Year Project Added to CIP:** 2021**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** Sewers and Interceptors**Funds and Cost Center:** Wastewater - 5421-892211☒ **From Program?****Program Number:** 260200**Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Rehabilitation of Woodward Sewer Systems

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 Third Avenue, south to and along Tuxedo back to Woodward Avenue.
2. Sewer-extending east of Woodward Avenue in the alley between Chandler and Smith Streets, then along Clay Street to the east to Hamtramck Drive and north to Denton Avenue at Lumpkin Street.

The work involves mainly slip lining, heavy cleaning, spot repairs, and manhole rehabilitation are involved

Other Important Info:

NA

Primary Driver: 1 - Condition

Driver Explanation:

The rehabilitation of this sewer was prioritized due to its condition and age. When Woodward sewer was originally inspected in 2017 there were several grade 3, 4 and 5 defects, root intrusions, as well as instances of missing bricks and infiltration throughout the pipe segments.

Project Title: Rehabilitation of Woodward Sewer Systems

Scoring

Project Manager Weighted Score: 75.6			
Criteria Name	Score	Score Criteria	Comment
Condition	4	C. Shows abnormal wear and is likely to cause significant performance deterioration in the near term	
Performance (Service Level/Reliability)	4	E. Not doing the project frequent and repetitive service interruption and/or reliability issues†	
Regulatory (Environmental/Legal)	4	C. Canceling project risk of non-compliance in near term; potential permit violations; regulatory scrutiny; sig. measurable negative environmental impact to wide area	
Operations and Maintenance	3	C. Project moderate positive impact on O&M; alleviate some ongoing O&M issues	
Health and Safety	3	A. Failure not catastrophic, has moderate chance of occurring; failure may be mitigated to minimize safety/health/environmental impacts	
Public Benefit	3	E. /stakeholder relationships/confidence in GLWA	
Financial	2	A. Low financial impact to GLWA; No grants/other external funding	
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	

Review Committee Weighted Score: 76.8		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	3	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: Rehabilitation of Woodward Sewer Systems

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 8/24/2019**Phase Status:****End Date:** 12/31/2023

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	5 Year Total
GLWA Salaries	\$362	\$21	\$18	\$196	\$147	\$0	\$0	\$147

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	8/24/2019	12/31/2023
Capital Delivery Salary	8/24/2019	12/31/2023
Capital Delivery Salary	8/24/2019	12/31/2023
Capital Delivery Salary	8/24/2019	12/31/2023

Project Title: Rehabilitation of Woodward Sewer Systems

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 7/1/2021**Phase Status:****End Date:** 7/1/2021

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$189	\$189	\$147	\$42

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-166)	7/1/2021	7/1/2021

Project Title: Rehabilitation of Woodward Sewer Systems

Phase: Design/Engineering #1**Phase Title:** Design/Engineering

Phase Budget: Wastewater**Start Date:** 7/1/2021**Phase Status:****End Date:** 8/2/2021

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	5 Year Total
Design/Engineering #1	\$1,775	\$1,775	\$1,536	\$239	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1802575)	7/1/2021	8/2/2021

Project Title: Rehabilitation of Woodward Sewer Systems

Phase: Design/Engineering #2**Phase Title:** Design/Engineering

Phase Budget: Wastewater**Start Date:** 8/24/2019**Phase Status:****End Date:** 12/31/2023

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Design/Engineering #2	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	8/24/2019	12/31/2023

Project Title: Rehabilitation of Woodward Sewer Systems

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 10/6/2021**Phase Status:****End Date:** 12/31/2023

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	5 Year Total
Construction	\$18,695	\$3,474	\$1,876	\$10,245	\$6,574	\$0	\$0	\$6,574

Phase Dates

Activity Name	Start Date	End Date
Construction	10/6/2021	12/31/2023

Project Title: Rehabilitation of Woodward Sewer Systems

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY22	FY23	FY24	FY25	Total
2023	\$14,559	\$3,372	\$4,848	\$4,862	\$4,848	\$19,160

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	5 Year Total
\$21,021,139	\$3,576,770	\$10,722,601	\$6,721,768	\$0	\$0	\$6,721,768

Description of CIP Changes:

First Construction Contract released from CIP 260204 Design. 7/23/21 AC

Project Title: Sewer Rehabilitation and Repair**Project Status:** Project Execution - Construction**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** Systems Control Center**Class Lvl 3:** General Purpose☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****61.3**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Mini Panicker**Director:** Biren Saparia**Managing Dept.:** SCC**Date Original Business Case Prepared:**
5/30/2021**Year Project Added to CIP:** 2021**CIP Budget:** Wastewater**Project Jurisdiction:** Multiple Counties**Lookup Location:** Sewers and Interceptors**Funds and Cost Center:** Wastewater - 5421-882301☒ **From Program?****Program Number:** 260200**Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Sewer Rehabilitation and Repair

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.

Primary Driver: 1 - Condition**Driver Explanation:**

Condition assessment of the collection system has revealed many structural and O&M related defects throughout the GLWA sewer collection system.

Project Title: Sewer Rehabilitation and Repair

Scoring

Project Manager Weighted Score: 76.4			
Criteria Name	Score	Score Criteria	Comment
Condition	4		
Performance (Service Level/Reliability)	4		
Regulatory (Environmental/Legal)	3		
Operations and Maintenance	4		
Health and Safety	4		
Public Benefit	3		
Financial	3		
Efficiency and Innovation	1		

Review Committee Weighted Score: 61.3		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	3	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: Sewer Rehabilitation and Repair

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 7/1/2022**Phase Status:****End Date:** 1/1/2026

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	5 Year Total
GLWA Salaries	\$225	\$4	\$4	\$47	\$70	\$70	\$35	\$175

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/1/2022	1/1/2026
Capital Delivery Salary	7/1/2022	1/1/2026

Project Title: Sewer Rehabilitation and Repair

Phase: Design/Engineering**Phase Title:** Design/Engineering

Phase Budget: Wastewater**Start Date:** 7/1/2022**Phase Status:****End Date:** 1/1/2026

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2022	1/1/2026

Project Title: Sewer Rehabilitation and Repair

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 7/1/2022**Phase Status:****End Date:** 6/30/2024

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	5 Year Total
Construction	\$12,400	\$91	\$0	\$4,990	\$7,410	\$0	\$0	\$0	\$7,410

Phase Dates

Activity Name	Start Date	End Date
Construction	7/1/2022	6/30/2024

Project Title: Sewer Rehabilitation and Repair

Phase: Construction (Year 1 Extension)**Phase Title:** Construction (Year 1 Extension)

Phase Budget: Wastewater**Start Date:** 7/1/2024**Phase Status:****End Date:** 6/30/2025

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY25	5 Year Total
Construction (Year 1 Extension)	\$6,200	\$0	\$0	\$0	\$6,200	\$6,200

Phase Dates

Activity Name	Start Date	End Date
Construction (Year 1 Extension)	7/1/2024	6/30/2025

Project Title: Sewer Rehabilitation and Repair

Phase: Construction (Year 2 Extension)**Phase Title:** Construction (Year 2 Extension)

Phase Budget: Wastewater**Start Date:** 7/1/2025**Phase Status:****End Date:** 6/30/2026

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY26	5 Year Total
Construction (Year 2 Extension)	\$6,200	\$0	\$0	\$0	\$6,200	\$6,200

Phase Dates

Activity Name	Start Date	End Date
Construction (Year 2 Extension)	7/1/2025	6/30/2026

Project Title: Sewer Rehabilitation and Repair**Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)**

CIP	5 Year Total	FY23	FY24	FY25	FY26	FY27	Total
2023	\$12,200	\$4,505	\$5,863	\$1,833	\$0	\$0	\$12,200

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	5 Year Total
\$25,025,035	\$3,836	\$5,036,614	\$7,479,695	\$6,269,609	\$6,235,281	\$0	\$19,984,585

Description of CIP Changes:

This is to address any immediate/urgent rehabilitation/repair needs for the GLWA Collection System

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee**Project Status:** Active - Procurement - Design**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** Field Services**Class Lvl 3:** General Purpose☒ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****59.6**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☒ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Mini Panicker**Director:** Biren Saparia**Managing Dept.:** Field Services**Date Original Business Case Prepared:**
3/14/2022**Year Project Added to CIP:** 2022**CIP Budget:** Wastewater**Project Jurisdiction:** Wayne County - Outside Detroit**Lookup Location:** Multiple Locations**Funds and Cost Center:** Water - 5519-882411
(Field Engineering)☒ **From Program?****Program Number:** 260200**Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** TBD**Partners:****Collaboration Entity:**

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee

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

Primary Driver: 1 - Condition

Driver Explanation:

The rehabilitation of these sewers was prioritized due to their condition.

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee

Scoring

Project Manager Weighted Score: 59.6			
Criteria Name	Score	Score Criteria	Comment
Condition	4	C. Shows abnormal wear and is likely to cause significant performance deterioration in the near term	
Performance (Service Level/Reliability)	3	D. Project moderate positive impact on service levels/reliability/lower risk	
Regulatory (Environmental/Legal)	3	C. Canceling project potential for moderate env. impact to neighborhood, possibility for wider ecosystem impact; non-compliance risk in 1-3 years	
Operations and Maintenance	3	C. Project moderate positive impact on O&M; alleviate some ongoing O&M issues	
Health and Safety	3	B. Project moderate positive impact on staff/public H&S±	
Public Benefit	3	E. /stakeholder relationships/confidence in GLWA	
Financial	2	A. Low financial impact to GLWA; No grants/other external funding	
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	

Review Committee Weighted Score: 59.6		
Criteria Name	Score	Comment
Condition	4	Committee score carried over from current year Project Manager score
Performance (Service Level/Reliability)	3	Committee score carried over from current year Project Manager score
Regulatory (Environmental/Legal)	3	Committee score carried over from current year Project Manager score
Operations and Maintenance	3	Committee score carried over from current year Project Manager score
Health and Safety	3	Committee score carried over from current year Project Manager score
Public Benefit	3	Committee score carried over from current year Project Manager score
Financial	2	Committee score carried over from current year Project Manager score
Efficiency and Innovation	2	Committee score carried over from current year Project Manager score

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/1/2022

Phase Status:

End Date: 6/28/2031

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$335	\$1	\$0	\$26	\$39	\$39	\$39	\$39	\$39	\$193	\$115

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/1/2022	6/28/2031
Capital Delivery Salary	7/1/2022	6/28/2031

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 7/1/2022

Phase Status:

End Date: 12/31/2030

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	5 Year Total
Design/Engineering	\$6,900	\$0	\$0	\$981	\$1,483	\$1,479	\$1,479	\$1,479	\$5,919

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2022	12/31/2030

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee

Phase: Construction (Phase #1)

Phase Title: Construction (Phase #1)

Phase Budget: Wastewater

Start Date: 1/1/2029

Phase Status:

End Date: 12/31/2030

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY29-33
Construction (Phase #1)	\$15,000	\$0	\$0	\$0	\$15,000

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase #1)	1/1/2029	12/31/2030

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee

Phase: Construction (Phase #2)

Phase Title: Construction (Phase #2)

Phase Budget: Wastewater

Start Date: 7/1/2029

Phase Status:

End Date: 6/28/2031

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY29-33
Construction (Phase #2)	\$15,000	\$0	\$0	\$0	\$15,000

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase #2)	7/1/2029	6/28/2031

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee

Phase: Construction (Phase #3)

Phase Title: Construction (Phase #3)

Phase Budget: Wastewater

Start Date: 7/1/2029

Phase Status: Cancelled

End Date: 6/28/2031

Phase Comments/Description:

Project Status Changed to "Canceled"

Cost Est. Class: Class 5

Cost Est. Source: NA

Cost Est. Date: 1/12/2023

Cost Est. Prepared By: NA

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23
Construction (Phase #3)	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase #3)	7/1/2029	6/28/2031

Project Title: Rehabilitation of GLWA Sewers; Ashland Relief, Linwood, Lonyo, Second Avenue, and Shiawassee

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$37,234,831	\$209	\$1,006,973	\$1,521,537	\$1,517,380	\$1,517,380	\$1,517,380	\$38,625	\$6,112,302	\$30,115,346

Description of CIP Changes:

Nelwy added

Project Title: CSO Outfall Rehabilitation**Project Status:** Future Planned - Within Five Year Plan**CIP Type:** Program**Class Lvl 1:** Wastewater**Class Lvl 2:** Programs**Class Lvl 3:** Programs☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score**
0

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Mini Panicker**Director:** Biren Saparia**Managing Dept.:** SCC**Date Original Business Case Prepared:**
3/3/2017**Year Project Added to CIP:** 2017**CIP Budget:** Wastewater**Project Jurisdiction:** Multiple Counties**Lookup Location:** CSO Outfalls**Funds and Cost Center:** Wastewater - 5421-882301☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: CSO Outfall Rehabilitation

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.

Primary Driver: 1 - Condition

Driver Explanation:

Inspections of the outfalls revealed structural deficiencies like fractures, missing mortar from bricks and sediment and debris deposits.

Project Title: CSO Outfall Rehabilitation

Scoring

Project Manager Weighted Score: 0			
Criteria Name	Score	Score Criteria	Comment
Condition	0		
Performance (Service Level/Reliability)	0		
Regulatory (Environmental/Legal)	0		
Operations and Maintenance	0		
Health and Safety	0		
Public Benefit	0		
Financial	0		
Efficiency and Innovation	0		

Review Committee Weighted Score: 0		
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	

Project Title: CSO Outfall Rehabilitation

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/1/2025

Phase Status: Active

End Date: 6/30/2035

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$136	\$0	\$0	\$0	\$0	\$0	\$14	\$14	\$14	\$41	\$68

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/1/2025	6/30/2035
Capital Delivery Salary	7/1/2025	6/30/2035

Project Title: CSO Outfall Rehabilitation

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 7/1/2025**Phase Status:****End Date:** 6/30/2035

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Professional Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services	7/1/2025	6/30/2035

Project Title: CSO Outfall Rehabilitation

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 7/1/2025**Phase Status:****End Date:** 6/30/2035

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	7/1/2025	6/30/2035

Project Title: CSO Outfall Rehabilitation**Phase:** TBD Future Allocation**Phase Title:** TBD Future Allocation**Phase Budget:** Wastewater**Start Date:** 7/1/2025**Phase Status:****End Date:** 6/30/2035**Phase Comments/Description:****Cost Est. Class:****Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:****Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
TBD Future Allocation	\$15,000	\$0	\$0	\$0	\$0	\$0	\$1,499	\$1,499	\$1,503	\$4,502	\$7,500

Phase Dates

Activity Name	Start Date	End Date
TBD Future Allocation	7/1/2025	6/30/2035

Project Title: CSO Outfall Rehabilitation

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$30,000	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$0	\$0	\$0	\$0	\$0	\$36,000
2019	\$34,336	\$0	\$507	\$3,826	\$10,001	\$10,001	\$10,001	\$10,001	\$0	\$0	\$0	\$0	\$44,337
2020	\$74,179	\$9	\$4,000	\$15,102	\$17,947	\$10,926	\$15,102	\$15,102	\$11,000	\$0	\$0	\$0	\$89,188
2021	\$52,076	\$0	\$3,331	\$4,802	\$11,706	\$9,156	\$11,995	\$10,976	\$8,243	\$4,197	\$0	\$0	\$64,406
2022	\$4,167	\$0	\$1	(\$1)	\$0	\$833	\$833	\$835	\$833	\$833	\$833	\$0	\$5,000
2023	\$8,212	\$0	\$0	\$0	\$0	\$11,641	\$1,642	\$1,646	\$1,641	\$1,641	\$1,641	\$1,646	\$21,501

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$15,136,110	\$0	\$0	\$0	\$0	\$1,512,783	\$1,512,783	\$1,516,927	\$4,542,491	\$7,568,055

Description of CIP Changes:

Funds allocated for TBD projects in the future years

Project Title: Phase 2 Outfalls- 19000796**Project Status:** Closed**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** Programs**Class Lvl 3:** Programs☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****0**

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☒ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment

**Project Manager:** Mini Panicker**Director:** Biren Saparia**Managing Dept.:** SCC**Date Original Business Case Prepared:**
3/3/2017**Year Project Added to CIP:** 2017**CIP Budget:** Wastewater**Project Jurisdiction:** Multiple Counties**Lookup Location:** CSO Outfalls**Funds and Cost Center:** Wastewater - 5421-
892411 (Field Engineering)☒ **From Program?****Program Number:** 170500**Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Phase 2 Outfalls- 19000796

Problem Statement:

Rehabilitation of the CSO outfalls is essential to properly discharge the uncontrollable combined sewer overflows to the receiving waters and to prevent sewer back up into the Conveyance System. Recent inspections of the outfalls revealed structural deficiencies like fractures, missing mortar from bricks etc. There are sediment and debris deposits in many of them.

Scope of Work/Project Alternatives:

Preliminary Scope of Work of the project is construction. Contract CS-168 will review the existing records, evaluate the existing conditions, and provide the necessary design to rehabilitate the outfalls. 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 are dated back to the early 1900s under various contracts.

Challenges: Some outfalls are below the river elevation; rehabilitation may be challenging.

Primary Driver: 2 - Performance

Driver Explanation:

Frequent uncontrolled CSO discharges to the Detroit River

Project Title: Phase 2 Outfalls- 19000796

Scoring

Project Manager Weighted Score: 0			
Criteria Name	Score	Score Criteria	Comment
Condition	0		
Performance (Service Level/Reliability)	0		
Regulatory (Environmental/Legal)	0		
Operations and Maintenance	0		
Health and Safety	0		
Public Benefit	0		
Financial	0		
Efficiency and Innovation	0		

Review Committee Weighted Score: 0		
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	

Project Title: Phase 2 Outfalls- 19000796

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 11/1/2019**Phase Status:****End Date:** 1/26/2021

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
GLWA Salaries	\$13	\$13	\$13	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	11/1/2019	1/26/2021
Capital Delivery Salary	11/1/2019	1/26/2021
Other Capital Improvement Costs	11/1/2019	1/26/2021
Capitalized Interest	11/1/2019	1/26/2021

Project Title: Phase 2 Outfalls- 19000796

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 11/1/2019**Phase Status:****End Date:** 1/26/2021

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Professional Services	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services	11/1/2019	1/26/2021

Project Title: Phase 2 Outfalls- 19000796

Phase: Design/Engineering (CS-168)**Phase Title:** Design/Engineering (CS-168)

Phase Budget: Wastewater**Start Date:** 11/1/2019**Phase Status:****End Date:** 1/26/2021

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (CS-168)	\$201	\$201	\$201	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-168)	11/1/2019	1/26/2021

Project Title: Phase 2 Outfalls- 19000796

Phase: Construction (Build) # 1 (CS-168, 1900076)**Phase Title:** CSO Outfall Rehabilitation Phase 2

Phase Budget: Wastewater **Start Date:** 11/1/2019**Phase Status:** Under Procurement **End Date:** 1/26/2021

Phase Comments/Description:

This contract is to provide rehabilitation for nine (9) GLWA Outfalls (B-6, B-15, B-17, B-20, B-23, B-24, B-31, B-36, and B-45)

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Construction (Build) # 1 (CS-168, 1900076)	\$4,710	\$4,710	\$4,710	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (1900796)	11/1/2019	1/26/2021

Project Title: Phase 2 Outfalls- 19000796

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	FY21	FY22	Total
2022	\$2,849	\$0	\$5,051
2023	\$2,698	\$141	\$5,042

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Total Costs	Prior FYs	FY23
\$4,923,589	\$4,923,589	\$0

Description of CIP Changes:

None

Project Title: B-39 Outfall Rehabilitation**Project Status:** Project Execution - Construction**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** Programs**Class Lvl 3:** Programs☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****75.3**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Mini Panicker**Director:** Biren Saparia**Managing Dept.:** SCC**Date Original Business Case Prepared:**
3/11/2021**Year Project Added to CIP:** 2021**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** CSO Outfalls**Funds and Cost Center:** Wastewater - 5421-892111☒ **From Program?****Program Number:** 170500**Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: B-39 Outfall Rehabilitation

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

Primary Driver: 1 - Condition

Driver Explanation:

During our evaluation in 2018, it was determined that the outfall tunnel was undergoing failure, that put the significant infrastructure immediately above and adjacent to the outfall at risk

Project Title: B-39 Outfall Rehabilitation

Scoring

Project Manager Weighted Score: 75.3			
Criteria Name	Score	Score Criteria	Comment
Condition	5	C. High risk of breakdown or imminent failure with serious impact on performance	
Performance (Service Level/Reliability)	4	B. High risk of performance failure; doesn't meet future requirements	
Regulatory (Environmental/Legal)	4	C. Canceling project risk of non-compliance in near term; potential permit violations; regulatory scrutiny; sig. measurable negative environmental impact to wide area	
Operations and Maintenance	3	C. Project moderate positive impact on O&M; alleviate some ongoing O&M issues	
Health and Safety	3	D. Canceling project pose limited-moderate staff/public safety/hazard issues, some potential for minor injury/regulatory violations	
Public Benefit	3	F. Canceling project moderate chance of moderate neg. publicity	
Financial	1	A. Minimal to no impact to GLWA	
Efficiency and Innovation	1	B. Low impact on business process optimization; no time/cost saving	

Review Committee Weighted Score: 75.3		
Criteria Name	Score	Comment
Condition	5	Committee score carried over from current year Project Manager score
Performance (Service Level/Reliability)	4	Committee score carried over from current year Project Manager score
Regulatory (Environmental/Legal)	4	Committee score carried over from current year Project Manager score
Operations and Maintenance	3	Committee score carried over from current year Project Manager score
Health and Safety	3	Committee score carried over from current year Project Manager score
Public Benefit	3	Committee score carried over from current year Project Manager score
Financial	1	Committee score carried over from current year Project Manager score
Efficiency and Innovation	1	Committee score carried over from current year Project Manager score

Project Title: B-39 Outfall Rehabilitation

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 6/1/2020**Phase Status:****End Date:** 4/24/2024

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	5 Year Total
GLWA Salaries	\$207	\$329	\$4	\$271	(\$68)	(\$68)

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	6/1/2020	4/24/2024
Capital Delivery Salary	6/1/2020	4/24/2024
Other Capital Improvement Costs	6/1/2020	4/24/2024

Project Title: B-39 Outfall Rehabilitation

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 6/1/2020**Phase Status:****End Date:** 4/24/2024

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Professional Services	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services	6/1/2020	4/24/2024

Project Title: B-39 Outfall Rehabilitation

Phase: Design/Engineering**Phase Title:** Design/Engineering

Phase Budget: Wastewater**Start Date:** 6/1/2020**Phase Status:****End Date:** 12/31/2021

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering	\$257	\$257	\$219	\$38

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-168)	6/1/2020	12/31/2021

Project Title: B-39 Outfall Rehabilitation

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 4/25/2022**Phase Status:****End Date:** 4/24/2024

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	5 Year Total
Construction	\$9,743	\$1,701	\$651	\$4,647	\$4,445	\$4,445

Phase Dates

Activity Name	Start Date	End Date
Construction (2100891)	4/25/2022	4/24/2024

Project Title: B-39 Outfall Rehabilitation

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY21	FY22	FY23	FY24	Total
2022	\$387	\$180	\$180	\$180	\$26	\$569
2023	\$5,391	\$150	\$3,214	\$5,391	\$0	\$8,756

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Total Costs	Prior FYs	FY23	FY24	5 Year Total
\$10,206,122	\$873,311	\$4,955,807	\$4,377,004	\$4,377,004

Description of CIP Changes:

This Project was added to FY 23 CIP Plan. AC 3/25/21

Project Title: Conveyance System Repairs (Outfalls)**Project Status:** Project Execution - Design**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** Programs**Class Lvl 3:** Programs☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☒ **Multiple Phases****Project Score****73.8**

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☒ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☒ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment

**Project Manager:** Mini Panicker**Director:** Biren Saparia**Managing Dept.:** SCC**Date Original Business Case Prepared:**
8/24/2020**Year Project Added to CIP:** 2020**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** CSO Outfalls**Funds and Cost Center:** Wastewater - 5421-892411 (Field Engineering)☒ **From Program?****Program Number:** 170500**Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Conveyance System Repairs (Outfalls)**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

Primary Driver: 1 - Condition

Driver Explanation:

Many of these CSO outfalls have sediment deposits that results in transportation capacity limitation. Several also have other O&M and Structural deficiencies

Project Title: Conveyance System Repairs (Outfalls)

Scoring

Project Manager Weighted Score: 74.2			
Criteria Name	Score	Score Criteria	Comment
Condition	4	C. Shows abnormal wear and is likely to cause significant performance deterioration in the near term	
Performance (Service Level/Reliability)	3	A. Generally meets design needs; moderate risk of perf. failure	
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,	
Operations and Maintenance	3	C. Project moderate positive impact on O&M; alleviate some ongoing O&M issues	
Health and Safety	3	B. Project moderate positive impact on staff/public H&S+	
Public Benefit	3	F. Canceling project moderate chance of moderate neg. publicity	
Financial	2	D. Canceling project limited/low financial consequences	
Efficiency and Innovation	1	B. Low impact on business process optimization; no time/cost saving	

Review Committee Weighted Score: 73.8		
Criteria Name	Score	Comment
Condition	4	
Performance (Service Level/Reliability)	3	
Regulatory (Environmental/Legal)	4	
Operations and Maintenance	3	
Health and Safety	3	
Public Benefit	2	
Financial	2	
Efficiency and Innovation	1	

Project Title: Conveyance System Repairs (Outfalls)

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 12/5/2021

Phase Status:

End Date: 8/6/2026

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$421	\$6	\$5	\$74	\$111	\$110	\$110	\$11	\$0	\$342	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	12/5/2021	8/6/2026
Capital Delivery Salary	12/5/2021	8/6/2026

Project Title: Conveyance System Repairs (Outfalls)

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 6/7/2021

Phase Status:

End Date: 2/13/2027

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$2,120	\$1,395	\$897	\$497	\$175	\$210	\$210	\$131	\$0	\$726	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering Phase #1	6/7/2021	2/13/2027
Design/Engineering Phase #1 (WW Field Services - 2003443)	6/7/2021	2/13/2027

Project Title: Conveyance System Repairs (Outfalls)

Phase: Design/Engineering Phase #2

Phase Title: Design/Engineering Phase #2

Phase Budget: Wastewater

Start Date: 6/7/2021

Phase Status:

End Date: 5/15/2028

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total
Design/Engineering Phase #2	\$2,120	\$0	\$0	\$622	\$0	\$252	\$433	\$433	\$380	\$1,498

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering Phase #2	6/7/2021	5/15/2028

Project Title: Conveyance System Repairs (Outfalls)**Phase:** Construction Phase #1**Phase Title:** Construction Phase #1**Phase Budget:** Wastewater**Start Date:** 9/1/2023**Phase Status:****End Date:** 8/6/2026**Phase Comments/Description:****Cost Est. Class:****Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:****Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction Phase #1	\$16,000	\$0	\$0	\$0	\$4,542	\$5,453	\$5,453	\$553	\$0	\$16,000	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction Phase #1	9/1/2023	8/6/2026

Project Title: Conveyance System Repairs (Outfalls)**Phase:** Construction Phase #2**Phase Title:** Construction Phase #2**Phase Budget:** Wastewater**Start Date:** 12/1/2024**Phase Status:****End Date:** 8/7/2027**Phase Comments/Description:****Cost Est. Class:****Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:****Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total
Construction Phase #2	\$15,000	\$0	\$0	\$0	\$0	\$3,245	\$5,587	\$5,587	\$582	\$15,000

Phase Dates

Activity Name	Start Date	End Date
Construction Phase #2	12/1/2024	8/7/2027

Project Title: Conveyance System Repairs (Outfalls)

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2022	\$40,096	\$557	\$7,710	\$7,710	\$7,728	\$7,710	\$9,240	\$8,210	\$0	\$48,863
2023	\$21,616	\$35	\$856	\$1,340	\$1,771	\$5,000	\$6,752	\$6,752	\$6,752	\$35,825

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$35,661,563	\$902,646	\$1,193,384	\$4,826,856	\$9,269,435	\$11,792,863	\$6,714,945	\$961,432	\$33,565,533	\$0

Description of CIP Changes:

NA

Project Title: CSO Facilities Improvement Program

Project Status: Project Execution - Design

CIP Type: Program

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ Project New to CIP

☐ Useful Life > 20 Yrs

☒ Multiple Phases

Project Score

0

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☒ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☒ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment



Conner Creek CSO Facility

Project Manager: Chris Nastally

Director: Chris Nastally

Managing Dept.: WW Design Eng

Date Original Business Case Prepared: 7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

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

Funds and Cost Center: Wastewater - 5421-892211

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: TBD

Partners:

Collaboration Entity:

Project Title: CSO Facilities Improvement Program

☐ **From Program?**

Program Number:

Delivery Method: Other (Design In-house and Bid Out for Construction)

Delivery Method Details: Varies, this is a program.

