CIP

CAPITOL IMPROVEMENT PLAN

2021 - 2025

Preliminary Draft No.2

Appendix A - Water Projects

GLWA

Great Lakes Water Authority

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

111001 CIP#

Lake Huron Water Treatment Plant, Low-Lift, High Lift and Filter Backwash Pumping System

- [x] Innovation
- [ ] Conceptual WW MP
- [x] Water MP Right Sizing
- [x] Reliability/Redundancy
- [ ] NEWTP Repurposing

Project Status Active

CIP Type Project

- [ ] **Project New To CIP**

Lake Huron WTP

Project Engineer/Manager Eric Kramp
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 3/3/2010
Year Project Added to CIP 2010

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Lake Huron
Location Saint Clair County
Fund and Cost Center Water - 5519-882111

Problem Statement	Improvements needed to align the existing low lift pumping rate with the Lake Huron WTP production rate per the 2015 Water Master Plan Update. Currently, constant speed pumping at the low-lift portion of the plant can force it to operate in a semi-batch mode during night-time, low-demand periods. Existing electrical gear for low- and high-lift pumping units and filter backwash pumps are original to plant, beyond useful service life and need to be replaced to improve reliability, serviceability, maintainability, and efficiency. Similarly, phosphoric acid chemical storage tanks and associated fill piping are also past their useful service life and in the case of the piping has had leaks and many repairs.
Scope of Work / Project Alternatives	This CIP will be delivered using a design-bid-build project delivery method. The project's scope of improvements will generally include replacement of the following systems and equipment: 1. High-voltage electrical system at the facility 2. Replace low-lift pumps 3 and 4 with new pumps, right-sized to current and projected demands. 3. Rehabilitate or replace high-lift pumping units, right-sized to current and projected demands. 4. Rehabilitate or replace filter wash water pumps and related equipment. 5. Replace phosphoric acid storage tanks and fill piping. 6. Update instrumentation, controls and supervisory, control and data acquisition (SCADA) systems related to above-mentioned the pumping system equipment.
Other Important Info	*Innovation note: Ensure energy efficiency.

	Coordination between existing pumping unit and motor required during design. Critical speed analysis may show pump improvements needed to operate at reduced speeds. Uncovering an innovative rehabilitation design to minimize maintenance of existing drives.
Primary Driver	2 - Performance
Driver Explanation	Right-sizing the low- and high-lift pumping systems at Lake Huron will improve the reliability of pumping as it will eliminate the semi-batch mode operation. Condition/age is another driver for the project.

PM Weighted Score
76

Criteria	Score	Comment
Condition	4	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	2	
Operations and Maintenance	4	
Public Health and Safety	4	
Public Benefit	3	
Financial	4	
Efficiency and Innovation	5	

RC Weighted Score
71.6

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	5	
Public Health and Safety	2	
Public Benefit	5	
Financial	4	
Efficiency and Innovation	4	

Lake Huron Water Treatment Plant, Low-Lift, High Lift and Filter Backwash Pumping System

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
Water Master Plan Update	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$14			2021CIP
GLWA Salaries CIP2021	FY20	$36			2021CIP
GLWA Salaries CIP2021	FY21	$36			2021CIP
GLWA Salaries CIP2021	FY22	$50			2021CIP
GLWA Salaries CIP2021	FY23	$58			2021CIP
GLWA Salaries CIP2021	FY24	$58			2021CIP
GLWA Salaries CIP2021	FY25	$58			2021CIP
GLWA Salaries CIP2021	FY26+	$79			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
14	36	36	50	58	58	58	79	389	260

Phase Task Dates

Lake Huron Water Treatment Plant, Low-Lift, High Lift and Filter Backwash Pumping System

Phase Design & Construction Assistance **Contract** 1803769 **Status** Under Procurement

Title Design/Construction Administration

Existing LL Pumps: 2 - 100 mgd and 2 - 200 mgd; firm = 400 mgd
Future LL Pumps: 2 - 150 mgd and 2 - 100 mgd: firm = 350 mgd
Future: LL Pumps 1 - 150 mgd pump will have VFD. 1 - 100 mgd pump will have a VFD by the time this project is started via another contract being executed by plant O&M staff.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Under Procurement	**Funding Source**	Bond Proceeds
Start Date	12/30/2018	**Fund**	Construction Bond Fund
End Date	1/25/2027	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
Water Master Plan Update	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY20	$1,200			2021CIP
Engineering Services	FY21	$1,600			2021CIP
Engineering Services	FY22	$1,699			2021CIP
Engineering Services	FY23	$1,023			2021CIP
Engineering Services	FY24	$951			2021CIP
Engineering Services	FY25	$959			2021CIP
Engineering Services	FY26+	$824			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	1,200	1,600	1,699	1,023	951	959	824	8,256	6,232

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	8/15/2018	2/28/2019	197
Procurement	2/28/2019	10/9/2019	223
Project Execution	10/10/2019	8/5/2026	2491
Project Closeout	4/1/2027	6/30/2027	90

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

111001 CIP#

Lake Huron Water Treatment Plant, Low-Lift, High Lift and Filter Backwash Pumping System

Phase Construction **Contract** NA **Status** Future Planned Start

Title Construction

Existing LL Pumps: 2 - 100 mgd and 2 - 200 mgd; firm = 400 mgd
Future LL Pumps: 2 - 150 mgd and 2 - 100 mgd: firm = 350 mgd
Future: LL Pumps 1 - 150 mgd pump will have VFD. 1 - 100 mgd pump will have a VFD by the time this project is started via another contract being executed by plant O&M staff.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date	1/3/2022	**Fund**	Construction Bond Fund
End Date	1/25/2027	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
Water Master Plan Update	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY23	$12,644			2021CIP
Construction	FY24	$11,759			2021CIP
Construction	FY25	$11,824			2021CIP
Construction	FY26+	$10,218			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	12,644	11,759	11,824	10,218	46,445	36,227

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	11/4/2021	2/2/2022	90

Phase Task Name	Start Date	End Date	Duration
Procurement	2/3/2022	8/10/2022	188
Project Execution	8/11/2022	8/5/2026	1455
Project Closeout	8/6/2026	11/4/2026	90

Lake Huron Water Treatment Plant, Low-Lift, High Lift and Filter Backwash Pumping System

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	14	1,236	1,636	1,749	13,725	12,768	12,841	11,121	55,090	42,719
2020	0	0		0	401	1,611	3,169	4,450	10,000	32,757	0	52,388	19,631
2019	0				401	1,611	3,169	4,450	42,757	0	0	52,388	9,631
2018		200	2,500	3,000					0	0	0	5,700	5,500

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

111003 RECLASSIFIED INTO THIS PROJECT.

From the last CIP, Phase I (GLWA - Direct Labor) has moved to active and Phase II (D/CA) has moved to Procurement. Also, updated project expenses to account for inflation, moved contract start back one year, added GLWA costs. ECK 7/30/2019

Scoring reviewed and modified to match guidance document. Public Health & Safety Score revised from 2 to a 4 based on the understanding that it "safety" includes staff safety. Current primary walkway for LHWTP is through 13.k KVA switchgear room. ECK 8/22/2019

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

111002 CIP#

Lake Huron Water Treatment Plant, Miscellaneous Mechanical HVAC Improvements

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

The photo shows the condition of the heating system hot water piping.

Project Engineer/Manager Brian VanHall
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 6/26/2014
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Lake Huron
Location Saint Clair County
Fund and Cost Center Water - 5519-882111

Problem Statement	Existing heating, ventilating and air-conditioning systems Lake Huron are 40 years old and are either not operable or are energy-inefficient. Ventilation is inadequate in the filter areas of the plant. Indoor summer-time temperatures exceed 90F in the administration building and process control laboratory due to no air conditioning in this building. These elevated temperatures make for very uncomfortable working conditions for the chemists stationed in the laboratory full-time and plant team member who work in this building.
Scope of Work / Project Alternatives	This CIP project is being delivered using a design-bid-build project delivery model. The scope of work generally includes installing: 1. High-efficiency, natural gas-fired hot-water boilers, hot-water radiators, and hot-water and cold-water return piping throughout the facility. 2. Air-conditioning system for the administration building, including the process control laboratory and control room. 3. Roof-top mounted air handlers to ventilate the filter buliding. 4. Heating and ventilating system for the high-voltage electrical switchgear room. 5. Heating and ventilating system for the chlorine storage and feeder rooms. 6. Dehumidification system for the filter piping galleries. 7. Doors and vestibules to segregate areas of different indoor air control - zones. 8. Back flow preventers to protect water quality in potable water systems at the plant from non-potable uses.
Other Important Info	There are three contracts associated with this CIP, including: CS-1732 Engineering Design and Construction Administration Contract (active) CON-182 Backflow Preventer Construction Contract (closed)

	CON-212 HVAC Construction Contract (active)
Primary Driver	1 - Condition
Driver Explanation	Existing HVAC equipment is original (1976) to the plant and is either not functioning or is energy inefficient.

PM Weighted Score
67.8

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	4	
Public Health and Safety	4	
Public Benefit	1	
Financial	3	
Efficiency and Innovation	4	

RC Weighted Score
77

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	4	
Operations and Maintenance	4	
Public Health and Safety	4	
Public Benefit	0	
Financial	3	
Efficiency and Innovation	4	

Lake Huron Water Treatment Plant, Miscellaneous Mechanical HVAC Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$58			2021CIP
GLWA Salaries CIP2021	FY20	$128			2021CIP
GLWA Salaries CIP2021	FY21	$41			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
58	128	41	0	0	0	0	0	227	41

Phase Task Dates

Lake Huron Water Treatment Plant, Miscellaneous Mechanical HVAC Improvements

Phase Construction **Contract** CON-182 **Status** Closed Out

Title Construction Contract No. CON-182

Backflow Preventor Replacement Contract No. CON-182 (pending close)

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date	8/27/2016	**Fund**	Construction Bond Fund
End Date	8/24/2018	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
TetraTech	**Cost Est. Source**
TetraTech	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$279			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
279	0	0	0	0	0	0	0	279	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	5/25/2017	8/23/2017	90
Procurement	8/30/2017	11/28/2017	90
Project Execution	11/28/2017	7/30/2018	244
Project Closeout	7/30/2018	10/10/2018	72

Lake Huron Water Treatment Plant, Miscellaneous Mechanical HVAC Improvements

Phase Study and Design and Construction Assistance **Contract** CS-1732 **Status** Active

Title Study/Design/Construction Administration

Engineering Services Contract No. CS-1732 with TetraTech (active)

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$645			2021CIP
Engineering Services	FY20	$193			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
645	193	0	0	0	0	0	0	838	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/2/2015	10/27/2015	117
Procurement	10/27/2015	5/24/2016	210
Project Execution	5/23/2016	5/14/2020	1452
Project Closeout	5/15/2020	10/23/2020	161

Lake Huron Water Treatment Plant, Miscellaneous Mechanical HVAC Improvements

Phase Construction **Contract** CON-212 **Status** Active

Title Construction Contract No. CON-212

HVAC Construction Contract CON-212, Detroit Contracting, Inc. (active)

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date	2/15/2018	**Fund**	Construction Bond Fund
End Date	4/23/2020	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
TetraTech	**Cost Est. Source**
TetraTech	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$6,009			2021CIP
Construction	FY20	$1,651			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
6,009	1,651	0	0	0	0	0	0	7,660	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	9/19/2016	12/18/2016	90
Procurement	12/19/2016	2/7/2018	415
Project Execution	2/14/2018	2/14/2020	730
Project Closeout	2/15/2020	10/23/2020	251

Lake Huron Water Treatment Plant, Miscellaneous Mechanical HVAC Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	6,991	1,972	41	0	0	0	0	0	9,004	41
2020	0	0	2,020	4,422	1,882	0	0	0	0	0	0	8,324	1,882
2019	0	309	781	3,666	3,873	13				0	0	8,642	7,552
2018		270	1,030	3,130	3,050	422			0	0	0	7,902	7,632

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes CON-182 changed to pending close out, CS-1732 contract time and value increased to align with construction contract CON-212: BPV 8/6/2019

Lake Huron Water Treatment Plant, Electrical Tunnel Rehabilitation

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Lake Huron WTP
Electrical Tunnel

Project Engineer/Manager Jorge Nicolas
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 6/26/2014
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Lake Huron
Location Saint Clair County
Fund and Cost Center Water - 5519-882111

Problem Statement	Existing electrical tunnel concrete has failed in the past and has seen emergency repairs. This project will provide permanent concrete and structural improvements to this tunnel that carries the primary electrical feed to the entire plant. The existing medium voltage two electrical feeders are old and beyond their 30-years service life. This project will replace the two electrical feeders with new.
Scope of Work / Project Alternatives	This CIP project is being delivered using a design-bid-build project delivery model. The scope of work generally includes restoring concrete within the medium-voltage feeder electrical tunnel to prevent water intrusion and further damage to concrete, electrical cables, conduits, duct banks, and cable trays. The work also includes replacing the medium-voltage electrical feeders between the site's primary transformers and the low-lift pumping plant.
Other Important Info	Moved construction start to FY2019, added GLWA costs. JN 2019
Related Project	Contract No. CS-245 with Alfred Benesh and Company for Design and Construction Administration
Primary Driver	1 - Condition
Driver Explanation	Tunnel structural conditions and electrical feeders beyond their service life.

PM Weighted Score
53.8

Criteria	Score	Comment
Condition	4	
Performance (Service Level/Reliability)	4	
Regulatory (Environmental/Legal)	2	
Operations and Maintenance	2	
Public Health and Safety	4	
Public Benefit	2	
Financial	1	
Efficiency and Innovation	1	

RC Weighted Score
38.6

Criteria	Score	Comment
Condition	3	
Performance (Service Level/Reliability)	1	
Regulatory (Environmental/Legal)	2	
Operations and Maintenance	1	
Public Health and Safety	4	
Public Benefit	1	
Financial	1	
Efficiency and Innovation	1	

Lake Huron Water Treatment Plant, Electrical Tunnel Rehabilitation

Phase Design & Construction Assistance **Contract** CS-245 **Status** Active

Title Design/Construction Administration

Engineering Services Contract, Benesch (active)

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

3	**Cost Est. Class**
12/1/2017	**Cost Est. Date**
consultant	**Cost Est. Source**
consultant Benesch	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$72			2021CIP
Engineering Services	FY20	$34			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
72	34	0	0	0	0	0	0	106	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/31/2016	1/29/2017	90
Procurement	1/30/2017	1/12/2018	347
Project Execution	1/16/2018	11/29/2019	682
Project Closeout	11/30/2019	2/28/2020	90

Lake Huron Water Treatment Plant, Electrical Tunnel Rehabilitation

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2017	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$66			2021CIP
GLWA Salaries CIP2021	FY20	$39			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
66	39	0	0	0	0	0	0	105	0

Phase Task Dates

Lake Huron Water Treatment Plant, Electrical Tunnel Rehabilitation

Phase Construction **Contract** CON-288 **Status** Active

Title Construction

Construction Contract CON-288, Clark Construction (active)

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2017	**Cost Est. Date**
Benesch	**Cost Est. Source**
Benesch	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$2,626			2021CIP
Construction	FY20	$1,299			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
2,626	1,299	0	0	0	0	0	0	3,925	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	9/30/2017	5/4/2018	216
Procurement	5/4/2018	10/26/2018	175
Project Execution	10/29/2018	11/29/2019	396
Project Closeout	11/30/2019	2/28/2020	90

Lake Huron Water Treatment Plant, Electrical Tunnel Rehabilitation

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	2,764	1,372	0	0	0	0	0	0	4,136	0
2020	0	0	63	384	4,296	6	0	0	0	0	0	4,749	4,302
2019	0		116	414	4,296	6				0	0	4,832	4,716
2018			1,000	3,000	1,600				0	0	0	5,600	5,600

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes The replacement of the medium voltage feeders was missing from the original scope of work description. Also, changed project delivery method from Design-Build to Design-Bid-Build. JN 7/29/2019

Lake Huron Water Treatment Plant, Filter Instrumentation and Raw Water Flow Metering

- [x] Innovation
- [ ] Conceptual WW MP
- [ ] Water MP Right Sizing
- [x] Reliability/Redundancy
- [ ] NEWTP Repurposing

Project Status Active

CIP Type Project

- [ ] **Project New To CIP**

Raw Water Flow Meter

Project Engineer/Manager Eric Kramp
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 6/26/2014
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Lake Huron
Location Saint Clair County
Fund and Cost Center Water - 5519-882111

Problem Statement	The filter instrumentation and raw water metering at the Lake Huron WTP is not functioning and is in need of replacement. Replacement of this equipment is needed for reliable plant operations. Signifiacnt improvements to the LHWTP Ovation control system network "backbone" will be performed under this CIP 111006.
Scope of Work / Project Alternatives	This project will be delivered using a design-bid-build project delivery method. The scope of work will generally include the following: 1. Installation of new filter instrumentation and controls. 2. Installation of new raw water flow metering instrumentation. 3. Installation of new programmable logic controllers (PLCs) and associated process control computer workstations throughout the plant. 4. Installation of new process control network backbone. 5. Installation of new process control system (i.e. Ovation) hardware.
Related Project	CS-1771 Study, Design, CA; TetraTech (active) CS-108 Study, Automation Needs Assessment (active)
Primary Driver	1 - Condition
Driver Explanation	The instrumentation is past end of life.

PM Weighted Score
63.2

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	4	
Regulatory (Environmental/Legal)	4	
Operations and Maintenance	5	
Public Health and Safety	1	
Public Benefit	3	
Financial	1	
Efficiency and Innovation	2	

RC Weighted Score
62.2

Criteria	Score	Comment
Condition	4	
Performance (Service Level/Reliability)	3	
Regulatory (Environmental/Legal)	3	
Operations and Maintenance	3	
Public Health and Safety	2	
Public Benefit	4	
Financial	2	
Efficiency and Innovation	5	

Lake Huron Water Treatment Plant, Filter Instrumentation and Raw Water Flow Metering

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

1	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$32			2021CIP
GLWA Salaries CIP2021	FY20	$13			2021CIP
GLWA Salaries CIP2021	FY21	$13			2021CIP
GLWA Salaries CIP2021	FY22	$13			2021CIP
GLWA Salaries CIP2021	FY23	$69			2021CIP
GLWA Salaries CIP2021	FY24	$69			2021CIP
GLWA Salaries CIP2021	FY25	$69			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
32	13	13	13	69	69	69	0	278	233

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

111006 CIP#

Lake Huron Water Treatment Plant, Filter Instrumentation and Raw Water Flow Metering

Phase Construction **Contract** NA **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
TetraTech	**Cost Est. Source**
TetraTech	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$198			2021CIP
Construction	FY23	$2,074			2021CIP
Construction	FY24	$5,915			2021CIP
Construction	FY25	$6,410			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
198	0	0	0	2,074	5,915	6,410	0	14,597	14,399

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	11/9/2017	1/2/2022	1515
Procurement	6/4/2018	7/23/2022	1510
Project Execution	7/24/2022	3/30/2025	980
Project Closeout	3/31/2025	6/28/2025	89

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

111006 CIP#

Lake Huron Water Treatment Plant, Filter Instrumentation and Raw Water Flow Metering

Phase Study and Design and Construction Assistance **Contract** CS-1771 **Status** Active

Title Study/Design/Construction Administration

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$548			2021CIP
Engineering Services	FY20	$223			2021CIP
Engineering Services	FY21	$222			2021CIP
Engineering Services	FY22	$222			2021CIP
Engineering Services	FY23	$187			2021CIP
Engineering Services	FY24	$200			2021CIP
Engineering Services	FY25	$149			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
548	223	222	222	187	200	149	0	1,751	980

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	9/21/2015	4/11/2016	203

Phase Task Name	Start Date	End Date	Duration
Procurement	4/11/2016	12/19/2016	252
Project Execution	12/20/2016	3/30/2025	3022
Project Closeout	3/31/2025	6/28/2025	89

Lake Huron Water Treatment Plant, Filter Instrumentation and Raw Water Flow Metering

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	778	236	235	235	2,330	6,184	6,628	0	16,626	15,612
2020	0	0	735	55	3,333	3,333	3,333	0	0	0	0	10,789	9,999
2019	0	253	643	43	8,647	9,816	6,909	4		0	0	26,315	25,419
2018		100	600	12,150	11,780				0	0	0	24,630	24,530

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes Overall costs have gone down because the latest EPCC was lower and the meter is being removed from the scope. The S/D/CA was increased for additional RPR coverage. ECK 8/1/2019

Lake Huron Water Treatment Plant, Raw Sludge Clarifier and Raw Sludge Pumping System

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Raw sludge clarifier at Lake Huron WTP

Project Engineer/Manager Brian VanHall
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 8/7/2015
Year Project Added to CIP 2016

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Lake Huron
Location Saint Clair County
Fund and Cost Center Water - 5519-882111

Problem Statement

The existing WWRB and clarifiers have noticeable deteriorating concrete and walls that have permanently deflected. There is also concrete deterioration in the sludge pumping station as well as difficulties with maintenance and operation of the existing pumps. For example, the existing pumps are not equipped with permanent lifting mechanisms. A truck with a crane has to be mobilized to the plant to pull an existing pump when maintenance or repairs are needed. The new sludge pumping units will be equipped with permanent lifting mechanisms so that pumps can be pulled by plant staff without mobilizing a specialty crew to perform these types of tasks.

Spent filter backwash is conveyed to the Waste Wash Water Retention Basin (WWRB) that was constructed in the early 1970s. Twice yearly, as part of the settling basin cleaning, the flush water and alum sludge from the Lake Huron Water Treatment Plant settling basins are drained to the clarifiers that are adjacent to the WWRB. Clarifiers Nos. 1 and 2 were constructed at the same time as the WWRB. Sludge is discharged from these clarifiers to drying lagoons using a sludge pumping station. The clarifiers also serve as redundant waste wash water retention volume during normal plant operations.

Scope of Work / Project Alternatives

This project will be delivered using a design-bid-build project delivery method. GLWA retained an engineering consultant under GLWA Contract No. CS-171 "Raw Sludge Clarifiers and Raw Sludge Pumping Station Improvements" to conduct a condition assessment and design improvements for LH raw sludge handling. The WWRB, Clarifier Nos. 1 and 2, and the sludge pumping station all require improvement. The scope of construction involves:
1. Demolish existing clarifiers and sludge pumping station

	2. Construct new cast-in-place reinforced concrete waste wash water retention basin 3. Construct new cast-in-place reinforced concrete sludge pumping station equipped with new pump lifting mechanisms 4. Install new diversion gate structures between sludge drying lagoons 5. Install new junction structures between existing and new waste wash water retention basins 6. Install new yard lighting around the WWRB and clarifiers
Other Important Info	This project should be completed prior to cessation of treatment at the Northeast WTP. Project History: The clarifier/backwash structure is original to the plant. The tank walls appear to have been inadequately designed and/or constructed to withstand the loading of the surround soils. Challenges: Improvements will require coordination with plant operations (filter backwashing, sedimentation basin cleaning) and requires bypass pumping due to signficant leakage from filter outlet valves.
Primary Driver	1 - Condition
Driver Explanation	The existing raw sludge clarifer has significant structural concrete deterioration and wall deflections to the point where it is beyond repair. Existing raw sludge pumping station not adequately sized.

PM Weighted Score
62.4

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	2	
Operations and Maintenance	4	
Public Health and Safety	3	
Public Benefit	1	
Financial	2	
Efficiency and Innovation	2	

RC Weighted Score
53.2

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	2	
Public Health and Safety	2	
Public Benefit	1	
Financial	4	
Efficiency and Innovation	1	

Lake Huron Water Treatment Plant, Raw Sludge Clarifier and Raw Sludge Pumping System

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$17			2021CIP
GLWA Salaries CIP2021	FY20	$150			2021CIP
GLWA Salaries CIP2021	FY21	$139			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
17	150	139	0	0	0	0	0	306	139

Phase Task Dates

Lake Huron Water Treatment Plant, Raw Sludge Clarifier and Raw Sludge Pumping System

Phase Construction **Contract** 1803823 **Status** Active

Title Construction

1803823 awarded to Weiss with NTP 6/12/19

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Federal Loan Programs
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
3/8/2019	**Cost Est. Date**
Weiss	**Cost Est. Source**
Weiss	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$9			2021CIP
Construction	FY20	$4,187			2021CIP
Construction	FY21	$2,870			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
9	4,187	2,870	0	0	0	0	0	7,066	2,870

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Procurement	12/28/2018	7/11/2019	195
Project Execution	7/11/2019	3/1/2021	599
Project Closeout	3/2/2021	5/30/2021	89

Lake Huron Water Treatment Plant, Raw Sludge Clarifier and Raw Sludge Pumping System

Phase Study and Design and Construction Assistance **Contract** CS-171 **Status** Active

Title Study, Design and Construction Administration

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Revenue Financed Capital
Start Date	10/2/2017	**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$623			2021CIP
Engineering Services	FY20	$559			2021CIP
Engineering Services	FY21	$383			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
623	559	383	0	0	0	0	0	1,565	383

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	3/7/2017	3/14/2017	7
Procurement	3/14/2017	9/1/2017	171
Project Execution	9/1/2017	3/1/2021	1277
Project Closeout	3/2/2021	5/30/2021	89

Lake Huron Water Treatment Plant, Raw Sludge Clarifier and Raw Sludge Pumping System

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	649	4,896	3,392	0	0	0	0	0	8,937	3,392
2020	0	0	284	194	4,660	4,661	0	0	0	0	0	9,799	9,321
2019	0	9	422	212	1,612	3,608	1,221			0	0	7,084	6,653
2018			50	920	6,163				0	0	0	7,133	7,133

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Construction contract 1803823 was awarded and the CIP was updated this year to reflect the actual contract value for the construction contract. In addition, funds have been added to this CIP this year for additional resident project representation (RPR) and project management services under the consulting engineering services contract CS-171. BPV 8/1/2019

Lake Huron Water Treatment Plant, Architectural Programming for Laboratory and Admin

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Future Planned

CIP Type Project

☐ **Project New To CIP**

Lake Huron Water Treatment Plant

Project Engineer/Manager Shiyu Yang

Director Grant Gartrell

Managing Dept Water Eng

Date Original Business Case Prepared 9/27/2017

Year Project Added to CIP 2017

Budget Water

Class Lvl 1 Water

Class Lvl 2 Treatment Plants and Facilities

Class Lvl 3 Lake Huron

Location Saint Clair County

Fund and Cost Center Water - 5519-882111

Problem Statement	The Lake Huron Water Treatment Plant was constructed in the early 1970s and started operating in 1976. The existing process control laboratory and administration building interiors are original construction, including but not limited to flooring, wall coverings, ceilings, lab cabinetry, control room boards, bathroom fixtures, and lighting fixtures. The original control room board is still located in the laboratory and consumes a large amount of space that is not used and inefficient. The architectural layout of the laboratory and administration building is designed around the early 1970s workflows and technology.
Scope of Work / Project Alternatives	This will be a study phase project that will involve architectural programming to determine the most efficient architectural layout that meets current process laboratory control technology and administrative workflow practices; and that can be provided through a construction renovation project within the existing building footprint.
Primary Driver	1 - Condition
Driver Explanation	Laboratory and Administration Building are orignal to plant construction.

PM Weighted Score
33.4

Criteria	Score	Comment
Efficiency and Innovation	1	
Financial	1	
Performance (Service Level/Reliability)	2	
Public Health and Safety	2	
Condition	3	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	2	
Public Benefit	1	

RC Weighted Score
40.6

Criteria	Score	Comment
Efficiency and Innovation	2	
Performance (Service Level/Reliability)	2	
Condition	4	
Operations and Maintenance	1	
Public Health and Safety	2	
Regulatory (Environmental/Legal)	2	
Financial	1	
Public Benefit	2	

Lake Huron Water Treatment Plant, Architectural Programming for Laboratory and Admin

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY26+	$237			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	237	237	0

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

111008 CIP#

Lake Huron Water Treatment Plant, Architectural Programming for Laboratory and Admin

Phase Study **Contract** NA **Status** Future Planned Start

Title LH WTP Architectural Programming - Laboratory and Admin Building Architectural Improvements Study

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY26+	$1,062			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	1,062	1,062	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	3/1/2026	7/29/2026	150
Procurement	7/30/2026	1/29/2027	183
Project Execution	1/30/2027	2/3/2029	735
Project Closeout	2/4/2029	5/4/2029	89

Lake Huron Water Treatment Plant, Architectural Programming for Laboratory and Admin

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	0	0	0	0	1,299	1,299	0
2020	0	0		0	0	0	0	0	0	300	0	300	0
2019	0								300	0	0	300	0

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Lake Huron Water Treatment Plant - High Lift Pumping, Water Production Flow Metering and

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Project Engineer/Manager Brian VanHall
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 9/26/2018
Year Project Added to CIP 2018

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Lake Huron
Location Saint Clair County
Fund and Cost Center Water - 5519-882111

Problem Statement	Three new, smaller capacity, high-lift pumping units are needed to provide reduced finished water flows out of Lake Huron WTP to accommodate the relocation of the 96-inch transmission main south of Dorsey-Dickenson valve and to accommodate the installation of a new water production flow meter at the Lake Huron WTP. The three, new smaller capacity high-lift pumping units will also serve a longer term need to better match lower diurnal demands seen at the Lake Huron WTP. Installation of the new water production flow meter can only occur after the three new smaller high-lift pumping units are installed.
Scope of Work / Project Alternatives	This project will be delivered using a design-build project delivery method. The scope of work involves designing and building a new water production flow meter and associated meter vault to more accurately measure finished water production flows from the facility. This work will also entail constructing additional high-lift, finished water header piping, valves and appurtenances to facilitate construction of the new metering infrastructure. The scope also includes installing three new 35 million-gallon-per day (MGD) high-lift pumping units, including pumps, motors, instrumentation, control, and electrical work.
Related Project	This CIP project includes the water production flow meter and associated bypass that was originally part of Contract No. CS-1771 under CIP 111006. The water production flow meter and its bypass were moved from CIP 111006 to the scope of this CIP 111009.
Primary Driver	6 - Public Benefit
Driver Explanation	This project is a predecessor project to relocating the 96-inch transmission main outside the closed G&H Industrial landfill, as well as to improve the accuracy of water production flow metering.

PM Weighted Score
68

Criteria	Score	Comment
Performance (Service Level/Reliability)	3	
Financial	3	
Efficiency and Innovation	5	
Public Benefit	5	
Operations and Maintenance	3	
Condition	5	
Regulatory (Environmental/Legal)	2	
Public Health and Safety	3	

RC Weighted Score
62.2

Criteria	Score	Comment
Public Health and Safety	3	
Regulatory (Environmental/Legal)	2	
Performance (Service Level/Reliability)	4	
Efficiency and Innovation	4	
Condition	3	
Operations and Maintenance	2	
Financial	3	
Public Benefit	5	

Lake Huron Water Treatment Plant - High Lift Pumping, Water Production Flow Metering and

Phase Design and Build **Contract** 1803990 **Status** Under Procurement

Title Design-Build

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Under Procurement	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

3	**Cost Est. Class**
7/31/2019	**Cost Est. Date**
GLWA/Tetra Tech	**Cost Est. Source**
GLWA/Tetra Tech	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY20	$479			2021CIP
Design-Build	FY21	$1,788			2021CIP
Design-Build	FY22	$3,481			2021CIP
Design-Build	FY23	$8,918			2021CIP
Design-Build	FY24	$10,489			2021CIP
Design-Build	FY25	$3,614			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	479	1,788	3,481	8,918	10,489	3,614	0	28,769	28,290

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	1/1/2019	5/1/2019	120
Procurement	7/1/2019	5/12/2020	316

Phase Task Name	Start Date	End Date	Duration
Project Execution	5/13/2020	12/27/2024	1689
Project Closeout	12/28/2024	6/26/2025	180

Lake Huron Water Treatment Plant - High Lift Pumping, Water Production Flow Metering and

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$30			2021CIP
GLWA Salaries CIP2021	FY20	$69			2021CIP
GLWA Salaries CIP2021	FY21	$68			2021CIP
GLWA Salaries CIP2021	FY22	$73			2021CIP
GLWA Salaries CIP2021	FY23	$73			2021CIP
GLWA Salaries CIP2021	FY24	$72			2021CIP
GLWA Salaries CIP2021	FY25	$72			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
30	69	68	73	73	72	72	0	457	358

Phase Task Dates

Lake Huron Water Treatment Plant - High Lift Pumping, Water Production Flow Metering and

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	30	548	1,856	3,554	8,991	10,561	3,686	0	29,226	28,648
2020	0	0		16	9,030	10,030	7,030				0	26,106	26,090

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes Revised project title, added a third smaller high lift pumping unit, and increased the overall estimated cost of work associated with this CIP due to the greater detail of the design.