Project Title: CSO Facilities Improvement Program

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

Primary Driver: Varies

Driver Explanation:

Driver will be based on need of each individual project which falls within the program.

Project Title: CSO Facilities Improvement Program

Scoring

Project Manager Weighted Score: 0			
Criteria Name	Score	Score Criteria	Comment
Condition	0		
Performance (Service Level/Reliability)	0		
Regulatory (Environmental/Legal)	0		
Operations and Maintenance	0		
Health and Safety	0		
Public Benefit	0		
Financial	0		
Efficiency and Innovation	0		

Review Committee Weighted Score: 0		
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	

Project Title: CSO Facilities Improvement Program

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/1/2021

Phase Status: Cancelled

End Date: 7/1/2049

Phase Comments/Description:

recommend canceling this phase, why are we putting salaries to a program when we can't put projects to the same number. Salaries should go to the project is my thought.

Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$2,691	\$0	\$0	\$67	\$101	\$101	\$101	\$101	\$101	\$505	\$505

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/1/2021	7/1/2049

Project Title: CSO Facilities Improvement Program

Phase: Design/Engineering

Phase Title: Design / Construction Assistance - TBD

Phase Budget: Wastewater

Start Date: 7/1/2021

Phase Status: Future Planned Start

End Date: 7/1/2049

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: WWE

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: WWE

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$91,500	\$0	\$0	\$332	\$502	\$500	\$500	\$500	\$502	\$2,505	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (DSGN)	7/1/2021	7/1/2049
Design/Engineering (CA)	7/1/2021	6/30/2044

Project Title: CSO Facilities Improvement Program**Phase:** Design-Build**Phase Title:** Design / Build / Other**Phase Budget:** Wastewater**Start Date:** 7/1/2022**Phase Status:** Future Planned Start**End Date:** 6/30/2034**Phase Comments/Description:****Cost Est. Class:** Class 5**Cost Est. Source:** WWE**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** WWE**Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design-Build	\$16,000	\$0	\$0	\$335	\$1,518	\$1,010	\$1,010	\$1,010	\$1,012	\$5,559	\$5,053

Phase Dates

Activity Name	Start Date	End Date
Design-Build	7/1/2022	6/30/2034

Project Title: CSO Facilities Improvement Program

Phase: Construction**Phase Title:** Construction - TBD

Phase Budget: Wastewater**Start Date:** 7/1/2022**Phase Status:** Future Planned Start**End Date:** 6/30/2044

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** WWE**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** WWE

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction	\$920,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	7/1/2022	6/30/2044

Project Title: CSO Facilities Improvement Program

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2018	\$28,457	\$3,428	\$2,247	\$6,400	\$9,000	\$7,200	\$3,610	\$0	\$0	\$0	\$0	\$0	\$0	\$31,885
2019	\$31,548	\$764	\$1,658	\$9,277	\$6,218	\$2,351	\$4,351	\$9,351	\$11,251	\$0	\$0	\$0	\$0	\$45,221
2020	\$39,668	\$0	\$481	\$8,442	\$5,604	\$4,553	\$5,825	\$10,325	\$13,361	\$15,000	\$0	\$0	\$0	\$63,591
2021	\$53,396	\$0	\$0	\$6,742	\$7,555	\$7,492	\$10,289	\$10,576	\$4,759	\$20,280	\$85,250	\$0	\$0	\$152,943
2022	\$23,400	\$0	\$0	\$0	\$0	\$1,500	\$1,000	\$1,500	\$2,000	\$7,500	\$11,400	\$12,000	\$12,000	\$126,400
2023	\$7,500	\$0	\$0	\$0	\$0	\$0	\$1,000	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,045,500

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$1,030,191,117	\$0	\$734,016	\$2,120,493	\$1,610,759	\$1,610,759	\$1,610,759	\$1,615,171	\$8,567,940	\$5,557,730

Description of CIP Changes:

260601 - CON-254 - Created new phase, \$555K contractors bid, estimated spend based on contractors tentative schedule.

260602 - Created new phase, moved \$980K from TBD to this project - CSO Fire Alarm Improvements.

260603 - CON-234, Updated FY costs based on actual contractors bid and potential change order to replace influent meters @ Conner Creek. This contract was bid in February 2018, awarded in 6/2018, and given the schedule, the Contractor will not complete work in FY19 as previously thought when it was bid.

260604 - Created new phase, shifted \$355K from TBD to this project - Baby Creek Influent Area Improvements

260605 - Created new phase, \$4.5M Budget for CSO Facilities Assessment Project

260606- Created new phase, moved \$300K from TBD to this project - Puritan Fenkell Roof Replacement.

260607 - Created new phase, costs are \$700K split over FY19 and FY20, FY19 from TBD- Leib Electrical Improvements Contract

TBD - Created new phase, Costs are estimated @ \$300K, 7 Mile Roof Replacement Project

TBD - Created new phase, Costs are estimated @ \$650K, Leib SDF HVAC Improvements Project

TBD - Created new phase, Costs are estimated @ \$150K, Baby Creek MAU Replacement - I&E funded.

TBD - Created new phase, Costs are estimated @ 650K, Baby Creek HVAC System Improvements - expands on the project to only replace the MAUs.

TBD - Created new phase, Costs are estimated @ \$400K, 7 Mile Parking lot, and Site Improvements Project

TBD - Created new phase, Costs are estimated @ \$11M, CSO Facilities Structural Improvements Design Build (based on Task CS-166 - Task C.05).

Modified the TBD allowance category for immediate years as projects become clearer. As previously indicated, this amount will steadily decrease as projects are defined, and will likely be removed once the CSO Assessment Project is completed.

UPDATES IN 7-2019

260605 - CS-299 CSO Facilities Assessment Project was removed from CIP. It is O&M and I&E funded because it is more of a study than a CIP project. It will

Project Title: CSO Facilities Improvement Program

lead to CIP projects and we can come back and capitalize it later if we so desire.

260610 - Baby Creek MAU Replacement project. Award was later than anticipated and equipment had 16 week lead time which led to funding being shifted from FY19 to FY20.

260612 - Puritan Fenkell & Seven Mile Instrumentation Project. This is to account for a CIP number that doesn't appear within the database but did exist briefly before we determined that this project was more appropriately funded from O&M. The CIP number had already been used in BigTime and so the decision was made to just assign the next project with the next CIP number Higher (260613).

260614 - CS-166 Task C.05 - Structural Improvements Project. In 2019 CIP this project was pushed back in the CIP to accommodate Conner/Freud impacts to the CIP budget. Due to lower than expected CIP spend, this project was pulled back forward for the 2020 CIP version to start in FY 20 (late FY 20 and carry through FY 24).

Added the following new projects

260616 - Baby Creek CSO Anchor and Wedge Improvement to West End Sewer

260617 - St. Aubin Screening and Disinfection Improvements

260618 - Oakwood HVAC Improvements.

Updated the unallocated amounts to account for CS-299 projects and also long term CSO control elements and cross-checked with AECOM for estimates. 08/2020

This year the structure of the CIP database was changed. All previous projects that were in the program previously have been pulled out and documented similar to non-program CIP projects.

260619 - CAFR group added a project by Chris VanPoppelen for controls to PF, St. Aubin and Leib to the program.

260620 - added roof replacement of Baby Creek to the program.

pulled out TBD amounts for projects added as a result of CS-299

Updated in 2022

Revised future amounts that were allocated to other projects under the program (to offset the overall program value for net zero changes, if applicable).

Project Title: Conner Creek CSO RTB Automation Improvements

Project Status: Project Execution - Pending Closeout

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ Project New to CIP

☐ Useful Life > 20 Yrs

☒ Multiple Phases

Project Score

0

- ☒ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☒ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment



Effluent Relief Gate Repair

Project Manager: Ihsan Wahab

Director: Chris Nastally

Managing Dept.: WW Construction Eng

Date Original Business Case Prepared: 7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Conner Creek

Funds and Cost Center: Wastewater - 5421-892211

☒ From Program?

Program Number: 260600

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Conner Creek CSO RTB Automation Improvements

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 SCC control of screening gates and ERGs, etc. The existing five influent flowmeters will be replaced.

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.

Primary Driver: 1 - Condition**Driver Explanation:**

The existing effluent gates were not reliable in operation and leaking river water in to the basin. These Effluent Relief Gates (ERGs) need to be in proper operation during wet weather events to avoid potential basement flooding in nearby neighborhood.

Project Title: Conner Creek CSO RTB Automation Improvements

Scoring

Project Manager Weighted Score: 0			
Criteria Name	Score	Score Criteria	Comment
Condition	0		
Performance (Service Level/Reliability)	0		
Regulatory (Environmental/Legal)	0		
Operations and Maintenance	0		
Health and Safety	0		
Public Benefit	0		
Financial	0		
Efficiency and Innovation	0		

Review Committee Weighted Score: 0		
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	

Project Title: Conner Creek CSO RTB Automation Improvements

Phase: GLWA Salaries

Phase Title: General - GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/1/2017

Phase Status: Pending Close-out

End Date: 9/4/2022

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$347	\$347	\$341	\$6	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/1/2017	9/4/2022
Capital Delivery Salary	7/1/2017	9/4/2022

Project Title: Conner Creek CSO RTB Automation Improvements

Phase: Design & Construction Assistance # 1 (CS-172, CS-116, CS-166, CON-234)

Phase Title: 260603 - CS-172 - Conner Creek CSO RTB Automation Improvements

Phase Budget: Wastewater

Start Date: 7/1/2017

Phase Status: Closed Out

End Date: 9/23/2019

Phase Comments/Description:

CS-172 Design Phase, moving to construction assistance phase.

Cost Est. Class: Class 1

Cost Est. Source: HDR - Budget

Cost Est. Date: 11/1/2017

Cost Est. Prepared By: HDR

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design & Construction Assistance # 1 (CS-172, CS-116, CS-166, CON-234)	\$76	\$76	\$76	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-172)	7/1/2017	9/23/2019

Project Title: Conner Creek CSO RTB Automation Improvements

Phase: Design/Engineering (CS-116)**Phase Title:** Design Work - CS-116 - Hubbell Roth & Clark

Phase Budget: Wastewater**Start Date:** 6/12/2018**Phase Status:** Closed Out**End Date:** 9/4/2022

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** Consultant**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Consultant

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (CS-116)	\$341	\$341	\$341	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-116)	6/12/2018	9/4/2022

Project Title: Conner Creek CSO RTB Automation Improvements

Phase: Design/Engineering (CS-166)**Phase Title:** Design Phase - CS-172 - HDR

Phase Budget: Wastewater**Start Date:** 7/1/2018**Phase Status:** Closed Out**End Date:** 4/30/2021

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** Consultant**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Consultant

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (CS-166)	\$19	\$19	\$19	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-166)	7/1/2018	4/30/2021

Project Title: Conner Creek CSO RTB Automation Improvements

Phase: Design/Engineering (MISC)**Phase Title:** Cancel this phase

Phase Budget: Wastewater**Start Date:** 7/1/2017**Phase Status:** Cancelled**End Date:** 6/29/2018

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (MISC)	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (MISC)	7/1/2017	6/29/2018

Project Title: Conner Creek CSO RTB Automation Improvements

Phase: Construction (Build) # 1 (CON-234)**Phase Title:** 260603 - CON-234 Conner Creek Effluent Gate Improvements Project

Phase Budget: Wastewater **Start Date:** 6/12/2018**Phase Status:** Project Execution **End Date:** 9/4/2022

Phase Comments/Description:

Construction for CS 116 (Package A) and CS-172 (Package B) - rehabilitation of the effluent relief and effluent launder gates, actuators, and misc. electrical improvements. This project also includes replacement of existing five influent flowmeters for Conner Creek Facility operation.

Cost Est. Class: Class 1**Cost Est. Source:** Construction Bid**Cost Est. Date:** 7/31/2019**Cost Est. Prepared By:** Weiss

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Construction (Build) # 1 (CON-234)	\$6,900	\$6,900	\$6,900	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (CON-234)	6/12/2018	9/4/2022

Project Title: Conner Creek CSO RTB Automation Improvements

Phase: Miscellaneous**Phase Title:** Miscellaneous

Phase Budget: Wastewater**Start Date:** 5/1/2010**Phase Status:** Cancelled**End Date:** 6/30/2015

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Miscellaneous	\$66	\$66	\$66	\$0

Phase Dates

Activity Name	Start Date	End Date
Pre-CAFR Actuals	5/1/2010	6/30/2015

Project Title: Conner Creek CSO RTB Automation Improvements

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2022	\$0	\$908	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,899
2023	\$0	\$462	\$657	\$0	\$0	\$0	\$0	\$0	\$0	\$8,175

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$7,747,127	\$7,741,301	\$5,826	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

N/A

Project Title: Baby Creek HVAC Improvements

Project Status: Closed

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

0

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☒ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment



Existing Dampers

Project Manager: Kashmira Patel

Director: Chris Nastally

Managing Dept.: CSO

Date Original Business Case Prepared:
7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: Wayne County - Outside Detroit

Lookup Location: Dearborn

Funds and Cost Center: Wastewater - 5421-892211

☒ From Program?

Program Number: 260600

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Baby Creek HVAC Improvements

Problem Statement:

This project expands on the MAU replacement project (260610) by addressing other HVAC issues through out the facility, such as the control building and the screening building.

Scope of Work/Project Alternatives:

The scope of work includes modifications to the ventilation system in the Electrical room, replacement of dampers and actuators in the screening building, replacement of actuators for dampers in the chemical room, installation of temperature sensors throughout the control buildings and installation of a new DDC system.

Other Important Info:

N/A

Primary Driver: 2 - Performance

Driver Explanation:

To improve HVAC performance and air quality in the head-work area and the control building.

Project Title: Baby Creek HVAC Improvements

Scoring

Project Manager Weighted Score: 0			
Criteria Name	Score	Score Criteria	Comment
Condition	0		
Performance (Service Level/Reliability)	0		
Regulatory (Environmental/Legal)	0		
Operations and Maintenance	0		
Health and Safety	0		
Public Benefit	0		
Financial	0		
Efficiency and Innovation	0		

Review Committee Weighted Score: 0		
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	

Project Title: Baby Creek HVAC Improvements

Phase: GLWA Salaries**Phase Title:** General - GLWA Salaries

Phase Budget: Wastewater**Start Date:** 1/8/2020**Phase Status:** Closed Out**End Date:** 9/13/2021

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
GLWA Salaries	\$50	\$50	\$50	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	1/8/2020	9/13/2021
Capital Delivery Salary	1/8/2020	9/13/2021

Project Title: Baby Creek HVAC Improvements

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 10/10/2019**Phase Status:** Cancelled**End Date:** 9/13/2021

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72003A.09)	10/10/2019	9/13/2021

Project Title: Baby Creek HVAC Improvements

Phase: Design/Engineering (1803675)**Phase Title:** Design/Engineering (1803675)

Phase Budget: Wastewater**Start Date:** 1/8/2020**Phase Status:** Closed Out**End Date:** 1/8/2021

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** WWE**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** WWE

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (1803675)	\$2	\$2	\$2	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1803675)	1/8/2020	1/8/2021

Project Title: Baby Creek HVAC Improvements

Phase: Construction (Build) # 1 (1901609)**Phase Title:** 260613 - Baby Creek SDF - HVAC System Improvements

Phase Budget: Wastewater**Start Date:** 1/8/2020**Phase Status:** Project Execution**End Date:** 9/13/2021

Phase Comments/Description:

This project expands on the MAU replacement project by addressing system controls throughout the facility, ventilation issues, and odor control issues.

Cost Est. Class: Class 1**Cost Est. Source:** Construction Bid**Cost Est. Date:** 1/8/2020**Cost Est. Prepared By:** PTS

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Construction (Build) # 1 (1901609)	\$494	\$494	\$494	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (1901609)	1/8/2020	9/13/2021

Project Title: Baby Creek HVAC Improvements

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	FY21	FY22	Total
2022	\$536	\$0	\$588
2023	\$479	\$74	\$604

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Total Costs	Prior FYs	FY23
\$545,400	\$545,400	\$0

Description of CIP Changes:

Cost and schedule changes were done - 06/21.
The final completion date of this project is 09/13/2021 - 07/2022.

Project Title: Structural Inspection & Structural Improvements

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

53.4

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☒ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment



Existing Structural Condition

Project Manager: Kashmira Patel

Director: Chris Nastally

Managing Dept.: CSO

Date Original Business Case Prepared:
7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: Wayne

Funds and Cost Center: Wastewater - 5421-892211

☒ From Program?

Program Number: 260600

Delivery Method: DB (Design-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Structural Inspection & Structural Improvements

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 at all nine CSO facilities.

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

Primary Driver: 1 - Condition

Driver Explanation:

CSO Facilities are an average of 17 years old. They are in need of repairs to keep them operating reliably and safe into the future. An initial partial structural inspection of these CSO Facilities was conducted through a separate contract, which had identified various improvements needed at each facility to ensure reliability and resiliency for continuous operation of CSO facilities for the next 20-years.

Project Title: Structural Inspection & Structural Improvements

Scoring

Project Manager Weighted Score: 53.4			
Criteria Name	Score	Score Criteria	Comment
Condition	3	C. May have minor failures or diminished efficiency; some performance deterioration	Scoring is not required for Program.
Performance (Service Level/Reliability)	3	D. Project moderate positive impact on service levels/reliability/lower risk	Scoring is not required for Program.
Regulatory (Environmental/Legal)	1	C. Not part of mandated/enforceable program	Scoring is not required for Program.
Operations and Maintenance	1	D. Project low/negative impact on O&M; no critical assets involved; not expected to significantly impact any O&M issues.	Scoring is not required for Program.
Health and Safety	3	B. Project moderate positive impact on staff/public H&S+	Scoring is not required for Program.
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	Scoring is not required for Program.
Financial	1	A. Minimal to no impact to GLWA	Scoring is not required for Program.
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	Scoring is not required for Program.

Review Committee Weighted Score: 53.4		
Criteria Name	Score	Comment
Condition	3	Committee score carried over from current year Project Manager score
Performance (Service Level/Reliability)	3	Committee score carried over from current year Project Manager score
Regulatory (Environmental/Legal)	1	Committee score carried over from current year Project Manager score
Operations and Maintenance	1	Committee score carried over from current year Project Manager score
Health and Safety	3	Committee score carried over from current year Project Manager score
Public Benefit	1	Committee score carried over from current year Project Manager score
Financial	1	Committee score carried over from current year Project Manager score
Efficiency and Innovation	1	Committee score carried over from current year Project Manager score

Project Title: Structural Inspection & Structural Improvements

Phase: GLWA Salaries**Phase Title:** General - GLWA Salaries

Phase Budget: Wastewater**Start Date:** 1/4/2021**Phase Status:** Project Execution**End Date:** 1/6/2025

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$141	\$40	\$36	\$34	\$46	\$24	\$0	\$0	\$0	\$70	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	1/4/2021	1/6/2025
Capital Delivery Salary	1/4/2021	1/6/2025

Project Title: Structural Inspection & Structural Improvements

Phase: Professional Services**Phase Title:** Professional Services - CS-272 - QAQC

Phase Budget: Wastewater**Start Date:** 8/19/2019**Phase Status:** Closed Out**End Date:** 8/23/2019

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** AECOM**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$10	\$10	\$10	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72009A.05)	8/19/2019	8/23/2019

Project Title: Structural Inspection & Structural Improvements

Phase: Design/Engineering (CS-166)

Phase Title: Project Management Services - CS-166 - PMA Project Management

Phase Budget: Wastewater **Start Date:** 1/4/2021

Phase Status: Project Execution **End Date:** 1/6/2025

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: PMA

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: PMA

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
Design/Engineering (CS-166)	\$1,344	\$874	\$837	\$180	\$216	\$112	\$328

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-166)	1/4/2021	1/6/2025
Interlocal Agreement or Intergovernmental Agreement (CS-166)	4/1/2021	4/30/2021

Project Title: Structural Inspection & Structural Improvements

Phase: Design-Build # 1 (1902224)

Phase Title: 260614 - CSO Facilities - Structural Improvements Project (CS-166 - Task C.05)

Phase Budget: Wastewater **Start Date:** 1/4/2021

Phase Status: Active - Procurement - Board Approved **End Date:** 1/3/2025

Phase Comments/Description:

A partial structural condition assessment has been performed and structural improvement (types) identified and prioritized. This project will provide Design-Build services to completely inspect all CSO Facilities (above and below ground) and prioritize repairs to be carried out over a 3-5 year period.

Cost Est. Class: Class 1

Cost Est. Source: Construction Bid

Cost Est. Date: 8/5/2020

Cost Est. Prepared By: Pullman

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design-Build # 1 (1902224)	\$12,492	\$7,963	\$6,318	\$3,023	\$2,085	\$1,065	\$0	\$0	\$0	\$3,150	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (1902224)	1/4/2021	1/3/2025
Interlocal Agreement or Intergovernmental Agreement (1902224)	4/1/2021	1/3/2025

Project Title: Structural Inspection & Structural Improvements

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2022	\$10,443	\$3,047	\$4,422	\$3,872	\$1,397	\$752	\$0	\$0	\$0	\$13,794
2023	\$7,952	\$2,234	\$3,100	\$3,100	\$3,109	\$1,743	\$0	\$0	\$0	\$13,591

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$13,986,891	\$7,201,511	\$3,237,489	\$2,346,731	\$1,201,160	\$0	\$0	\$0	\$3,547,891	\$0

Description of CIP Changes:

This project was previously pushed back 2 fiscal years (in the 2019 version of the CIP) and then pulled forward in the 2020 version to increase CIP spending on Wastewater.

Updated cost- 2021

Scoring is not required for Program, however, forced to provide scoring at the prompt of saving. Scoring updated - 07/2022.

Project Title: Puritan Fenkell & Leib Site Improvements

Project Status: Closed

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Multiple CSO Facilities

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

0

☒ Innovation

☐ WW Master Plan

☐ Water Master Plan Right Sizing

☐ Wet Weather Resiliency

☐ Redundancy

☐ NE WTP Repurposing

☐ Predecessor Project(s)

☐ Linear Assets Outside of Facilities

☒ CSO

☐ Pumps

☐ Storage

☐ Treatment



Poor Drainage at Leib

Project Manager: Partho Ghosh

Director: Chris Nastally

Managing Dept.: CSO

Date Original Business Case Prepared:
7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Wayne

Funds and Cost Center: Wastewater - 5421-892211

☒ From Program?

Program Number: 260600

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Puritan Fenkell & Leib Site Improvements

Problem Statement:

There is an existing site drainage issue at both of these facilities creating standing water on top of the basin. There is no lighting at the outfall at (Puritan Fenkell (PF), which is needed for operation at nighttime during a rain event event. The existing sidewalks at both of these facilities are damaged and need replacement. The perimeter fencing at PF is damaged at various locations and there is no fence at the outfall area to secure the facility from intruders. At Leib, the existing ornamental fence at the entrance is damaged and needs replacement.

Scope of Work/Project Alternatives:

The scope of work includes creating positive drainage, installation of trench drains and replacement of existing side walks at both facilities. Additionally, at PF, the scope includes installation of a pathway and lighting at the outfall and includes a perimeter fence replacement. At Leib, the scope also includes the replacement of ornamental fence and brick pavers.

Other Important Info:

N/A

Primary Driver: 1 - Condition

Driver Explanation:

Creating positive drainage at both of these facilities to eliminate possible condensation and infiltration inside the basin.

Project Title: Puritan Fenkell & Leib Site Improvements

Scoring

Project Manager Weighted Score: 0			
Criteria Name	Score	Score Criteria	Comment
Condition	0		
Performance (Service Level/Reliability)	0		
Regulatory (Environmental/Legal)	0		
Operations and Maintenance	0		
Health and Safety	0		
Public Benefit	0		
Financial	0		
Efficiency and Innovation	0		

Review Committee Weighted Score: 0		
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	

Project Title: Puritan Fenkell & Leib Site Improvements

Phase: GLWA Salaries**Phase Title:** General - GLWA Salaries

Phase Budget: Wastewater**Start Date:** 11/1/2018**Phase Status:** Closed Out**End Date:** 11/30/2021

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$41	\$41	\$41	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	11/1/2018	11/30/2021
Capital Delivery Salary	11/1/2018	11/30/2021

Project Title: Puritan Fenkell & Leib Site Improvements

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 11/1/2018**Phase Status:** Cancelled**End Date:** 11/30/2021

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Cancel this**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Cancel this

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Professional Services	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services	11/1/2018	11/30/2021

Project Title: Puritan Fenkell & Leib Site Improvements

Phase: Design/Engineering (1803809)**Phase Title:** Design/Engineering (1803809)

Phase Budget: Wastewater**Start Date:** 11/1/2018**Phase Status:** Closed Out**End Date:** 6/30/2020

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** HRC**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** HRC

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (1803809)	\$48	\$48	\$48	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1803809)	11/1/2018	6/30/2020

Project Title: Puritan Fenkell & Leib Site Improvements

Phase: Construction (1902040)**Phase Title:** Construction (1902040)

Phase Budget: Wastewater**Start Date:** 12/20/2019**Phase Status:** Closed Out**End Date:** 11/30/2021

Phase Comments/Description:Fencing, sidewalks and site lighting

Cost Est. Class: Class 1**Cost Est. Source:** DMC**Cost Est. Date:** 12/20/2019**Cost Est. Prepared By:** DMC

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Construction (1902040)	\$494	\$494	\$494	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (1902040)	12/20/2019	11/30/2021

Project Title: Puritan Fenkell & Leib Site Improvements

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2022	\$199	\$492	\$199	\$0	\$0	\$0	\$0	\$0	\$0	\$801
2023	\$0	\$273	\$376	\$0	\$0	\$0	\$0	\$0	\$0	\$759

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$582,444	\$582,444	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

Updated cost and schedule - 06/21.

Project Title: St. Aubin Chemical Disinfection Improvements

Project Status: Reclassified

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

0

- ☒ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☒ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment



Existing Screens

Project Manager: Kashmira Patel

Director: Chris Nastally

Managing Dept.: CSO

Date Original Business Case Prepared:
7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Detroit

Funds and Cost Center: Wastewater - 5421-892211

☒ From Program?

Program Number: 260600

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: St. Aubin Chemical Disinfection Improvements

Problem Statement:

The St. Aubin CSO facility is over 20 years old. A study was conducted on the disinfection system and the screens were assessed by the manufacturer through a separate contract, and resulted in recommendations of needed upgrade of these systems to restore operational control, flexibility, and reliability. The current pumping system for NaOCl is oversized (dose of 38 mg/L) when only 10 mg/l is required based on a sampling study. The over-sized system makes it difficult to dial the pumps down on the low end (where most events are) and properly disinfect (without over-dosing) the flow. As a result, operators tend to turn pumps on and off to meet permit limits. This is not efficient for the equipment, water quality, or operations. Furthermore, the screens get blinded during the event, resulting in the rake mechanism tripping out.

Scope of Work/Project Alternatives:

The scope of work includes replacement of existing chemical feed pumps with better pump technology, modification of the chemical feed piping system and control, installation of overhead trolley for maintenance, relining the chemical storage tanks to extend the life of existing tanks, evaluating different screening technologies if applicable or replacing the control system and hydraulic power-pack of the existing screens, installing new screen flushing sprayer system, replacing existing HVAC with DDC system, upgrade and installing new hatches at the facility and at the outfall and installing new pre-fabricated storage building.

Other Important Info:

Previous study was performed by Hazen and Sawyer. AECOM/DLZ provided a study BOD and 20% Design documents. Project not scored by review committee because it will be absorbed into another CIP project

Primary Driver: 2 - Performance**Driver Explanation:**

The existing chem feed system is very complicated with respect to adjusting the desired dosing for the flow coming to this facility. Existing pumps are not capable of dosing and meeting the permit requirements for smaller size rain event. During the rain events, screens get blinded frequently and nullify the purpose of screening since the flow overpasses the screens.

Project Title: St. Aubin Chemical Disinfection Improvements

Scoring

Project Manager Weighted Score: 48.1			
Criteria Name	Score	Score Criteria	Comment
Condition	3	C. May have minor failures or diminished efficiency; some performance deterioration	Scoring not applicable to Programs
Performance (Service Level/Reliability)	3	D. Project moderate positive impact on service levels/reliability/lower risk	Scoring not applicable to Programs
Regulatory (Environmental/Legal)	2	B. Project will have a moderate to low impact on reg. issues	Scoring not applicable to Programs
Operations and Maintenance	3	C. Project moderate positive impact on O&M; alleviate some ongoing O&M issues	Scoring not applicable to Programs
Health and Safety	1	C. Staff/public safety/hazard issues not a concern	Scoring not applicable to Programs
Public Benefit	1	C. Minimal/no impact on public/GLWA image & relationships	Scoring not applicable to Programs
Financial	1	A. Minimal to no impact to GLWA	Scoring not applicable to Programs
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings	Scoring not applicable to Programs

Review Committee Weighted Score: 0		
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	

Project Title: St. Aubin Chemical Disinfection Improvements

Phase: GLWA Salaries

Phase Title: General - GLWA Salaries

Phase Budget: Wastewater

Start Date: 9/15/2019

Phase Status: Project Execution

End Date: 1/12/2028

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total
GLWA Salaries	\$4	\$4	\$4	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	9/15/2019	1/12/2028
Capital Delivery Salary	9/15/2019	1/12/2028

Project Title: St. Aubin Chemical Disinfection Improvements

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 7/22/2019**Phase Status:** Closed Out**End Date:** 5/28/2021

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$363	\$363	\$363	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72003A.01 / 72003B.01 / 72022A.01 / 72003F.01)	7/22/2019	5/28/2021

Project Title: St. Aubin Chemical Disinfection Improvements

Phase: Design/Engineering (1803089)**Phase Title:** Cancel this phase

Phase Budget: Wastewater**Start Date:** 9/15/2019**Phase Status:** Cancelled**End Date:** 11/2/2020

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** Cancel this**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Cancel this

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (1803089)	\$50	\$50	\$50	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1803089)	9/15/2019	11/2/2020

Project Title: St. Aubin Chemical Disinfection Improvements

Phase: Design/Engineering**Phase Title:** Reclassified

Phase Budget: Wastewater**Start Date:** 2/15/2023**Phase Status:** Cancelled**End Date:** 1/12/2028

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** Cancel this**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Cancel this

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	5 Year Total
Design/Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	2/15/2023	2/14/2025
Design/Engineering (CA)	1/12/2026	1/12/2028

Project Title: St. Aubin Chemical Disinfection Improvements

Phase: Design-Build (NO DESIGN-BUILD)**Phase Title:** Cancel this phase

Phase Budget: Wastewater**Start Date:** 5/1/2021**Phase Status:** Cancelled**End Date:** 4/29/2027

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** Cancel this**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Cancel this

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design-Build (NO DESIGN-BUILD)	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design-Build (NO DESIGN-BUILD)	5/1/2021	4/29/2027

Project Title: St. Aubin Chemical Disinfection Improvements

Phase: Construction (Build) # 1**Phase Title:** 260617 - St. Aubin Screening & Chemical System Improvements (Construction Services)

Phase Budget: Wastewater**Start Date:** 1/12/2026**Phase Status:** Future Planned Start**End Date:** 1/12/2028

Phase Comments/Description:

This phase will construct improvements designed for the chemical disinfection and screening systems at St. Aubin in the S/D/CA phase.

Cost Est. Class: Class 5**Cost Est. Source:** CSO Manager**Cost Est. Date:** 7/24/2019**Cost Est. Prepared By:** CsO Manager

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	5 Year Total
Construction (Build) # 1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	1/12/2026	1/12/2028

Project Title: St. Aubin Chemical Disinfection Improvements

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	FY26	Total
2022	\$6,273	\$443	\$387	\$237	\$1,709	\$2,808	\$1,131	\$6,967
2023	\$5,775	\$167	\$264	\$275	\$1,924	\$1,925	\$1,650	\$6,457

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total
\$417,052	\$417,052	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

2019-08 - added to the CIP.

2020-07 - Updated from last year (scope, cost, schedule)

Updated cost and schedule - 06/21.

This project is consolidated with CIP 270006. Scoring is not required for Program but is updated. - 07/2022.

Project Title: Oakwood HVAC Project

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score
20

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☒ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment



Coroded building crane from failed HVAC system

Project Manager: Chris Nastally

Director: Chris Nastally

Managing Dept.: CSO

Date Original Business Case Prepared:
7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Oakwood CSO Facility

Funds and Cost Center: Wastewater - 5421-892211

☒ From Program?

Program Number: 260600

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Oakwood HVAC Project

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

Primary Driver: 1 - Condition**Driver Explanation:**

The HVAC system had functionally failed. This was resulting in cascading failures of other building systems (i.e. pipes freezing because doors are left open, structural steel corroding, gas system failing, etc.).

Project Title: Oakwood HVAC Project

Scoring

Project Manager Weighted Score: 20			
Criteria Name	Score	Score Criteria	Comment
Condition	1	A. Asset has >75% of its design service life remaining	
Performance (Service Level/Reliability)	1	A. Fully operable, well maintained	
Regulatory (Environmental/Legal)	1	A. No risk of causing	
Operations and Maintenance	1	A. O&M levels are routine;	
Health and Safety	1	A. No failure reasonably expected to occur	
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	
Financial	1	A. Minimal to no impact to GLWA	
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	

Review Committee Weighted Score: 20		
Criteria Name	Score	Comment
Condition	1	Committee score carried over from previous year committee score
Performance (Service Level/Reliability)	1	Committee score carried over from previous year committee score
Regulatory (Environmental/Legal)	1	Committee score carried over from previous year committee score
Operations and Maintenance	1	Committee score carried over from previous year committee score
Health and Safety	1	Committee score carried over from previous year committee score
Public Benefit	1	Committee score carried over from previous year committee score
Financial	1	Committee score carried over from previous year committee score
Efficiency and Innovation	1	Committee score carried over from previous year committee score

Project Title: Oakwood HVAC Project

Phase: GLWA Salaries**Phase Title:** General - GLWA Salaries

Phase Budget: Wastewater**Start Date:** 6/29/2020**Phase Status:** Project Execution**End Date:** 4/14/2023

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
GLWA Salaries	\$270	\$69	\$54	\$217

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	6/29/2020	4/14/2023
Capital Delivery Salary	6/29/2020	4/14/2023

Project Title: Oakwood HVAC Project

Phase: Professional Services**Phase Title:** Professional Services - CS-272

Phase Budget: Wastewater**Start Date:** 11/7/2019**Phase Status:** Pending Close-out**End Date:** 7/23/2021

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$113	\$113	\$113	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72009A.04 / 72022A.02)	11/7/2019	7/23/2021

Project Title: Oakwood HVAC Project

Phase: Design/Engineering**Phase Title:** Design 2001367 - Hazen

Phase Budget: Wastewater**Start Date:** 6/29/2020**Phase Status:** Project Execution**End Date:** 4/14/2023

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Hazen**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Hazen

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering	\$458	\$404	\$355	\$102

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1900318)	6/29/2020	4/14/2023
Design/Engineering (CA)	6/15/2021	3/6/2023

Project Title: Oakwood HVAC Project

Phase: Design-Build**Phase Title:** Cancel this phase

Phase Budget: Wastewater**Start Date:** 7/1/2020**Phase Status:** Cancelled**End Date:** 6/24/2022

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Cancel this**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Cancel this

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design-Build	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design-Build	7/1/2020	6/24/2022

Project Title: Oakwood HVAC Project

Phase: Construction (Build) # 1**Phase Title:** 260618 - Oakwood CSO Facility HVAC Improvements Project (Construction Services)

Phase Budget: Wastewater**Start Date:** 6/15/2021**Phase Status:** Project Execution**End Date:** 10/14/2022

Phase Comments/Description:

This phase will construct improvements designed during the design services phase of this project.

Cost Est. Class: Class 1**Cost Est. Source:** CCC**Cost Est. Date:** 6/21/2021**Cost Est. Prepared By:** CCC

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Construction (Build) # 1	\$4,925	\$4,925	\$4,329	\$596

Phase Dates

Activity Name	Start Date	End Date
Construction (2003330)	6/15/2021	10/14/2022

Project Title: Oakwood HVAC Project

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY21	FY22	FY23	Total
2022	\$3,252	\$640	\$3,236	\$17	\$3,967
2023	\$498	\$295	\$5,223	\$498	\$6,091

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Total Costs	Prior FYs	FY23
\$5,765,537	\$4,850,407	\$915,130

Description of CIP Changes:

2019-08 - added to program
2020-07 - updated project schedule, cost, scope
2021 - Updated with contract info.
2022 - Updated.

Project Title: Control System Upgrade - St Aubin, Lieb & Mile

Project Status: Active - Procurement - Board Approved - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Programs

Class Lvl 3: Programs

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

95.1

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☒ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☒ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment



Lieb CSO, PLC Panel

Project Manager: Chris Wilson

Director: Chris Nastally

Managing Dept.: WW Design Eng

Date Original Business Case Prepared:
7/27/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: Seven Mile, Leib and St. Aubin
Screening and Disinfection Facilities

Funds and Cost Center: Wastewater - 5421-
892211

☒ From Program?

Program Number: 260600

Delivery Method: DB (Design-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Control System Upgrade - St Aubin, Lieb & Mile

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.

Primary Driver: 1 - Condition

Driver Explanation:

The PLC system has exceeded its useful life.

Project Title: Control System Upgrade - St Aubin, Lieb & Mile

Scoring

Project Manager Weighted Score: 95.1			
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life, E. Could initiate immediate funding request b/c "Urgent Necessity" in near term	PLC5 processors are no longer support by the manufacturer. Given the lack of security patches, this also increases the risk of a cyber attack.
Performance (Service Level/Reliability)	5	B. Current performance unacceptable, does not meet current requirements/demands; equipment obsolete/extremely difficult to maintain or find spare parts/repair service; Asset/process OOS 50% or more of the time; Recurring, expected failures	PLC5 processors are no longer support by the manufacturer. Purchasing new/reliable parts is becoming more difficult.
Regulatory (Environmental/Legal)	5	A. Imminent risk of/is causing Permit/reg. violations; Legal obligation; Unregulated discharges; Health risks to staff/public, E. Deferring/canceling project immediate risk of non-compliance, major permit violations, regulatory scrutiny; sig. measurable negative environmental impact on a regional or statewide level w/ lingering or permanent/irreversible impact on wider ecosystem	Given age of equipment and that this project will update three of the CSO sites controls and monitors systems. Canceling project would increase risk of failure during a wet weather event.
Operations and Maintenance	3	B. Will run in automatic mode	System runs in Auto but requires significant maintenance effort to keep the system operational.
Health and Safety	4	C. Canceling project continue to pose significant staff/public safety/hazard issues, some potential for significant injury and significant regulatory violations (i.e. OSHA).	Given age of equipment and that this project will update three of the CSO sites controls and monitors systems. Canceling project would increase risk of failure during a wet weather event.
Public Benefit	4	E. Canceling project chance to have major negative public impact	CSO equipment has been in the news and is within the publics focus. Having the complete control system fail at one of the CSOs would continue to increase public distrust.
Financial	4	B. Project will likely result in avoidance of fines, potential litigation, emergency repairs or damage to asset/public	Avoid fines due to CSO being offline.
Efficiency and Innovation	2	C. Low positive impact on water use, effluent reuse/recycling or other GLWA strategic initiative*; business process optimization and institutional knowledge; O&M process/operational efficiency	

Project Title: Control System Upgrade - St Aubin, Lieb & Mile

Review Committee Weighted Score: 95.1		
Criteria Name	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	5	
Operations and Maintenance	3	
Health and Safety	4	
Public Benefit	4	
Financial	4	
Efficiency and Innovation	2	

Project Title: Control System Upgrade - St Aubin, Lieb & Mile

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 6/22/2020

Phase Status: Project Execution

End Date: 3/31/2025

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
GLWA Salaries	\$135	\$0	\$0	\$37	\$56	\$42	\$98

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (5421)	6/22/2020	3/31/2025
Capital Delivery Salary (5404)	6/22/2020	3/31/2025
Capital Delivery Salary (5421)	6/22/2020	3/31/2025
Capital Delivery Salary (5404)	6/22/2020	3/31/2025

Project Title: Control System Upgrade - St Aubin, Lieb & Mile

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 11/2/2019**Phase Status:** Project Execution**End Date:** 3/31/2025

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
Professional Services	\$63	\$63	\$63	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72012A.01)	6/22/2020	3/31/2025
Professional Services (CS-272 - 72012A.01)	11/2/2019	8/14/2020

Project Title: Control System Upgrade - St Aubin, Lieb & Mile

Phase: Design/Engineering**Phase Title:** Cancel this phase

Phase Budget: Wastewater**Start Date:** 6/22/2020**Phase Status:** Cancelled**End Date:** 3/31/2025

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
Design/Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	6/22/2020	3/31/2025

Project Title: Control System Upgrade - St Aubin, Lieb & Mile

Phase: Construction**Phase Title:** Design-Build 2004538 - Burns and Macdonald

Phase Budget: Wastewater **Start Date:** 8/15/2022**Phase Status:** Active - Procurement - Board Approved **End Date:** 10/8/2024

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Burns and Macdonald**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Burns and Macdonald

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
Construction	\$7,375	\$0	\$0	\$2,521	\$3,813	\$1,042	\$4,854

Phase Dates

Activity Name	Start Date	End Date
Construction	8/15/2022	10/8/2024

Project Title: Control System Upgrade - St Aubin, Lieb & Mile**Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)**

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	FY26	Total
2022	\$0	\$54	\$0	\$0	\$0	\$0	\$0	\$116
2023	\$5,456	\$1	\$2,116	\$2,116	\$2,122	\$1,217	\$0	\$7,636

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Total Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
\$7,572,657	\$62,765	\$2,557,844	\$3,868,475	\$1,083,572	\$4,952,048

Description of CIP Changes:

Moved over from CIP 251002.

Project Title: Baby Creek Roof Replacement

Project Status: Project Execution - Pending Closeout

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Baby Creek

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

78.8

- ☒ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☒ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment



- The previous installment on roof area 2 also failed to follow the required "step-down" installation method. As seen in the picture above, the shingle seams fall >4" from each other. This is a very common mistake found on

Improper shingle installation.

Project Manager: Vinod Sharma

Director: Chris Nastally

Managing Dept.: CSO

Date Original Business Case Prepared:
9/2/2020

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: Wayne County - Outside Detroit

Lookup Location: Baby Creek

Funds and Cost Center: Wastewater - 5421-892211

☒ From Program?

Program Number: 260600

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Baby Creek Roof Replacement

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

Primary Driver: 1 - Condition

Driver Explanation:

Roof shingle seams are too close allowing infiltration of water through the shingles into the substrate and from there into the rooms below the roof.

Project Title: Baby Creek Roof Replacement

Scoring

Project Manager Weighted Score: 82.8			
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life	
Performance (Service Level/Reliability)	5	A. Will cause, or IS causing significant capacity problems	
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,	
Operations and Maintenance	5	A. Unsustainable levels of O/M required to keep in service that will still not ensure future stable/proper operation	
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	
Financial	5	A. Prevent higher cost projects; Substantial increase in revenue or savings; New customer acquisition for GLWA	
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	

Review Committee Weighted Score: 78.8		
Criteria Name	Score	Comment
Condition	5	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	2	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: Baby Creek Roof Replacement

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 8/1/2020**Phase Status:** Project Execution**End Date:** 9/30/2022

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
GLWA Salaries	\$33	\$33	\$22	\$11

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	8/1/2020	9/30/2022
Capital Delivery Salary	8/1/2020	9/30/2022

Project Title: Baby Creek Roof Replacement

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 8/1/2020**Phase Status:** Cancelled**End Date:** 9/30/2022

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Cancel this**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Cancel this

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Professional Services	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services	8/1/2020	9/30/2022

Project Title: Baby Creek Roof Replacement

Phase: Design/Engineering (CS-299)**Phase Title:** 260620 - Design - CS-299 by Jacobs

Phase Budget: Wastewater**Start Date:** 8/1/2020**Phase Status:** Pending Close-out**End Date:** 9/30/2022

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Jacobs**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (CS-299)	\$34	\$34	\$34	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-299)	8/1/2020	9/30/2022
Design/Engineering (CA)	7/1/2021	9/30/2022

Project Title: Baby Creek Roof Replacement

Phase: Construction**Phase Title:** Construction - 2100911 - Schrieber Roofing

Phase Budget: Wastewater**Start Date:** 6/21/2021**Phase Status:** Pending Close-out**End Date:** 9/30/2022

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Schrieber Roofing**Cost Est. Date:** 6/21/2021**Cost Est. Prepared By:** Schrieber Roofing

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Construction	\$917	\$917	\$554	\$363

Phase Dates

Activity Name	Start Date	End Date
Construction	6/21/2021	9/30/2022

Project Title: Baby Creek Roof Replacement

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY21	FY22	FY23	Total
2022	\$0	\$641	\$0	\$0	\$641
2023	\$0	\$26	\$1,022	\$0	\$1,047

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Total Costs	Prior FYs	FY23
\$984,552	\$610,930	\$373,622

Description of CIP Changes:

2020-09 - Added to the CIP (previously budgeted under earlier version in Unallocated)

Project Title: Conner Creek Dike Improvements

Project Status: Closed

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Conner Creek

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

95.2

☐ Innovation

☐ WW Master Plan

☐ Water Master Plan Right Sizing

☐ Wet Weather Resiliency

☐ Redundancy

☐ NE WTP Repurposing

☐ Predecessor Project(s)

☐ Linear Assets Outside of Facilities

☒ CSO

☐ Pumps

☐ Storage

☐ Treatment



Photo of the berm leaking into Clairpointe

Project Manager: Chris Nastally

Director: Chris Nastally

Managing Dept.: CSO

Date Original Business Case Prepared:
6/23/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Conner Creek

Funds and Cost Center: Wastewater - 5421-892211

☒ From Program?

Program Number: 260600

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Conner Creek Dike Improvements

Problem Statement:

The Conner Creek berm was constructed in the early 2000's and was to serve as a landscaping element between Clairpointe Street and the Conner Creek Canal. When the facility was constructed the Great Lakes were at historic low levels and therefore it was never envisioned that this berm would be required to hold back the Detroit River (acting as a dike). Due to historically high Great Lakes levels, the dike is now exhibiting signs of seepage/failure and needs to be repaired before it experiences a complete failure which would result in flooding of the lower east side.

Scope of Work/Project Alternatives:

The work consists of removal of existing trees/vegetation from the berm, installing a sheet pile cutoff wall with a concrete cap, fencing, landscape restoration, and minor security improvements.

Other Important Info:

Project is completed and being closed out.

Primary Driver: 1 - Condition**Driver Explanation:**

The berm is failing which could result in widespread flooding.

Project Title: Conner Creek Dike Improvements

Scoring

Project Manager Weighted Score: 97.4			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	
Performance (Service Level/Reliability)	5	A. Will cause, or IS causing significant capacity problems	
Regulatory (Environmental/Legal)	5	A. Imminent risk of/is causing Permit/reg. violations; Legal obligation; Unregulated discharges; Health risks to staff/public	
Operations and Maintenance	5	A. Unsustainable levels of O/M required to keep in service that will still not ensure future stable/proper operation	
Health and Safety	5	A. Catastrophic failure w/ safety/health/environmental impacts imminent (2 years or less) as supported by engineering reports, studies, inspections, historical evidence, etc.	
Public Benefit	5	A. Project is key part of a strategic plan* for GLWA or politically driven	
Financial	5	A. Prevent higher cost projects; Substantial increase in revenue or savings; New customer acquisition for GLWA	
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	

Review Committee Weighted Score: 95.2		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	5	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	5	Scores carried over from previous year
Public Benefit	5	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: Conner Creek Dike Improvements

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 6/17/2020**Phase Status:** Pending Close-out**End Date:** 9/29/2022

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
GLWA Salaries	\$10	\$10	\$10	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	6/17/2020	9/29/2022
Capital Delivery Salary	6/17/2020	9/29/2022

Project Title: Conner Creek Dike Improvements

Phase: Design/Engineering (1900318)**Phase Title:** Design / Construction Assistance - 2002352 - Wade Trim

Phase Budget: Wastewater **Start Date:** 6/17/2020**Phase Status:** Pending Close-out **End Date:** 9/29/2022

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Wade Trim**Cost Est. Date:** 6/18/2020**Cost Est. Prepared By:** Wade Trim

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering (1900318)	\$645	\$645	\$629	\$15

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1900318)	6/17/2020	9/29/2022

Project Title: Conner Creek Dike Improvements

Phase: Construction**Phase Title:** Construction - 2004666 - MK Construction

Phase Budget: Wastewater**Start Date:** 6/21/2021**Phase Status:** Pending Close-out**End Date:** 6/27/2022

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** BID**Cost Est. Date:** 6/21/2021**Cost Est. Prepared By:** MK Construction

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Construction	\$1,590	\$1,590	\$1,580	\$11

Phase Dates

Activity Name	Start Date	End Date
Construction (2004666)	6/21/2021	6/27/2022

Project Title: Conner Creek Dike Improvements

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY22	FY23	Total
2023	\$0	\$2,258	\$0	\$2,541

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Total Costs	Prior FYs	FY23
\$2,244,862	\$2,218,752	\$26,110

Description of CIP Changes:

New to CIP

2021 - Added in costs from contractor and dates.

2022 - closing the project out soon, finalized costs.

Project Title: CSO Emergency Generator Improvements**Project Status:** Project Execution - Construction**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** CSO Facilities**Class Lvl 3:** Multiple CSO Facilities☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****77.5**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Ariadna Risher**Director:** Chris Nastally**Managing Dept.:** CSO**Date Original Business Case Prepared:**
3/25/2021**Year Project Added to CIP:** 2021**CIP Budget:** Wastewater**Project Jurisdiction:** Multiple Counties**Lookup Location:** Various CSO Facilities**Funds and Cost Center:** Wastewater - 5421-892211☒ **From Program?****Program Number:** 260600**Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: CSO Emergency Generator Improvements

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) equipment which is original to construction and is now obsolete. Finding replacement parts, or servicing the existing equipment is no longer practical.

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 Programmable Logic Controllers (PLCs) or other controller styles with modern, standardized, microprocessor based automatic transfer controllers.
2. Reconfigure front panel of ATS panels not being fully replaced to be standardized across all sites. Provide a remote HMI screen dedicated for the automatic transfer system.
3. Evaluate local generator panels for compatibility and reliability.
4. Create and standardize Ovation displays and include useful inputs (alarms, configuration, status).

Other Important Info:

None.

Primary Driver: 2 - Performance

Driver Explanation:

Existing ATS equipment is obsolete due to age and has degraded, causing reliability issues. Modern controls are needed to deliver reliable back up power to critical facilities.

Project Title: CSO Emergency Generator Improvements

Scoring

Project Manager Weighted Score: 93.6			
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life	
Performance (Service Level/Reliability)	5	A. Will cause, or IS causing significant capacity problems	
Regulatory (Environmental/Legal)	5	A. Imminent risk of/is causing Permit/reg. violations; Legal obligation; Unregulated discharges; Health risks to staff/public	
Operations and Maintenance	5	A. Unsustainable levels of O/M required to keep in service that will still not ensure future stable/proper operation	
Health and Safety	3	A. Failure not catastrophic, has moderate chance of occurring; failure may be mitigated to minimize safety/health/environmental impacts	
Public Benefit	3	A. Project part of GLWA strategic plan*, but no new customers	
Financial	2	A. Low financial impact to GLWA; No grants/other external funding	
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	

Review Committee Weighted Score: 77.5		
Criteria Name	Score	Comment
Condition	5	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	2	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: CSO Emergency Generator Improvements

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 3/1/2021**Phase Status:** Project Execution**End Date:** 4/26/2023

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	5 Year Total
GLWA Salaries	\$11	\$11	\$7	\$4	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	3/1/2021	4/26/2023
Capital Delivery Salary	3/1/2021	4/26/2023

Project Title: CSO Emergency Generator Improvements

Phase: Professional Services (CS-272 - 72031A.01)**Phase Title:** Project Management - CS-272 Task 72031A.01

Phase Budget: Wastewater**Start Date:** 4/6/2022**Phase Status:** Project Execution**End Date:** 5/19/2023

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services (CS-272 - 72031A.01)	\$130	\$50	\$29	\$101

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72031A.01)	4/6/2022	5/19/2023

Project Title: CSO Emergency Generator Improvements

Phase: Design/Engineering (CS-299)**Phase Title:** Design / Light Construction Assistance - CS-299 - Jacobs

Phase Budget: Wastewater**Start Date:** 3/1/2021**Phase Status:** Project Execution**End Date:** 4/26/2023

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Jacobs**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	5 Year Total
Design/Engineering (CS-299)	\$80	\$60	\$60	\$20	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-299)	3/1/2021	4/26/2023

Project Title: CSO Emergency Generator Improvements

Phase: Construction**Phase Title:** Construction - 2100575 - Motor City Electric

Phase Budget: Wastewater**Start Date:** 3/21/2022**Phase Status:** Project Execution**End Date:** 3/20/2023

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** MCE**Cost Est. Date:** 3/21/2022**Cost Est. Prepared By:** MCE

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	5 Year Total
Construction	\$1,029	\$91	\$0	\$1,029	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	3/21/2022	3/20/2023

Project Title: CSO Emergency Generator Improvements

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY22	FY23	FY24	Total
2023	\$2,020	\$40	\$1,221	\$800	\$2,061

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Total Costs	Prior FYs	FY23	FY24	5 Year Total
\$1,250,108	\$95,455	\$1,154,654	\$0	\$0

Description of CIP Changes:

New Project Added FY 23 CIP Plan. AC 3/25/21

Project Title: CSO Baby Creek Screen Rehabilitation**Project Status:** Project Execution - Construction**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** CSO Facilities**Class Lvl 3:** Baby Creek☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****93.2**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Partho Ghosh**Director:** Chris Nastally**Managing Dept.:** CSO**Date Original Business Case Prepared:**
7/8/2021**Year Project Added to CIP:** 2021**CIP Budget:** Wastewater**Project Jurisdiction:** Wayne County - Outside Detroit**Lookup Location:** Dearborn**Funds and Cost Center:** Wastewater - 5421-892211☒ **From Program?****Program Number:** 260600**Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: CSO Baby Creek Screen Rehabilitation

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

Primary Driver: 4 - O and M

Driver Explanation:

These improvements are intended to restore the condition of existing equipment.

Project Title: CSO Baby Creek Screen Rehabilitation

Scoring

Project Manager Weighted Score: 94.4			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	
Performance (Service Level/Reliability)	3	A. Generally meets design needs; moderate risk of perf. failure	
Regulatory (Environmental/Legal)	5	A. Imminent risk of/is causing Permit/reg. violations; Legal obligation; Unregulated discharges; Health risks to staff/public	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	5	A. Catastrophic failure w/ safety/health/environmental impacts imminent (2 years or less) as supported by engineering reports, studies, inspections, historical evidence, etc.	
Public Benefit	4	A. Project key part of a strategic plan* for GLWA (i.e. good probability leads to new customers)	
Financial	5	A. Prevent higher cost projects; Substantial increase in revenue or savings; New customer acquisition for GLWA	
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	

Review Committee Weighted Score: 93.2		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	5	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	5	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: CSO Baby Creek Screen Rehabilitation

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 6/1/2022**Phase Status:** Project Execution**End Date:** 1/12/2024

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	5 Year Total
GLWA Salaries	\$21	\$10	\$4	\$12	\$5	\$5

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	6/1/2022	1/12/2024
Capital Delivery Salary	6/1/2022	1/12/2024

Project Title: CSO Baby Creek Screen Rehabilitation

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 4/6/2022**Phase Status:****End Date:** 5/19/2023

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$26	\$9	\$5	\$21

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272)	4/6/2022	5/19/2023

Project Title: CSO Baby Creek Screen Rehabilitation

Phase: Design/Engineering**Phase Title:** Design/Engineering

Phase Budget: Wastewater**Start Date:** 7/1/2021**Phase Status:** Project Execution**End Date:** 1/12/2024

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 6/1/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	5 Year Total
Design/Engineering	\$20	\$14	\$14	\$3	\$3	\$3

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CS-299)	7/1/2021	1/12/2024

Project Title: CSO Baby Creek Screen Rehabilitation

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 7/1/2021**Phase Status:** Project Execution**End Date:** 1/12/2024

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Contractor Bid**Cost Est. Date:** 6/1/2022**Cost Est. Prepared By:** Contractor Bid

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
Construction	\$2,326	\$0	\$0	\$1,285	\$1,041	\$0	\$1,041

Phase Dates

Activity Name	Start Date	End Date
Construction	6/1/2022	1/12/2024
Construction Materials / Equipment Purchase	7/1/2021	7/31/2021

Project Title: CSO Baby Creek Screen Rehabilitation**Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)**

CIP	5 Year Total	FY22	FY23	FY24	FY25	Total
2023	\$2,155	\$20	\$1,077	\$1,077	\$0	\$2,175

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Total Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
\$2,393,231	\$22,933	\$1,321,558	\$1,048,740	\$0	\$1,048,740

Description of CIP Changes:

New CIP added to FY 2023-2027 CIP Plan 08/6/2021 AC.