Lake Huron Water Treatment Plant -Filtration and Pretreatment Improvements

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Future Planned

CIP Type Project

☑ **Project New To CIP**

Lake Huron Water Treatment Plant

Project Engineer/Manager Eric Kramp
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 7/25/2019
Year Project Added to CIP 2019

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Lake Huron
Location Saint Clair County
Fund and Cost Center

Problem Statement

Significant issues exist in the pretreament and filtration portions of the LHWTP:
Approximately half of the flocculators are in service.
Standing water on top of the sedimentation basins and flocculators creates concerns regarding water quality
Filter influent and drain valves do not seal well, creating water loss
Filter underdrains and media have not been evaluated and require confirmation of condition
Isolation valves between the filters, filtered water conduit, and clearwells are known to leak heavily

Scope of Work / Project Alternatives

This project will be delivered using a design-bid-build project delivery method. The scope of work will generally include the following:
1. Replace the existing flocculation system with a new system.
2. Construct filtration improvements, including filter media, filter auxiliary scoring equipment, filter wash water troughs,and other filter tank work.
3. Replace the existing filter control valves and valve operators with new.
4. Rehabilitate concrete associated with the filters.
5, Conduct civil/site drainage control improvements at the sedimentation basins and flocculator chambers.

Flocculators: following an O&M-funded study, replace the filters with best available technology -- horizontal cross flow, vertical, or passive
Add drainage to the sedimentation basins and flocculator roofs
Replace isolation and valves as necessary
Repaint WW Conduit

	Replace underdrain and/or media as necessary
Primary Driver	1 - Condition
Driver Explanation	Existing filters are original construction, including filter media and associated mechanical equipment and are nearing their useful service life.

Lake Huron Water Treatment Plant -Filtration and Pretreatment Improvements

PM Weighted Score
64

Criteria	Score	Comment
Regulatory (Environmental/Legal)	3	Floccs do meet our San. Survey.
Performance (Service Level/Reliability)	4	
Financial	2	
Efficiency and Innovation	3	
Condition	4	
Public Benefit	2	
Public Health and Safety	3	
Operations and Maintenance	4	

RC Weighted Score
71

Criteria	Score	Comment
Public Health and Safety	4	
Financial	2	
Performance (Service Level/Reliability)	4	
Condition	4	
Public Benefit	2	
Regulatory (Environmental/Legal)	4	
Operations and Maintenance	4	
Efficiency and Innovation	3	

Lake Huron Water Treatment Plant -Filtration and Pretreatment Improvements

Phase Design & Construction Assistance **Contract** TBD **Status** Future Planned Start

Title Design and Construction Administration

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY26+	$2,196			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	2,196	2,196	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	4/1/2024	6/29/2024	89
Procurement	6/30/2024	6/29/2025	364
Project Execution	6/30/2025	3/30/2036	3926
Project Closeout	3/31/2036	6/28/2036	89

Lake Huron Water Treatment Plant -Filtration and Pretreatment Improvements

Phase Construction **Contract** TBD **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY26+	$3,087			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	3,087	3,087	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/4/2028	1/2/2029	90
Procurement	1/2/2029	6/30/2029	179
Project Execution	7/1/2029	3/30/2036	2464
Project Closeout	3/31/2036	6/28/2036	89

Lake Huron Water Treatment Plant -Filtration and Pretreatment Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA PM Work

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY24	$12			2021CIP
GLWA Salaries CIP2021	FY25	$48			2021CIP
GLWA Salaries CIP2021	FY26+	$289			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0		0	0	0	12	48	289	349	60

Phase Task Dates

Lake Huron Water Treatment Plant -Filtration and Pretreatment Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	0	0	12	48	5,572	5,632	60

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Lake Huron WTP Pilot Plant

- [x] Innovation
- [ ] Conceptual WW MP
- [x] Water MP Right Sizing
- [ ] Reliability/Redundancy
- [ ] NEWTP Repurposing

Project Status Future Planned

CIP Type Project

[x] **Project New To CIP**

Lake Huron Water Treatment Plant

Project Engineer/Manager Eric Griffin
Director John Norton
Managing Dept Energy Management
Date Original Business Case Prepared 8/22/2019
Year Project Added to CIP 2019

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Lake Huron
Location Saint Clair County
Fund and Cost Center Water - 5519-882111

Problem Statement	Water Operations staff at Lake Huron would benefit from the ability to test potential changes to existing water treatment practices and investigate new and innovative treatment advances.
Scope of Work / Project Alternatives	A small scale pilot plant provides opportunity for testing and investigation without disruption to the full scale facility. Skid mounted units mimicking treatment at Lake Huron: Chemical addition, modified direct filtration facilities and data monitoring and recording would be provided for team education and training.
Other Important Info	Scope of work to include engineering services for planning, construction and training.
Related Project	.
Primary Driver	Varies
Driver Explanation	.

PM Weighted Score
53.6

Criteria	Score	Comment
Condition	5	
Efficiency and Innovation	3	
Regulatory (Environmental/Legal)	2	
Performance (Service Level/Reliability)	5	
Public Benefit	4	
Financial	1	
Operations and Maintenance	1	
Public Health and Safety	1	

RC Weighted Score
52

Criteria	Score	Comment
Performance (Service Level/Reliability)	5	
Public Health and Safety	1	
Public Benefit	3	
Efficiency and Innovation	3	
Financial	1	
Condition	5	
Regulatory (Environmental/Legal)	2	
Operations and Maintenance	1	

Lake Huron WTP Pilot Plant

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY26+	$82			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	82	82	0

Phase Task Dates

Lake Huron WTP Pilot Plant

Phase Study **Contract** TBD **Status** Future Planned Start

Title Study: Lake Huron WTP Pilot Plant

Phase Budget	Water	Cost Allocation	CTA
Phase Status	Future Planned Start	Funding Source	Bond Proceeds
Start Date		Fund	Construction Bond Fund
End Date		Useful Life >20Yrs?	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	Cost Est. Class
	Cost Est. Date
	Cost Est. Source
	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

Lake Huron WTP Pilot Plant

Phase Design and Build **Contract** TBD **Status** Future Planned Start

Title Design Build: Lake Huron WTP Pilot Plant

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY26+	$1,712			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	1,712	1,712	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2025	9/28/2025	89
Procurement	9/29/2025	6/25/2026	269
Project Execution	6/26/2026	6/24/2028	729
Project Closeout	6/25/2028	9/22/2028	89

Lake Huron WTP Pilot Plant

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	0	0	0	0	1,794	1,794	0

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Northeast Water Treatment Plant, Low-Lift Pumping Plant Caisson Rehabilitation

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Low Lift Pumping Plant at Northeast WTP

Project Engineer/Manager Govind Patel
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 6/26/2014
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Northeast
Location City of Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement	Low Lift Pump Discharge flumes were leaking and had significant concrete deterioration within the Low-Lift Pumping Plant Caisson at the Northeast WTP. Water leaks posed hazards to nearby electrical equipment as well as presented potential slip hazards for employees. Additionally, the glazed tile at the upper elevations of the low-lift motor floor were unstable which presented a safety hazard to those working on the low lift pump motor floor.
Scope of Work / Project Alternatives	The low lift pump discharge flumes have been lined with stainless steel plates to stop water leakage into the low lift pump station operating floors. The unstable glazed tile blocks were replaced with new.
Other Important Info	The project is under construction and is substantially complete.
Related Project	CS-1744 engineering services contract, FKE (active) CON -215A construction contract, MK Construction (active)
Primary Driver	1 - Condition
Driver Explanation	Existing low lift discharge flumes were leaking excessively due to poor condition.

PM Weighted Score
56.6

Criteria	Score	Comment
Performance (Service Level/Reliability)	3	
Public Benefit	2	
Regulatory (Environmental/Legal)	2	
Operations and Maintenance	2	
Public Health and Safety	5	
Efficiency and Innovation	1	
Financial	1	
Condition	5	

RC Weighted Score
51.6

Criteria	Score	Comment
Performance (Service Level/Reliability)	3	
Financial	1	
Operations and Maintenance	2	
Condition	5	
Efficiency and Innovation	1	
Public Health and Safety	4	
Regulatory (Environmental/Legal)	2	
Public Benefit	1	

Northeast Water Treatment Plant, Low-Lift Pumping Plant Caisson Rehabilitation

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

1	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$33			2021CIP
GLWA Salaries CIP2021	FY20	$50			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
33	50	0	0	0	0	0	0	83	0

Phase Task Dates

Northeast Water Treatment Plant, Low-Lift Pumping Plant Caisson Rehabilitation

Phase Study and Design and Construction Assistance **Contract** CS-1744 **Status** Active

Title Study/Design/Construction Administration

CS-1744, FKE

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$91			2021CIP
Engineering Services	FY20	$22			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
91	22	0	0	0	0	0	0	113	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	8/18/2015	11/16/2015	90
Procurement	11/17/2015	11/16/2016	365
Project Execution	11/17/2016	10/1/2019	1048
Project Closeout	10/2/2019	12/31/2019	90

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

112002 CIP#

Northeast Water Treatment Plant, Low-Lift Pumping Plant Caisson Rehabilitation

Phase Construction **Contract** CON-215A **Status** Active

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$1,011			2021CIP
Construction	FY20	$138			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
1,011	138	0	0	0	0	0	0	1,149	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	8/1/2017	11/15/2017	106
Procurement	11/16/2017	5/24/2018	189
Project Execution	5/25/2018	8/1/2019	433
Project Closeout	8/2/2019	10/31/2019	90

Northeast Water Treatment Plant, Low-Lift Pumping Plant Caisson Rehabilitation

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	1,135	210	0	0	0	0	0	0	1,345	0
2020	0	0	473	889	203	0	0	0	0	0	0	1,565	203
2019	0	163	70	831	619	30	4			0	0	1,717	1,484
2018		150	1,183						0	0	0	1,333	1,183

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes Updated construction phase to reflect actual construction contract award amount and award dates and completion time. GP 8/1/2019

Northeast Water Treatment Plant High-Lift Pumping Station Improvements

- ☐ Innovation
- ☐ Conceptual WW MP
- ☑ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☑ NEWTP Repurposing

Project Status Future Planned

CIP Type Project

☐ **Project New To CIP**

Northeast Water Treatment Plant

Project Engineer/Manager Mike Garrett
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 9/27/2017
Year Project Added to CIP 2017

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Northeast
Location City of Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement

Existing mechanical, electrical, instrumentation, and control system equipment within the high-lift pumping plant at the Northeast Water Treatment Plant is mostly original (i.e. 1956). Both medium-voltage and low-voltage switchgear are beyond their useful service life. Stock replacement parts are no longer available. When repairs are needed to the switchgear, then either un-used redundant gear are used for parts or custom-manufactured gear is obtained at a high cost with long lead times. In some cases, certain medium-voltage switchgear cubicles are irrepairable. All medium-voltage cables are beyond their useful life especially with respect to insulation properties and therefore require replacement. Primary sevice transformers are beyond their useful service life and will be evaluated for replacement. An existing, former City of Detroit Public Lighting Department (PLD) transformer is not used because it is incapable of delivering adequate power to its connedcted bus. Removal of this former PLD feed will be evaluated. DTE primary feeder cables will be evaluated and replaced as needed. Mechanically, the existing high-lift pumping units are also beyond their useful service life and in addition pump motors noise levels are approaching the maximum 8-hour time-weighted average for noise levels per OSHA regulations. Likewise, the steam heating system is past its usefull service life, and there is no redudancy in the heating system. New heating for the high-lift pumping plant is needed and will be separated from the rest facility's heating system. Lastly, the interior and exterior windows, doors, handrails, and grating systems are original to the plant and need to be replaced with new, more energy efficient styles.

Scope of Work / Project Alternatives

This project will be delivered using a design-bid-build project delivery method. The scope of work generally includes:
1) Replace medium voltage switchgear, Unit Substation 1, all motor control centers (MCCs), power panels, transformers, and lighting panels.

	2) Replace HL Pumps and size according to projected demands. 3) Replace pump motor controls to accommodate remote operation. 4) Replace primary transformers and test/replace feeders to property lines. Coordinate with DTE to ensure that all 3 remaining medium-voltage transformers are capable of delivering the required power. 5) Replace all heating equipment in high lift area and install new boiler. 6) Replace windows, doors, handrails and grating systems.
Primary Driver	1 - Condition
Driver Explanation	MV Switchgear is past its serviceable lifespan. Replacement parts are no longer available. Some cubicles are beyond repair.

PM Weighted Score
74.4

Criteria	Score	Comment
Operations and Maintenance	4	same
Public Health and Safety	5	changed from 2
Public Benefit	2	same
Condition	5	changed from 4
Efficiency and Innovation	4	changed from 3
Regulatory (Environmental/Legal)	2	changed from 1
Financial	2	same
Performance (Service Level/Reliability)	5	changed from 4

RC Weighted Score
68

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	4	changed from 3
Efficiency and Innovation	4	same
Financial	2	changed from 3
Public Health and Safety	4	changed from 1
Operations and Maintenance	4	same
Regulatory (Environmental/Legal)	2	changed from 1
Public Benefit	2	same

Northeast Water Treatment Plant High-Lift Pumping Station Improvements

Phase Design & Construction Assistance **Contract** NA **Status** Future Planned Start

Title Design/Construction Administration

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY24	$1,148			2021CIP
Engineering Services	FY25	$2,303			2021CIP
Engineering Services	FY26+	$5,942			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	1,148	2,303	5,942	9,393	3,451

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	1/1/2023	4/1/2023	90
Procurement	4/2/2023	12/31/2023	273
Project Execution	1/1/2024	10/1/2031	2830
Project Closeout	10/2/2031	12/31/2031	90

Northeast Water Treatment Plant High-Lift Pumping Station Improvements

Phase Construction **Contract** NA **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
11/16/2018	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY26+	$47,549			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	47,549	47,549	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	12/31/2025	3/31/2026	90
Procurement	4/1/2026	10/6/2026	188
Project Execution	10/7/2026	10/1/2031	1820
Project Closeout	10/2/2031	12/31/2031	90

Northeast Water Treatment Plant High-Lift Pumping Station Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY23	$40			2021CIP
GLWA Salaries CIP2021	FY24	$80			2021CIP
GLWA Salaries CIP2021	FY25	$80			2021CIP
GLWA Salaries CIP2021	FY26+	$423			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	40	80	80	423	623	200

Phase Task Dates

Northeast Water Treatment Plant High-Lift Pumping Station Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	0	40	1,228	2,383	53,914	57,565	3,651
2020	0	0		0	0	0	0	0	0	62,234	0	62,234	0
2019	0								62,265	0	0	62,265	0

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Expanded the scope of work to include a complete, multi-disciplinary upgrade to the high-lift pumping plant. The scope of work in last fiscal year's CIP was limited to medium- and low-voltage electrical system improvements. However, it would be best from a sequence of construction standpoint to upgrade the mechanical equipment (i.e. pumping and HVAC) at the same time that electrical improvements are made to the station. Likewise, architectural work involving doors, windows, handrails and grating systems is best done concurrent with the mechanical and electrical work. Due to the deteriorating condition of the station's mechanical and electrical gear, implementation of this CIP has been moved ahead. Although the cost of this CIP has been updated to account for the expaneded scope, it will likely change again between now and next year because GLWA staff will work refining the scope and associated estimated costs over the next year. MAG 7/26/2019

Northeast Water Treatment Plant - Replacement of Covers for Process Water Conduits

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Project Engineer/Manager Peter Fromm
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 10/1/2018
Year Project Added to CIP 2018

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Northeast
Location City of Detroit
Fund and Cost Center

Problem Statement	The existing steel covers that cover entry openings into filtered water conduits at the plant are significantly deteriorated to the point where they are not water-tight and require replacement. Therefore, these covers are unsafe and have been identified by the MDEQ in the most recent sanitary survey as requiring replacement. Temporary barricades are in place to prevent injury and further damage.
Scope of Work / Project Alternatives	Replace steel covers, frames and associated structural support beams over the settled water and filtered water conduits.
Other Important Info	Challenges: Temporary support of sluice gate operators and partial shutdown of certain portions of the plant to facilitate replacement of the existing steel covers, frames,and associated structural supports that are located immediately above the filtered water conduits.
Primary Driver	5 - Public Health & Safety
Driver Explanation	Inadequate covers over filtered and finished water conduits pose potential risks to water quality.