Project Title: Sewer System Infrastructure Improvements and Pumping Stations

Project Status: Project Execution - Design

CIP Type: Program

Class Lvl 1: Wastewater

Class Lvl 2: Field Services

Class Lvl 3: Interceptor

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☒ Multiple Phases

Project Score
0

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☒ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment



Infrastructure

Project Manager: Mini Panicker

Director: Todd King

Managing Dept.: SCC

Date Original Business Case Prepared:
7/28/2016

Year Project Added to CIP: 2017

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: CSO Outfalls

Funds and Cost Center: Wastewater - 5421-882301

☐ From Program?

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Sewer System Infrastructure Improvements and Pumping Stations

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 pumping station assets.

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 expectancy and are difficult to operate. These structures play a vital role in controlling the flow, increasing the storage capacity, and meeting NPDES permit requirements.

Challenges: These are operational elements, so flow control can be challenging.

Primary Driver: 1 - Condition

Driver Explanation:

These structures have reached their life expectancy and some of the operating technology is outdated.

Project Title: Sewer System Infrastructure Improvements and Pumping Stations

Scoring

Project Manager Weighted Score: 0			
Criteria Name	Score	Score Criteria	Comment
Condition	0		
Performance (Service Level/Reliability)	0		
Regulatory (Environmental/Legal)	0		
Operations and Maintenance	0		
Health and Safety	0		
Public Benefit	0		
Financial	0		
Efficiency and Innovation	0		

Review Committee Weighted Score: 0		
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	

Project Title: Sewer System Infrastructure Improvements and Pumping Stations

Phase: Capital Delivery Salary (was 222004)**Phase Title:** Capital Delivery Salary (was 222004)

Phase Budget: Wastewater**Start Date:** 10/24/2019**Phase Status:****End Date:** 6/30/2033

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Capital Delivery Salary (was 222004)	\$526	\$0	\$0	\$33	\$49	\$49	\$49	\$49	\$49	\$247	\$247

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	10/24/2019	6/30/2033

Project Title: Sewer System Infrastructure Improvements and Pumping Stations

Phase: TBD/Unallocated

Phase Title: TBD/Unallocated

Phase Budget: Wastewater

Start Date: 7/1/2028

Phase Status:

End Date: 6/30/2033

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
TBD/Unallocated	\$499	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$499

Phase Dates

Activity Name	Start Date	End Date
TBD/Unallocated	7/1/2028	6/30/2033

Project Title: Sewer System Infrastructure Improvements and Pumping Stations

Phase: Construction (3 Projects)**Phase Title:** Construction (3 Projects)

Phase Budget: Wastewater**Start Date:** 7/1/2020**Phase Status:****End Date:** 6/30/2028

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
Construction (3 Projects)	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (3 Projects)	7/1/2020	6/30/2028

Project Title: Sewer System Infrastructure Improvements and Pumping Stations

Phase: TBD - Future Allocation #3**Phase Title:** TBD - Future Allocation #3

Phase Budget: Wastewater**Start Date:** 10/24/2019**Phase Status:****End Date:** 4/24/2020

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
TBD - Future Allocation #3	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
TBD - Future Allocation #3	10/24/2019	4/24/2020

Project Title: Sewer System Infrastructure Improvements and Pumping Stations

Phase: TBD - Future Allocation #4**Phase Title:** TBD - Future Allocation #4

Phase Budget: Wastewater**Start Date:** 10/24/2019**Phase Status:****End Date:** 4/24/2020

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
TBD - Future Allocation #4	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
TBD - Future Allocation #4	10/24/2019	4/24/2020

Project Title: Sewer System Infrastructure Improvements and Pumping Stations

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2022	\$30,810	\$1,403	\$3,661	\$9,051	\$9,021	\$7,234	\$1,844	\$1,844	\$1,844	\$35,901
2023	\$376	\$0	\$75	\$75	\$75	\$75	\$75	\$75	\$75	\$527

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$1,025,068	\$0	\$32,700	\$49,456	\$49,321	\$49,321	\$49,321	\$49,456	\$246,875	\$745,493

Description of CIP Changes:

Title Changed to "Sewer System Infrastructure and Pumping Stations Improvements" and moved to program 260700 in 2022 CIP update.

Project Title: Conveyance System Infrastructure Improvements

Project Status: Active - Procurement - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: Field Services

Class Lvl 3: Interceptor

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

60.1

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☒ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☒ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment



Infrastructure

Project Manager: Mini Panicker

Director: Todd King

Managing Dept.: SCC

Date Original Business Case Prepared:
11/1/2017

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: City of Detroit, Southfield, and others

Funds and Cost Center: Wastewater - 5421-882301

☒ From Program?

Program Number: 260700

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Conveyance System Infrastructure Improvements

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 times of high flow. Phase 2 will also include the rehabilitation 13 VR gates. VR gates are slide gates that can be operated remotely and divert flow to and from various sewers throughout the system.

Primary Driver: 1 - Condition

Driver Explanation:

These structures have reached their life expectancy and some of the operating technology is outdated.

Project Title: Conveyance System Infrastructure Improvements

Scoring

Project Manager Weighted Score: 93.5			
Criteria Name	Score	Score Criteria	Comment
Condition	4	B. Equipment/process functions but requires high level of maintenance to remain operational	
Performance (Service Level/Reliability)	4	D. Project will have a significant positive impact on service levels and/or system reliability; related to GLWA strategic goals*	
Regulatory (Environmental/Legal)	5	C. Measurable positive regulatory/compliance impact (CSO, permits)	
Operations and Maintenance	3	E. Reduction (25% to 49%) in reactive maintenance	
Health and Safety	4	C. Canceling project continue to pose significant staff/public safety/hazard issues, some potential for significant injury and significant regulatory violations (i.e. OSHA).	
Public Benefit	4	A. Project key part of a strategic plan* for GLWA (i.e. good probability leads to new customers)	
Financial	4	E. Canceling project significant financial consequences from revenue loss, repair /restoration/O&M cost, downtime, potential litigation, fines, damage, etc.; some budget implications requiring deferral or cutbacks in other areas.	
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	

Review Committee Weighted Score: 60.1		
Criteria Name	Score	Comment
Condition	3	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	3	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: Conveyance System Infrastructure Improvements

Phase: Capital Delivery Salary (was 222004)**Phase Title:** Capital Delivery Salary (was 222004)

Phase Budget: Wastewater**Start Date:** 4/25/2020**Phase Status:****End Date:** 3/17/2026

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	5 Year Total
Capital Delivery Salary (was 222004)	\$490	\$31	\$29	\$92	\$136	\$136	\$97	\$0	\$369

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary - Will be 222004 Actuals through June 2020	4/25/2020	3/17/2026
Capital Delivery Salary - Will be 222004 Actuals through June 2020	4/25/2020	3/17/2026

Project Title: Conveyance System Infrastructure Improvements

Phase: Design/Engineering (1803709)

Phase Title: Design/Engineering (1803709)

Phase Budget: Wastewater

Start Date: 7/31/2021

Phase Status:

End Date: 3/17/2026

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	5 Year Total
Design/Engineering (1803709)	\$4,576	\$2,269	\$2,212	\$509	\$685	\$683	\$487	\$0	\$1,854

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1803709)	7/31/2021	3/17/2026

Project Title: Conveyance System Infrastructure Improvements

Phase: Construction #1

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 10/11/2022

Phase Status:

End Date: 12/9/2025

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	5 Year Total
Construction #1	\$36,863	\$2,228	\$0	\$9,612	\$11,169	\$11,138	\$4,944	\$0	\$27,251

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase #1) (2102859)	10/11/2022	12/9/2025

Project Title: Conveyance System Infrastructure Improvements

Phase: Construction #2**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 11/9/2022**Phase Status:****End Date:** 1/16/2025

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
Construction #2	\$16,000	\$0	\$0	\$4,680	\$7,320	\$4,000	\$11,320

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase #2 & Phase#3)	11/9/2022	1/16/2025

Project Title: Conveyance System Infrastructure Improvements

Phase: Construction #3**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 11/9/2022**Phase Status:** Cancelled**End Date:** 11/7/2024

Phase Comments/Description:

Project Status Changed to "Canceled"

Cost Est. Class: Class 5**Cost Est. Source:** NA**Cost Est. Date:** 1/12/2023**Cost Est. Prepared By:** NA

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	5 Year Total
Construction #3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction (Phase #3) TO BE DELETED	11/9/2022	11/7/2024

Project Title: Conveyance System Infrastructure Improvements

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	FY26	Total
2022	\$2,761	\$1,356	\$1,356	\$1,356	\$48	\$0	\$0	\$4,586
2023	\$48,473	\$1,384	\$5,774	\$15,639	\$17,041	\$11,794	\$4,000	\$55,631

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	5 Year Total
\$57,929,166	\$2,241,437	\$14,893,461	\$19,310,035	\$15,957,275	\$5,526,956	\$0	\$40,794,268

Description of CIP Changes:

NA

Project Title: Pump Station Assets Updates**Project Status:** Active - Pre-Procurement
- Construction**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** Field Services**Class Lvl 3:** General Purpose☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****59.6**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☒ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Mini Panicker**Director:** Biren Saparia**Managing Dept.:** SCC**Date Original Business Case Prepared:**
11/24/2020**Year Project Added to CIP:** 2022**CIP Budget:** Wastewater**Project Jurisdiction:** Multiple Counties**Lookup Location:** N/A**Funds and Cost Center:** Wastewater - 5421-
882301☒ **From Program?****Program Number:** 260700**Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Pump Station Assets Updates

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

Primary Driver: 1 - Condition

Driver Explanation:

N/A

Project Title: Pump Station Assets Updates

Scoring

Project Manager Weighted Score: 57.5			
Criteria Name	Score	Score Criteria	Comment
Condition	3	C. May have minor failures or diminished efficiency; some performance deterioration	
Performance (Service Level/Reliability)	3	D. Project moderate positive impact on service levels/reliability/lower risk	
Regulatory (Environmental/Legal)	3	D. Project not part of mandated or enforceable program but directly or indirectly related to expected future requirements	
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	
Health and Safety	2	C. Canceling project unlikely to impact staff/public H&S†	
Public Benefit	2	F. Canceling project minor chance off public impact; no neg. gov't/reg. interest	
Financial	2	A. Low financial impact to GLWA; No grants/other external funding	
Efficiency and Innovation	1	B. Low impact on business process optimization; no time/cost saving	

Review Committee Weighted Score: 59.6		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	3	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	2	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: Pump Station Assets Updates

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/1/2026

Phase Status:

End Date: 6/30/2036

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$65	\$0	\$0	\$0	\$0	\$0	\$0	\$6	\$7	\$13	\$32

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/1/2026	6/30/2036

Project Title: Pump Station Assets Updates

Phase: Design/Engineering**Phase Title:** Design/Engineering

Phase Budget: Wastewater**Start Date:** 7/1/2026**Phase Status:****End Date:** 6/30/2036

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Design/Engineering	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2026	6/30/2036

Project Title: Pump Station Assets Updates

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 7/1/2026

Phase Status:

End Date: 6/30/2036

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction	\$10,000	\$0	\$0	\$0	\$0	\$0	\$0	\$999	\$1,002	\$2,001	\$4,999

Phase Dates

Activity Name	Start Date	End Date
Construction	7/1/2026	6/30/2036

Project Title: Pump Station Assets Updates

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY21	FY24	FY25	FY26	FY27	Total
2022	\$0	\$669	\$0	\$0	\$0	\$0	\$669
2023	\$2,000	\$0	\$666	\$667	\$667	\$0	\$2,000

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$10,065,000	\$0	\$0	\$0	\$0	\$0	\$1,005,674	\$1,008,428	\$2,014,102	\$5,031,122

Description of CIP Changes:

N/A

Project Title: WRRF Roof Replacement for Multiple Facilities Program

Project Status: Project Execution - Design

CIP Type: Program

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: General Purpose

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score
0

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☒ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☒ Treatment



Complex I

Project Manager: Chris Wilson

Director: Chris Nastally

Managing Dept.: WW Design Eng

Date Original Business Case Prepared:
8/8/2016

Year Project Added to CIP: 2018

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ From Program?

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: WRRF Roof Replacement for Multiple Facilities Program

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 require complete replacement, 2) Roofs that only require repair, and 3) Roofs that require no action within the next 10 years. Develop a recommended implementation schedule with budgetary costs repairs and replacements over the next 10 years. Provide preventative care suggestions for roofing systems evaluated under this contract. Provide any OSHA compliance suggestions that may be applicable.

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 systems. Most of the roofs are over 15 years old, with the remainder up to 30 years old. These roofing systems have been maintained through regular maintenance and repair to fix leaking roof spots

Primary Driver: 1 - Condition

Driver Explanation:

Roofing systems are old, and some are near end of its useful life

Project Title: WRRF Roof Replacement for Multiple Facilities Program

Scoring

Project Manager Weighted Score: 0			
Criteria Name	Score	Score Criteria	Comment
Condition	0		
Performance (Service Level/Reliability)	0		
Regulatory (Environmental/Legal)	0		
Operations and Maintenance	0		
Health and Safety	0		
Public Benefit	0		
Financial	0		
Efficiency and Innovation	0		

Review Committee Weighted Score: 0		
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	

Project Title: WRRF Roof Replacement for Multiple Facilities Program

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 7/1/2026**Phase Status:** Cancelled**End Date:** 6/30/2033

Phase Comments/Description:

I move to removed all GLWA salaries from the parent program and only allocate them as we assign projects.

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$133	\$0	\$0	\$0	\$0	\$0	\$19	\$19	\$38	\$95

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/1/2026	6/30/2033
Capital Delivery Salary	7/1/2026	6/30/2033

Project Title: WRRF Roof Replacement for Multiple Facilities Program

Phase: Design/Engineering

Phase Title: Design / Construction Assistance - Future

Phase Budget: Wastewater

Start Date: 7/1/2026

Phase Status: Future Planned Start

End Date: 6/30/2037

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: WWE

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: WWE

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$2,700	\$0	\$0	\$0	\$0	\$0	\$0	\$500	\$200	\$700	\$1,100

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2026	6/30/2037

Project Title: WRRF Roof Replacement for Multiple Facilities Program

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 7/1/2027

Phase Status: Future Planned Start

End Date: 6/30/2037

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: WWE

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: WWE

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY28	5 Year Total	FY29-33
Construction	\$12,000	\$0	\$0	\$0	\$0	\$0	\$2,003	\$2,003	\$5,997

Phase Dates

Activity Name	Start Date	End Date
Construction	7/1/2027	6/30/2037

Project Title: WRRF Roof Replacement for Multiple Facilities Program

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY22	FY23	FY24	FY25	FY26	Total
2023	\$5,000	\$0	\$1,891	\$1,891	\$1,218	\$0	\$5,000

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$14,833,388	\$0	\$0	\$0	\$0	\$0	\$519,040	\$2,222,103	\$2,741,143	\$7,192,245

Description of CIP Changes:

Moved project from CIP 331002.

Updated budget and schedule

Project Title: 2022 WRRF Roof Improvements Project**Project Status:** Project Execution - Design**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** WRRF**Class Lvl 3:** General Purpose☒ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****77.9**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**

**Project Manager:** Jared Buzo**Director:** Chris Nastally**Managing Dept.:** WW Design Eng**Date Original Business Case Prepared:**
3/4/2022**Year Project Added to CIP:** 2023**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** WRRF**Funds and Cost Center:** Wastewater - 5421-892111☒ **From Program?****Program Number:** 260800**Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: 2022 WRRF Roof Improvements Project

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

Primary Driver: 1 - Condition

Driver Explanation:

Rooves in the worst condition which pose the greatest risk to operations, or cause for damage related to an improperly performing roof will be prioritized first.

Project Title: 2022 WRRF Roof Improvements Project

Scoring

Project Manager Weighted Score: 78.1			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining, D. Replacement or major rehab needed in the short term	Rooves that are the worst condition will be repaired/replaced first.
Performance (Service Level/Reliability)	4	B. High risk of performance failure; doesn't meet future requirements	Rooves that have active leaks will be repaired / replaced.
Regulatory (Environmental/Legal)	4	C. Canceling project risk of non-compliance in near term; potential permit violations; regulatory scrutiny; sig. measurable negative environmental impact to wide area	Canceling this project could result in rooves failing over process areas which could result in a failure of a process due to malfunction.
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	Rooves in worst condition will be repaired. Failure to repair will result in higher O&M that may or may not actually prevent failure of the roof system.
Health and Safety	4	B. Project significant positive impact on staff/public H&S+; Likely to address significant hazard issues or concerns	Leaking rooves pose a danger to staff for slip / fall, and also pose a danger because water can infiltrate electronic or electric equipment and cause failures requiring staff to perform repairs increasing risk for injury.
Public Benefit	3	E. /stakeholder relationships/confidence in GLWA	Failure to fix our rooves will result in lower confidence by the public of GLWA to maintain our assets because failure will likely have cascading effects.
Financial	4	F. Total financial consequence of \$1,000,000 - \$5,000,000	Roof repairs will be fit within the program annual costs.
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	No real efficiency or innovation for this.

Project Title: 2022 WRRF Roof Improvements Project

Review Committee Weighted Score: 77.9		
Criteria Name	Score	Comment
Condition	4	
Performance (Service Level/Reliability)	4	
Regulatory (Environmental/Legal)	4	
Operations and Maintenance	3	
Health and Safety	4	
Public Benefit	4	
Financial	4	
Efficiency and Innovation	1	

Project Title: 2022 WRRF Roof Improvements Project

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 5/11/2022**Phase Status:** Project Execution**End Date:** 3/30/2025

Phase Comments/Description:

Cost Est. Class: Class 2**Cost Est. Source:** GLWA CIP Team**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Team

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
GLWA Salaries	\$44	\$0	\$0	\$12	\$18	\$14	\$32

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	5/11/2022	3/30/2025
Capital Delivery Salary	5/11/2022	3/30/2025

Project Title: 2022 WRRF Roof Improvements Project

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 1/17/2022**Phase Status:** Project Execution**End Date:** 5/19/2023

Phase Comments/Description:

Cost Est. Class: Class 2**Cost Est. Source:** AECOM**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$24	\$16	\$12	\$12

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272)	1/17/2022	5/19/2023

Project Title: 2022 WRRF Roof Improvements Project

Phase: Design/Engineering**Phase Title:** Design/Engineering

Phase Budget: Wastewater**Start Date:** 5/11/2022**Phase Status:** Project Execution**End Date:** 3/30/2025

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Engineer bid**Cost Est. Date:** 5/11/2022**Cost Est. Prepared By:** Engineer bid

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
Design/Engineering	\$500	\$63	\$33	\$129	\$188	\$149	\$338

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1900318)	5/11/2022	3/30/2025

Project Title: 2022 WRRF Roof Improvements Project

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 10/1/2023**Phase Status:** Future Planned Start**End Date:** 3/30/2025

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** WWE**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** WWE

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
Construction	\$4,278	\$0	\$0	\$0	\$2,143	\$2,135	\$4,278

Phase Dates

Activity Name	Start Date	End Date
Construction	10/1/2023	3/30/2025

Project Title: 2022 WRRF Roof Improvements Project

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP

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Total Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
\$4,845,330	\$44,637	\$153,338	\$2,349,454	\$2,297,900	\$4,647,355

Description of CIP Changes:

2022 - Added to the CIP from the 260800 Program.

Project Title: WRRF Facility Optimization Program

Project Status: Project Execution - Design

CIP Type: Program

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: General Purpose

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score
0

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☒ Treatment



Administration Building

Project Manager: Chris Wilson

Director: Chris Nastally

Managing Dept.: WW Design Eng

Date Original Business Case Prepared:
7/12/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☐ From Program?

Program Number:

Delivery Method: Other (Design In-house and Bid Out for Construction)

Delivery Method Details: Program

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: WRRF Facility Optimization Program

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 more welcoming environment for the public and staff alike.

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 infrastructure, improved landscaping, walking paths and site features, including educational signage and benches.

Other Important Info:

N/A

Primary Driver: 2 - Performance

Driver Explanation:

Improving plant operations by re-organizing workflow paths and space utilization.

Project Title: WRRF Facility Optimization Program

Scoring

Project Manager Weighted Score: 0			
Criteria Name	Score	Score Criteria	Comment
Condition	0		
Performance (Service Level/Reliability)	0		
Regulatory (Environmental/Legal)	0		
Operations and Maintenance	0		
Health and Safety	0		
Public Benefit	0		
Financial	0		
Efficiency and Innovation	0		

Review Committee Weighted Score: 0		
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	

Project Title: WRRF Facility Optimization Program

Phase: GLWA Salaries**Phase Title:** GLWA Salaries - Cancel

Phase Budget: Wastewater**Start Date:** 7/1/2022**Phase Status:** Cancelled**End Date:** 6/30/2037

Phase Comments/Description:

I recommend we do not allocate GLWA salaries to a program, just like we cannot allocate a project to a program, but rather to a number under the program.

Cost Est. Class: Class 2**Cost Est. Source:** Cancel this**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Cancel this

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$771	\$0	\$0	\$35	\$53	\$53	\$53	\$53	\$53	\$263	\$263

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/1/2022	6/30/2037
Capital Delivery Salary	7/1/2022	6/30/2037

Project Title: WRRF Facility Optimization Program

Phase: Design/Engineering**Phase Title:** Design/Engineering

Phase Budget: Wastewater**Start Date:** 7/1/2022**Phase Status:** Future Planned Start**End Date:** 6/30/2032

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** WWE**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** WWE

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Design/Engineering	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (Unallocated)	7/1/2022	6/30/2032

Project Title: WRRF Facility Optimization Program

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 7/1/2023**Phase Status:** Future Planned Start**End Date:** 6/30/2037

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** WWE**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** WWE

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY28	5 Year Total	FY29-33
Construction	\$85,000	\$0	\$0	\$0	\$0	\$2,135	\$2,135	\$21,424

Phase Dates

Activity Name	Start Date	End Date
Construction (Unallocated)	7/1/2023	6/30/2037

Project Title: WRRF Facility Optimization Program

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY24	Total
2023	\$429	\$429	\$429

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$85,771,290	\$0	\$34,849	\$52,706	\$52,562	\$52,562	\$52,562	\$2,188,021	\$2,398,412	\$21,686,496

Description of CIP Changes:

This is a newly added CIP program that includes multiple renovation projects within WRRF. This program replaces CIP 216010 AC 6/7/21

Project Title: Rehabilitation of HAZMAT Facility at WRRF**Project Status:** Active - Procurement - Construction**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** WRRF**Class Lvl 3:** General Purpose☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****52.1**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**

**Project Manager:** Jared Buzo**Director:** Chris Nastally**Managing Dept.:** WW Design Eng**Date Original Business Case Prepared:**
6/7/2021**Year Project Added to CIP:** 2022**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** WRRF**Funds and Cost Center:** Wastewater - 5421-892211☒ **From Program?****Program Number:** 260900**Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Rehabilitation of HAZMAT Facility at WRRF

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 block building, with metal roofing and siding, and a concrete floor slab. The building was built in the 1990's. It is occupied 24 hours per day, seven days per week.

Recently, a condition assessment was completed on the HAZMAT Building. The assessment found that most of the building has exceeded its useful life and a complete rehabilitation is required. This includes exterior metal siding, metal roofing, doors, windows etc.

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

Primary Driver: 2 - Performance

Driver Explanation:

Improving plant operations by re-organizing workflow paths and space utilization.

Project Title: Rehabilitation of HAZMAT Facility at WRRF

Scoring

Project Manager Weighted Score: 52.9			
Criteria Name	Score	Score Criteria	Comment
Condition	4	D. Replacement or major rehab needed in the short term	
Performance (Service Level/Reliability)	3	B. Performance acceptable–marginal; likely not to meet future req’s	
Regulatory (Environmental/Legal)	2	A. Low risk of causing	
Operations and Maintenance	3	A. Moderate levels of O/M will keep mean times between failures frequent but tolerable; Repairs total $\geq 20\%$ original value	
Health and Safety	2	A. Low chance of failure occurring; failure easily mitigated w/ no safety/health/env. impacts	
Public Benefit	2	D. Low impact on public/GLWA image, minor recognition	
Financial	3	E. Unlikely to have wider budget implications.	
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	

Review Committee Weighted Score: 52.1		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	2	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	2	Scores carried over from previous year
Public Benefit	2	Scores carried over from previous year
Financial	2	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: Rehabilitation of HAZMAT Facility at WRRF**Phase:** GLWA Salaries**Phase Title:** GLWA Salaries**Phase Budget:** Wastewater**Start Date:** 7/24/2020**Phase Status:** Project Execution**End Date:** 12/28/2024**Phase Comments/Description:****Cost Est. Class:** Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group**Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
GLWA Salaries	\$19	\$0	\$0	\$6	\$9	\$4	\$13

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/24/2020	12/28/2024
Capital Delivery Salary	7/24/2020	12/28/2024

Project Title: Rehabilitation of HAZMAT Facility at WRRF**Phase:** Professional Services**Phase Title:** Professional Services**Phase Budget:** Wastewater**Start Date:** 1/17/2022**Phase Status:** Project Execution**End Date:** 5/19/2023**Phase Comments/Description:****Cost Est. Class:** Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** AECOM**Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$22	\$21	\$17	\$5

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 72012A.01 / 72029A.03)	1/17/2022	5/19/2023

Project Title: Rehabilitation of HAZMAT Facility at WRRF**Phase:** Design/Engineering (1900318)**Phase Title:** Design Services - 2000956 - Wade Trim**Phase Budget:** Wastewater**Start Date:** 7/24/2020**Phase Status:** Project Execution**End Date:** 12/28/2024**Phase Comments/Description:****Cost Est. Class:** Class 1**Cost Est. Source:** Wade Trim**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Wade Trim**Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
Design/Engineering (1900318)	\$317	\$224	\$210	\$14	\$62	\$31	\$93

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1900318)	7/24/2020	12/28/2024

Project Title: Rehabilitation of HAZMAT Facility at WRRF**Phase:** Construction**Phase Title:** Construction - 2101878**Phase Budget:** Wastewater**Start Date:** 7/1/2023**Phase Status:** Active - Procurement**End Date:** 12/28/2024**Phase Comments/Description:****Cost Est. Class:** Class 2**Cost Est. Source:** Wade Trim**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** Wade Trim**Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
Construction	\$2,000	\$0	\$0	\$0	\$1,338	\$662	\$2,000

Phase Dates

Activity Name	Start Date	End Date
Construction	7/1/2023	12/28/2024

Project Title: Rehabilitation of HAZMAT Facility at WRRF

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY22	FY23	FY24	FY25	FY26	Total
2023	\$1,274	\$0	\$1,274	\$0	\$0	\$0	\$1,405

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Total Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
\$2,358,533	\$227,002	\$25,255	\$1,409,317	\$696,958	\$2,106,276

Description of CIP Changes:

This project is being reclassified into this program from the TOES contract 2000956 4T. AC 6/7/21

Project Title: WRRF 4th Floor Renovation

Project Status: Project Execution - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: General Purpose

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

59.5

- ☒ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☒ Treatment



New Administration Building

Project Manager: Nicolas Nicolas

Director: Chris Nastally

Managing Dept.: WW Design Eng

Date Original Business Case Prepared: 6/7/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☒ From Program?

Program Number: 260900

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: WRRF 4th Floor Renovation

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 workstations sizes.
- Elimination of barriers between service units while offering opportunities for team members to associate with other team members; thus, promoting collaboration.
- Identifying improvements to the work environment that will benefit team members such as daylighting, use of interior color and artwork.

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

Primary Driver: 2 - Performance

Driver Explanation:

Improving plant operations by re-organizing workflow paths and space utilization.

Project Title: WRRF 4th Floor Renovation

Scoring

Project Manager Weighted Score: 41			
Criteria Name	Score	Score Criteria	Comment
Condition	2	A. Asset has <75% of its design service life remaining, C. Delivering full efficiency; little/no performance deterioration	
Performance (Service Level/Reliability)	2	D. Equipment/process is out of service 5% or less of the time, C. Project moderate to low positive impact on service levels and/or system reliability, B. Overall good performance; will likely meet future requirements, A. Meets all design requirements under normal conditions; up to date	
Regulatory (Environmental/Legal)	1	C. Not part of mandated/enforceable program, B. Low/no impact on specific reg. compliance issues, A. No risk of causing	
Operations and Maintenance	1	E. Negligible/no reduction (1% - 5%) in reactive maintenance	Not Applicable
Health and Safety	1	C. Staff/public safety/hazard issues not a concern, B. Project minimal positive impact on staff/public H&S; No major hazard issues/concerns to addressed	
Public Benefit	1	C. Minimal/no impact on public/GLWA image & relationships, B. Negligible additional revenues/savings; Requires all new infrastructure, A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	
Financial	4	F. Total financial consequence of \$1,000,000 - \$5,000,000	
Efficiency and Innovation	2	B. Low – moderate positive impact on energy use, conservation, environmental responsibility& sustainability i.e. 1-5% energy reduction, D. Little to no time and cost saving	

Review Committee Weighted Score: 59.5		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	3	Scores carried over from previous year
Financial	2	Scores carried over from previous year
Efficiency and Innovation	4	Scores carried over from previous year

Project Title: WRRF 4th Floor Renovation

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 11/28/2017**Phase Status:** Project Execution**End Date:** 11/20/2023

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	5 Year Total
GLWA Salaries	\$30	\$49	\$9	\$28	(\$7)	(\$7)

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	11/28/2017	11/20/2023
Capital Delivery Salary	11/28/2017	11/20/2023

Project Title: WRRF 4th Floor Renovation

Phase: Design/Engineering**Phase Title:** Design Services - 2002947 - Albert Kahn

Phase Budget: Wastewater **Start Date:** 11/28/2017**Phase Status:** Project Execution **End Date:** 11/20/2023

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Albert Kahn**Cost Est. Date:** 9/28/2020**Cost Est. Prepared By:** Albert Kahn

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	5 Year Total
Design/Engineering	\$95	\$56	\$56	\$24	\$14	\$14

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	11/28/2017	11/20/2023

Project Title: WRRF 4th Floor Renovation

Phase: Construction**Phase Title:** Construction - 2200545 - Allied

Phase Budget: Wastewater**Start Date:** 5/20/2022**Phase Status:** Project Execution**End Date:** 11/20/2023

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Allied Building Services**Cost Est. Date:** 5/20/2022**Cost Est. Prepared By:** Allied Building Services

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	5 Year Total
Construction	\$3,175	\$384	\$0	\$2,138	\$1,036	\$1,036

Phase Dates

Activity Name	Start Date	End Date
Construction	5/20/2022	11/20/2023

Project Title: WRRF 4th Floor Renovation

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY22	FY23	Total
2023	\$2,671	\$0	\$2,671	\$2,720

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Total Costs	Prior FYs	FY23	FY24	5 Year Total
\$3,299,377	\$65,150	\$2,190,466	\$1,043,763	\$1,043,763

Description of CIP Changes:

This project has been reclassified under the WRRF Facility Optimization Program 6/7/21.



Project Title: WRRF Front Entrance Rehabilitation

Project Status: Project Execution - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: WRRF

Class Lvl 3: General Purpose

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

52.4

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☒ Treatment



WRRF Front Entrance

Project Manager: Charles Reinhart

Director: Chris Nastally

Managing Dept.: WW Design Eng

Date Original Business Case Prepared:
6/10/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: WRRF

Funds and Cost Center: Wastewater - 5421-892211

☒ From Program?

Program Number: 260900

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: WRRF Front Entrance Rehabilitation

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 access can go through the automated barrier gate arms along Jefferson and near the turnstiles for parking in the parking structure. Visitors without badge access have to wait at the barrier gate to be given access to park adjacent to the parking structure. Employees and visitors access the plant grounds through the security turnstiles located near the Guard House, which is manned 24 hours a day. The current traffic flow at the entrance of the facility results in back up at the gates, providing relief for visitors prior to entering the site.

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 the parking garage.
- Increase parking spaces for visitor.
- Visitor parking shall be prior to the automated barrier gate arm which may require it to be relocated.
- Parking for oversized vehicles.
- Renovate the front entrance of WRRF
- Maintain the security of the facility.
- Rehabilitate and possibly relocate the Guard House.
- The area may require canopy.

Other Important Info:

N/A

Primary Driver: 2 - Performance

Driver Explanation:

Improving plant operations by re-organizing workflow paths and space utilization.

Project Title: WRRF Front Entrance Rehabilitation

Scoring

Project Manager Weighted Score:		52.4	
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	Project Manager score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	2	A. Meets all design requirements under normal conditions; up to date	Project Manager score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	2	A. Low risk of causing	Project Manager score carried over from previous year Project Manager score
Operations and Maintenance	3	A. Moderate levels of O/M will keep mean times between failures frequent but tolerable; Repairs total $\geq 20\%$ original value	Project Manager score carried over from previous year Project Manager score
Health and Safety	2	A. Low chance of failure occurring; failure easily mitigated w/ no safety/health/env. impacts	Project Manager score carried over from previous year Project Manager score
Public Benefit	2	A. Low to moderate impact by supporting City/region/neighborhood growth	Project Manager score carried over from previous year Project Manager score
Financial	2	A. Low financial impact to GLWA; No grants/other external funding	Project Manager score carried over from previous year Project Manager score
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings	Project Manager score carried over from previous year Project Manager score

Project Title: WRRF Front Entrance Rehabilitation

Review Committee Weighted Score: 52.4		
Criteria Name	Score	Comment
Condition	4	Committee score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	2	Committee score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	2	Committee score carried over from previous year Project Manager score
Operations and Maintenance	3	Committee score carried over from previous year Project Manager score
Health and Safety	2	Committee score carried over from previous year Project Manager score
Public Benefit	2	Committee score carried over from previous year Project Manager score
Financial	2	Committee score carried over from previous year Project Manager score
Efficiency and Innovation	4	Committee score carried over from previous year Project Manager score

Project Title: WRRF Front Entrance Rehabilitation

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 3/23/2020**Phase Status:** Project Execution**End Date:** 11/24/2024

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
GLWA Salaries	\$36	\$3	\$1	\$12	\$16	\$7	\$23

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	3/23/2020	11/24/2024
Capital Delivery Salary	3/23/2020	11/24/2024

Project Title: WRRF Front Entrance Rehabilitation

Phase: Design/Engineering**Phase Title:** Design/Engineering - 2001464 - HRC

Phase Budget: Wastewater**Start Date:** 3/23/2020**Phase Status:** Project Execution**End Date:** 11/24/2024

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** HRC**Cost Est. Date:** 3/22/2021**Cost Est. Prepared By:** HRC

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
Design/Engineering	\$634	\$226	\$136	\$158	\$243	\$98	\$341

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (1900318)	3/23/2020	11/24/2024

Project Title: WRRF Front Entrance Rehabilitation

Phase: Construction**Phase Title:** Construction - 2201744 - TBD

Phase Budget: Wastewater**Start Date:** 2/4/2023**Phase Status:** Active - Procurement**End Date:** 11/24/2024

Phase Comments/Description:

Cost Est. Class: Class 2**Cost Est. Source:** HRC**Cost Est. Date:** 7/19/2022**Cost Est. Prepared By:** HRC

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
Construction	\$3,330	\$0	\$0	\$224	\$2,216	\$890	\$3,106

Phase Dates

Activity Name	Start Date	End Date
Construction	5/25/2023	11/24/2024
Construction Materials/Equipment Purchase	2/4/2023	11/24/2024

Project Title: WRRF Front Entrance Rehabilitation

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY22	FY23	Total
2023	\$1,005	\$0	\$1,005	\$1,005

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Total Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
\$4,000,068	\$136,823	\$393,710	\$2,475,342	\$994,195	\$3,469,537

Description of CIP Changes:

This project has been reclassified under the WRRF Facility Optimization Program work was initiated under TOES Contract 2001464-10T. AC 6/10/21

Project Title: WRRF 3rd Floor Renovation**Project Status:** Active - Procurement - Design**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** WRRF**Class Lvl 3:** General Purpose☒ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****40.5**

- ☐ Innovation
- ☒ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☐ CSO
- ☐ Pumps
- ☐ Storage
- ☒ Treatment

**Project Manager:** Alfredo Lava**Director:** Chris Nastally**Managing Dept.:** WW Construction Eng**Date Original Business Case Prepared:**
7/12/2022**Year Project Added to CIP:** 2022**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** WRRF**Funds and Cost Center:** Wastewater - 5421-892111☒ **From Program?****Program Number:** 260900**Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: WRRF 3rd Floor Renovation

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.

Primary Driver: 2 - Performance

Driver Explanation:

This project aligns needs of the organization with the functionality of the facility.

Project Title: WRRF 3rd Floor Renovation

Scoring

Project Manager Weighted Score: 39.4			
Criteria Name	Score	Score Criteria	Comment
Condition	3	B. Functionally sound and acceptable, signs of normal wear	The third floor layout, and furniture was constructed in the early 1990's and is approximately 30 years old. The furniture and equipment are in need of replacement.
Performance (Service Level/Reliability)	2	C. Project moderate to low positive impact on service levels and/or system reliability	If not completed, the floor can still work, but it is not efficient, and future use of the first floor would not be realized.
Regulatory (Environmental/Legal)	1	A. No risk of causing	This has no effect on regulator compliance.
Operations and Maintenance	2	C. Repairs total $\geq 10\%$ of asset original value	Rehabbing the floor, fixtures, equipment would be expensive even if the floor plan were to remain unchanged.
Health and Safety	1	C. Staff/public safety/hazard issues not a concern	No appreciable safety concerns.
Public Benefit	3	E. /stakeholder relationships/confidence in GLWA	This allows for renovation of the first floor and to more open up the WRRF to the public for viewing / education / interaction.
Financial	1	A. Minimal to no impact to GLWA	There is little financial impact to GLWA as a result of not completing the project.
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings	This is part of the optimization of the WRRF and right-sizing the floors of our administration building to promote better coordination & cooperation amongst the various groups at the WRRF.

Project Title: WRRF 3rd Floor Renovation

Review Committee Weighted Score: 40.5		
Criteria Name	Score	Comment
Condition	3	
Performance (Service Level/Reliability)	2	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	3	
Health and Safety	1	
Public Benefit	4	
Financial	1	
Efficiency and Innovation	4	

Project Title: WRRF 3rd Floor Renovation

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Water**Start Date:** 9/5/2022**Phase Status:** Future Planned Start**End Date:** 10/25/2026

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	5 Year Total
GLWA Salaries	\$31	\$5	\$3	\$7	\$6	\$6	\$6	\$2	\$21

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	9/5/2022	10/25/2026
Capital Delivery Salary	9/5/2022	10/25/2026

Project Title: WRRF 3rd Floor Renovation

Phase: Design/Engineering**Phase Title:** Design/Engineering

Phase Budget: Wastewater**Start Date:** 9/5/2022**Phase Status:** Future Planned Start**End Date:** 10/25/2025

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** Albert Kahn**Cost Est. Date:** 9/5/2022**Cost Est. Prepared By:** Albert Kahn

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	5 Year Total
Design/Engineering	\$215	\$0	\$0	\$160	\$8	\$36	\$12	\$55

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	9/5/2022	10/25/2025

Project Title: WRRF 3rd Floor Renovation

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 4/28/2025**Phase Status:** Future Planned Start**End Date:** 10/25/2026

Phase Comments/Description:

Cost Est. Class: Class 2**Cost Est. Source:** WWE**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** WWE

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	5 Year Total
Construction	\$3,175	\$0	\$0	\$0	\$0	\$372	\$2,122	\$680	\$3,175

Phase Dates

Activity Name	Start Date	End Date
Construction	4/28/2025	10/25/2026

Project Title: WRRF 3rd Floor Renovation

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)**CIP****Reporting Period 49: Ending FY23 M04 Oct**

Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	5 Year Total
\$3,420,512	\$2,752	\$166,715	\$14,026	\$414,641	\$2,140,094	\$682,284	\$3,251,045

Description of CIP Changes:

Added to CIP this year out of the WRRF Optimization Program 260900

Project Title: WRRF Plumbing Shop Renovation - 260905**Project Status:** Project Execution - Design**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** WRRF**Class Lvl 3:** General Purpose☒ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score**
0

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**

**Project Manager:** Chris Nastally**Director:** Chris Nastally**Managing Dept.:** WW Design Eng**Date Original Business Case Prepared:**
9/28/2022**Year Project Added to CIP:** 2022**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** N/A**Funds and Cost Center:** Wastewater - 5421-892211☒ **From Program?****Program Number:** 260900**Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** Yes**Partners:** Other**Collaboration Entity:** GLWA Logistics and Materials Group

Project Title: WRRF Plumbing Shop Renovation - 260905

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 nothing 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 plant for operations and maintenance to ensure continuity of operations. This will include demolition of interior floor space, establishment of storage racks, re-roofing, ensuring proper building insulation and minimal HVAC improvements for a warehouse. Demolition would really be a waste of resources because the building still have service life and can still provide useful function to the WRRF.

Other Important Info:

Repurpose of a building that is not being properly utilized to a space that can best serve the WRRF.

Primary Driver: 1 - Condition

Driver Explanation:

The building is 35 years old. The roof and outer walls require attention to ensure it's serviceable life can continue.

Project Title: WRRF Plumbing Shop Renovation - 260905

Scoring

Project Manager Weighted Score:		50.7	
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	Building is approximately 35 years old. Slab is cracking. Roof needs replacement.
Performance (Service Level/Reliability)	3	B. Performance acceptable–marginal; likely not to meet future req’s	The building will continue to stand, but function / performance will decrease as leaks develop.
Regulatory (Environmental/Legal)	1	A. No risk of causing, B. Low/no impact on specific reg. compliance issues	The new use will store parts needed to keep our critical equipment in service.
Operations and Maintenance	2	A. Low levels of O/M keeps meantime between failure standard	Roof will leak and cause us to have to fix. Leaking could damage other items in the building requiring fixing.
Health and Safety	2	B. Project limited positive impact on staff/public H&S†; No major staff or hazard issues or concerns addressed	No major health / safety impacts
Public Benefit	2	E. No media coverage, minor impact on comm./stakeholder relations	This project will result in better use of our facilities and proper storage of parts which ultimately benefits the public.
Financial	3	F. Total financial consequence of \$250,000 - \$999,999	Having to make repairs associated with canceling the project (roof) is likely over \$250K
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	None.

Project Title: WRRF Plumbing Shop Renovation - 260905

Review Committee Weighted Score: 0		
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	

Project Title: WRRF Plumbing Shop Renovation - 260905

Project Title: WRRF Plumbing Shop Renovation - 260905

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)**CIP****Reporting Period 49: Ending FY23 M04 Oct**

Total Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
\$2,188,543	\$0	\$18,295	\$1,144,118	\$1,026,130	\$2,170,248

Description of CIP Changes:--


Project Title: WRRF Rehabilitation of the Secondary Clarifiers**Project Status:** Future Planned - Within Five Year Plan**CIP Type:** Program**Class Lvl 1:** Wastewater**Class Lvl 2:** WRRF**Class Lvl 3:** Secondary Treatment and Disinfection☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☒ **Multiple Phases****Project Score****0**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**

**Project Manager:** Chris Wilson**Director:** Chris Nastally**Managing Dept.:** WW Design Eng**Date Original Business Case Prepared:**
7/27/2016**Year Project Added to CIP:** 2017**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** WRRF**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: WRRF Rehabilitation of the Secondary Clarifiers

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 will be evaluated for payback potential with alternative, energy efficient 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.

Primary Driver: 1 - Condition

Driver Explanation:

Some of the key components are approaching the end of their useful life.

Project Title: WRRF Rehabilitation of the Secondary Clarifiers

Scoring

Project Manager Weighted Score: 0			
Criteria Name	Score	Score Criteria	Comment
Condition	0		
Performance (Service Level/Reliability)	0		
Regulatory (Environmental/Legal)	0		
Operations and Maintenance	0		
Health and Safety	0		
Public Benefit	0		
Financial	0		
Efficiency and Innovation	0		

Review Committee Weighted Score: 0		
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	

Project Title: WRRF Rehabilitation of the Secondary Clarifiers

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 7/1/2028**Phase Status:** Future Planned Start**End Date:** 6/30/2037

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$337	\$0	\$0	\$0	\$0	\$0	\$0	\$187

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/1/2028	6/30/2037

Project Title: WRRF Rehabilitation of the Secondary Clarifiers

Phase: Design/Engineering

Phase Title: DELETE THIS PHASE

Phase Budget: Wastewater

Start Date: 7/1/2028

Phase Status: Cancelled

End Date: 6/30/2037

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2028	6/30/2037

Project Title: WRRF Rehabilitation of the Secondary Clarifiers

Phase: Construction**Phase Title:** Design Build / Other

Phase Budget: Wastewater**Start Date:** 7/1/2032**Phase Status:** Future Planned Start**End Date:** 6/30/2037

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** WWE**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** WWE

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY28	5 Year Total	FY29-33
Construction	\$39,000	\$0	\$0	\$0	\$0	\$0	\$7,796

Phase Dates

Activity Name	Start Date	End Date
Construction	7/1/2032	6/30/2037

Project Title: WRRF Rehabilitation of the Secondary Clarifiers

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	FY28	Total
2023	\$2,056	\$46,828

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Total Costs	Prior FYs	FY23	FY27	FY28	5 Year Total	FY29-33
\$39,337,242	\$0	\$0	\$0	\$0	\$0	\$7,983,073

Description of CIP Changes:

Program identified and created

Project Title: WRRF Rehabilitation of the Secondary Clarifiers Phase 1**Project Status:** Future Planned - Within Five Year Plan**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** WRRF**Class Lvl 3:** Secondary Treatment and Disinfection☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****72**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☐ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☒ **Treatment**

**Project Manager:** Chris Wilson**Director:** Chris Nastally**Managing Dept.:** WW Design Eng**Date Original Business Case Prepared:**
7/27/2016**Year Project Added to CIP:** 2017**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** WRRF**Funds and Cost Center:** Wastewater - 5421-892211☒ **From Program?****Program Number:** 261000**Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: WRRF Rehabilitation of the Secondary Clarifiers Phase 1

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. These will be evaluated for payback potential with alternative, energy efficient 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.

Primary Driver: 1 - Condition

Driver Explanation:

Some of the key components are approaching the end of their useful life.

Project Title: WRRF Rehabilitation of the Secondary Clarifiers Phase 1

Scoring

Project Manager Weighted Score: 72			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	
Performance (Service Level/Reliability)	3	A. Generally meets design needs; moderate risk of perf. failure	
Regulatory (Environmental/Legal)	4	A. Relatively high, but not imminent,	
Operations and Maintenance	3	A. Moderate levels of O/M will keep mean times between failures frequent but tolerable; Repairs total $\geq 20\%$ original value	
Health and Safety	1	A. No failure reasonably expected to occur	
Public Benefit	4	A. Project key part of a strategic plan* for GLWA (i.e. good probability leads to new customers)	
Financial	1	A. Minimal to no impact to GLWA	
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	

Review Committee Weighted Score: 72		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	1	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	1	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: WRRF Rehabilitation of the Secondary Clarifiers Phase 1

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 11/1/2023

Phase Status: Project Execution

End Date: 9/1/2032

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$170	\$1	\$0	\$0	\$13	\$19	\$19	\$19	\$19	\$89	\$80

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	11/1/2023	9/1/2032
Capital Delivery Salary	11/1/2023	9/1/2032

Project Title: WRRF Rehabilitation of the Secondary Clarifiers Phase 1

Phase: Professional Services

Phase Title: AECOM - Study Services

Phase Budget: Wastewater

Start Date: 3/4/2022

Phase Status: Project Execution

End Date: 10/28/2022

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: AECOM

Cost Est. Date: 3/4/2022

Cost Est. Prepared By: AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272 - 72014A.04 / 72007B.05)	3/4/2022	10/28/2022

Project Title: WRRF Rehabilitation of the Secondary Clarifiers Phase 1

Phase: Design/Engineering

Phase Title: Design Engineering Services

Phase Budget: Wastewater

Start Date: 11/1/2023

Phase Status: Future Planned Start

End Date: 9/1/2032

Phase Comments/Description:

Cost Est. Class: Class 4

Cost Est. Source: AECOM

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$3,174	\$0	\$0	\$0	\$149	\$223	\$223	\$389	\$424	\$1,408	\$1,766

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	11/1/2023	9/1/2032

Project Title: WRRF Rehabilitation of the Secondary Clarifiers Phase 1

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 9/2/2026**Phase Status:** Future Planned Start**End Date:** 9/1/2032

Phase Comments/Description:

Cost Est. Class: Class 4**Cost Est. Source:** AECOM**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction	\$15,000	\$0	\$0	\$0	\$0	\$0	\$2,067	\$2,505	\$4,571	\$10,429

Phase Dates

Activity Name	Start Date	End Date
Construction	9/2/2026	9/1/2032

Project Title: WRRF Rehabilitation of the Secondary Clarifiers Phase 1

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY24	FY25	FY26	FY27	Total
2023	\$4,030	\$790	\$790	\$395	\$2,056	\$4,030

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$18,344,328	\$341	\$483	\$161,360	\$242,372	\$242,372	\$2,474,307	\$2,947,964	\$6,068,377	\$12,275,127

Description of CIP Changes:

Project is now included under Program 216000

Project Title: Pilot CSO Netting Facility

Project Status: Active - Pre-Procurement - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Multiple CSO Facilities

☐ Project New to CIP

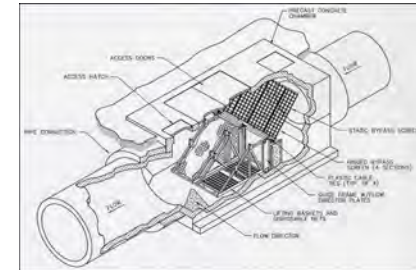
☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

89.6

- ☐ Innovation
- ☒ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☒ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment



Netting Facility

Project Manager: Chris Nastally

Director: Chris Nastally

Managing Dept.: CSO

Date Original Business Case Prepared:
8/1/2019

Year Project Added to CIP: 2019

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Detroit River - near MacArthur Bridge

Funds and Cost Center: Wastewater - 5421-892211

☐ From Program?

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: Yes

Partners: Other,EGLE

Collaboration Entity: Detroit Riverfront Conservancy, City of Detroit

Project Title: Pilot CSO Netting Facility

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 federally funded.

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, construction assistance, and project closeout services upon completion of study and design.

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.

Primary Driver: 3 - Regulatory

Driver Explanation:

The NPDES permit requires GLWA to reduce untreated CSO discharge. This project is a low cost option to reduce sanitary trash and treat bacteria from untreated CSO discharges that may occur from the outfall, just upstream of the beach.

Project Title: Pilot CSO Netting Facility

Scoring

Project Manager Weighted Score: 89.6			
Criteria Name	Score	Score Criteria	Comment
Condition	1	A. Asset has >75% of its design service life remaining	
Performance (Service Level/Reliability)	5	A. Will cause, or IS causing significant capacity problems	
Regulatory (Environmental/Legal)	5	A. Imminent risk of/is causing Permit/reg. violations; Legal obligation; Unregulated discharges; Health risks to staff/public	
Operations and Maintenance	1	A. O&M levels are routine;	
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	
Public Benefit	4	A. Project key part of a strategic plan* for GLWA (i.e. good probability leads to new customers)	
Financial	1	A. Minimal to no impact to GLWA	
Efficiency and Innovation	3	A. Project attempts to right-size system; small operational efficiencies and increasing revenue/savings	

Review Committee Weighted Score: 89.6		
Criteria Name	Score	Comment
Condition	1	Scores carried over from previous year
Performance (Service Level/Reliability)	5	Scores carried over from previous year
Regulatory (Environmental/Legal)	5	Scores carried over from previous year
Operations and Maintenance	1	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	1	Scores carried over from previous year
Efficiency and Innovation	3	Scores carried over from previous year

Project Title: Pilot CSO Netting Facility

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 7/1/2033**Phase Status:** Future Planned Start**End Date:** 10/23/2039

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$412	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/1/2033	10/23/2039
Capital Delivery Salary	7/1/2033	10/23/2039

Project Title: Pilot CSO Netting Facility

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 6/1/2021**Phase Status:** Project Execution**End Date:** 6/30/2022

Phase Comments/Description:

We shifted from having PMA to doing this ourselves. Only a little bit of time was captured before we stopped them.

Cost Est. Class: Class 1**Cost Est. Source:** PMA**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** PMA

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-166)	6/1/2021	6/30/2022

Project Title: Pilot CSO Netting Facility

Phase: Design/Engineering

Phase Title: Design Engineering - 2202509 - TBD

Phase Budget: Wastewater

Start Date: 7/1/2033

Phase Status: Future Planned Start

End Date: 10/23/2039

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: WWE

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: WWE

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$6,015	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2033	10/23/2039

Project Title: Pilot CSO Netting Facility**Phase:** Design/Engineering (CA)**Phase Title:** Construction Assistance - 2202509 - TBD**Phase Budget:** Wastewater**Start Date:** 4/26/2037**Phase Status:** Future Planned Start**End Date:** 10/23/2039**Phase Comments/Description:****Cost Est. Class:** Class 3**Cost Est. Source:** WWE**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** WWE**Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering (CA)	\$2,607	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (CA)	4/26/2037	10/23/2039

Project Title: Pilot CSO Netting Facility

Phase: Construction (Build) # 1

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 4/26/2037

Phase Status: Future Planned Start

End Date: 10/23/2039

Phase Comments/Description:

Constructing the netting facility.

Cost Est. Class: Class 4

Cost Est. Source: CDM Smith

Cost Est. Date: 7/17/2020

Cost Est. Prepared By: Carl Johnson

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction (Build) # 1	\$26,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	4/26/2037	10/23/2039

Project Title: Pilot CSO Netting Facility

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2021	\$6,535	\$20	\$86	\$1,604	\$318	\$4,507	\$1,234	\$0	\$0	\$7,769
2022	\$4,938	\$0	\$13	\$57	\$1,557	\$107	\$3,203	\$3,896	\$739	\$9,573
2023	\$1,149	\$0	\$0	\$0	\$345	\$345	\$348	\$111	\$2,396	\$6,199

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$35,034,356	\$329	\$362	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

2019-08 - This is a new project to the CIP being driven by recommendations from the Wastewater Masterplan Project (2019).
2020-07 - Updating for schedule & costs (only including 1 Pilot Facility in the scope at this time). 4 Pilot facilities are proposed in WWMP.
2021 - pushed out 1 year to allow for better coordination with LTCSO plan.
2022 - updated this to reflect negotiations from I-94 Modernization project and new pilot locations.

Project Title: Meldrum Sewer Diversion and VR-15 Improvements**Project Status:** Future Planned - Within Five Year Plan**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** CSO Facilities**Class Lvl 3:** Multiple CSO Facilities☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****88.7**

- ☐ **Innovation**
- ☒ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Mini Panicker**Director:** Biren Saparia**Managing Dept.:** SCC**Date Original Business Case Prepared:**
8/1/2019**Year Project Added to CIP:** 2019**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** Sewers and Interceptors**Funds and Cost Center:** Wastewater - 5421-882301☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Meldrum Sewer Diversion and VR-15 Improvements

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 currently there is no means to convey flow from the Meldrum sewer to the Conant-Mt. Elliot sewer (and to Leib). This project was a high-level recommendation from the wastewater masterplan. An RFP will be developed that further develops the project scope to achieve the desired outcome of connecting the Meldrum sewer to the Contant-Mt. Elliot sewer.

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 untreated CSO discharge, which is a requirement of the NPDES Permit.

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).

Primary Driver: 3 - Regulatory

Driver Explanation:

The NPDES permit requires GLWA to reduce untreated CSO discharge. This project is a low cost option to accomplish this for the B-07 outfall. In addition to complying with the regulator, this results in improved public benefit from better water quality.

Project Title: Meldrum Sewer Diversion and VR-15 Improvements

Scoring

Project Manager Weighted Score: 86.9			
Criteria Name	Score	Score Criteria	Comment
Condition	1	D. Does not impact performance, meets all expected future requirements	
Performance (Service Level/Reliability)	1	B. Consistent with current standards and technology	
Regulatory (Environmental/Legal)	5	B. Project part of a mandated or otherwise enforceable program	
Operations and Maintenance	1	B. Equipment/process/pipeline has no failures or non-routine repairs	
Health and Safety	4	C. Canceling project continue to pose significant staff/public safety/hazard issues, some potential for significant injury and significant regulatory violations (i.e. OSHA).	
Public Benefit	5	A. Project is key part of a strategic plan* for GLWA or politically driven	
Financial	1	A. Minimal to no impact to GLWA	
Efficiency and Innovation	4	B. Project will remove significant operational hurdles/ obstacles for significant equipment/process	

Review Committee Weighted Score: 88.7		
Criteria Name	Score	Comment
Condition	1	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	5	Scores carried over from previous year
Operations and Maintenance	1	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	5	Scores carried over from previous year
Financial	1	Scores carried over from previous year
Efficiency and Innovation	4	Scores carried over from previous year

Project Title: Meldrum Sewer Diversion and VR-15 Improvements

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 7/1/2026

Phase Status: Future Planned Start

End Date: 7/1/2030

Phase Comments/Description:

Cost Est. Class:

Cost Est. Source:

Cost Est. Date:

Cost Est. Prepared By:

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$354	\$0	\$0	\$0	\$0	\$0	\$0	\$88	\$89	\$177	\$177

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/1/2026	7/1/2030
Capital Delivery Salary	7/1/2026	7/1/2030

Project Title: Meldrum Sewer Diversion and VR-15 Improvements

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 7/1/2026**Phase Status:****End Date:** 7/1/2030

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	FY23
Professional Services	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services	7/1/2026	7/1/2030

Project Title: Meldrum Sewer Diversion and VR-15 Improvements

Phase: Design & Construction Assistance # 1

Phase Title: Design and Construction Assistance for Meldrum Diversions

Phase Budget: Wastewater **Start Date:** 7/1/2026

Phase Status: Future Planned Start **End Date:** 7/1/2030

Phase Comments/Description:

Phase is to complete the design, carries through procurement of construction, and then through construction time period & project closeout. Includes designing the sewer connection, and assisting during construction

Cost Est. Class: Class 4

Cost Est. Source: CDM Smith WWMP

Cost Est. Date: 8/1/2019

Cost Est. Prepared By: Carl Johnson

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design & Construction Assistance # 1	\$1,047	\$0	\$0	\$0	\$0	\$0	\$0	\$208	\$280	\$488	\$558

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/1/2026	6/30/2030
Design/Engineering (CA)	12/29/2026	7/1/2030

Project Title: Meldrum Sewer Diversion and VR-15 Improvements

Phase: Construction (Build) # 1

Phase Title: Construction of the Meldrum Diversion

Phase Budget: Wastewater **Start Date:** 12/29/2026

Phase Status: Future Planned Start **End Date:** 7/1/2030

Phase Comments/Description:

This phase is to execute the design project for the Meldrum Diversion to the Conant-Mt. Elliot sewer to divert untreated CSO discharge through the Leib SDF. This will result in untreated CSO discharge becoming "treated" CSO discharge. There is only recommendations about scope schedule and budget from a masterplan perspective at this time.