Northeast Water Treatment Plant - Replacement of Covers for Process Water Conduits

PM Weighted Score
79.2

Criteria	Score	Comment
Public Health and Safety	5	
Financial	3	
Efficiency and Innovation	4	
Condition	5	
Performance (Service Level/Reliability)	5	
Operations and Maintenance	2	
Public Benefit	2	
Regulatory (Environmental/Legal)	4	

RC Weighted Score
61

Criteria	Score	Comment
Operations and Maintenance	1	
Performance (Service Level/Reliability)	5	
Efficiency and Innovation	1	
Regulatory (Environmental/Legal)	3	
Public Health and Safety	4	
Public Benefit	1	
Condition	5	
Financial	2	

Northeast Water Treatment Plant - Replacement of Covers for Process Water Conduits

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$5			2021CIP
GLWA Salaries CIP2021	FY20	$99			2021CIP
GLWA Salaries CIP2021	FY21	$166			2021CIP
GLWA Salaries CIP2021	FY22	$14			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
5	99	166	14	0	0	0	0	284	180

Phase Task Dates

Northeast Water Treatment Plant - Replacement of Covers for Process Water Conduits

Phase Construction **Contract** 1901036 **Status** Under Procurement

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Under Procurement	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$9			2021CIP
Construction	FY20	$170			2021CIP
Construction	FY21	$930			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
9	170	930	0	0	0	0	0	1,109	930

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	3/1/2019	6/4/2019	95
Procurement	6/4/2019	1/5/2020	215
Project Execution	1/6/2020	7/30/2021	571
Project Closeout	7/31/2021	7/31/2021	0

Northeast Water Treatment Plant - Replacement of Covers for Process Water Conduits

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	14	269	1,096	14	0	0	0	0	1,393	1,110
2020	0	0			166	647					0	813	813

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes Changed status to active. PF 8/8/2019

Northeast Water Treatment Plant Flocculator Replacements

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Project Engineer/Manager Peter Fromm
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 10/1/2018
Year Project Added to CIP 2018

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Northeast
Location City of Detroit
Fund and Cost Center

Problem Statement	Most of the existing flocculators are not operable and are beyond repair, which reduces sedimentation effectiveness and creates a greater load on the filtration process. It should be noted that treatment at the Northeast Water Treatment Plant is planned to be decommissioning, as recommended in the 2015 Water Master Plan Update, in order to align overall system water treatment capacity with current as well as 20-year projected water demands. As such, the scope of improvements to flocculation under this CIP will only involve replacing 1/2 the flocculators.
Scope of Work / Project Alternatives	This CIP project is being delivered under a design-bid-build project delivery method and generally includes the following scope of work: 1. Demolition of all existing flocculators including drives, motors, shafts, and paddles. 2. Installation of half of the flocculators including drives, motors, shafts, and paddles. 3. Associated architectural, structural, and electrical upgrades within both of the flocculator buildings.
Other Important Info	Only 1/2 of the existing flocculators will be replaced under this CIP because the treatment works at Northeast are slated for decommissioning. Challenges: Water production during construction.
Primary Driver	1 - Condition
Driver Explanation	Most of the existing flocculators are not operating and are beyond repair.

Northeast Water Treatment Plant Flocculator Replacements

PM Weighted Score
74.8

Criteria	Score	Comment
Public Benefit	3	
Regulatory (Environmental/Legal)	3	
Condition	5	
Efficiency and Innovation	4	
Performance (Service Level/Reliability)	5	
Operations and Maintenance	4	
Financial	3	
Public Health and Safety	3	

RC Weighted Score
67.4

Criteria	Score	Comment
Performance (Service Level/Reliability)	5	
Financial	2	
Public Health and Safety	3	
Operations and Maintenance	4	
Condition	5	
Regulatory (Environmental/Legal)	3	
Efficiency and Innovation	1	
Public Benefit	3	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Northeast Water Treatment Plant Flocculator Replacements

112006 CIP#

Phase Construction **Contract** TBD **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY20	$429			2021CIP
Construction	FY21	$2,749			2021CIP
Construction	FY22	$3,002			2021CIP
Construction	FY23	$834			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	429	2,749	3,002	834	0	0	0	7,014	6,585

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	3/8/2019	10/18/2019	224
Procurement	10/19/2019	4/19/2020	183
Project Execution	4/20/2020	11/17/2022	941
Project Closeout	11/18/2022	2/16/2023	90

Northeast Water Treatment Plant Flocculator Replacements

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$3			2021CIP
GLWA Salaries CIP2021	FY20	$31			2021CIP
GLWA Salaries CIP2021	FY21	$24			2021CIP
GLWA Salaries CIP2021	FY22	$24			2021CIP
GLWA Salaries CIP2021	FY23	$15			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
3	31	24	24	15	0	0	0	97	63

Phase Task Dates

Northeast Water Treatment Plant Flocculator Replacements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	3	460	2,773	3,026	849	0	0	0	7,111	6,648
2020	0	0		3	1,356	1,356	3				0	2,718	2,715

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

New project to the CIP. PF 2018

The cost of this CIP increased this fiscal year from last to account for

Southwest Water Treatment Plant, High-Lift Pump Discharge Valve Actuators Replacement

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Oil hydraulic valve actuators leaking oil

Project Engineer/Manager Shakil Ahmed
Director Terry Daniel
Managing Dept Water Eng
Date Original Business Case Prepared 6/26/2014
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Southwest
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement	Existing oil hydraulic high lift valve actuators are leaking oil and at the end of service life. The leaking actuators pose safety concerns and replacement of valve actuators is needed.
Scope of Work / Project Alternatives	This project involves replacement of the existing oil hydraulic actuators on the high lift pumping units with electric motor operators. A new gas-fired generator is being installed to provide backup power to the electric motor operators. In addition, a section of new high lift header is being installed along with header isolation valves for the high lift pumps.
Other Important Info	The construction contract, CON-281, for this CIP project was awarded to Weiss Construction and the notice to proceed issued on October 1, 2018. The project is scheduled for completion by November 2021. Challenges: Sequencing the demolition and replacement of the existing oil hydraulic power system will require shutdown of individual high lift pumping units.
Related Project	Contract No. CS-1653, Study Phase (closed) Contract No. CS-034, Design and Construction Administration Services (active) Contract No. CON-281, Construction (active)
Primary Driver	1 - Condition
Driver Explanation	High-lift pumps were equipped with original (circa 1962) oil hydraulic actuators and related equipment, which was leaking oil and was beyond repair.

PM Weighted Score
76

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	3	
Operations and Maintenance	4	
Public Health and Safety	4	
Public Benefit	4	
Financial	2	
Efficiency and Innovation	3	

RC Weighted Score
53.2

Criteria	Score	Comment
Condition	4	
Performance (Service Level/Reliability)	2	Primary difference between PM & RC - No addit
Regulatory (Environmental/Legal)	3	
Operations and Maintenance	5	
Public Health and Safety	2	
Public Benefit	1	
Financial	1	
Efficiency and Innovation	3	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

113002 CIP#

Southwest Water Treatment Plant, High-Lift Pump Discharge Valve Actuators Replacement

Phase Design & Construction Assistance **Contract** CS-034 **Status** Active

Title Design/Construction Administration

Design contract is Contract No. CS-034 with Tetra Tech

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$285			2021CIP
Engineering Services	FY20	$170			2021CIP
Engineering Services	FY21	$43			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
285	170	43	0	0	0	0	0	498	43

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	4/2/2016	7/1/2016	90
Procurement	7/2/2016	7/15/2017	378
Project Execution	7/16/2017	10/1/2020	1173
Project Closeout	10/2/2020	12/31/2020	90

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

113002 CIP#

Southwest Water Treatment Plant, High-Lift Pump Discharge Valve Actuators Replacement

Phase Construction **Contract** NA **Status** Active

Title Construction

Construction contract No. CON-281 was awarded to Weiss Construction this past year.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

3	**Cost Est. Class**
1/1/2017	**Cost Est. Date**
TetraTech	**Cost Est. Source**
TetraTech	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$1,999			2021CIP
Construction	FY20	$2,016			2021CIP
Construction	FY21	$987			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
1,999	2,016	987	0	0	0	0	0	5,002	987

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	2/8/2017	5/14/2018	460
Procurement	5/15/2018	10/1/2018	139
Project Execution	10/1/2018	10/1/2020	731
Project Closeout	10/2/2020	12/31/2020	90

Southwest Water Treatment Plant, High-Lift Pump Discharge Valve Actuators Replacement

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$80			2021CIP
GLWA Salaries CIP2021	FY20	$127			2021CIP
GLWA Salaries CIP2021	FY21	$64			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
80	127	64	0	0	0	0	0	271	64

Phase Task Dates

GLWA FY 2021-2025 CIP

113002 CIP#

Southwest Water Treatment Plant, High-Lift Pump Discharge Valve Actuators Replacement

Phase not applicable **Contract** NA **Status** Closed Out

Title Prior Year Actual Expenses

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	
Start Date		**Fund**	
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
n/a	FY19-	$115			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
115	0	0	0	0	0	0	0	115	0

Phase Task Dates

Southwest Water Treatment Plant, High-Lift Pump Discharge Valve Actuators Replacement

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	2,479	2,313	1,094	0	0	0	0	0	5,886	1,094
2020	0	0	249	1,157	2,876	1,144	6	0	0	0	0	5,432	4,026
2019	0	115	186	1,157	2,876	1,144	6			0	0	5,484	5,183
2018		160	160	900	900				0	0	0	2,120	1,960

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Increased CIP budget this year due to Change Order No. 1 which involved the construction of additional header piping and related isolation valves in the high-lift pumping plant header vault. This additional work provided greater flexibility for replacing the high-lift pump discharge control valves and therefore providing more reliable maintenance of plant operations during construction. SAA 8/8/2019

Southwest Water Treatment Plant, Low- and High-Lift Pumping Station, Flocculation and

- [x] Innovation
- [ ] Conceptual WW MP
- [x] Water MP Right Sizing
- [ ] Reliability/Redundancy
- [ ] NEWTP Repurposing

Project Status Future Planned

CIP Type Project

- [ ] **Project New To CIP**

Example of a butterfly valve

Project Engineer/Manager Shakil Ahmed

Director Grant Gartrell

Managing Dept Water Eng

Date Original Business Case Prepared 8/19/2014

Year Project Added to CIP 2014

Budget Water

Class Lvl 1 Water

Class Lvl 2 Treatment Plants and Facilities

Class Lvl 3 Southwest

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882111

Problem Statement	Most of the plant's process mechanical, building mechanical and electrical systems are original to the plant (circa1962) and are nearing or are past end of useful service life. As a result, additional plant maintenance effort is necessary to meet plant operational needs.
Scope of Work / Project Alternatives	The work includes design and construction services for the replacement of numerous large-diameter butterfly valves and water-control gates throughout the low-lift, high-lift, filtration, and flocculator buildings. The low- and high-lift pumping units, flocculators and filters will all be improved considered the current and 20-year projected demands so that they are all right sized.
Other Important Info	This work is included in the 2015 water master plan update. The aforementioned water master plan update also recommends that GLWA consider decommissioning treatment at the Southwest Water Treatment Plant if water demand continues to trend in a downward direction, which has been the case.
Primary Driver	1 - Condition
Driver Explanation	The existing low- and high-lift pumping equipment and filtration system need to be replaced in order to provide continued reliable operation of these critical plant systems.

PM Weighted Score
50.2

Criteria	Score	Comment
Public Health and Safety	2	changed from 4
Performance (Service Level/Reliability)	3	changed from 5
Operations and Maintenance	4	same
Condition	4	same
Public Benefit	2	same
Financial	1	same
Efficiency and Innovation	2	same
Regulatory (Environmental/Legal)	2	changed from 3

RC Weighted Score
50.2

Criteria	Score	Comment
Public Benefit	2	was 2
Regulatory (Environmental/Legal)	2	was 3
Operations and Maintenance	4	was 4
Efficiency and Innovation	2	was 2
Financial	1	was 3
Condition	4	was 4
Public Health and Safety	2	was 4
Performance (Service Level/Reliability)	3	was 4

Southwest Water Treatment Plant, Low- and High-Lift Pumping Station, Flocculation and

Phase Design & Construction Assistance **Contract** NA **Status** Future Planned Start

Title Design/Construction Administration

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY26+	$14,314			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	14,314	14,314	0

Phase Task Dates

Southwest Water Treatment Plant, Low- and High-Lift Pumping Station, Flocculation and

Phase Construction **Contract** NA **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Southwest Water Treatment Plant, Low- and High-Lift Pumping Station, Flocculation and

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Southwest Water Treatment Plant, Low- and High-Lift Pumping Station, Flocculation and

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	0	0	0	0	14,314	14,314	0
2020	0	0		0	0	0	0	0	0	148,286	0	148,286	0
2019	0								148,286	0	0	148,286	0
2018								2,940	0	0	0	2,940	0

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes All work that was formerly in CIP 113008 is now included in the scope of this CIP 113003. S. Ahmed 8/6/2019

Southwest Water Treatment Plant, Raw Water Sampling Modifications

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Closed

CIP Type Project

☐ **Project New To CIP**

Access manhole

Project Engineer/Manager Shakil Ahmed
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 6/26/2014
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Southwest
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement	Existing raw water sampling location include recycled decant flows from residual handling facilities and do not represent a true raw water sample. A new sample pump system located upstream of the recycled decant flows is needed to obtain a true raw water
Scope of Work / Project Alternatives	This project will design the modifications necessary to eliminate the decant and recycle of solid handling flows from the raw water sample location serving the Southwest WTP. This project will provide for a representative raw water only sample that will improve process monitoring and associated chemical usage.
Other Important Info	The construction contract, CON-247, was awarded and the notice to proceed issued to the contractor on May 1, 2018. The project is scheduled for completion in January 2019. Challenges: Improvements may require another tap to the existing raw water tunnel requiring a plant shutdown (low lift pumping as a minimum). Coordination with operations required.
Related Project	Contract No. CS-1730 with FTC&H, is the design and construction administration services contract. Contract No. CON-247 with Z-Contractors, is the construction contract.
Primary Driver	3 - Regulatory
Driver Explanation	Raw water samples must represent true source water conditions. Raw water samples collected with the existing system are comingled with residuals dewatering recycle flows, which are not representative of source water composition.