Cost Est. Class: Class 4

Cost Est. Source: CDM Smith (WWMP)

Cost Est. Date: 8/1/2019

Cost Est. Prepared By: Carl Johnson

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction (Build) # 1	\$4,453	\$0	\$0	\$0	\$0	\$0	\$640	\$1,272	\$1,912	\$2,541

Phase Dates

Activity Name	Start Date	End Date
Construction	12/29/2026	7/1/2030

Project Title: Meldrum Sewer Diversion and VR-15 Improvements

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2021	\$847	\$13	\$86	\$586	\$162	\$5,232	\$0	\$0	\$6,079
2022	\$2,891	\$9	\$57	\$282	\$567	\$1,975	\$2,288	\$163	\$5,840
2023	\$2,079	\$0	\$0	\$0	\$224	\$436	\$1,419	\$1,253	\$5,840

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$5,853,789	\$0	\$0	\$0	\$0	\$0	\$936,391	\$1,640,751	\$2,577,143	\$3,276,646

Description of CIP Changes:

NA

Project Title: Long Term CSO Control Plan**Project Status:** Project Execution - Design**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** CSO Facilities**Class Lvl 3:** Multiple CSO Facilities☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****88**

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☐ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☒ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☒ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment

**Project Manager:** Tim Kuhns**Director:** Tim Kuhns**Managing Dept.:** Systems Planning**Date Original Business Case Prepared:**
8/20/2019**Year Project Added to CIP:** 2019**CIP Budget:** Wastewater**Project Jurisdiction:** Multiple Counties**Lookup Location:** City of Detroit**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** Other (Design In-house and Bid Out for Construction)**Delivery Method Details:** Study Phase Only☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Long Term CSO Control Plan

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 operated by GLWA that require control in accordance with the NPDES permit language. The language allows for flexibility in terms of which outfalls GLWA shall address first, second & last, but nonetheless requires all of them to be addressed.

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 this project is presently being drafted.

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.

Primary Driver: 3 - Regulatory

Driver Explanation:

The NPDES permit requires GLWA to provide for prohibition, elimination, or adequate treatment of combined sewer discharges containing raw sewage.

Project Title: Long Term CSO Control Plan

Scoring

Project Manager Weighted Score:		88	
Criteria Name	Score	Score Criteria	Comment
Condition	1	A. Asset has >75% of its design service life remaining	Project Manager score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	3	A. Generally meets design needs; moderate risk of perf. failure	Project Manager score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	5	A. Imminent risk of/is causing Permit/reg. violations; Legal obligation; Unregulated discharges; Health risks to staff/public	Project Manager score carried over from previous year Project Manager score
Operations and Maintenance	1	A. O&M levels are routine;	Project Manager score carried over from previous year Project Manager score
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	Project Manager score carried over from previous year Project Manager score
Public Benefit	3	A. Project part of GLWA strategic plan*, but no new customers	Project Manager score carried over from previous year Project Manager score
Financial	3	A. Implementing the project will generate moderate increase revenue or savings for GLWA.	Project Manager score carried over from previous year Project Manager score
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	Project Manager score carried over from previous year Project Manager score

Project Title: Long Term CSO Control Plan

Review Committee Weighted Score: 88		
Criteria Name	Score	Comment
Condition	1	Committee score carried over from previous year committee score
Performance (Service Level/Reliability)	3	Committee score carried over from previous year committee score
Regulatory (Environmental/Legal)	5	Committee score carried over from previous year committee score
Operations and Maintenance	1	Committee score carried over from previous year committee score
Health and Safety	4	Committee score carried over from previous year committee score
Public Benefit	3	Committee score carried over from previous year committee score
Financial	3	Committee score carried over from previous year committee score
Efficiency and Innovation	2	Committee score carried over from previous year committee score

Project Title: Long Term CSO Control Plan

Phase: GLWA Salaries**Phase Title:** GLWA Salries

Phase Budget: Wastewater**Start Date:** 7/1/2020**Phase Status:** Future Planned Start**End Date:** 6/30/2025

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
GLWA Salaries	\$105	\$0	\$0	\$26	\$40	\$39	\$79

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	7/1/2020	6/30/2025
Capital Delivery Salary	7/1/2020	6/30/2025

Project Title: Long Term CSO Control Plan

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 8/1/2019**Phase Status:****End Date:** 5/19/2023

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$1,422	\$1,122	\$1,122	\$300

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services (CS-272 - 72010A.01/02/03, 72010B.01/02/03/04)	8/1/2019	5/19/2023

Project Title: Long Term CSO Control Plan

Phase: Contractual Professional Services (CS-200)**Phase Title:** Contractual Professional Services (CS-200)

Phase Budget: Wastewater**Start Date:** 6/5/2017**Phase Status:****End Date:** 6/30/2020

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Contractual Professional Services (CS-200)	\$240	\$240	\$240	\$0

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services (CS-200)	6/5/2017	6/30/2020

Project Title: Long Term CSO Control Plan

Phase: Contractual Professional Services (1904197)**Phase Title:** Contractual Professional Services (1904197)

Phase Budget: Wastewater**Start Date:** 11/1/2020**Phase Status:****End Date:** 11/1/2024

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
Contractual Professional Services (1904197)	\$7,749	\$3,702	\$3,168	\$1,872	\$2,023	\$685	\$2,709

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services (1904197)	11/1/2020	11/1/2024

Project Title: Long Term CSO Control Plan

Phase: Contractual Professional Services (U of M 2001434)**Phase Title:** Contractual Professional Services (U of M 2001434)

Phase Budget: Wastewater**Start Date:** 8/3/2020**Phase Status:****End Date:** 8/2/2022

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Contractual Professional Services (U of M 2001434)	\$336	\$336	\$288	\$48

Phase Dates

Activity Name	Start Date	End Date
Contractual Professional Services (U of M 2001434)	8/3/2020	8/2/2022

Project Title: Long Term CSO Control Plan**Phase:** Design & Construction Assistance**Phase Title:** Design & Construction Assistance**Phase Budget:** Wastewater**Start Date:** 7/31/2019**Phase Status:****End Date:** 6/30/2025**Phase Comments/Description:****Cost Est. Class:****Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:****Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
Design & Construction Assistance	\$548	\$0	\$0	\$136	\$206	\$206	\$412

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	7/31/2019	6/30/2025

Project Title: Long Term CSO Control Plan**Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)**

CIP	5 Year Total	FY20	FY21	FY22	FY23	FY24	FY25	Total
2021	\$5,726	\$68	\$2,796	\$2,220	\$710	\$0	\$0	\$5,794
2022	\$5,764	\$4	\$3,500	\$3,799	\$1,749	\$144	\$73	\$9,268
2023	\$2,958	\$4	\$2,126	\$3,162	\$2,519	\$285	\$154	\$8,249

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Total Costs	Prior FYs	FY23	FY24	FY25	5 Year Total
\$10,400,686	\$4,818,074	\$2,383,084	\$2,268,940	\$930,590	\$3,199,529

Description of CIP Changes:

2019 - This project is new to the CIP. I was formerly pulled out of the unallocated amount in the CSO Control Program 260600 of previous CIP version.

2020 - The GLWA CAFR group determined this would not be funded from CIP and subsequently removed it from CIP. This update is to remove it from the CIP as a "cancelled" project.

2020- The request was made to place this project back into the CIP with Sherri Gee as PM. AC

Project Title: Oakwood and Leib CSO Facilities Improvement Project

Project Status: Active - Procurement - Board Approved - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Multiple CSO Facilities

☐ **Project New to CIP**

☐ **Useful Life > 20 Yrs**

☐ **Multiple Phases**

Project Score

79.4

- ☐ **Innovation**
- ☒ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☒ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☒ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**



Oakwood / Leib Cover photo

Project Manager: Scott Worth

Director: Chris Nastally

Managing Dept.: CSO

Date Original Business Case Prepared: 7/20/2020

Year Project Added to CIP: 2020

CIP Budget: Wastewater

Project Jurisdiction: City of Detroit

Lookup Location: Oakwood/Leib

Funds and Cost Center: Wastewater - 5421-892211

☐ **From Program?**

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ **Is a Predecessor Project?**

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Oakwood and Leib CSO Facilities Improvement Project

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 failure modes). The Oakwood Facility Construction was completed in 2012. Over the last 8 years, the facility has also been under utilized. A proposed plan for an Oakwood-Northwest diversion to Oakwood coupled with a facility assessment require improvements to ensure the facility is prepared to handle flows beyond those historically observed over the last 8+ years.

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 station will be replaced with a mechanically raked bar screen to reduce pump failures (currently the manual screens blind and build up head in the storm well until they are manually cleaned, causing issues with bearing submersion of the storm pumps). The disinfection system will receive improvements to the chemical delivery system to increase reliability and improve automatic operation. The storage tanks will be retrofitted with manway accesses. The sampling system will be improved to allow operators flexibility for sampling at different levels to ensure TRC is adequate prior to discharge. The screening system will receive improvements to the solids handling conveyor, compactor, and grinder systems. Actuated gates will receive new actuator and automation improvements. The Basin drain system will be improved to address clogging of the smaller pipes. Various improvements for maintenance include relocating valves or equipment to areas where they can be accessed adding outlets to facilitate use of electrical equipment. Instrumentation for measuring flow and level will be replaced and programming in SCADA made to simplify automatic operation. The system operational schema will be revised to handle the new flow source. Site drainage issues will be resolved to improve the flow of rain water away from the facility buildings.

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 allow for proper testing needed when the NWI diversion is completed.

Primary Driver: 1 - Condition

Driver Explanation:

The chemical system is difficult to operate and maintain. In many instances only a few pumps are in service (since the facility has been under utilized, this hasn't been an issue). The supporting system of the chemical pumps is near the end of it's 20-year design life and requires replacement. The screens are difficult to operate and there have been innovations in the screen industry since these were installed that will allow better operation & maintenance. (Oakwood driver is O&M) Many issues observed during the CS-299 Condition Assessment project are to resolve operational and maintenance issues (such as cleaning screens, having chemical pumps that operate in automatic, or access to equipment to facilitate maintenance).

Project Title: Oakwood and Leib CSO Facilities Improvement Project

Scoring

Project Manager Weighted Score: 79.4			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining	
Performance (Service Level/Reliability)	4	A. Expected performance failures under normal conditions	
Regulatory (Environmental/Legal)	3	A. Moderate risk of causing	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	
Public Benefit	5	A. Project is key part of a strategic plan* for GLWA or politically driven	
Financial	4	A. Project will generate significant increased revenue/savings	
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings	

Review Committee Weighted Score: 79.4		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	5	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	4	Scores carried over from previous year

Project Title: Oakwood and Leib CSO Facilities Improvement Project

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 9/6/2022**Phase Status:** Project Execution**End Date:** 4/13/2029

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$187	\$19	\$19	\$17	\$26	\$26	\$26	\$26	\$26	\$131	\$21

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary (NEW to CIP 2023)	9/6/2022	4/13/2029
Capital Delivery Salary (NEW to CIP 2023)	9/6/2022	4/13/2029

Project Title: Oakwood and Leib CSO Facilities Improvement Project

Phase: Professional Services**Phase Title:** Professional Services - CS-166 Task B.08 - PMA

Phase Budget: Wastewater**Start Date:** 7/1/2021**Phase Status:** Project Execution**End Date:** 6/30/2022

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** PMA**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** PMA

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Professional Services	\$51	\$51	\$51	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-166)	7/1/2021	6/30/2022

Project Title: Oakwood and Leib CSO Facilities Improvement Project

Phase: Design/Engineering (NEW to CIP 2023)

Phase Title: Design / Construction Assistance - 2101475 - CDM

Phase Budget:	Wastewater	Start Date:	9/6/2022
Phase Status:	Active - Procurement - Board Approved	End Date:	4/13/2029

Phase Comments/Description:

Cost Est. Class: Class 1	Cost Est. Source: CDM
Cost Est. Date: 8/15/2022	Cost Est. Prepared By: CDM

Phase Total Expenses By FY (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

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering (NEW to CIP 2023)	\$7,333	\$0	\$0	\$1,493	\$2,259	\$1,352	\$531	\$609	\$611	\$5,361	\$479

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering (NEW to CIP 2023)	9/6/2022	4/13/2029

Project Title: Oakwood and Leib CSO Facilities Improvement Project

Phase: Construction**Phase Title:** Construction - TBD

Phase Budget: Wastewater**Start Date:** 8/17/2025**Phase Status:** Future Planned Start**End Date:** 4/13/2029

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** WWE**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** WWE

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction	\$9,000	\$0	\$0	\$0	\$0	\$2,142	\$2,459	\$2,466	\$7,067	\$1,933

Phase Dates

Activity Name	Start Date	End Date
Construction (NEW to CIP 2023)	8/17/2025	4/13/2029

Project Title: Oakwood and Leib CSO Facilities Improvement Project

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2023	\$11,280	\$0	\$1,250	\$1,300	\$1,250	\$3,630	\$3,849	\$3,849	\$17,004

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$16,571,756	\$69,908	\$1,510,986	\$2,284,906	\$1,377,634	\$2,698,972	\$3,094,020	\$3,102,497	\$12,558,030	\$2,432,832

Description of CIP Changes:

2020-07 - New to CIP (project was previously included under the "unallocated" portion of the CSO Program 260600 in 2019 CIP Update. It was in unallocated because the scope of the work wasn't known but is now better defined mid-CS-299 completion.

5-5-2021-Projects reclassified to project 270004 from 274001 and 278001 per PM requests. PM will update during the annual update process. AC

6/23/2021 - project updated.

2022 - Updated

Project Title: CSO Facility Safety Improvements and Building Rehabilitation**Project Status:** Reclassified**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** CSO Facilities**Class Lvl 3:** Multiple CSO Facilities☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****0**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Ariadna Risher**Director:** Chris Nastally**Managing Dept.:** CSO**Date Original Business Case Prepared:**
4/15/2021**Year Project Added to CIP:** 2021**CIP Budget:** Wastewater**Project Jurisdiction:** Wayne County - Outside Detroit**Lookup Location:** Various CSO Facilities**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** Other (Design In-house and Bid Out for Construction)**Delivery Method Details:** N/A☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: CSO Facility Safety Improvements and Building Rehabilitation

Problem Statement:

Project was reclassified with 270006.

A safety inspection of GLWA's nine CSO facilities was conducted under CS-299. A list of safety-related issues and corrective actions was generated. Most of the issues are related to the lack of proper fall protection around the numerous hatch openings at each facility. An assessment of building-related issues was also conducted under CS-299. These include damaged sealant around doors, windows, other wall penetrations, control/expansion joints; corrosion of hardware on doors and structural steel surfaces, bollards, roof deck/framing together with damaged/stained tiles; water intrusion; and paint debonding at localized areas.

Scope of Work/Project Alternatives:

This project provides proper fall protection and address fall/trip hazards for all the nine CSO facilities with the addition of features such as temporary railings, nets, chains, portable davit and ladders with retractable safety posts. It also addresses various building/architectural issues with doors, windows, room finishes, floors and ceiling coating systems, stairways, and corrosion of visible steel members for all nine CSO facilities. The goal of this rehabilitation is to prevent the issues from becoming significantly worse in the future. This project also includes installation of security fencing at Seven Mile CSO Facility. In addition, access doors to the Headworks will be provided at Seven Mile CSO Facility to provide emergency access.

Other Important Info:

The building rehabilitation work is bring combined with the safety issues because of the similarity of the design disciplines and the similar nature of construction work.

Primary Driver: Public Health and Safety

Primary Driver: 5 - Public Health and Safety

Driver Explanation:

Fall protection will be provided at all of the facilities, where needed

Project Title: CSO Facility Safety Improvements and Building Rehabilitation

Scoring

Project Manager Weighted Score: 0			
Criteria Name	Score	Score Criteria	Comment
Condition	0		
Performance (Service Level/Reliability)	0		
Regulatory (Environmental/Legal)	0		
Operations and Maintenance	0		
Health and Safety	0		
Public Benefit	0		
Financial	0		
Efficiency and Innovation	0		

Review Committee Weighted Score: 0		
Criteria Name	Score	Comment
Condition	0	
Performance (Service Level/Reliability)	0	
Regulatory (Environmental/Legal)	0	
Operations and Maintenance	0	
Health and Safety	0	
Public Benefit	0	
Financial	0	
Efficiency and Innovation	0	

Project Title: CSO Facility Safety Improvements and Building Rehabilitation

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 2/15/2023**Phase Status:** Cancelled**End Date:** 7/11/2028

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	2/15/2023	7/11/2028
Capital Delivery Salary	2/15/2023	7/11/2028

Project Title: CSO Facility Safety Improvements and Building Rehabilitation

Phase: Professional Services (CS-166)**Phase Title:** Professional Services - PMA - CS-166 Task B.07.01

Phase Budget: Wastewater**Start Date:** 2/1/2022**Phase Status:** Closed Out**End Date:** 5/19/2023

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** PMA**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** PMA

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services (CS-166)	\$41	\$41	\$41	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-166)	2/1/2022	5/19/2023

Project Title: CSO Facility Safety Improvements and Building Rehabilitation

Phase: Professional Services (CS-272)**Phase Title:** Cancel this phase

Phase Budget: Wastewater**Start Date:** 5/1/2022**Phase Status:** Cancelled**End Date:** 6/30/2022

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** AECOM**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services (CS-272)	(\$41)	(\$41)	(\$41)	\$0

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272)	5/1/2022	6/30/2022

Project Title: CSO Facility Safety Improvements and Building Rehabilitation**Phase:** Design/Engineering**Phase Title:** Design/Engineering**Phase Budget:** Wastewater**Start Date:** 2/15/2023**Phase Status:** Cancelled**End Date:** 7/11/2028**Phase Comments/Description:****Cost Est. Class:** Class 5**Cost Est. Source:** WWE**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** WWE**Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	2/15/2023	7/11/2028

Project Title: CSO Facility Safety Improvements and Building Rehabilitation

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 7/1/2021

Phase Status: Cancelled

End Date: 7/11/2028

Phase Comments/Description:

Cost Est. Class: Class 5

Cost Est. Source: WWE

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: WWE

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	2/15/2025	7/11/2028
Construction - Equipment/Material Purchase	7/1/2021	7/31/2021

Project Title: CSO Facility Safety Improvements and Building Rehabilitation

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY23	FY24	FY25	FY26	FY27	FY28	Total
2023	\$4,627	\$122	\$356	\$300	\$1,430	\$2,420	\$1,760	\$6,481

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Description of CIP Changes:

New CIP added to FY 2023-2027 Plan. AC 7/16/21

2022 - Project was reclassified into 270006.

Project Title: CSO Facilities Improvements II

Project Status: Active - Procurement - Design

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Multiple CSO Facilities

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

61

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☒ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☒ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment



Project Manager: Ariadna Risher

Director: Chris Nastally

Managing Dept.: CSO

Date Original Business Case Prepared:
7/6/2021

Year Project Added to CIP: 2021

CIP Budget: Wastewater

Project Jurisdiction: Wayne County - Outside Detroit

Lookup Location: Various CSO Facilities

Funds and Cost Center: Wastewater - 5421-892211

☐ From Program?

Program Number:

Delivery Method: DBB (Design-Bid-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: CSO Facilities Improvements II

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 facility to improve operational efficiency during CSO events. Also at Belle Isle, there is a need for process cameras and above-ground local control of valves in the basin valve vaults to improve worker safety.

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, remote control operation of Belle Isle from Conner Creek Facility will be provided to improve operational efficiency during CSO events. In addition, at Belle Isle, remote control for valves will be provided with the control above-ground to improve safety.

Other Important Info:

N/A

Primary Driver: 4 - O and M

Driver Explanation:

Most of the upgrades will improve O&M capabilities and safety. The control system upgrade is required to maintain system reliability. Additional lighting will improve working conditions in confined spaces.

Project Title: CSO Facilities Improvements II

Scoring

Project Manager Weighted Score: 79.3			
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life, D. Immediate replacement or rehabilitation required, C. High risk of breakdown or imminent failure with serious impact on performance, B. Excessive maint. levels for the equipment/process area	The chemical feed equipment at St. Aubin is at extinction. The architectural features of buildings that need repair will lead to future building failures that may jeopardize equipment. Sealants around doors are beyond their life and require replacement to ensure weather tightness, sealant around windows, at block walls and wall control joints. Failure to maintain these architectural features correctly can result in larger issues for the building and could have cascading effects.
Performance (Service Level/Reliability)	4	E. Not doing the project frequent and repetitive service interruption and/or reliability issues†, B. High risk of performance failure; doesn't meet future requirements, A. Expected performance failures under normal conditions	The chemical feed system at St. Aubin has many leaks, and the pumps are costing significant amounts in maintenance to keep in service because the manufacturer wants to sunset the pulsafeed pumps that service the chemical feed system. The screen system also has difficulty keeping the screens clean during an event causing the system to sometimes trip out during normal conditions.
Regulatory (Environmental/Legal)	4	E. Reg compliance failure moderate fines, enforcement actions, environmental impact, C. Canceling project risk of non-compliance in near term; potential permit violations; regulatory scrutiny; sig. measurable negative environmental impact to wide area	HVAC Systems at St. Aubin do not meet current codes for NFPA. The screen system is frequently overtopped because of inadequate whipping which is not in compliance with our Permit.

Project Title: CSO Facilities Improvements II

Operations and Maintenance	4	F. Measurable reduction (50% - 74%) in reactive maintenance, D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues, A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	The screening and chemical feed systems at St. Aubin have high levels of maintenance to keep them in service. Hatch covers/spring loaded hinges at the facilities are at the end of service life. This requires maintenance to ensure the hatches open safely with the assistance of the spring-loaded hinges. Failure to address building envelop issues will lead to high levels of maintenance for other equipment or related systems and/or could have cascading effects.
Health and Safety	4	B. Project significant positive impact on staff/public H&S; Likely to address significant hazard issues or concerns	Many locations through the CSO Facilities contain hatches that do not meet current safety standards and staff could potentially fall into them when opening the hatch doors. Ladders do not meet OSHA standards. Railings and other safety features around roof hatches are needed for safe entry/exit. At Leib, hatches have heavy metal plates over them instead of spring-loaded hinges for ease of opening. Eye wash stations at some locations require replacement to ensure proper operation.
Public Benefit	4	E. Canceling project chance to have major negative public impact, D. Significant, noticeable impact on the public & GLWA image; seen as achievement for GLWA/communities/regions served	Not completing this project would mean GLWA is not maintaining our facilities properly and in some cases we could have workplace injuries, and in other cases we could have system failures resulting in pollution to the environment.

Project Title: CSO Facilities Improvements II

Financial	4	A. Project will generate significant increased revenue/savings, B. Project will likely result in avoidance of fines, potential litigation, emergency repairs or damage to asset/public	Failure of chemical feed and/or screening systems will result in fines for environmental pollution and failure to meet our permit. Safety improvements will reduce risk of workplace injury and keep potential workman's compensation claims lower. Maintaining the building envelope will protect the assets within the building. Building envelope failures develop over time and are costly. Addressing sealant, window, and door failures now will prevent future more severe issues.
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	No real changes here. We will have a new system, but it is difficult to discern if it will save money over the current system. The project is being driven by regulatory requirements.

Review Committee Weighted Score: 61		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	3	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	3	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: CSO Facilities Improvements II**Phase:** GLWA Salaries**Phase Title:** GLWA Salaries**Phase Budget:** Wastewater**Start Date:** 2/15/2023**Phase Status:** Project Execution**End Date:** 3/23/2028**Phase Comments/Description:****Cost Est. Class:** Class 2**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group**Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$133	\$10	\$6	\$13	\$24	\$24	\$24	\$24	\$18	\$114	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	2/15/2023	3/23/2028
Capital Delivery Salary	2/15/2023	3/23/2028

Project Title: CSO Facilities Improvements II

Phase: Professional Services (CS-272)**Phase Title:** Study - CS-272 - Tasks 7-2-031.A.02, 7-2-003F.01

Phase Budget: Wastewater **Start Date:** 4/18/2022**Phase Status:** Project Execution **End Date:** 5/19/2023

Phase Comments/Description:AECOM Project management services, and study for the St. Aubin Facility.

Cost Est. Class: Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services (CS-272)	\$130	\$75	\$54	\$76

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272)	4/18/2022	5/19/2023

Project Title: CSO Facilities Improvements II**Phase:** Professional Services (CS-166)**Phase Title:** Professional Services (CS-166)**Phase Budget:** Wastewater**Start Date:** 12/15/2021**Phase Status:****End Date:** 12/14/2022**Phase Comments/Description:****Cost Est. Class:****Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:****Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services (CS-166)	\$45	\$0	\$0	\$45

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-166 - Task B.01)	12/15/2021	12/14/2022

Project Title: CSO Facilities Improvements II

Phase: Design/Engineering

Phase Title: Design/Engineering

Phase Budget: Wastewater

Start Date: 2/15/2023

Phase Status: Active - Procurement

End Date: 3/23/2028

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: PMA

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: PMA

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$5,177	\$0	\$0	\$540	\$1,453	\$1,032	\$153	\$777	\$1,221	\$4,637	\$0

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	2/15/2023	3/23/2028

Project Title: CSO Facilities Improvements II

Phase: Construction

Phase Title: Construction

Phase Budget: Wastewater

Start Date: 7/1/2021

Phase Status: Future Planned Start

End Date: 3/23/2028

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: WWE

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: WWE

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Construction	\$11,598	\$0	\$0	\$0	\$0	\$0	\$4,512	\$7,086	\$11,598	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	1/12/2027	3/23/2028
Construction - Equipment/Material Purchase	7/1/2021	7/31/2021

Project Title: CSO Facilities Improvements II

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY23	FY24	FY25	FY26	FY27	FY28	Total
2023	\$1,351	\$93	\$134	\$134	\$496	\$496	\$496	\$1,916

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$17,083,260	\$60,163	\$673,964	\$1,477,523	\$1,055,910	\$177,391	\$5,313,398	\$8,324,911	\$16,349,133	\$0

Description of CIP Changes:

New CIP was added to Portal on 7/16/2021. AC

Project was consolidated with 260617, and 270005.

Project Title: Disinfection System Improvements at Baby Creek, Belle Isle, Conner Creek, and Puritan Fenkell CSO Facilities**Project Status:** Future Planned - Within Five Year Plan**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** CSO Facilities**Class Lvl 3:** Multiple CSO Facilities☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****57**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Kashmira Patel**Director:** Chris Nastally**Managing Dept.:** CSO**Date Original Business Case Prepared:**
7/19/2021**Year Project Added to CIP:** 2021**CIP Budget:** Wastewater**Project Jurisdiction:** Multiple Counties**Lookup Location:** Wayne**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Disinfection System Improvements at Baby Creek, Belle Isle, Conner Creek, and Puritan Fenkell CSO Facilities

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:

None

Primary Driver: 4 - O and M

Driver Explanation:

Most of the improvements are O&M related, with a regulatory component. Effluent permit conditions are typically met at these facilities; however, chemical feed system improvements should allow the system to better control hypochlorite feed rates, thus improving ability to meet effluent total residual chlorine (TRC) goals set by EGLE, and possibly avoid addition of dechlorination.