Southwest Water Treatment Plant, Raw Water Sampling Modifications

PM Weighted Score
53.2

Criteria	Score	Comment
Condition	2	
Performance (Service Level/Reliability)	4	
Regulatory (Environmental/Legal)	5	
Operations and Maintenance	3	
Public Health and Safety	3	
Public Benefit	1	
Financial	0	
Efficiency and Innovation	0	

RC Weighted Score
44.8

Criteria	Score	Comment
Condition	1	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	5	
Operations and Maintenance	2	
Public Health and Safety	1	
Public Benefit	1	
Financial	0	
Efficiency and Innovation	0	

Southwest Water Treatment Plant, Raw Water Sampling Modifications

Phase GLWA Employees Project management **Contract** NA **Status** Pending Close-out

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Pending Close-out	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$31			2021CIP
GLWA Salaries CIP2021	FY20	$35			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
31	35	0	0	0	0	0	0	66	0

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

113004 CIP#

Southwest Water Treatment Plant, Raw Water Sampling Modifications

Phase Construction **Contract** NA **Status** Closed Out

Title SW WTP Residual Handling Facility's Decant Flow Modifications

near procurement

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2017	**Cost Est. Date**
FTC&H	**Cost Est. Source**
FTC&H	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$527			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
527	0	0	0	0	0	0	0	527	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2018	8/1/2018	31
Procurement	8/1/2018	8/31/2018	30
Project Execution	5/16/2018	6/1/2019	381
Project Closeout	6/1/2019	9/29/2019	120

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

113004 CIP#

Southwest Water Treatment Plant, Raw Water Sampling Modifications

Phase Study and Design and Construction Assistance **Contract** CS-1730 **Status** Pending Close-out

Title CS-1730, FTC&H, SW WTP Residual Handling Facility's Decant Flow Modifications

FTC&H is the consultant

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Pending Close-out	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$229			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
229	0	0	0	0	0	0	0	229	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	6/26/2016	9/24/2016	90
Procurement	9/25/2016	4/2/2018	554
Project Execution	4/3/2018	5/15/2019	407
Project Closeout	7/1/2019	9/29/2019	90

Southwest Water Treatment Plant, Raw Water Sampling Modifications

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	787	35	0	0	0	0	0	0	822	0
2020	0	0	198	319	380	1	0	0	0	0	0	898	381
2019	0	142	165	1,054	1,785	206				0	0	3,352	3,045
2018		100	3,100	2,309					0	0	0	5,509	5,409

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Southwest Water Treatment Plant Chlorine Scrubber, Raw Water Screens & Related

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Future Planned

CIP Type Project

☐ **Project New To CIP**

Southwest Water Treatment Plant

Project Engineer/Manager Shakil Ahmed
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 9/27/2017
Year Project Added to CIP 2017

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Southwest
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement	The existing chlorine gas scrubber is nearing its end of useful service life and its absorption media will be expiring within the next few years; and therefore requires replacement. Similarly, the existing raw water screening system are original to the plant (circa 1962), are not functional, and are beyond repair. As a result, this system also requires replacement. Both the chlorine gas scrubber and raw water screening systems will require ancillary equipment improvements related to electrical, alarms, instrumentation, and controls.
Scope of Work / Project Alternatives	This project will be delivered under a design-build project delivery model. The existing gas chlorine scubber and raw water screens will be replaced with new system equipment meeting current building codes and industry best practices. The new gas chlorine scrubber and raw water screens that will be installed will be designed for current and projected water demans in accordance with the recommendations of the 2015 Water Master Plan Update project; therefore this new equipment will be right-sized.
Other Important Info	GLWA intends to use the services of AECOM under its CIP program management contract to implement this design-build project.
Primary Driver	5 - Public Health & Safety
Driver Explanation	As chlorine gas is acutely toxic to human health, chlorine gas scrubbing equipment is needed to prevent gas chlorine leaks that occur in the chlorine storage and feeder rooms from exhausting to the outside environment.

PM Weighted Score

68.2

Criteria	Score	Comment
Public Health and Safety	5	same
Regulatory (Environmental/Legal)	4	changed from 1
Financial	1	same
Operations and Maintenance	2	same
Condition	4	changed from 3
Public Benefit	4	changed from 1
Efficiency and Innovation	3	changed from 1
Performance (Service Level/Reliability)	3	same

RC Weighted Score

68.2

Criteria	Score	Comment
Regulatory (Environmental/Legal)	4	changed from 1
Condition	4	changed from 3
Efficiency and Innovation	3	changed from 1
Financial	1	same
Public Benefit	4	changed from 1
Operations and Maintenance	2	same
Performance (Service Level/Reliability)	3	same
Public Health and Safety	5	same

Southwest Water Treatment Plant Chlorine Scrubber, Raw Water Screens & Related

Phase Design and Build **Contract** NA **Status** Future Planned Start

Title Design-Build

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY21	$260			2021CIP
Design-Build	FY22	$2,169			2021CIP
Design-Build	FY23	$2,169			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	260	2,169	2,169	0	0	0	4,598	4,598

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2019	9/13/2019	74
Procurement	9/14/2019	6/30/2020	290
Project Execution	7/1/2020	6/30/2023	1094
Project Closeout	7/1/2023	9/29/2023	90

Southwest Water Treatment Plant Chlorine Scrubber, Raw Water Screens & Related

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY22	$69			2021CIP
GLWA Salaries CIP2021	FY23	$69			2021CIP
GLWA Salaries CIP2021	FY24	$17			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	69	69	17	0	0	155	155

Phase Task Dates

Southwest Water Treatment Plant Chlorine Scrubber, Raw Water Screens & Related

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	260	2,238	2,238	17	0	0	4,753	4,753
2020	0	0		0	0	0	0	0	0	7,032	0	7,032	0
2019	0								7,032	0	0	7,032	0

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes Due to the limited remaining service life of the gas chlorine scrubbing system and condition of the raw water screens, this project has been moved ahead in the CIP schedule from last year. SA 8/8/2019

Southwest Water Treatment Plant Architectural and Building Mechanical Improvements

- [x] Innovation
- [ ] Conceptual WW MP
- [ ] Water MP Right Sizing
- [ ] Reliability/Redundancy
- [ ] NEWTP Repurposing

Project Status Future Planned

CIP Type Project

- [ ] **Project New To CIP**

Southwest Water Treatment Plant

Project Engineer/Manager Shakil Ahmed
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 9/27/2017
Year Project Added to CIP 2017

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Southwest
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement

Most of the existing low- and high- lift pumping station and administration buildings' mechanical equipment (HVAC, dehumidification, plumbing) and architectural components such as doors, windows, floors, and furnishings, are over 50 years old; and therefore are beyond their normal useful service life. Additional architectural improvements at Southwest Water Treatment Plant will include renovation of staff locker rooms and bathrooms, including a restroom designed for female staff.

Scope of Work / Project Alternatives

This project would be delivered using a design-bid-build project delivery method. The scope of work would generally include:
1. Design of the project.
2. Remove existing building mechanical and architectural systems.
3. Install new heating and ventilating systems process and administration areas.
4. Install new air-conditioning systems for administration areas.
5. Install new dehumidification systems for the high-lift header vault.
6. Install new interior and exterior doors and windows.
7. Install new lockers, bath fixtures, water closets, flooring, ceiling, and related items in men's locker rooms and bathrooms
8. Construct new locker room and related bath facilty for women's changing and bathing facilities.
9. Provide new furnishings for administration offices.

Other Important Info

CS-1528 water master plan update included these improvements.

Primary Driver 1 - Condition

Driver Explanation	Existing building mechanical and architectural componets are mainly original to the plant, which dates back to 1962.

PM Weighted Score
36.4

Criteria	Score	Comment
Public Health and Safety	1	
Condition	4	
Performance (Service Level/Reliability)	2	
Public Benefit	1	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	3	
Financial	1	
Efficiency and Innovation	2	

RC Weighted Score
36

Criteria	Score	Comment
Operations and Maintenance	3	
Performance (Service Level/Reliability)	2	
Regulatory (Environmental/Legal)	1	
Financial	2	
Efficiency and Innovation	2	
Condition	3	
Public Benefit	1	
Public Health and Safety	1	

Southwest Water Treatment Plant Architectural and Building Mechanical Improvements

Phase Design & Construction Assistance **Contract** NA **Status** Future Planned Start

Title Design/Construction Administration

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	5/11/2029	8/9/2029	90
Procurement	8/10/2029	8/10/2030	365
Project Execution	8/11/2030	8/3/2035	1818
Project Closeout	8/4/2035	11/2/2035	90

Southwest Water Treatment Plant Architectural and Building Mechanical Improvements

Phase Construction **Contract** NA **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	11/14/2031	2/13/2032	91
Procurement	2/13/2032	8/19/2032	188
Project Execution	8/20/2032	8/3/2035	1078
Project Closeout	8/4/2035	11/2/2035	90

Southwest Water Treatment Plant Architectural and Building Mechanical Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY26+	$98			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	98	98	0

Phase Task Dates

Southwest Water Treatment Plant Architectural and Building Mechanical Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	0	0	0	0	98	98	0
2020	0	0		0	0	0	0	0	0	37,336	0	37,336	0
2019	0								37,336	0	0	37,336	0

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes Engaged AECOM under its CIP program management contract to review and validate the estimated capital cost of this CIP. 8/2019 NH

Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Springwells filter building

Project Engineer/Manager Khader Hamad
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 3/29/2004
Year Project Added to CIP 2002

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Springwells
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement

The existing filtration system equipment (i.e. filter media, surface wash sweeps, filter piping, filter control valves & operators, electrical, lighting, instrumentation and controls) in the 1958 Filter Plant are original to construction and are all well beyond their useful service life. Reconstruction of the 40 filters in the 1958 Filter Plant and 19 filters in the 1930 Filter Plant that have experienced failures to their plastic-block underdrains is required to maintain reliable water production from Springwells. The existing HVAC and dehumidification system serving both the 1958 and 1930 Filter Buildings is inadequate to maintain an environment suitable for modern electrical and controls equipment. The Administration Building Laboratory requires renovation to its facilities and HVAC to meet modern code and to provide an adequate space for laboratory functions.

Scope of Work / Project Alternatives

This project includes the study, design (CS-1425) and construction assistance (CS-1425 and CS-200) of improvements to the Springwells WTP that includes the rehabilitation of the 1958 Filters, rehabilitation of failed 1930s Filters, update of Operation and Maintenance Manuals, and replacement of Phosphoric Acid feed system. Provide construction services to furnish and install new filter media, underdrains, filter valves, and rate controllers; replace the existing filter control consoles, hydraulic control valves with electric control valves, enclosures; add appurtenances to enable automatic backwashing of the filters; provide a Filter Aid Polymer System to the 1930 and 1958 filter complexes; Programmable Logic Controller-based controls for automatic control of the polymer system. Conversion of the overhead bridge cranes and elevators from DC to AC power, and upgrades to meet modern codes..

Other Important Info

There are a total of 108 filters at the Springwells Water Treatment Plant. This project has reconstructed 59 of these filters, including all 40 filters at the 1958 filter building and 19 filters at the 1930 filter building. The 19 filters at the 1930 filter building were previously equipped with plastic-block underdrains with porous plates. These underdrains

	failed and were replaced with low-profile type 316 stainless steel, slotted direct-media retaining underdrains.
Related Project	Contract CS-1425, CDM, Engineering (closed) Contract CS-200, CDM Smith, Engineering (active) Contract SP-563, Walsh, Construction (active)
Primary Driver	1 - Condition
Driver Explanation	Existing 1958 filtration system equipment, including filter media, surface wash sweeps, filter piping, filter control valves, valve operators, electrical, lighting, and controls were original 1958 construction all well beyond their useful service life

PM Weighted Score

62.2

Criteria	Score	Comment
Condition	4	
Efficiency and Innovation	3	
Financial	2	
Public Benefit	3	
Public Health and Safety	2	
Operations and Maintenance	4	
Regulatory (Environmental/Legal)	3	
Performance (Service Level/Reliability)	4	

RC Weighted Score

62.2

Criteria	Score	Comment
Public Health and Safety	2	
Financial	2	
Condition	4	
Regulatory (Environmental/Legal)	3	
Operations and Maintenance	4	
Efficiency and Innovation	3	
Performance (Service Level/Reliability)	4	
Public Benefit	3	

Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

1	**Cost Est. Class**
1/1/2013	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$480			2021CIP
GLWA Salaries CIP2021	FY20	$86			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
480	86	0	0	0	0	0	0	566	0

Phase Task Dates

Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

Phase Construction **Contract** SP-563 **Status** Active

Title Construction

Walsh Contract

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date	7/8/2013	**Fund**	Construction Bond Fund
End Date	12/14/2018	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2013	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	Todd King
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$94,600			2021CIP
Construction	FY20	$4,943			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
94,600	4,943	0	0	0	0	0	0	99,543	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	6/30/2015	9/28/2015	90
Procurement	9/29/2015	4/4/2016	188
Project Execution	4/5/2016	11/19/2019	1323
Project Closeout	11/20/2019	2/18/2020	90

Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

Phase Study and Design and Construction Assistance **Contract** CS-1425 **Status** Closed Out

Title Study/Design/Construction Administration

Closed CDM Contract

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date	1/18/2008	**Fund**	Construction Bond Fund
End Date	12/14/2018	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2013	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

Phase Construction Assistance **Contract** cs-073 **Status** Closed Out

Title Construction Administration

Closed CS-073 contract with Lake Erie Electric

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2013	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

Phase Construction Assistance **Contract** CS-200 **Status** Active

Title Construction Administration, CS-200

CS-200 Contract with CDM Smith

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2013	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$1,094			2021CIP
Engineering Services	FY20	$765			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
1,094	765	0	0	0	0	0	0	1,859	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/8/2010	1/6/2011	90
Procurement	1/7/2011	1/7/2012	365
Project Execution	1/8/2012	11/19/2019	2872

Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	96,174	5,794	0	0	0	0	0	0	101,968	0
2020	0	0	89,310	7,978	0	0	0	0	0	0	0	97,288	0
2019	0	82,682	7,281	3,501						0	0	93,464	3,501
2018	56759	20,353	310						0	0	0	77,422	310

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Updated to reflect projected substantial and final completion dates for the SP-563 construction contract. KH 2019
Updated wording of detailed project information to make it more succinct. JRK 8/12/2019

Springwells Water Treatment Plant, Low-Lift and High-Lift Pumping Station Improvements

- ☐ Innovation
- ☐ Conceptual WW MP
- ☑ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☑ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

High Lift Station showing high lift pump pits and windows to be replaced.

Project Engineer/Manager Erich Klun
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 3/29/2004
Year Project Added to CIP 2004

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Springwells
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement	Existing low- and high-lift pumping system electrical switchgear is original (1930s) and are well beyond their useful service life. This switchgear is unsafe, not reliable and is oversized for current and projected demands. In addition, the existing pumping units are a mix of 1930s and 1950s units and are also in need of either replacement or in the case of the pumps rehabilitation. The exterior windows on the pumping plant building are also original (1930s), are in poor condition and are not well insulated. As a result, all of the exterior windows on the pumping plant building need to be replaced with new, energy efficient windows.
Scope of Work / Project Alternatives	This CIP project will be delivered under a design-bid-build project delivery using a single-prime engineering consultant and multiple prime construction contracts to deliver the entire built project. The scope of work generally includes: 1. Replacement of low- and high-lift pumping units, including pumps, motors, valves, and piping. 2. Replacement of exterior windows in the pump house, turbine house, boiler house, and switch house. 3. Replacement of medium-voltage electrical system. 4. Replacement of all pump isolation gates.
Related Project	Contract No. CS-103 with CDM Smith Design and Construction Administration Services
Primary Driver	1 - Condition
Driver Explanation	Existing low- and high-lift pumps are original to plant construction with most of them nearing 90 years old.

PM Weighted Score
92.6

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	4	
Operations and Maintenance	5	
Public Health and Safety	5	
Public Benefit	5	
Financial	4	
Efficiency and Innovation	4	

RC Weighted Score
69.2

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	5	
Public Health and Safety	5	
Public Benefit	2	
Financial	1	
Efficiency and Innovation	3	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

114002 CIP#

Springwells Water Treatment Plant, Low-Lift and High-Lift Pumping Station Improvements

Phase Construction **Contract** TBD **Status** Future Planned Start

Title Construction, Low- & High-Lift Pumping System Replacement

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

4	**Cost Est. Class**
7/29/2019	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY22	$1,161			2021CIP
Construction	FY23	$5,167			2021CIP
Construction	FY24	$13,707			2021CIP
Construction	FY25	$17,960			2021CIP
Construction	FY26+	$89,831			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	1,161	5,167	13,707	17,960	89,831	127,826	37,995

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	6/2/2021	8/31/2021	90
Procurement	9/1/2021	3/8/2022	188
Project Execution	3/9/2022	4/28/2030	2972

Phase Task Name	Start Date	End Date	Duration
Project Closeout	4/29/2030	7/28/2030	90

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

114002 CIP#

Springwells Water Treatment Plant, Low-Lift and High-Lift Pumping Station Improvements

Phase Design and Build **Contract** 1900134 **Status** Active

Title Design-Build

DB Contract No. 1900134, Low-Lift Suction Isolation Gate Replacement

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

3	**Cost Est. Class**
7/24/2018	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY20	$2,048			2021CIP
Design-Build	FY21	$4,908			2021CIP
Design-Build	FY22	$3,487			2021CIP
Design-Build	FY23	$1			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	2,048	4,908	3,487	1	0	0	0	10,444	8,396

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	1/1/2019	4/15/2019	104
Procurement	4/16/2019	12/2/2019	230
Project Execution	3/17/2020	6/2/2022	807

Phase Task Name	Start Date	End Date	Duration
Project Execution	12/3/2019	3/16/2020	104
Project Closeout	6/3/2022	12/2/2022	182

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

114002 CIP#

Springwells Water Treatment Plant, Low-Lift and High-Lift Pumping Station Improvements

Phase Construction **Contract** NA **Status** Future Planned Start

Title Construction, Electrical Gear Replacement

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

4	**Cost Est. Class**
7/29/2019	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY21	$1,101			2021CIP
Construction	FY22	$7,466			2021CIP
Construction	FY23	$12,409			2021CIP
Construction	FY24	$3,767			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	1,101	7,466	12,409	3,767	0	0	24,743	24,743

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	6/30/2020	9/27/2020	89
Procurement	9/28/2020	3/26/2021	179
Project Execution	3/27/2021	3/27/2024	1096
Project Closeout	3/28/2024	6/25/2024	89

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

114002 CIP#

Springwells Water Treatment Plant, Low-Lift and High-Lift Pumping Station Improvements

Phase Study and Design and Construction Assistance **Contract** CS-103 **Status** Under Procurement

Title Study/Design/Construction Administration

Engineering Services Contract, Contract No. CS-103, CDM Smith (active)

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Under Procurement	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$1,945			2021CIP
Engineering Services	FY20	$991			2021CIP
Engineering Services	FY21	$1,104			2021CIP
Engineering Services	FY22	$779			2021CIP
Engineering Services	FY23	$1,328			2021CIP
Engineering Services	FY24	$1,216			2021CIP
Engineering Services	FY25	$1,215			2021CIP
Engineering Services	FY26+	$3,109			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
1,945	991	1,104	779	1,328	1,216	1,215	3,109	11,687	5,642

Phase Task Dates

Springwells Water Treatment Plant, Low-Lift and High-Lift Pumping Station Improvements

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	11/2/2016	1/31/2017	90
Procurement	2/1/2017	1/1/2018	334
Project Execution	1/2/2018	3/26/2024	2275
Project Closeout	3/27/2024	6/24/2024	89

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$135			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
135	0	0	0	0	0	0	0	135	0

Phase Task Dates

Springwells Water Treatment Plant, Low-Lift and High-Lift Pumping Station Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	2,080	3,039	7,113	12,893	18,905	18,690	19,175	92,940	174,835	76,776
2020	0	0	498	2,607	5,985	9,302	13,724	13,724	26,145	42,831	0	114,816	68,880
2019	0	22	463	1,433	2,481	1,453	11,228	8,675	59,748	0	0	85,503	25,270
2018			1,500	2,000	12,500	22,000	21,500	26,500	0	0	0	86,000	59,500

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

(1) Updated construction cost based on design development and OPCC by CS-103 consultant; (2.) Moved construction expenditure forward to FY20 to execute a DB contract to install Low Lift pump suction isolation gates (valued at $8M based on CS-103 OPCC). Extended the duration for construction by one year to be more conservative and realistic for the completion of this work based on the progress of the design currently being performed. E. Klun 2018

(2) CO-01 to CS-103 executed to split the CS-103 design into three (3) different contracts. 1900134 is a DB contract administered internally by GLWA. Medium voltage electrical replacement and pumping unit replacement are the other two design being completed by the CS-103 Consultant. 6/12/19 E. Klun -

(3) Project split into three construction contracts to reduce construction sequencing complexity, reduce GLWA risk exposure during construction, and expedite the overall construction schedule. The three construction contracts include Project A, Low Lift Suction Gate Replacement; Project B, Medium Voltage Electrical System Replacement; and Project C, Low- and High-Lift Pumping System Improvements. 8/9/19 E. Klun

Water Production Flow Metering Improvements at Northeast, Southwest and Springwells

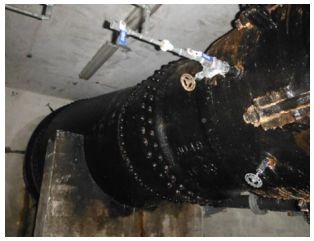
- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Water production flow metering device



Project Engineer/Manager Jorge Nicolas
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 6/26/2014
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Springwells
Location Multiple Counties
Fund and Cost Center Water - 5519-882111

Problem Statement	Existing water production flow meters need to be rehabilitated to place back into reliable and accurate service.
Scope of Work / Project Alternatives	Northeast Water Plant: rehabilitate 4 venturi meters, associated vaults, and replace 4 isolation gate valves. Springwells Water Plant: rehabilitate 7 venturi meters and associated vaults. Southwest Water Plant replace 4 venturi meters with new, including rehabilitation of the existing vaults.
Other Important Info	Challenges: Removing and replacing existing meters in original piping requires isolation using existing yard piping and valving.
Related Project	Contract No. CS-1656 (4000679) with Applied Science, Inc. for Design and Construction Administration
Primary Driver	2 - Performance
Driver Explanation	New water production flow metering will provide accurate flow measurement of finished water flows from these plants.

PM Weighted Score
65.4

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	2	
Operations and Maintenance	3	
Public Health and Safety	2	
Public Benefit	4	
Financial	3	
Efficiency and Innovation	3	

RC Weighted Score
50.6

Criteria	Score	Comment
Condition	3	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	1	
Public Health and Safety	1	
Public Benefit	5	
Financial	2	
Efficiency and Innovation	4	

Water Production Flow Metering Improvements at Northeast, Southwest and Springwells

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$111			2021CIP
GLWA Salaries CIP2021	FY20	$69			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
111	69	0	0	0	0	0	0	180	0

Phase Task Dates

Water Production Flow Metering Improvements at Northeast, Southwest and Springwells

Phase Construction **Contract** CON-133 **Status** Active

Title Construction

LCG Global is contractor

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date	7/31/2017	**Fund**	Construction Bond Fund
End Date	10/29/2019	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
	Cost Est. Date
consultant	**Cost Est. Source**
Consultant Applied Science	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$5,403			2021CIP
Construction	FY20	$1,646			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
5,403	1,646	0	0	0	0	0	0	7,049	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	4/1/2015	6/30/2015	90
Procurement	7/1/2015	7/17/2017	747
Project Execution	7/21/2017	3/1/2020	954
Project Closeout	3/2/2020	5/31/2020	90

Water Production Flow Metering Improvements at Northeast, Southwest and Springwells

Phase Design & Construction Assistance **Contract** CS-1656 **Status** Active

Title Design/Construction Administration

Applied Science, Inc. (ASI) under Contract No. CS-1656 is the engineering design consultant.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$819			2021CIP
Engineering Services	FY20	$434			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
819	434	0	0	0	0	0	0	1,253	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Project Execution	7/21/2017	3/1/2020	954
Project Closeout	3/2/2020	5/31/2020	90

Water Production Flow Metering Improvements at Northeast, Southwest and Springwells

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	6,333	2,149	0	0	0	0	0	0	8,482	0
2020	0	0	3,445	3,561	80	19	0	0	0	0	0	7,105	99
2019	0	186	704	2,506	2,506	1,257				0	0	7,159	6,269
2018		1,000	8,800	2,100	1,000				0	0	0	12,900	11,900

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes Design engineering Contract number changed from CS-1656 to contract no. 4000679. JN 7/29/2019

Springwells Water Treatment Plant, Administration Building Improvements & Underground

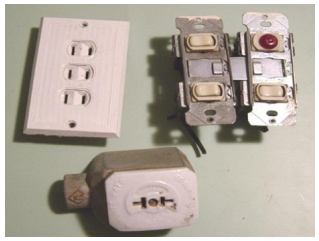
- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Outdated electrical outlets



Project Engineer/Manager Peter Fromm
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 6/26/2014
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Springwells
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement

Existing administration building is nearly 90 years old with many of its facilities being original. The building needs architectural, plumbing and electrical improvements. Improvements will provide reliable fire protection to all plant facilities, replace non-functioning isolation valves and hydrants, provide fire system backflow protection, and bring the fire system into conformance with the requirements of the Dearborn Fire Marshal.

Scope of Work / Project Alternatives

The work includes, but not necessarily limited to, removal and replacement of the existing plumbing piping, fittings, valves, plumbing fixtures, and any other necessary accessories. The existing underground fire protection line loops the Pump, Switch, Boiler and Turbine houses and is supplied water off the high lift headers in the Pump House Header Vault. The supply does not currently have backflow prevention and several branches off the loop used to feed an irrigation system serving the grassy areas covering the reservoirs, 1930 Sed. Basin and 1958 Sed. Basin. Isolation valves and fire hydrants are non-functioning and are beyond their useful life, and the old cast iron piping is susceptible to frequent breaks.

Other Important Info

The project was first identified in the November 2002 Needs Assessment completed by Hazen & Sawyer under CS-1304. The opinion of probable construction at that time for just replacing the existing piping was $1,076,400.

Project History: The fire loop and appurtenances are original to the existing plant commissioned around 1930. The loop crosses the construction staging area (blue tarps shown in the Project Map from Contract SP-563) in the northeast corner of the site and has been exposed to heavy construction traffic over the years.

Challenges: . All plumbing needs to be replaced, the majority of which is existing walls. The underground facilities (e.g., electrical duct banks, gas service mains, fiber optic, tunnels, conduits, major pipelines, etc.) at Springwells

	have been modified several times since initially being commissioned around 1930. The new fire loop will cross a lot of buried utilities and structures, and identification of these facilities and showing them accurately in Contract Documents will be critical to minimizing interruptions/complications during construction. Even then, with all of the underground utilities between the Pump House and Administration Building, and between the Machine Shop/Garage and the 1930 Mixing Chamber, surprises during construction will be difficult to avoid.
Primary Driver	1 - Condition
Driver Explanation	Existing fire protection loop piping and building plumbing are nearly 90 years old and have known leaks. Piping and plumbing have been repaired numerous times and now require complete replacement with new.

PM Weighted Score
67.4

Criteria	Score	Comment
Condition	4	
Performance (Service Level/Reliability)	4	
Regulatory (Environmental/Legal)	4	
Operations and Maintenance	4	
Public Health and Safety	4	
Public Benefit	2	
Financial	2	
Efficiency and Innovation	1	

RC Weighted Score
67.4

Criteria	Score	Comment
Condition	4	
Performance (Service Level/Reliability)	4	
Regulatory (Environmental/Legal)	4	
Operations and Maintenance	4	
Public Health and Safety	4	
Public Benefit	2	
Financial	2	
Efficiency and Innovation	1	

Springwells Water Treatment Plant, Administration Building Improvements & Underground

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$10			2021CIP
GLWA Salaries CIP2021	FY20	$36			2021CIP
GLWA Salaries CIP2021	FY21	$35			2021CIP
GLWA Salaries CIP2021	FY22	$34			2021CIP
GLWA Salaries CIP2021	FY23	$20			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
10	36	35	34	20	0	0	0	135	89

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

114005 CIP#

Springwells Water Treatment Plant, Administration Building Improvements & Underground

Phase Study and Design and Construction Assistance **Contract** GLWA-CS-282 **Status** Active

Title Study/Design/Construction Administration

Engineering Services Contract No. CS-282, WSP (active)

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$254			2021CIP
Engineering Services	FY20	$381			2021CIP
Engineering Services	FY21	$371			2021CIP
Engineering Services	FY22	$362			2021CIP
Engineering Services	FY23	$193			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
254	381	371	362	193	0	0	0	1,561	926

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	2/24/2018	6/7/2018	103
Procurement	6/8/2018	6/10/2019	367

Phase Task Name	Start Date	End Date	Duration
Project Execution	6/10/2019	1/10/2023	1310
Project Closeout	1/11/2023	4/11/2023	90

Springwells Water Treatment Plant, Administration Building Improvements & Underground

Phase Construction **Contract** NA **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/818	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY21	$1,896			2021CIP
Construction	FY22	$3,802			2021CIP
Construction	FY23	$1,302			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	1,896	3,802	1,302	0	0	0	7,000	7,000

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	6/25/2020	9/23/2020	90
Procurement	6/25/2020	12/30/2020	188
Project Execution	12/31/2020	11/2/2022	671
Project Closeout	11/3/2022	2/1/2023	90

Springwells Water Treatment Plant, Administration Building Improvements & Underground

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	264	417	2,302	4,198	1,515	0	0	0	8,696	8,015
2020	0	0		30	413	2,258	3,820	1,604	0	0	0	8,125	8,095
2019	0			30	413	2,258	3,820	1,604		0	0	8,125	8,125
2018				300	1,700				0	0	0	2,000	2,000

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Up-dated the Scope development and procurement dates.

Up-dated the "scope of work and other important info" under the "Detailed Project Information". Changed the score.

Springwells Water Treatment Plant Replacement of 1958 Rapid Mixing Units

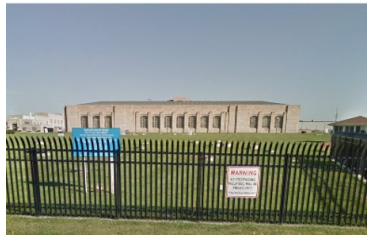
- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Closed

CIP Type Project

☐ **Project New To CIP**

Springwells WTP



Project Engineer/Manager Peter Fromm
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 6/26/2017
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Springwells
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement	Existing rapid mixing units at the 1958 treatment train are not operable and are needed for effective water treatment at Springwells.
Scope of Work / Project Alternatives	The work includes removal and replacement of all of the four rapid mixers including electrical, mechanical and structural components.
Other Important Info	The construction contract, CON-251, was awarded and the notice to proceed issued to J.F. Cavanaugh on May 15, 2018. CON-251 is scheduled for completion in July 2019. Challenges: Work requires treatment trains to be shut down to complete the installation/replacement, so coordination with operations and overall system demands required.
Related Project	Contract No. CS-045 with Hazen & Sawyer for Design and Construction Administration Services Contract No. CON-251 with J.F. Cavanaugh for Construction
Primary Driver	1 - Condition
Driver Explanation	Existing rapid mix units are not operational at the 1958 treatment train.

PM Weighted Score
72

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	5	
Operations and Maintenance	5	
Public Health and Safety	1	
Public Benefit	2	
Financial	2	
Efficiency and Innovation	3	

RC Weighted Score
69.4

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	3	
Operations and Maintenance	3	
Public Health and Safety	2	
Public Benefit	2	
Financial	3	
Efficiency and Innovation	5	

Springwells Water Treatment Plant Replacement of 1958 Rapid Mixing Units

Phase Construction **Contract** CON-251 **Status** Closed Out

Title SPW WTP Replacement of Rapid Mix Units WTP 1958 Process Train

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
Hazen & Sawyer	**Cost Est. Source**
Hazen & Sawyer	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$736			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
736	0	0	0	0	0	0	0	736	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	1/8/2018	3/30/2018	81
Procurement	1/8/2018	4/19/2018	101
Project Execution	5/15/2018	5/13/2019	363
Project Closeout	5/13/2019	7/14/2019	62

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

114006 CIP#

Springwells Water Treatment Plant Replacement of 1958 Rapid Mixing Units

Phase Design & Construction Assistance **Contract** SCP-CS-045 **Status** Closed Out

Title SCP-CS-045, Hazen & Sawyer, SPW WTP Replacement of Rapid Mix Units WTP 1958 Process Train

Hazen and Sawyer

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date	2/6/2017	**Fund**	Construction Bond Fund
End Date	5/9/2019	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
Hazen & Sawyer	**Cost Est. Source**
Hazen & Sawyer	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$222			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
222	0	0	0	0	0	0	0	222	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	5/3/2016	8/1/2016	90
Procurement	8/2/2016	2/3/2017	185
Project Execution	2/6/2017	5/17/2019	830
Project Closeout	5/13/2019	7/19/2019	67

Springwells Water Treatment Plant Replacement of 1958 Rapid Mixing Units

Phase GLWA Employees Project management **Contract** NA **Status** Closed Out

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

1	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
Hazen & Sawyer	**Cost Est. Source**
Hazen & Sawyer	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$59			2021CIP
GLWA Salaries CIP2021	FY20	$14			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
59	14	0	0	0	0	0	0	73	0

Phase Task Dates

Springwells Water Treatment Plant Replacement of 1958 Rapid Mixing Units

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	1,017	14	0	0	0	0	0	0	1,031	0
2020	0	0	177	886	61	0	0	0	0	0	0	1,124	61
2019	0	104	123	1,284	211					0	0	1,722	1,495
2018		100	875	275					0	0	0	1,250	1,150

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes Changed the "Project Status" to Closed under the "Project Summary" tab.