Project Title: Disinfection System Improvements at Baby Creek, Belle Isle, Conner Creek, and Puritan Fenkell CSO Facilities

Scoring

Project Manager Weighted Score: 59.3			
Criteria Name	Score	Score Criteria	Comment
Condition	3	C. May have minor failures or diminished efficiency; some performance deterioration	Based on CS-299 conditional assessment scoring for affected assets.
Performance (Service Level/Reliability)	3	E. Canceling project potential for service/reliability issues† a few times/yr	Canceling this project would result in chemical feed systems that would be near the end of their useful life and not reliable for current flows.
Regulatory (Environmental/Legal)	3	B. Project will have a moderate positive impact on reg. issues	Chemical feed system improvements should provide an improved ability to meet effluent TRC goals.
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	Chemical feed system improvements and the other improvements in these projects should alleviate most ongoing O&M issues.
Health and Safety	2	B. Project limited positive impact on staff/public H&S†; No major staff or hazard issues or concerns addressed	The project has limited positive impact on staff/public H&S (ladder and railing system at Belle Isle odor control system should eliminate safety issues with replacement of carbon).
Public Benefit	1	C. Minimal/no impact on public/GLWA image & relationships	The project has no measurable public benefit.
Financial	5	A. Prevent higher cost projects; Substantial increase in revenue or savings; New customer acquisition for GLWA	Based on the total project cost of the project.
Efficiency and Innovation	2	A. Project improves O&M/other process efficiencies	

Project Title: Disinfection System Improvements at Baby Creek, Belle Isle, Conner Creek, and Puritan Fenkell CSO Facilities

Review Committee Weighted Score: 57		
Criteria Name	Score	Comment
Condition	1	Scores carried over from previous year
Performance (Service Level/Reliability)	2	Scores carried over from previous year
Regulatory (Environmental/Legal)	3	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	2	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	5	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: Disinfection System Improvements at Baby Creek, Belle Isle, Conner Creek, and Puritan Fenkell CSO Facilities

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 4/24/2025

Phase Status: Future Planned Start

End Date: 4/27/2032

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$75	\$0	\$0	\$0	\$2	\$11	\$11	\$11	\$34	\$41

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	4/24/2025	4/27/2032
Capital Delivery Salary	4/24/2025	4/27/2032

Project Title: Disinfection System Improvements at Baby Creek, Belle Isle, Conner Creek, and Puritan Fenkell CSO Facilities

Phase: Design/Engineering

Phase Title: Design/Engineering - TBD

Phase Budget: Wastewater

Start Date: 4/24/2025

Phase Status: Future Planned Start

End Date: 4/27/2032

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$4,323	\$0	\$0	\$0	\$199	\$1,071	\$1,071	\$1,074	\$3,415	\$909

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/24/2025	4/27/2032

Project Title: Disinfection System Improvements at Baby Creek, Belle Isle, Conner Creek, and Puritan Fenkell CSO Facilities

Phase: Construction

Phase Title: Construction - TBD

Phase Budget: Wastewater

Start Date: 7/1/2021

Phase Status: Future Planned Start

End Date: 4/27/2032

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY28	5 Year Total	FY29-33
Construction	\$3,893	\$0	\$0	\$0	\$0	\$0	\$3,893

Phase Dates

Activity Name	Start Date	End Date
Construction	10/26/2029	4/27/2032
Construction - Equipment/Material Purchase	7/1/2021	7/31/2021

Project Title: Disinfection System Improvements at Baby Creek, Belle Isle, Conner Creek, and Puritan Fenkell CSO Facilities

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY25	FY26	FY27	FY28	Total
2023	\$3,350	\$335	\$1,508	\$1,508	\$584	\$8,217

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Total Costs	Prior FYs	FY23	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$8,290,855	\$285	\$0	\$201,459	\$1,081,361	\$1,081,361	\$1,084,323	\$3,448,503	\$4,842,067

Description of CIP Changes:

New CIP added to Portal 7/16/21. AC
Scoring updated -07/2022.

Project Title: Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities**Project Status:** Future Planned - Within Five Year Plan**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** CSO Facilities**Class Lvl 3:** Multiple CSO Facilities☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****74.4**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** TBD**Director:** Chris Nastally**Managing Dept.:** CSO**Date Original Business Case Prepared:**
7/6/2021**Year Project Added to CIP:** 2021**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** Various CSO Facilities**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities

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 flush that uses CSO water). This consumes a significant amount of potable water, which is both costly and time-consuming.

At St. Aubin, solids accumulate in the effluent conduit, as well as the chemical mixing channels, and the removal and cleaning of these settled solids is costly and involve safety issues.

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 flushing system to allow for routine and automatic flushing of accumulated solids.

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.

Primary Driver: 4 - O and M

Driver Explanation:

This project will improve the ability to remove solids from the Conner Creek influent area and St. Aubin effluent conduit, thus reducing GLWA staff time inside these areas. The use of river water instead of potable water was found to be a benefit in the CS-299 Facilities Assessment.

Project Title: Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities

Scoring

Project Manager Weighted Score: 73.5			
Criteria Name	Score	Score Criteria	Comment
Condition	1	A. Asset has >75% of its design service life remaining	
Performance (Service Level/Reliability)	3	A. Generally meets design needs; moderate risk of perf. failure	
Regulatory (Environmental/Legal)	2	A. Low risk of causing	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	
Financial	5	A. Prevent higher cost projects; Substantial increase in revenue or savings; New customer acquisition for GLWA	
Efficiency and Innovation	3	A. Project attempts to right-size system; small operational efficiencies and increasing revenue/savings	

Review Committee Weighted Score: 74.4		
Criteria Name	Score	Comment
Condition	3	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	5	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 4/25/2025**Phase Status:** Future Planned Start**End Date:** 4/28/2032

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2021**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$64	\$0	\$0	\$0	\$2	\$9	\$9	\$9	\$29	\$35

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	4/25/2025	4/28/2032
Capital Delivery Salary	4/25/2025	4/28/2032

Project Title: Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities

Phase: Design/Engineering

Phase Title: Design/Engineering / Construction Assistance - TBD

Phase Budget: Wastewater **Start Date:** 4/25/2025

Phase Status: Future Planned Start **End Date:** 4/28/2032

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$1,401	\$0	\$0	\$0	\$0	\$58	\$315	\$315	\$154	\$841	\$561

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/25/2025	4/28/2032

Project Title: Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities

Phase: Construction**Phase Title:** Construction - TBD

Phase Budget: Wastewater**Start Date:** 7/1/2021**Phase Status:** Future Planned Start**End Date:** 4/28/2032

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** Jacobs**Cost Est. Date:** 7/18/2021**Cost Est. Prepared By:** Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY27	FY28	5 Year Total	FY29-33
Construction	\$5,605	\$0	\$0	\$0	\$0	\$0	\$0	\$5,605

Phase Dates

Activity Name	Start Date	End Date
Construction	10/27/2028	4/28/2032
Construction - Equipment/Material Purchase	7/1/2021	7/31/2021

Project Title: Flushing System Improvements at Conner Creek and St. Aubin CSO Facilities

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY24	FY25	FY26	FY27	FY28	Total
2023	\$704	\$0	\$151	\$268	\$285	\$138	\$7,006

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$7,070,077	\$0	\$0	\$0	\$59,448	\$323,859	\$323,859	\$162,604	\$869,772	\$6,200,305

Description of CIP Changes:

New CIP added 7/16/21. AC

Project Title: Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities**Project Status:** Future Planned - Within Five Year Plan**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** CSO Facilities**Class Lvl 3:** Multiple CSO Facilities☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****54.6**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Kashmira Patel**Director:** Chris Nastally**Managing Dept.:** CSO**Date Original Business Case Prepared:**
7/19/2021**Year Project Added to CIP:** 2021**CIP Budget:** Wastewater**Project Jurisdiction:** Multiple Counties**Lookup Location:** Wayne**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities

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 concrete surface at the northwest corner of the St. Aubin CSO facility has cracked due to settlement, causing runoff to flow back toward the building.

At Belle Isle, the sodium hypochlorite tanker trucks have difficulty maneuvering next to the site for chemical deliveries. Also, there are safety issues with water ponding near the entrance gate and on the basin surface.

At Baby Creek, the stop logs are stored outside. This damages the stop log rubber seals due to exposure to sunlight.

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

Primary Driver: 4 - O and M

Driver Explanation:

Most of the improvements are O&M and safety related. CS-299 Facilities Assessment performed a best value alternatives evaluation and recommended these projects based on best value.

Project Title: Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities

Scoring

Project Manager Weighted Score: 56.7			
Criteria Name	Score	Score Criteria	Comment
Condition	3	D. Moderate renewal or rehab needed in short term	Based on average CS-299 condition assessment scores in 2020 for affected assets.
Performance (Service Level/Reliability)	2	C. Project moderate to low positive impact on service levels and/or system reliability	The project will have a moderate to low positive impact on service levels and/or system reliability.
Regulatory (Environmental/Legal)	2	B. Project will have a moderate to low impact on reg. issues	The project will have a moderate to low impact on regulatory issues.
Operations and Maintenance	3	C. Project moderate positive impact on O&M; alleviate some ongoing O&M issues	Site improvements will have a moderate positive impact on O&M.
Health and Safety	3	B. Project moderate positive impact on staff/public H&S†	The project will have a moderate positive impact on staff H&S.
Public Benefit	1	C. Minimal/no impact on public/GLWA image & relationships	The project will have no measurable public benefit.
Financial	4	B. Project will likely result in avoidance of fines, potential litigation, emergency repairs or damage to asset/public	Based on the total project cost of the project.
Efficiency and Innovation	1	B. Low impact on business process optimization; no time/cost saving	The project will have low impact on business process optimization; no time/cost saving.

Review Committee Weighted Score: 54.6		
Criteria Name	Score	Comment
Condition	1	Scores carried over from previous year
Performance (Service Level/Reliability)	2	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	2	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 4/21/2027

Phase Status: Future Planned Start

End Date: 12/24/2032

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$12	\$0	\$0	\$0	\$0	\$2	\$3	\$10

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	4/21/2027	12/24/2032
Capital Delivery Salary	4/21/2027	12/24/2032

Project Title: Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities

Phase: Design/Engineering**Phase Title:** Design/Engineering / Construction Assistance - TBD

Phase Budget: Wastewater**Start Date:** 4/21/2027**Phase Status:** Future Planned Start**End Date:** 12/24/2032

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** Jacobs**Cost Est. Date:** 7/18/2021**Cost Est. Prepared By:** Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$276	\$0	\$0	\$0	\$15	\$76	\$91	\$184

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/21/2027	12/24/2032

Project Title: Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities

Phase: Construction**Phase Title:** Construction - TBD

Phase Budget: Wastewater**Start Date:** 4/23/2030**Phase Status:** Future Planned Start**End Date:** 12/24/2032

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** Jacobs**Cost Est. Date:** 7/18/2021**Cost Est. Prepared By:** Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY29-33
Construction	\$1,102	\$0	\$0	\$0	\$1,102

Phase Dates

Activity Name	Start Date	End Date
Construction	4/23/2030	12/24/2032

Project Title: Site Improvements at St. Aubin, Belle Isle, and Baby Creek CSO Facilities

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY27	FY28	Total
2023	\$37	\$37	\$67	\$1,378

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Total Costs	Prior FYs	FY23	FY27	FY28	5 Year Total	FY29-33
\$1,389,999	\$0	\$0	\$15,228	\$78,497	\$93,724	\$1,296,275

Description of CIP Changes:

New CIP added to Portal on 7/16/21 AC
Scoring updated - 07/2022.

Project Title: HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities**Project Status:** Future Planned - Within Five Year Plan**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** CSO Facilities**Class Lvl 3:** Multiple CSO Facilities☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****57.8**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Brooke Ballard**Director:** Chris Nastally**Managing Dept.:** CSO**Date Original Business Case Prepared:**
4/15/2021**Year Project Added to CIP:** 2021**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** Various CSO Facilities**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities

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

Primary Driver: 4 - O and M

Driver Explanation:

Most of the improvements are O&M related (replacing aging equipment), with a safety component. The safety-related improvements include providing the proper frequency of air changes and installation of combustible gas detection with audible and visible alarms at all entrances and within the space of the respective areas.

Project Title: HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Scoring

Project Manager Weighted Score: 73.2			
Criteria Name	Score	Score Criteria	Comment
Condition	4	A. Asset has <25% of its design service life remaining, B. Equipment/process functions but requires high level of maintenance to remain operational	Based on average CS-299 condition assessment scores in 2020 and a review of work order history
Performance (Service Level/Reliability)	2	C. Project moderate to low positive impact on service levels and/or system reliability, F. Improvements impact 1 wholesale/1,000 retail customers	Project has moderate to low positive impact on service levels and/or system reliability
Regulatory (Environmental/Legal)	2	B. Project will have a moderate to low impact on reg. issues	Project will have a moderate to low impact on regulatory issues.
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	HVAC improvement should alleviate most ongoing O&M issues
Health and Safety	4	B. Project significant positive impact on staff/public H&S+; Likely to address significant hazard issues or concerns	Project will have significant positive impact on staff H&S with improved ventilation.
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	Project has low or no measurable public benefit
Financial	4	F. Total financial consequence of \$1,000,000 - \$5,000,000	Based on total cost of project
Efficiency and Innovation	1	B. Low impact on business process optimization; no time/cost saving	Project will have low impact on business process optimization; no time/ cost saving

Review Committee Weighted Score: 57.8		
Criteria Name	Score	Comment
Condition	3	Scores carried over from previous year
Performance (Service Level/Reliability)	2	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	2	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 4/25/2024

Phase Status: Future Planned Start

End Date: 12/28/2029

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$14	\$0	\$0	\$0	\$0	\$2	\$2	\$2	\$2	\$10	\$4

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	4/25/2024	12/28/2029
Capital Delivery Salary	4/25/2024	12/28/2029

Project Title: HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Phase: Design/Engineering

Phase Title: Design/Engineering / Construction Assistance - TBD

Phase Budget: Wastewater

Start Date: 4/25/2024

Phase Status: Future Planned Start

End Date: 12/28/2029

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$302	\$0	\$0	\$0	\$15	\$83	\$82	\$8	\$45	\$234	\$67

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/25/2024	12/28/2029

Project Title: HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Phase: Construction**Phase Title:** Construction - TBD

Phase Budget: Wastewater**Start Date:** 7/1/2021**Phase Status:** Future Planned Start**End Date:** 12/28/2029

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** Jacobs**Cost Est. Date:** 7/18/2021**Cost Est. Prepared By:** Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY26	FY27	FY28	5 Year Total	FY29-33
Construction	\$1,207	\$0	\$0	\$0	\$0	\$80	\$452	\$532	\$674

Phase Dates

Activity Name	Start Date	End Date
Construction	4/27/2027	12/28/2029
Construction - Equipment/Material Purchase	7/1/2021	7/31/2021

Project Title: HVAC Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY24	FY25	FY26	FY27	FY28	Total
2023	\$476	\$40	\$70	\$70	\$294	\$500	\$1,509

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$1,522,279	\$0	\$0	\$15,754	\$85,824	\$84,682	\$90,734	\$499,752	\$776,747	\$745,532

Description of CIP Changes:

New CIP added to Portal 7/16/21 AC

Project Score Updates 7/11/2022 BB

Project Title: HVAC Improvements at Conner Creek and Belle Isle CSO Facilities**Project Status:** Future Planned - Ten Year CIP**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** CSO Facilities**Class Lvl 3:** Multiple CSO Facilities☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****70.5**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Kashmira Patel**Director:** Chris Nastally**Managing Dept.:** CSO**Date Original Business Case Prepared:**
7/19/2021**Year Project Added to CIP:** 2021**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** Detroit**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: HVAC Improvements at Conner Creek and Belle Isle CSO Facilities

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 Chemical Room AHU. It also includes enclosure of ductwork in the Maintenance Shop to meet NFPA-820; and installation of showers in the men's and women's restroom.

Other Important Info:

None

Primary Driver: 4 - O and M

Driver Explanation:

Most of the improvements are O&M and safety related. The HVAC improvements will improve worker safety and achieve code compliance.

Project Title: HVAC Improvements at Conner Creek and Belle Isle CSO Facilities

Scoring

Project Manager Weighted Score: 71.8			
Criteria Name	Score	Score Criteria	Comment
Condition	3	C. May have minor failures or diminished efficiency; some performance deterioration, D. Moderate renewal or rehab needed in short term	Based on average CS-299 condition assessment scores in 2020 for affected assets.
Performance (Service Level/Reliability)	2	C. Project moderate to low positive impact on service levels and/or system reliability	The project will have a moderate to low positive impact on service levels and/or system reliability.
Regulatory (Environmental/Legal)	2	B. Project will have a moderate to low impact on reg. issues	The project will have a moderate to low impact on regulatory issues.
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	HVAC improvements under this project will alleviate most ongoing O&M issues.
Health and Safety	4	B. Project significant positive impact on staff/public H&S+; Likely to address significant hazard issues or concerns	The project will have a significant positive impact on staff H&S with improved ventilation.
Public Benefit	1	C. Minimal/no impact on public/GLWA image & relationships	The project has no measurable public benefit.
Financial	3	D. Canceling project moderate financial consequences (revenue loss, repair/restoration, downtime, fines, litigation)	Based on the total project cost of the project.
Efficiency and Innovation	1	B. Low impact on business process optimization; no time/cost saving	Low impact on business process optimization; no time/cost saving

Review Committee Weighted Score: 70.5		
Criteria Name	Score	Comment
Condition	2	Scores carried over from previous year
Performance (Service Level/Reliability)	2	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	3	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: HVAC Improvements at Conner Creek and Belle Isle CSO Facilities

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 4/23/2031**Phase Status:** Future Planned Start**End Date:** 4/26/2034

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY29-33
GLWA Salaries	\$4	\$0	\$0	\$0	\$3

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	4/23/2031	4/26/2034
Capital Delivery Salary	4/23/2031	4/26/2034

Project Title: HVAC Improvements at Conner Creek and Belle Isle CSO Facilities

Phase: Design/Engineering**Phase Title:** Design/Engineering / Construction Assistance - TBD

Phase Budget: Wastewater **Start Date:** 4/23/2031**Phase Status:** Future Planned Start **End Date:** 4/26/2034

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** Jacobs**Cost Est. Date:** 7/18/2021**Cost Est. Prepared By:** Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY29-33
Design/Engineering	\$107	\$0	\$0	\$0	\$89

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/23/2031	4/26/2034

Project Title: HVAC Improvements at Conner Creek and Belle Isle CSO Facilities

Phase: Construction**Phase Title:** Construction - TBD

Phase Budget: Wastewater**Start Date:** 12/25/2032**Phase Status:** Future Planned Start**End Date:** 4/26/2034

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** Jacobs**Cost Est. Date:** 7/18/2021**Cost Est. Prepared By:** Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY29-33
Construction	\$307	\$0	\$0	\$0	\$118

Phase Dates

Activity Name	Start Date	End Date
Construction	12/25/2032	4/26/2034

Project Title: HVAC Improvements at Conner Creek and Belle Isle CSO Facilities

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	Total
2023	\$383

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Total Costs	Prior FYs	FY23	FY29-33
\$418,049	\$0	\$0	\$209,489

Description of CIP Changes:

New CIP added to Portal 7/16/2021 AC.

Scoring updated - 07/2022.



Project Title: Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities**Project Status:** Future Planned - Within Five Year Plan**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** CSO Facilities**Class Lvl 3:** Multiple CSO Facilities☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****59**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Brooke Ballard**Director:** Chris Nastally**Managing Dept.:** CSO**Date Original Business Case Prepared:**
7/6/2021**Year Project Added to CIP:** 2021**CIP Budget:** Wastewater**Project Jurisdiction:** Multiple Counties**Lookup Location:** Various CSO Facilities**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** TBD**Partners:****Collaboration Entity:**

Project Title: Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities

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 and monitoring exist at the Seven Mile and St. Aubin facilities.

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 provided 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 installed. At Oakwood, local control stations will be provided for the chemical feed pump to improve operations and chemical tank level indication and process cameras will be provided at Oakwood and Puritan-Fenkell.

Lighting improvements at Seven Mile and St. Aubin, and I&C improvements at St. Aubin are also included in this project. I&C improvements at St. Aubin include providing remote control of flushing and dewatering pumps at the outfall, and for the flushing valve for the influent channel, as well as installation of process cameras.

Other Important Info:

N/a

Primary Driver: 4 - O and M

Driver Explanation:

Most of the upgrades will improve O&M capabilities and safety. The control system upgrade is required to maintain system reliability and additional lighting will improve working conditions in the confined spaces.

Project Title: Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities

Scoring

Project Manager Weighted Score: 73.2			
Criteria Name	Score	Score Criteria	Comment
Condition	2	D. Only minor renewal or rehab may be needed in the near term	Based on average CS-299 condition assessment scores in 2020 for affected assets.
Performance (Service Level/Reliability)	3	E. Canceling project potential for service/reliability issues† a few times/yr	Cancelling project would potentially cause reliability issues.
Regulatory (Environmental/Legal)	2	B. Project will have a moderate to low impact on reg. issues	Project will have a moderate to low impact on regulatory issues
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	Control system improvements should alleviate most ongoing O&M issues
Health and Safety	4	B. Project significant positive impact on staff/public H&S±; Likely to address significant hazard issues or concerns	Project will have significant positive impact on staff H&S with additional lighting and remote control of equipment
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	Project has no measurable public benefit
Financial	5	F. Total financial consequence >\$5,000,000	Based on project cost
Efficiency and Innovation	1	B. Low impact on business process optimization; no time/cost saving	Low impact on business process optimization; no time/ cost savings

Review Committee Weighted Score: 59		
Criteria Name	Score	Comment
Condition	4	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 4/22/2027

Phase Status: Future Planned Start

End Date: 12/24/2032

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$54	\$0	\$0	\$0	\$2	\$9	\$11	\$42

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	4/22/2027	12/24/2032
Capital Delivery Salary	4/22/2027	12/24/2032

Project Title: Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities

Phase: Design/Engineering

Phase Title: Design/Engineering / Construction Assistance - TBD

Phase Budget: Wastewater

Start Date: 4/22/2027

Phase Status: Future Planned Start

End Date: 12/24/2032

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$1,184	\$0	\$0	\$0	\$0	\$63	\$328	\$391	\$794

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/22/2027	12/24/2032

Project Title: Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities

Phase: Construction

Phase Title: Construction - TBD

Phase Budget: Wastewater

Start Date: 7/1/2021

Phase Status: Future Planned Start

End Date: 12/24/2032

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY28	5 Year Total	FY29-33
Construction	\$4,737	\$0	\$0	\$0	\$0	\$0	\$4,737

Phase Dates

Activity Name	Start Date	End Date
Construction	4/24/2030	12/24/2032
Construction - Equipment/Material Purchase	7/1/2021	7/31/2021

Project Title: Control System Upgrades at Conner Creek, Oakwood, and Puritan Fenkell CSO Facilities

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY26	FY27	FY28	Total
2023	\$147	\$0	\$147	\$281	\$5,920

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Total Costs	Prior FYs	FY23	FY26	FY27	FY28	5 Year Total	FY29-33
\$5,974,808	\$0	\$0	\$0	\$64,539	\$337,450	\$401,991	\$5,572,817

Description of CIP Changes:

New CIP added 7/16/21 AC.

Score Updated 7/12/2022 -BB

Project Title: Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities**Project Status:** Future Planned - Ten Year CIP**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** CSO Facilities**Class Lvl 3:** Multiple CSO Facilities☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****56.8**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** TBD**Director:** Chris Nastally**Managing Dept.:** CSO**Date Original Business Case Prepared:**
7/6/2021**Year Project Added to CIP:** 2021**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** Various CSO Facilities**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities

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 wet wells and the removal and installation of effluent stop logs is difficult. The entrance gate to Puritan-Fenkell has recurring maintenance issues which is a security concern. At Seven Mile, the effluent hatch cover plates are heavy and difficult to remove.

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 needed if these two basins are converted to complete capture basins.

Other Important Info:

The stop log and hatch replacement will not be needed if these basins are converted to complete capture.

Primary Driver: 4 - O and M**Driver Explanation:**

Most of the improvements are O&M and safety related. The CS-299 Facilities Assessment performed a best value evaluation of alternatives and recommended these projects based on this evaluation.

Project Title: Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Scoring

Project Manager Weighted Score: 71.9			
Criteria Name	Score	Score Criteria	Comment
Condition	1	A. Asset has >75% of its design service life remaining	
Performance (Service Level/Reliability)	3	A. Generally meets design needs; moderate risk of perf. failure	
Regulatory (Environmental/Legal)	2	A. Low risk of causing	
Operations and Maintenance	4	A. High levels of O/M required to keep in service will only marginally ensure future stable/proper operation	
Health and Safety	4	A. High probability of catastrophic failure and safety/health/env. issues probable within 2-5 years	
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	
Financial	4	A. Project will generate significant increased revenue/savings	
Efficiency and Innovation	1	A. Minimal/no impact on operational efficiencies; energy use (<1% reduction), conservation, environmental responsibility/sustainability; GLWA strategic initiatives* related to efficiency	

Review Committee Weighted Score: 56.8		
Criteria Name	Score	Comment
Condition	1	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 4/21/2028**Phase Status:** Future Planned Start**End Date:** 12/24/2032

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY28	5 Year Total	FY29-33
GLWA Salaries	\$8	\$0	\$0	\$0	\$0	\$0	\$8

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	4/21/2028	12/24/2032
Capital Delivery Salary	4/21/2028	12/24/2032

Project Title: Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Phase: Design/Engineering

Phase Title: Design/Engineering / Construction Assistance - TBD

Phase Budget: Wastewater

Start Date: 4/21/2028

Phase Status: Future Planned Start

End Date: 12/24/2032

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$179	\$0	\$0	\$0	\$0	\$18	\$18	\$161

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/21/2028	12/24/2032

Project Title: Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Phase: Construction**Phase Title:** Construction - TBD

Phase Budget: Wastewater**Start Date:** 7/1/2021**Phase Status:** Future Planned Start**End Date:** 12/24/2032

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** Jacobs**Cost Est. Date:** 7/18/2021**Cost Est. Prepared By:** Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY29-33
Construction	\$715	\$0	\$0	\$0	\$715

Phase Dates

Activity Name	Start Date	End Date
Construction	4/23/2030	12/24/2032
Construction - Equipment/Material Purchase	7/1/2021	7/31/2021

Project Title: Facility Improvements at Puritan Fenkell and Seven Mile CSO Facilities

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY27	FY28	Total
2023	\$0	\$0	\$23	\$894

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Total Costs	Prior FYs	FY23	FY27	FY28	5 Year Total	FY29-33
\$902,132	\$0	\$0	\$0	\$18,178	\$18,178	\$883,954

Description of CIP Changes:

New CIP added to Portal 7/16/21 AC.

Project Title: Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities**Project Status:** Future Planned - Ten Year CIP**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** CSO Facilities**Class Lvl 3:** Multiple CSO Facilities☐ **Project New to CIP**☐ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****72**

- ☒ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Brooke Ballard**Director:** Chris Nastally**Managing Dept.:** CSO**Date Original Business Case Prepared:**
4/15/2021**Year Project Added to CIP:** 2021**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** Various CSO Facilities**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** Yes**Partners:** Municipalities**Collaboration Entity:**

Project Title: Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities

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

Primary Driver: 4 - O and M

Driver Explanation:

Conversion to complete capture would allow for the cost avoidance of operating and maintaining the sodium hypochlorite feed and storage systems, and would eliminate the need for operations labor to be onsite during a storm event. It would also eliminate the risk of permit violations.

Project Title: Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities

Scoring

Project Manager Weighted Score: 73.3			
Criteria Name	Score	Score Criteria	Comment
Condition	2	D. Only minor renewal or rehab may be needed in the near term	Based on average CS-299 condition assessment scores in 2020 for affected assets.
Performance (Service Level/Reliability)	2	C. Project moderate to low positive impact on service levels and/or system reliability	Project moderate to low positive impact on service levels and/ or system reliability
Regulatory (Environmental/Legal)	2	B. Project will have a moderate to low impact on reg. issues	Project will have a moderate to low impact on regulatory issues.
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	Project will have a significant positive impact on O&M and will alleviate most ongoing issues.
Health and Safety	4	B. Project significant positive impact on staff/public H&S+; Likely to address significant hazard issues or concerns	Project will have a significant positive impact on staff H&S
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	Project has little to no measurable public benefit
Financial	5	F. Total financial consequence >\$5,000,000	Based on total cost of project
Efficiency and Innovation	3	A. Project attempts to right-size system; small operational efficiencies and increasing revenue/savings	Project will have a moderate positive impact on savings; process efficiency for a more robust system and less O&M, and time and cost savings.