Springwells Water Treatment Plant Powdered Activated Carbon System Improvements

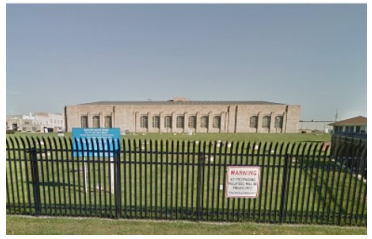
- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Future Planned

CIP Type Project

☐ **Project New To CIP**

Springwells WTP



Project Engineer/Manager Justin Kietur

Director Grant Gartrell

Managing Dept Water Eng

Date Original Business Case Prepared 6/26/2014

Year Project Added to CIP 2014

Budget Water

Class Lvl 1 Water

Class Lvl 2 Treatment Plants and Facilities

Class Lvl 3 Springwells

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882111

Problem Statement	Powdered activated carbon (PAC) is added to the treatment process to control taste and odor issues in the raw water supply. Taste and odor issues are infrequent, but the existing PAC system is difficult to operate and maintain when called upon for use. A more operator friendly and easier to maintain system is needed. The plant is only able to feed PAC through extraordinary measures due to deficiencies in the system. These extraordinary measures create additional operations and maintenance expense and inefficiencies that should be corrected in the long term. If raw water quality deteriorates unexpectedly and taste and odor causing compound concentrations steadily increase replacement of the PAC system at an earlier date would be warranted.
Scope of Work / Project Alternatives	Replacement of the existing powdered activated carbon system with a new system of a design that provides improved operations and maintainability when PAC dosing is needed. The scope of work will generally include the following: 1)Repair of concrete and piping at the dry carbon delivery station and replacement of dust collectors. 2)Inspection of underground carbon slurry tanks and repair of damage to concrete and fiberglass lining. 3)Replacement of PAC transfer pumps and associated piping, valves and controls. 4)Replacement of PAC metering pumps and associated piping, valves and controls.
Related Project	none
Primary Driver	2 - Performance
Driver Explanation	Existing PAC system is cumbersome and difficult to operate and maintain, however it is functional and rarely needed.

PM Weighted Score
29.4

Criteria	Score	Comment
Condition	3	11/28/18 - Gartrell & Caldwell revised scores b
Performance (Service Level/Reliability)	2	11/28/18 - Gartrell & Caldwell revised scores b
Regulatory (Environmental/Legal)	1	11/28/18 - Gartrell & Caldwell revised scores b
Operations and Maintenance	1	11/28/18 - Gartrell & Caldwell revised scores b
Public Health and Safety	1	11/28/18 - Gartrell & Caldwell revised scores b
Public Benefit	2	11/28/18 - Gartrell & Caldwell revised scores b
Financial	1	11/28/18 - Gartrell & Caldwell revised scores b
Efficiency and Innovation	1	11/28/18 - Gartrell & Caldwell revised scores b

RC Weighted Score
46.6

Criteria	Score	Comment
Condition	3	
Performance (Service Level/Reliability)	2	
Regulatory (Environmental/Legal)	3	
Operations and Maintenance	4	
Public Health and Safety	2	
Public Benefit	2	
Financial	1	
Efficiency and Innovation	1	

Springwells Water Treatment Plant Powdered Activated Carbon System Improvements

Phase Study and Design and Construction Assistance **Contract** NA **Status** Future Planned Start

Title SPW WTP Powdered Activated Carbon System Improvements

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY26+	$820			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	820	820	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/8/2024	1/6/2025	90
Procurement	1/7/2025	1/7/2026	365
Project Execution	1/8/2026	4/18/2028	831
Project Closeout	4/19/2028	7/18/2028	90

Springwells Water Treatment Plant Powdered Activated Carbon System Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY25	$63			2021CIP
GLWA Salaries CIP2021	FY26+	$305			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	63	305	368	63

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

114007 CIP#

Springwells Water Treatment Plant Powdered Activated Carbon System Improvements

Phase Construction **Contract** NA **Status** Future Planned Start

Title SPW WTP Powdered Activated Carbon System Improvements

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY26+	$3,000			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	3,000	3,000	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	1/4/2026	4/5/2026	91
Procurement	4/5/2026	4/22/2027	382
Project Execution	4/23/2027	4/18/2028	361
Project Closeout	4/19/2028	7/18/2028	90

Springwells Water Treatment Plant Powdered Activated Carbon System Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	0	0	0	63	4,125	4,188	63
2020	0	0		0	0	0	0	0	0	3,938	0	3,938	0
2019	0								3,939	0	0	3,939	0
2018					900	2,000			0	0	0	2,900	2,900

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Revised project scoring & changed project status to 10-year CIP to coincide with current condition and functionality of the PAC system, which is now tested and operable. Updated detailed project information tab. 08/12/2019 JRK

Springwells Water Treatment Plant 1930 Sedimentation Basin Sluice Gates, Guides & Hoists

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Project Engineer/Manager Peter Fromm
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 6/26/2014
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Springwells
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement	Existing sedimentation basin gates, guides and hoists are early 1930s and are in need of replacement. Also, operation of the sluice gates in their existing condition and design does not meet current best practices for safe maintenance and operation.
Scope of Work / Project Alternatives	This CIP project is being delivered under a design-build project delivery method and generally includes the following scope of work: 1. Demolition of the existing eight (8) 1930 sedimentation basins gates, guides, and hoist. 2. Installation of the new eight (8) 1930 sedimentation basins gates, guides, and actuators. 3. Concrete restoration within the four (4) 1930 sedimentation basins. 4. Concrete repairs to the air vents, access ramp, access hatches on top of the 1930 sedimentation basin. 5. Electrical upgrades to the four (4) sedimentation basin gate houses.
Other Important Info	Challenges: Work will require the 1930's plant to be shutdown during three low demand seasons to complete the work. This contractor will need to coordination with CON-170: Sludge Removal and Disposal for cleaning the sedimentation basins, SP-563, CON-253, and other construction projects to ensure that the system can handle the long duration shutdown.
Primary Driver	5 - Public Health & Safety
Driver Explanation	The existing sluice gates are unsafe to operate. In addition, the condition of the guides is poor.

PM Weighted Score
72.6

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	3	
Operations and Maintenance	4	
Public Health and Safety	5	
Public Benefit	1	
Financial	1	
Efficiency and Innovation	3	

RC Weighted Score
52.8

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	2	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	4	
Public Health and Safety	5	
Public Benefit	1	
Financial	1	
Efficiency and Innovation	1	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

114008 CIP#

Springwells Water Treatment Plant 1930 Sedimentation Basin Sluice Gates, Guides & Hoists

Phase Design and Build **Contract** 1802774 **Status** Active

Title Design-Build

Kokosing Industrial and Alfred Benesch is the design-build team under 1802774.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY19-	$150			2021CIP
Design-Build	FY20	$3,287			2021CIP
Design-Build	FY21	$10,206			2021CIP
Design-Build	FY22	$210			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
150	3,287	10,206	210	0	0	0	0	13,853	10,416

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	1/24/2018	8/24/2018	212
Procurement	8/24/2018	5/28/2019	277
Project Execution	5/28/2019	5/29/2022	1097

Springwells Water Treatment Plant 1930 Sedimentation Basin Sluice Gates, Guides & Hoists

Phase Task Name	Start Date	End Date	Duration
Project Closeout	5/30/2022	8/28/2022	90

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$23			2021CIP
GLWA Salaries CIP2021	FY20	$99			2021CIP
GLWA Salaries CIP2021	FY21	$121			2021CIP
GLWA Salaries CIP2021	FY22	$121			2021CIP
GLWA Salaries CIP2021	FY23	$19			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
23	99	121	121	19	0	0	0	383	261

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

114008 CIP#

Springwells Water Treatment Plant 1930 Sedimentation Basin Sluice Gates, Guides & Hoists

Phase Design **Contract** CS-289 **Status** Active

Title Design

Ruby+associates designed the project to 30% under CS-289

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$5			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
5	0	0	0	0	0	0	0	5	0

Phase Task Dates

Springwells Water Treatment Plant 1930 Sedimentation Basin Sluice Gates, Guides & Hoists

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	178	3,386	10,327	331	19	0	0	0	14,241	10,677
2020	0	0		442	4,153	6,830	5,697	3	0	0	0	17,125	16,683
2019	0			424	4,153	6,830	5,697	3		0	0	17,107	17,107
2018			1,200	2,000	4,000	300			0	0	0	7,500	7,500

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Up-dated the scope development and procurement dates. Add the Ruby CS-289 Contract for the 30% design.

Up-dated the "Scope of work and other information" under the "Detailed Project Information" tab.

SPW WTP Service Area Redundancy Study

- ☐ Innovation
- ☐ Conceptual WW MP
- ☑ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Closed

CIP Type Project

☐ **Project New To CIP**

Project Engineer/Manager Timothy Kuhns
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 6/26/2014
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Springwells
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement	Hydraulic analysis and Evaluation of options to maintain adequate pressure at Springwell's high pressure district. FROM 132010: Construction of West Service Center Division Valves is needed to convey Lake Huron flows through the West Service Center to the Springwells high service area while the Springwells raw water tunnel is out of service for repairs. Construction of active bypass around the Newburgh Pump Station.
Scope of Work / Project Alternatives	This study involves hydraulic analyses and evaluation of options to transmit finished water from the Lake Huron Water Treatment Plant through the West Service Center in order to provide finished water to the Springwells Water Treatment Plant's high-pressure district. FROM 132010: Lake Huron WTP needs to provide flows to the Springwells high service area while the Springwells raw water tunnel is out of service for repair.
Other Important Info	Challenges: N/A - Under Procurement. FROM 132010: Coordination with operations critical meet testing of existing valves. Isolation, shutdown and operation of Lake Huron and Springwells WTPs, North Service Center, and other facilities.
Related Project	Springwells WTP Reservoir Fill Line
Primary Driver	1 - Condition
Driver Explanation	N/A - Under Procurement

PM Weighted Score
85.6

Criteria	Score	Comment
Public Benefit	5	
Public Health and Safety	5	
Operations and Maintenance	5	
Regulatory (Environmental/Legal)	3	
Condition	5	
Performance (Service Level/Reliability)	5	
Financial	5	
Efficiency and Innovation	1	

RC Weighted Score
78

Criteria	Score	Comment
Public Benefit	5	
Financial	5	
Performance (Service Level/Reliability)	4	
Efficiency and Innovation	1	
Regulatory (Environmental/Legal)	3	
Condition	4	
Operations and Maintenance	4	
Public Health and Safety	5	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

SPW WTP Service Area Redundancy Study

114009 CIP#

Phase Study **Contract** CS-1772 **Status** Closed Out

Title CS-1772 Springwells Water Treatment Plant Service Area Redundancy Study

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Revenue Financed Capital
Start Date	11/4/2016	**Fund**	Improvement & Extension Fun
End Date	11/14/2017	**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$102			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
102	0	0	0	0	0	0	0	102	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/24/2017	2/23/2018	122
Procurement	2/26/2018	11/30/2018	277
Project Execution	11/30/2018	11/30/2018	0
Project Closeout	11/30/2018	11/30/2018	0

SPW WTP Service Area Redundancy Study

Phase GLWA Employees Project management **Contract** NA **Status** Closed Out

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

SPW WTP Service Area Redundancy Study

114009 CIP#

Phase not applicable **Contract** NA **Status** Closed Out

Title Prior Year Actual Expenses

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	
Start Date		**Fund**	
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
n/a	FY19-	$209			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
209	0	0	0	0	0	0	0	209	0

Phase Task Dates

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	311	0	0	0	0	0	0	0	311	0
2020	0	0	311	0	0	0	0	0	0	0	0	311	0
2019	0	193	145							0	0	338	0
2018		450							0	0	0	450	0

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Springwells Water Treatment Plant, Yard Piping and High-Lift Header Improvements

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Future Planned

CIP Type Project

☐ **Project New To CIP**

Springwells WTP - Pipe Main - Note the wood plug.

Project Engineer/Manager John McCallum
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 9/8/2016
Year Project Added to CIP 2012

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Springwells
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement

Six (6) of the seven (7) 72-inch mains leaving the site are original to the 1930 plant construction and consist of riveted steel pipe material. Main No. 7 is a prestressed concrete cylinder pipe material installed in 1958. The steel mains are known to be leaking and are in need of replacement to maintain system reliability. Additionally, isolation valves associated with the 72-inch mains need to be replaced because several are known to leak to the point where they are unable to isolate flow. It is suspected that the other large-diameter isolation valves are in similar poor condition. Other yard piping, including gravity sewers and miscellaneous utility piping are also 1930 and 1958 vintage and therefore require rehabilitation/renewal or replacement.

Scope of Work / Project Alternatives

This project would be delivered using in phases using multiple design-build contracts developed and managed by AECOM under its CIP program management contract. The scope of work generally includes:
1. Replace and/or slip-line existing yard piping.
2. Replace and/or structurally reinforce high-lift header piping.
3. Replace existing isolation valves in the header vault.
4. Repace existing isolation valves in the yard piping.
5. Conduct site restoration work.

B) Replace and/or renew/rehabilitate all high-lift header and yard piping. Note that the limits of yard piping replacement will extend to the fence line and out to the first valve outside the fence line as well as the 1930 pipe along Warren from Indiana to McDonald Avenue.

C) This project also involves other site improvements, including replacement of access drives, construction of a new guard building, construction of trailer utility hook-up station, and other site miscellaneous site improvements.

Other Important Info

This CIP will be delivered using a design-bid-build project delivery method. It is contemplated that there will be

	one, single design engineering services contract that will design multiple construction contracts. The construction of the project would be released in separate construction contract packages that coincide with the as-designed plan to sequence the construction to maintain adequate service/plant operation during construction. It is not known at this time the number of construction contract packages that will be required. This will be determined during the design of the project when the design consulting engineer is under contract. This CIP will be updated at that point when better information is available.
Primary Driver	1 - Condition
Driver Explanation	A majority of the existing high-lift pumping finished water header and yard piping are approaching 90 years old and have known leaks. The header and yard piping have reached their useful service life and require renewal and/or replacement.