Review Committee Weighted Score: 72		
Criteria Name	Score	Comment
Condition	1	Scores carried over from previous year
Performance (Service Level/Reliability)	2	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	3	Scores carried over from previous year

Project Title: Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 4/22/2028

Phase Status: Future Planned Start

End Date: 4/25/2035

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY28	5 Year Total	FY29-33
GLWA Salaries	\$40	\$0	\$0	\$0	\$1	\$1	\$29

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	4/22/2028	4/25/2035
Capital Delivery Salary	4/22/2028	4/25/2035

Project Title: Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities

Phase: Design/Engineering

Phase Title: Design/Engineering / Construction Assistance - TBD

Phase Budget: Wastewater **Start Date:** 4/22/2028

Phase Status: Future Planned Start **End Date:** 4/25/2035

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$888	\$0	\$0	\$0	\$0	\$0	\$38	\$38	\$666

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/22/2028	4/25/2035

Project Title: Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities

Phase: Construction

Phase Title: Construction - TBD

Phase Budget: Wastewater

Start Date: 7/1/2021

Phase Status: Future Planned Start

End Date: 4/25/2035

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY29-33
Construction	\$3,554	\$0	\$0	\$0	\$1,710

Phase Dates

Activity Name	Start Date	End Date
Construction	10/24/2031	4/25/2035
Construction - Equipment/Material Purchase	7/1/2021	7/31/2021

Project Title: Conversion to Complete Capture Basin at Puritan Fenkell and Seven Mile CSO Facilities

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY26	FY27	FY28	Total
2023	\$0	\$0	\$0	\$80	\$4,443

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Total Costs	Prior FYs	FY23	FY26	FY27	FY28	5 Year Total	FY29-33
\$4,482,478	\$0	\$0	\$0	\$0	\$39,376	\$39,376	\$2,404,817

Description of CIP Changes:

New CIP added to Portal 7/16/21 AC.
Score updates - 7/11/2022 - BB

Project Title: Hubbell Southfield CSO Facility Improvements**Project Status:** Active - Procurement - Design**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** CSO Facilities**Class Lvl 3:** Hubbell Southfield☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****75.7**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Kashmira Patel**Director:** Chris Nastally**Managing Dept.:** CSO**Date Original Business Case Prepared:**
7/19/2021**Year Project Added to CIP:** 2021**CIP Budget:** Wastewater**Project Jurisdiction:** Oakland County**Lookup Location:** Dearborn**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Hubbell Southfield CSO Facility Improvements

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 heavy grit loads, and the sump pumps in the basin were removed because they were being overwhelmed by solids. The chemical feed pumps are expensive to maintain and there is a lack of automation of the feed system. There is a need to update the control system to the latest version and increase monitoring capabilities. Site issues noted by CS-299 include basin roof drainage issues, the need for resurfacing the service drive around the basin and replacing security fencing.

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 systems between GLWA CSO facilities and automatic chemical feed control, control system replacement and various I&C improvements, additional lighting in the basin and around the site.

Other Important Info:

Additional required repairs were identified in preliminary BODR performed by AECOM under CS272 Task 7-2-030-A.

Primary Driver: 4 - O and M

Driver Explanation:

Most of the improvements are O&M-related, with a regulatory component. The permit requirement to clean the basin after every storm event is not being achieved. The proposed flushing system should alleviate this issue by allowing the basin to be cleaned after every event. The proposed chemical feed system improvements should allow the system to better control hypochlorite feed rates, improving the ability to meet effluent total residual chlorine (TRC) goals set by EGLE, and possibly avoid the addition of Dechlorination.

Project Title: Hubbell Southfield CSO Facility Improvements

Scoring

Project Manager Weighted Score: 79.5			
Criteria Name	Score	Score Criteria	Comment
Condition	5	B. Excessive maint. levels for the equipment/process area	The flushing system does not perform as intended, sludge accumulation happens after every event and becomes a challenge for removal and disposal of it. Also, chemical runs out for most of the back-to-back events and needs an additional chem storage tank for larger or back-to-back events.
Performance (Service Level/Reliability)	4	A. Expected performance failures under normal conditions, B. High risk of performance failure; doesn't meet future requirements	Current flushing performance is unacceptable because it requires manual cleaning after every event. Chem runs out for larger and back-to-back rain events.
Regulatory (Environmental/Legal)	3	B. Project will have a moderate positive impact on reg. issues	Chemical feed system improvements should provide an improved ability to meet effluent TRC goals.
Operations and Maintenance	5	B. Requires constant monitoring/manual operation because it is unable to be run automatically, D. Project major, measurable positive impact on O&M; will completely alleviate ongoing O&M issues	Flushing system and chemical feed system improvements should minimize most ongoing O&M issues.
Health and Safety	4	B. Project significant positive impact on staff/public H&S±; Likely to address significant hazard issues or concerns	The project will have a significant positive impact on staff H&S because operators will not need to routinely enter the basin for flushing.
Public Benefit	1	C. Minimal/no impact on public/GLWA image & relationships	The project has no measurable public benefit
Financial	5	E. Canceling project major/extensive financial consequences from revenue loss, repair/restoration/O&M cost, downtime, fines, damages, litigation etc.; major budget implications requiring deferral or cutbacks in other areas	Based on the total project cost of the project
Efficiency and Innovation	4	B. Project will remove significant operational hurdles/ obstacles for significant equipment/process	This project will improve the flushing and chemical feed system.

Project Title: Hubbell Southfield CSO Facility Improvements

Review Committee Weighted Score: 75.7		
Criteria Name	Score	Comment
Condition	2	Scores carried over from previous year
Performance (Service Level/Reliability)	4	Scores carried over from previous year
Regulatory (Environmental/Legal)	3	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	5	Scores carried over from previous year
Efficiency and Innovation	2	Scores carried over from previous year

Project Title: Hubbell Southfield CSO Facility Improvements

Phase: GLWA Salaries

Phase Title: GLWA Salaries

Phase Budget: Wastewater

Start Date: 6/3/2024

Phase Status: Project Execution

End Date: 7/20/2031

Phase Comments/Description:

Cost Est. Class: Class 1

Cost Est. Source: GLWA CIP Group

Cost Est. Date: 7/18/2022

Cost Est. Prepared By: GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$654	\$13	\$8	\$5	\$7	\$90	\$90	\$90	\$90	\$367	\$274

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	6/3/2024	7/20/2031
Capital Delivery Salary	6/3/2024	7/20/2031

Project Title: Hubbell Southfield CSO Facility Improvements

Phase: Professional Services**Phase Title:** Professional Services - CS-272 Task 72030A.01

Phase Budget: Wastewater**Start Date:** 1/10/2022**Phase Status:** Project Execution**End Date:** 7/1/2022

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 1/11/2022**Cost Est. Prepared By:** AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$417	\$417	\$417	\$1

Phase Dates

Activity Name	Start Date	End Date
Professional Services (CS-272	1/10/2022	7/1/2022

Project Title: Hubbell Southfield CSO Facility Improvements**Phase:** Design/Engineering**Phase Title:** Design/Engineering / Construction Assistance - 2103225 - TBD**Phase Budget:** Wastewater**Start Date:** 6/3/2024**Phase Status:** Active - Pre-Procurement**End Date:** 7/20/2031**Phase Comments/Description:****Cost Est. Class:** Class 2**Cost Est. Source:** AECOM**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** AECOM**Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$11,537	\$0	\$0	\$0	\$221	\$2,881	\$2,431	\$0	\$1,419	\$6,952	\$4,586

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	6/3/2024	7/20/2031

Project Title: Hubbell Southfield CSO Facility Improvements

Phase: Construction**Phase Title:** Construction - TBD

Phase Budget: Wastewater**Start Date:** 3/4/2027**Phase Status:** Future Planned Start**End Date:** 7/20/2031

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** AECOM**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY26	FY27	FY28	5 Year Total	FY29-33
Construction	\$40,229	\$0	\$0	\$0	\$0	\$2,992	\$9,202	\$12,194	\$28,035

Phase Dates

Activity Name	Start Date	End Date
Construction	3/4/2027	7/20/2031

Project Title: Hubbell Southfield CSO Facility Improvements

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY23	FY24	FY25	FY26	FY27	FY28	Total
2023	\$8,876	\$533	\$1,600	\$1,600	\$1,800	\$3,343	\$8,799	\$38,576

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total	FY29-33
\$52,837,908	\$424,992	\$5,653	\$227,884	\$2,970,639	\$2,520,762	\$3,081,895	\$10,711,363	\$19,512,545	\$32,894,718

Description of CIP Changes:

New CIP added to Portal 7/16/21. AC

CS272 Task 7-2-030-A - This task was executed on 3/2/2022 to perform a study and provide preliminary BODR for the Design Service Contract. Scoring updated - 07/2022.

Project Title: CSO Hubbell Southfield VR-8 Gate Improvements**Project Status:** Future Planned - Within Five Year Plan**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** CSO Facilities**Class Lvl 3:** Hubbell Southfield☐ **Project New to CIP**☐ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****50.2**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Brooke Ballard**Director:** Chris Nastally**Managing Dept.:** CSO**Date Original Business Case Prepared:**
4/15/2021**Year Project Added to CIP:** 2021**CIP Budget:** Wastewater**Project Jurisdiction:** Wayne County - Outside Detroit**Lookup Location:** Dearborn**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: CSO Hubbell Southfield VR-8 Gate Improvements

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

Primary Driver: 4 - O and M

Driver Explanation:

These improvements are intended to restore the condition of the existing equipment.

Project Title: CSO Hubbell Southfield VR-8 Gate Improvements

Scoring

Project Manager Weighted Score: 49.5			
Criteria Name	Score	Score Criteria	Comment
Condition	2	D. Only minor renewal or rehab may be needed in the near term	Based on average CS-299 assessment scores in 2020 for affected assets
Performance (Service Level/Reliability)	3	E. Canceling project potential for service/reliability issues† a few times/yr	Cancelling project would potentially cause reliability issues
Regulatory (Environmental/Legal)	2	B. Project will have a moderate to low impact on reg. issues	Project will have a moderate to low impact on regulatory issues
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	VR-8 Gate improvements should alleviate most ongoing O&M issues.
Health and Safety	2	B. Project limited positive impact on staff/public H&S†; No major staff or hazard issues or concerns addressed	Project has limited positive impact on staff/ public H&S
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	Project has no measurable public benefit
Financial	4	F. Total financial consequence of \$1,000,000 - \$5,000,000	Based on total project cost.
Efficiency and Innovation	1	B. Low impact on business process optimization; no time/cost saving	Low impact on business process optimization; no time/ cost saving

Review Committee Weighted Score: 50.2		
Criteria Name	Score	Comment
Condition	3	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	2	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	4	Scores carried over from previous year
Efficiency and Innovation	1	Scores carried over from previous year

Project Title: CSO Hubbell Southfield VR-8 Gate Improvements

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 4/21/2027**Phase Status:** Future Planned Start**End Date:** 12/24/2032

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY27	FY28	5 Year Total	FY29-33
GLWA Salaries	\$16	\$0	\$0	\$0	\$1	\$3	\$3	\$13

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	4/21/2027	12/24/2032
Capital Delivery Salary	4/21/2027	12/24/2032

Project Title: CSO Hubbell Southfield VR-8 Gate Improvements

Phase: Design/Engineering

Phase Title: Design/Engineering / Construction Assistance - TBD

Phase Budget: Wastewater **Start Date:** 4/21/2027

Phase Status: Future Planned Start **End Date:** 12/24/2032

Phase Comments/Description:

Cost Est. Class: Class 3

Cost Est. Source: Jacobs

Cost Est. Date: 7/18/2021

Cost Est. Prepared By: Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY27	FY28	5 Year Total	FY29-33
Design/Engineering	\$354	\$0	\$0	\$0	\$19	\$98	\$117	\$237

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/21/2027	12/24/2032

Project Title: CSO Hubbell Southfield VR-8 Gate Improvements

Phase: Construction**Phase Title:** Construction - TBD

Phase Budget: Wastewater**Start Date:** 7/1/2021**Phase Status:** Future Planned Start**End Date:** 12/24/2032

Phase Comments/Description:

Cost Est. Class: Class 3**Cost Est. Source:** Jacobs**Cost Est. Date:** 7/18/2021**Cost Est. Prepared By:** Jacobs

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY29-33
Construction	\$1,416	\$0	\$0	\$0	\$1,416

Phase Dates

Activity Name	Start Date	End Date
Construction	4/23/2030	12/24/2032
Construction - Equipment/Material Purchase	7/1/2021	7/31/2021

Project Title: CSO Hubbell Southfield VR-8 Gate Improvements

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY27	FY28	Total
2023	\$50	\$50	\$82	\$1,770

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Total Costs	Prior FYs	FY23	FY27	FY28	5 Year Total	FY29-33
\$1,785,839	\$0	\$0	\$19,566	\$100,864	\$120,430	\$1,665,409

Description of CIP Changes:

New CIP added to Portal 7/16/21 AC.
Score updated 7-12-2022

Project Title: Replacement of Make-up Air Unit No. 2 at Conner Creek CSO Facility**Project Status:** Project Execution - Construction**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** CSO Facilities**Class Lvl 3:** Conner Creek☒ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****92.5**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☐ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Partho Ghosh**Director:** Chris Nastally**Managing Dept.:** CSO**Date Original Business Case Prepared:**
12/9/2021**Year Project Added to CIP:** 2022**CIP Budget:** Wastewater**Project Jurisdiction:** City of Detroit**Lookup Location:** Detroit**Funds and Cost Center:** Wastewater - 5421-892111☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Replacement of Make-up Air Unit No. 2 at Conner Creek CSO Facility

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

Primary Driver: 4 - O and M

Driver Explanation:

This improvement is O&M and safety related.

Project Title: Replacement of Make-up Air Unit No. 2 at Conner Creek CSO Facility

Scoring

Project Manager Weighted Score: 92.5			
Criteria Name	Score	Score Criteria	Comment
Condition	5	A. Asset has exceeded its design service life	The existing unit is old and non-operable.
Performance (Service Level/Reliability)	5	D. Canceling project significant, persistent, ongoing, continuous service interruption and/or reliability issues†	Currently, only one unit is in operation. If that unit fails or needs maintenance, then it will jeopardize the safety and health of O&M personnel.
Regulatory (Environmental/Legal)	2	B. Project will have a moderate to low impact on reg. issues	
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	The new unit will ease O&M issues.
Health and Safety	5	B. Project will have a major & measurable positive impact on staff or public H&S† including working conditions, use and exposure to hazardous materials, exposure to potential accidents	
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	
Financial	3	D. Canceling project moderate financial consequences (revenue loss, repair/restoration, downtime, fines, litigation)	
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings	

Review Committee Weighted Score: 92.5		
Criteria Name	Score	Comment
Condition	5	Committee score carried over from previous year Project Manager score
Performance (Service Level/Reliability)	5	Committee score carried over from previous year Project Manager score
Regulatory (Environmental/Legal)	2	Committee score carried over from previous year Project Manager score
Operations and Maintenance	4	Committee score carried over from previous year Project Manager score
Health and Safety	5	Committee score carried over from previous year Project Manager score
Public Benefit	1	Committee score carried over from previous year Project Manager score
Financial	3	Committee score carried over from previous year Project Manager score
Efficiency and Innovation	4	Committee score carried over from previous year Project Manager score

Project Title: Replacement of Make-up Air Unit No. 2 at Conner Creek CSO Facility

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 3/14/2022**Phase Status:****End Date:** 6/12/2023

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
GLWA Salaries	\$6	\$16	\$8	(\$2)

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	3/14/2022	6/12/2023
Capital Delivery Salary	3/14/2022	6/12/2023

Project Title: Replacement of Make-up Air Unit No. 2 at Conner Creek CSO Facility

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 3/14/2022**Phase Status:****End Date:** 6/12/2023

Phase Comments/Description:

Cost Est. Class:**Cost Est. Source:****Cost Est. Date:****Cost Est. Prepared By:**

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Construction	\$351	\$0	\$0	\$351

Phase Dates

Activity Name	Start Date	End Date
Construction	3/14/2022	6/12/2023

Project Title: Replacement of Make-up Air Unit No. 2 at Conner Creek CSO Facility

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP

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Total Costs	Prior FYs	FY23
\$357,415	\$8,172	\$349,243

Description of CIP Changes:

Fund and cost center updated - 07/2022.

Project Title: Baby Creek Outfall Improvements Project

Project Status: Active - Procurement -
Negotiation Phase - Construction

CIP Type: Project

Class Lvl 1: Wastewater

Class Lvl 2: CSO Facilities

Class Lvl 3: Baby Creek

☐ Project New to CIP

☒ Useful Life > 20 Yrs

☐ Multiple Phases

Project Score

80.1

- ☐ Innovation
- ☐ WW Master Plan
- ☐ Water Master Plan Right Sizing
- ☒ Wet Weather Resiliency
- ☐ Redundancy
- ☐ NE WTP Repurposing
- ☐ Predecessor Project(s)
- ☐ Linear Assets Outside of Facilities
- ☒ CSO
- ☐ Pumps
- ☐ Storage
- ☐ Treatment



Example of Proposed Facility

Project Manager: Ariadna Risher

Director: Chris Nastally

Managing Dept.: CSO

Date Original Business Case Prepared:
8/9/2019

Year Project Added to CIP: 2019

CIP Budget: Wastewater

Project Jurisdiction: Multiple Counties

Lookup Location: Baby Creek CSO Facility

Funds and Cost Center: Wastewater - 5421-
892211

☐ From Program?

Program Number:

Delivery Method: DB (Design-Build)

Delivery Method Details:

☐ Is a Predecessor Project?

Successor Projects:

Predecessor Projects:

Collaboration Opportunities: No

Partners:

Collaboration Entity:

Project Title: Baby Creek Outfall Improvements Project

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 Creek Screening & Disinfection Facility to the Baby Creek Outfall on the Rouge River (approximately 5,500 feet). Sediment accumulation has been an ongoing problem in the outfall, since original construction because there is no way to flush the outfall, and the accumulated debris from the outfall. Having debris in the outfall results in loss in capacity to transport flow, potential re-growth of bacteria during events making disinfection more difficult or require more chemical disinfection, and limiting GLWA's ability to perform inspections and assess the condition of the entire pipe.

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 facilitate better operations and monitoring. The current pipes through the Woodmere Cemetery have a very minimal easement making future maintenance and access very difficult. This project will endeavor to identify the limits of a proper easement which will facilitate access necessary for GLWA to properly maintain the outfall, and the Consultant will assist GLWA in acquiring these easements. This easement will likely be through Woodmere Cemetery and the Patton Park between Vernor & the Baby Creek SDF.

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.

Primary Driver: 1 - Condition**Driver Explanation:**

Over 6 feet of sediment has accumulated in some areas which affects the ability of the CSO outfalls to meet NPDES requirements and interferes with the proper operation of the backwater gates. There is currently no means to clean this sediment in the outfall. Current access points in the cemetery are contained within a limited easement that prohibits conducting regular cleanings because there are gravesites over the pipe, and inadequate space for equipment. An access facility is required to provide access in the future.

Project Title: Baby Creek Outfall Improvements Project

Scoring

Project Manager Weighted Score: 79.7			
Criteria Name	Score	Score Criteria	Comment
Condition	2	A. Asset has <75% of its design service life remaining	
Performance (Service Level/Reliability)	5	A. Will cause, or IS causing significant capacity problems	
Regulatory (Environmental/Legal)	3	A. Moderate risk of causing	
Operations and Maintenance	5	A. Unsustainable levels of O/M required to keep in service that will still not ensure future stable/proper operation	
Health and Safety	3	A. Failure not catastrophic, has moderate chance of occurring; failure may be mitigated to minimize safety/health/environmental impacts	
Public Benefit	4	A. Project key part of a strategic plan* for GLWA (i.e. good probability leads to new customers)	
Financial	3	A. Implementing the project will generate moderate increase revenue or savings for GLWA.	
Efficiency and Innovation	4	A. Right-sizing system significant operational efficiency, moderately increasing revenue/savings	

Review Committee Weighted Score: 80.1		
Criteria Name	Score	Comment
Condition	2	Scores carried over from previous year
Performance (Service Level/Reliability)	5	Scores carried over from previous year
Regulatory (Environmental/Legal)	4	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	3	Scores carried over from previous year
Public Benefit	4	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	4	Scores carried over from previous year

Project Title: Baby Creek Outfall Improvements Project

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 7/1/2021**Phase Status:** Project Execution**End Date:** 3/8/2027

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total
GLWA Salaries	\$1,773	\$428	\$418	\$215	\$310	\$309	\$309	\$213	\$0	\$1,140

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	9/9/2022	3/8/2027
Capital Delivery Salary	9/9/2022	3/8/2027
Other Capital Improvement Costs	7/1/2021	3/8/2027

Project Title: Baby Creek Outfall Improvements Project

Phase: Professional Services**Phase Title:** Professional Services

Phase Budget: Wastewater**Start Date:** 7/22/2019**Phase Status:** Project Execution**End Date:** 5/19/2023

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** AECOM**Cost Est. Date:** 11/1/2019**Cost Est. Prepared By:** AECOM

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Professional Services	\$1,067	\$1,148	\$1,135	(\$68)

Phase Dates

Activity Name	Start Date	End Date
Contr. Professional Services (CS-272 - 71009A.01/02/03, 72009B.01/C.01, 72019A.01, 72022A.03)	7/22/2019	5/19/2023

Project Title: Baby Creek Outfall Improvements Project

Phase: Design-Build # 1**Phase Title:** Design - Build of Baby Creek Outfall Improvements

Phase Budget: Wastewater **Start Date:** 9/9/2022**Phase Status:** Active - Procurement - Negotiation **End Date:** 3/8/2027
Phase

Phase Comments/Description:

Phase includes design of flushing system for the outfall, and subsequent construction of the outfall. This project phase will include construction, but the construction phase is not identified as of yet because of the selected alternatives are not known and the costs can vary significantly. Project will also include improvements to the backwater gates and instrumentation.

Cost Est. Class: Class 1**Cost Est. Source:** Jay Dee Contracting**Cost Est. Date:** 2/1/2022**Cost Est. Prepared By:** Jay Dee Contracting

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total
Design-Build # 1	\$12,995	\$0	\$0	\$1,979	\$2,993	\$2,985	\$2,985	\$2,053	\$0	\$11,016

Phase Dates

Activity Name	Start Date	End Date
Design-Build	9/9/2022	3/8/2027

Project Title: Baby Creek Outfall Improvements Project

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	5 Year Total	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	Total
2021	\$2,158	\$79	\$1,251	\$907	\$0	\$0	\$0	\$0	\$0	\$0	\$2,237
2022	\$17,680	\$2	\$1,143	\$1,807	\$1,507	\$6,796	\$6,796	\$774	\$0	\$0	\$18,826
2023	\$11,450	\$2	\$1,067	\$218	\$1,250	\$2,600	\$2,600	\$2,600	\$2,400	\$550	\$13,286

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Total Costs	Prior FYs	FY23	FY24	FY25	FY26	FY27	FY28	5 Year Total
\$15,834,915	\$1,552,414	\$2,125,910	\$3,303,128	\$3,294,102	\$3,294,103	\$2,265,258	\$0	\$12,156,591

Description of CIP Changes:

2019 - Project added to the database.

2020-07 - Project scope, schedule, budget updated.

Project Title: Baby Creek CSO Facility Influent Flushing System**Project Status:** Future Planned - Ten Year CIP**CIP Type:** Project**Class Lvl 1:** Wastewater**Class Lvl 2:** CSO Facilities**Class Lvl 3:** Baby Creek☐ **Project New to CIP**☒ **Useful Life > 20 Yrs**☐ **Multiple Phases****Project Score****72.3**

- ☐ **Innovation**
- ☐ **WW Master Plan**
- ☐ **Water Master Plan Right Sizing**
- ☐ **Wet Weather Resiliency**
- ☒ **Redundancy**
- ☐ **NE WTP Repurposing**
- ☐ **Predecessor Project(s)**
- ☐ **Linear Assets Outside of Facilities**
- ☒ **CSO**
- ☐ **Pumps**
- ☐ **Storage**
- ☐ **Treatment**

**Project Manager:** Brooke Ballard**Director:** Chris Nastally**Managing Dept.:** CSO**Date Original Business Case Prepared:**
4/15/2021**Year Project Added to CIP:** 2021**CIP Budget:** Wastewater**Project Jurisdiction:** Wayne County - Outside Detroit**Lookup Location:** Baby Creek**Funds and Cost Center:** Wastewater - 5421-892211☐ **From Program?****Program Number:****Delivery Method:** DBB (Design-Bid-Build)**Delivery Method Details:**☐ **Is a Predecessor Project?****Successor Projects:****Predecessor Projects:****Collaboration Opportunities:** No**Partners:****Collaboration Entity:**

Project Title: Baby Creek CSO Facility Influent Flushing System

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 complete dewatering (or solids flushing) of the influent area.

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

Primary Driver: 4 - O and M

Driver Explanation:

With a flushing system, the solids in the influent area can be removed after every storm, thus reducing buildup of solids and significantly reducing risk in accessing this area..

Project Title: Baby Creek CSO Facility Influent Flushing System

Scoring

Project Manager Weighted Score: 73.6			
Criteria Name	Score	Score Criteria	Comment
Condition	2	D. Only minor renewal or rehab may be needed in the near term	Based on average CS-299 condition assessment scores in 2020 for affected assets.
Performance (Service Level/Reliability)	3	E. Canceling project potential for service/reliability issues† a few times/yr	Cancelling project would potentially cause reliability issues
Regulatory (Environmental/Legal)	2	B. Project will have a moderate to low impact on reg. issues	Project will have a moderate to low impact on regulatory issues
Operations and Maintenance	4	D. Project significant positive impact on O&M; will alleviate most ongoing O&M issues	Project will have significant positive impact on staff H&S because operators will not need to routinely enter the basin for flushing
Health and Safety	4	B. Project significant positive impact on staff/public H&S†; Likely to address significant hazard issues or concerns	Project will have significant positive impact on staff H&S because operators will not need to routinely enter the basin for flushing
Public Benefit	1	A. Low/no measurable impact on City/regional/neighborhood growth; will not impact a GLWA strategic plan* area	Project has no measurable public benefit
Financial	4	F. Total financial consequence of \$1,000,000 - \$5,000,000	Based on total project cost of project
Efficiency and Innovation	3	B. Moderate positive impact on Energy use conservation i.e. 10-20% energy reduction; Water use, effluent reuse; Business process optimization, process efficiency for a more robust system and less O&M; time & cost savings	Project will have a moderate positive impact on water savings; process efficiency for a more robust system and less O&M, and time and cost savings.

Project Title: Baby Creek CSO Facility Influent Flushing System

Review Committee Weighted Score: 72.3		
Criteria Name	Score	Comment
Condition	1	Scores carried over from previous year
Performance (Service Level/Reliability)	3	Scores carried over from previous year
Regulatory (Environmental/Legal)	2	Scores carried over from previous year
Operations and Maintenance	4	Scores carried over from previous year
Health and Safety	4	Scores carried over from previous year
Public Benefit	1	Scores carried over from previous year
Financial	3	Scores carried over from previous year
Efficiency and Innovation	3	Scores carried over from previous year

Project Title: Baby Creek CSO Facility Influent Flushing System

Phase: GLWA Salaries**Phase Title:** GLWA Salaries

Phase Budget: Wastewater**Start Date:** 4/21/2033**Phase Status:** Future Planned New**End Date:** 12/24/2036

Phase Comments/Description:

Cost Est. Class: Class 1**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY29-33
GLWA Salaries	\$7	\$0	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Capital Delivery Salary	4/21/2033	12/24/2036
Capital Delivery Salary	4/21/2033	12/24/2036

Project Title: Baby Creek CSO Facility Influent Flushing System

Phase: Design/Engineering**Phase Title:** Design/Engineering

Phase Budget: Wastewater**Start Date:** 4/21/2033**Phase Status:** Future Planned New**End Date:** 12/24/2036

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23	FY29-33
Design/Engineering	\$148	\$0	\$0	\$0	\$15

Phase Dates

Activity Name	Start Date	End Date
Design/Engineering	4/21/2033	12/24/2036

Project Title: Baby Creek CSO Facility Influent Flushing System

Phase: Construction**Phase Title:** Construction

Phase Budget: Wastewater**Start Date:** 7/1/2021**Phase Status:** Future Planned New**End Date:** 12/24/2036

Phase Comments/Description:

Cost Est. Class: Class 5**Cost Est. Source:** GLWA CIP Group**Cost Est. Date:** 7/18/2022**Cost Est. Prepared By:** GLWA CIP Group

Phase Total Expenses By FY (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**

	Total Costs	Actual Costs	Prior FYs	FY23
Construction	\$591	\$0	\$0	\$0

Phase Dates

Activity Name	Start Date	End Date
Construction	4/23/2035	12/24/2036
Construction - Equipment/Material Purchase	7/1/2021	7/31/2021

Project Title: Baby Creek CSO Facility Influent Flushing System

Project Total Expenses by FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	Total
2023	\$738

Reporting Period 49: Ending FY23 M04 Oct

Total Costs	Prior FYs	FY23	FY29-33
\$744,959	\$0	\$0	\$15,086

Description of CIP Changes:

New CIP added to Portal 7/16/21. AC
Score Updated - 7/12/2022