PM Weighted Score
71.4

Criteria	Score	Comment
Condition	5	same
Performance (Service Level/Reliability)	4	changed from 2
Regulatory (Environmental/Legal)	2	changed from 4
Operations and Maintenance	4	changed from 1
Public Health and Safety	3	changed from 2
Public Benefit	5	changed from 3
Financial	3	changed from 2
Efficiency and Innovation	4	changed from 2

RC Weighted Score
72.2

Criteria	Score	Comment
Condition	5	same
Performance (Service Level/Reliability)	5	same
Regulatory (Environmental/Legal)	2	same
Operations and Maintenance	3	same
Public Health and Safety	3	changed from 2
Public Benefit	5	changed from 2
Financial	3	same
Efficiency and Innovation	4	changed from 3

Springwells Water Treatment Plant, Yard Piping and High-Lift Header Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2019	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$4			2021CIP
GLWA Salaries CIP2021	FY21	$1			2021CIP
GLWA Salaries CIP2021	FY22	$46			2021CIP
GLWA Salaries CIP2021	FY23	$46			2021CIP
GLWA Salaries CIP2021	FY24	$82			2021CIP
GLWA Salaries CIP2021	FY25	$108			2021CIP
GLWA Salaries CIP2021	FY26+	$411			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
4	0	1	46	46	82	108	411	698	283

Phase Task Dates

Springwells Water Treatment Plant, Yard Piping and High-Lift Header Improvements

Phase Design and Build **Contract** NA **Status** Future Planned Start

Title Design Build

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY24	$6,681			2021CIP
Design-Build	FY25	$8,543			2021CIP
Design-Build	FY26+	$80,155			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	6,681	8,543	80,155	95,379	15,224

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	3/10/2023	6/7/2023	89
Procurement	6/8/2023	12/4/2023	179
Project Execution	12/5/2023	9/9/2033	3566
Project Closeout	9/10/2033	12/9/2033	90

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

114010 CIP#

Springwells Water Treatment Plant, Yard Piping and High-Lift Header Improvements

Phase Design Build Assistance **Contract** CS267 **Status** Future Planned Start

Title Design-Build Assistance

AECOM CIP Program Management Contract

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY23	$562			2021CIP
Design-Build	FY24	$2,646			2021CIP
Design-Build	FY25	$3,307			2021CIP
Design-Build	FY26+	$10,021			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	562	2,646	3,307	10,021	16,536	6,515

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	6/24/2021	9/9/2021	77
Procurement	9/10/2021	9/10/2022	365
Project Execution	9/11/2022	9/9/2033	4016

Springwells Water Treatment Plant, Yard Piping and High-Lift Header Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	4	0	1	46	608	9,409	11,958	90,587	112,613	22,022
2020	0	0		0	0	0	0	0	72	110,578	0	110,650	72
2019	0								110,129	0	0	110,129	0
2018				2,000	7,000	8,000	8,000		0	0	0	25,000	25,000

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

(1) Moved start of contract expenditures from FY24 to FY25. JPM 8/8/2019
(2) Mains 1,2,3,4 could not be isolated during work under CON-133 and pose a risk to member communities in the event of a system pipe breach. JPM 8/8/2019
(3) CIP cost estimate updated to reflect pricing form a engineers opinion of cost for WWP CS-055 Yard Pipe Replacement a Class 3 estimate. JPM 8/8/2019
(4) CIP Cost updated to reflect replacement of all 72 inch yard piping within the springwells fence line and out to the first valve outside the fence line as well as the 1930 pipe along Warren from Indiana to McDonald Avenue. JPM 8/8/2019
(5) Planned project using multiple DB contracts predicated on using the services of AECOM under its CIP program management services contract. 8/16/19 GAG

Although the cost of this CIP has been increased significantly from last fiscal year, the estimated cost of this total project will continue to be refined over the next fiscal year as more cost information is gathered. JPM 8/8/2019

Springwells Water Treatment Plant Steam, Condensate Return, and Compressed Air Piping

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

SP-563 – Rehabilitated 1958 Pipe Gallery (in progress)

Project Engineer/Manager Brian VanHall
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 3/6/2012
Year Project Added to CIP 2012

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Springwells
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement

The steam, condensate return, compressed air, and natural gas piping systems at the Springwells Water Treatment Plant need to be replaced to ensure overall reliability of the plant. These systems are original to the plant (i.e. from 1930s or 1950s) and are beyond their useful life. These existing steam and condensate systems are in poor condition and require multiple repairs each heating season due to frequent failures. These repairs often require taking the entire steam system out of service which places equipment at risk of freezing due to exposure to low temperatures. Some failures have occurred in difficult areas to access and have not been repaired over many seasons because they are cost prohibitive to repair. The active steam, condensate, and air leaks require that the steam generators and air compressors run at higher loads to keep up with demand, resulting in additional stress on this equipment and is not energy efficient. Leaking steam and condensate contribute to significant moisture and condensation within the facility, which creates ideal conditions for corrosion of other aging plant infrastructure critical for continued water production. Failure of these lines is unsafe to nearby personnel since steam and condensate could cause severe burns, and high pressure lines would result in fast moving air that can cause injury.

Scope of Work / Project Alternatives

This project is being delivered using a design-bid-build project delivery method. This engineering services contract involves designing a new, more energy-efficient steam heating system for the entire Springwells Water Treatment Plant, including all steam unit heaters, steam piping, condensate return piping, condensate return pumping stations, steam pressure reducing valves, and appurtenances. This project also involves replacing the compressed air piping in the plant used for service air. Once completed, the project will provide energy savings by eliminating extensive steam and condensate leaking currently inherent in the antiquated system. This project includes design and construction administration (CS-1671) and construction (CON-252) to replace the leaking

	steam piping, condensate return piping and compressed air piping throughout the Springwells WTP. The scope of work includes replacing unit heaters, radiators, condensate return pump stations, pressure reducing valves, regulators, and heating system appurtenances throughout the plant. Once completed, the project will provide energy savings by eliminating extensive steam and condensate leaking currently inherent in the antiquated system.
Other Important Info	Many components of the existing system are original to the existing heating system, are not functioning and need to be demolished/removed. Seasonal work and sequencing with the heating season is required.
Related Project	CS-1671 Design/Construction Administration, Metco (active)
Primary Driver	1 - Condition
Driver Explanation	Frequent failures with steam and condensate piping that cannot be maintained, which reduces the heating effectiveness of the entire heating system and places heavy burdens on plant staff to repair leaks.

PM Weighted Score
71.2

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	4	
Public Health and Safety	5	
Public Benefit	1	
Financial	3	
Efficiency and Innovation	4	

RC Weighted Score
62.4

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	4	
Public Health and Safety	3	
Public Benefit	1	
Financial	2	
Efficiency and Innovation	4	

Springwells Water Treatment Plant Steam, Condensate Return, and Compressed Air Piping

Phase not applicable **Contract** NA **Status** Closed Out

Title Prior Year Actual Expenses

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	
Start Date		**Fund**	
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2017	**Cost Est. Date**
Metco	**Cost Est. Source**
Metco	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
n/a	FY19-	$39			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
39	0	0	0	0	0	0	0	39	0

Phase Task Dates

Springwells Water Treatment Plant Steam, Condensate Return, and Compressed Air Piping

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2017	**Cost Est. Date**
Metco	**Cost Est. Source**
Metco	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$59			2021CIP
GLWA Salaries CIP2021	FY20	$120			2021CIP
GLWA Salaries CIP2021	FY21	$123			2021CIP
GLWA Salaries CIP2021	FY22	$123			2021CIP
GLWA Salaries CIP2021	FY23	$41			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
59	120	123	123	41	0	0	0	466	287

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

114011 CIP#

Springwells Water Treatment Plant Steam, Condensate Return, and Compressed Air Piping

Phase Construction **Contract** CON-252 **Status** Active

Title Steam, Condensate Return, and Compressed Air Piping Improvements at Springwells WTP

NTP 2/1/2019

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
8/1/2019	**Cost Est. Date**
Clark	**Cost Est. Source**
Clark	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$1,783			2021CIP
Construction	FY20	$6,527			2021CIP
Construction	FY21	$6,509			2021CIP
Construction	FY22	$6,509			2021CIP
Construction	FY23	$571			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
1,783	6,527	6,509	6,509	571	0	0	0	21,899	13,589

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	4/23/2018	4/30/2018	7
Procurement	4/30/2018	2/1/2019	277

Springwells Water Treatment Plant Steam, Condensate Return, and Compressed Air Piping

Phase Task Name	Start Date	End Date	Duration
Project Execution	2/1/2019	8/1/2022	1277
Project Closeout	8/2/2022	10/31/2022	90

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

114011 CIP#

Springwells Water Treatment Plant Steam, Condensate Return, and Compressed Air Piping

Phase Study and Design and Construction Assistance **Contract** CS-1671 **Status** Active

Title CS-1671 Steam, Condensate Return, and Compressed Air Piping Improvements at Springwells WTP

METCO

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2017	**Cost Est. Date**
Metco	**Cost Est. Source**
Metco	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$492			2021CIP
Engineering Services	FY20	$301			2021CIP
Engineering Services	FY21	$300			2021CIP
Engineering Services	FY22	$300			2021CIP
Engineering Services	FY23	$101			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
492	301	300	300	101	0	0	0	1,494	701

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	2/18/2016	5/18/2016	90
Procurement	2/18/2016	5/18/2016	90

Springwells Water Treatment Plant Steam, Condensate Return, and Compressed Air Piping

Phase Task Name	Start Date	End Date	Duration
Project Execution	5/18/2016	8/1/2022	2266
Project Closeout	8/2/2022	2/18/2023	200

Springwells Water Treatment Plant Steam, Condensate Return, and Compressed Air Piping

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	2,373	6,948	6,932	6,932	713	0	0	0	23,898	14,577
2020	0	0	473	3,109	5,392	7,754	8,261	0	0	0	0	24,989	21,407
2019	0	280	450	1,406	4,824	4,654	7			0	0	11,621	10,891
2018		300	3,450	2,500					0	0	0	6,250	5,950

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Construction contract CON-252 was awarded and the CIP was updated this year to reflect the actual contract value and cash flow for the construction contract. In addition, funds have been added to this CIP this year for additional resident project representation (RPR), construction administration and project management services under the consulting engineering services contract CS-1671. BPV 8-6-19

SPW WTP Water Treatment Plant 1930 Filter Building-Roof Replacement

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Filter Building roof

Project Engineer/Manager Paula Anderson
Director Paula Anderson
Managing Dept Fleet and Facilities
Date Original Business Case Prepared 10/11/2016
Year Project Added to CIP 2016

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Springwells
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement	The existing roof over the 1930 filters is leaking in places and poses water quality concerns due to roof leaks.
Scope of Work / Project Alternatives	This project encompasses replacement of the existing 1930 Filter Building roofing system, including the built-up roofing material, flashing, roof drains/conductors and sealing cap stones to prevent water from penetrating the building envelop and causing water damage. Construction activity under Contract SP-563 in 2014-2015 revealed that water damage has been on-going and is causing clerestory window lintel deterioration. Additionally, construction traffic under Contract SP-563 has shown the built-up material to be blistering and spongy.
Other Important Info	Challenges: Seasonal construction work, and construction will require working around new rooftop equipment installed under SP-563.
Related Project	none
Primary Driver	1 - Condition
Driver Explanation	Not provided.

PM Weighted Score
70.6

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	4	
Regulatory (Environmental/Legal)	4	
Operations and Maintenance	4	
Public Health and Safety	2	
Public Benefit	2	
Financial	4	
Efficiency and Innovation	3	

RC Weighted Score
61

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	3	
Operations and Maintenance	5	
Public Health and Safety	2	
Public Benefit	1	
Financial	1	
Efficiency and Innovation	1	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

114012 CIP#

SPW WTP Water Treatment Plant 1930 Filter Building-Roof Replacement

Phase Design and Build **Contract** DB-093 **Status** Closed Out

Title Springwells Water Treatment Plant 1930 Filter Building-Roof Replacement

DB093

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

4	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Testing Engineers & Consult	**Cost Est. Source**
Testing Engineers & Consult	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY19-	$3,900			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
3,900	0	0	0	0	0	0	0	3,900	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	8/1/2017	10/12/2017	72
Procurement	10/16/2017	4/12/2018	178
Project Execution	4/18/2018	5/14/2019	391
Project Closeout	6/1/2019	6/10/2019	9

SPW WTP Water Treatment Plant 1930 Filter Building-Roof Replacement

Phase GLWA Employees Project management **Contract** NA **Status** Closed Out

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

4	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Testing Engineers & Consult	**Cost Est. Source**
Testing Engineers & Consult	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$11			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
11	0	0	0	0	0	0	0	11	0

Phase Task Dates

SPW WTP Water Treatment Plant 1930 Filter Building-Roof Replacement

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	3,911	0	0	0	0	0	0	0	3,911	0
2020	0	0	1,124	2,788	0	0	0	0	0	0	0	3,912	0
2019	0		486	2,420						0	0	2,906	2,420
2018		3,000							0	0	0	3,000	0

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes updated Prior Year actuals expenses

Springwells Water Treatment Plant, Reservoir Fill Line Improvements

- ☐ Innovation
- ☐ Conceptual WW MP
- ☑ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☑ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Springwells WTP

Project Engineer/Manager Khader Hamad
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 10/11/2016
Year Project Added to CIP 2016

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Springwells
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement	A new reservoir fill line to the Springwells Water Treatment Plant is needed to provide finished water to the Springwells high service area from the GLWA Southwest and Waterworks Park treatment plants while the Springwells raw water tunnel is rehabilitated under a separate contract. The new reservoir fill line will allow the Springwells high-lift pumping facility to operate and feed its high-pressure district while the treament works at Springwells are temporairly out of service. For example, there are times when the low-lift pumps need to be shutdown to allow for underwater inspection of the low-lift pump isolation gates and other raw water conveyance infrastructure upstream of the low-lift pumping station at Springwells.
Scope of Work / Project Alternatives	This project is being delivered under a design-bid-build project delivery method. The scope of work generally includes: 1. Designing the project. 2. Constructing the new reservoir fill piping, flow control energy disappaiting valves, valve vault, and appurtenances. 3. Connecting new piping to existing 72-inch diameter steel water transmission main. 4. Commissioning and testing the new reservoir filling facility. 5. Restoring the site.
Other Important Info	Potential delays due to isolation of 1926 main and coordination with CON-133 (WTP metering) requiring expercising and using old valves. Control of the reservoir filling operation by SCC with significant roles played by SWP, WWP, NEP and SPP operators.
Related Project	Contract No. CS-038 with AECOM for design and construction administration services Contract No. CON-253 with Ric-Man for construction

Primary Driver	2 - Performance
Driver Explanation	Project provides needed system redundancy and reliability in the event treatment, SPP low lift pumping or the raw water supply system is interrupted.

PM Weighted Score
77.8

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	3	
Operations and Maintenance	3	
Public Health and Safety	3	
Public Benefit	5	
Financial	4	
Efficiency and Innovation	4	

RC Weighted Score
77.2

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	4	
Operations and Maintenance	1	
Public Health and Safety	3	
Public Benefit	4	
Financial	4	
Efficiency and Innovation	5	

Springwells Water Treatment Plant, Reservoir Fill Line Improvements

Phase GLWA Employees Project management **Contract** CON-253 **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

4	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$81			2021CIP
GLWA Salaries CIP2021	FY20	$44			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
81	44	0	0	0	0	0	0	125	0

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

114013 CIP#

Springwells Water Treatment Plant, Reservoir Fill Line Improvements

Phase Design & Construction Assistance **Contract** SCP-CS-038 **Status** Active

Title SCP-CS-038 Springwells Reservoir Fill Line Improvements

AECOM

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date	10/11/2016	**Fund**	Construction Bond Fund
End Date	10/7/2019	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

4	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$373			2021CIP
Engineering Services	FY20	$28			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
373	28	0	0	0	0	0	0	401	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	8/9/2015	11/7/2015	90
Procurement	11/8/2015	11/7/2016	365
Project Execution	11/8/2016	9/30/2019	1056
Project Closeout	10/1/2019	12/31/2019	91

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

114013 CIP#

Springwells Water Treatment Plant, Reservoir Fill Line Improvements

Phase Construction **Contract** TBD **Status** Active

Title SPW WTP Reservoir Fill Line Improvements

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

4	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$2,376			2021CIP
Construction	FY20	$1,919			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
2,376	1,919	0	0	0	0	0	0	4,295	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/31/2017	1/31/2018	92
Procurement	1/22/2018	4/25/2018	93
Project Execution	4/25/2018	10/17/2019	540
Project Closeout	10/18/2019	12/31/2019	74

Springwells Water Treatment Plant, Reservoir Fill Line Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	2,830	1,991	0	0	0	0	0	0	4,821	0
2020	0	0	332	2,849	1,551	0	0	0	0	0	0	4,732	1,551
2019	0	120	181	2,469	3,656	61	21			0	0	6,508	6,207
2018		200	3,300	4,000					0	0	0	7,500	7,300

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

(1.) Revised construction cost to reflect CON-253 value and schedule for closeout; (2.) Revised consulting expenditure to reflect pending Amend. No. 1 to extend CS-038 for time and no money (time needed to complete as-builts after construction completion)
(2.) Revised both CS-038 and CON-253 schedules to reflect current status of both contracts due to inability to isolate and connect to existing 1926 72" main. CON-253 CO-01 added 410 days to final completion. CS-038 (original completion date of 4/10/19) Amend. No. 1 and No. 2 added time to align the CS-038 timeline with the CON-253 timeline. E. Klun 8/15/19.

Springwells Water Treatment Plant Emergency Grating Replacement

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Closed

CIP Type Project

☐ **Project New To CIP**

Deteriorated support beams holding up Low Lift Station. Dewatering and Sump Pumps at Elev. 42'-0" (left). Deteriorated grating and access ship's ladder in Low Lift Station - Looking down at Elev. 50'-0" and 42'-0" from Elev. 62'-0" (right).

Project Engineer/Manager Erich Klun

Director Grant Gartrell

Managing Dept Water Eng

Date Original Business Case Prepared 3/29/2017

Year Project Added to CIP 2017

Budget Water

Class Lvl 1 Water

Class Lvl 2 Treatment Plants and Facilities

Class Lvl 3 Springwells

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882111

Problem Statement	Emergency replacement of original 1930 steel grating and structural steel in the Low Lift Station, Pump House Cable Vault and Garage basement (5 locations total).
Scope of Work / Project Alternatives	Emergency replacement of original 1930 steel grating and structural steel in the Low Lift Station, Pump House Cable Vault and Garage basement (5 locations total).
Other Important Info	Replacement of structural steel in the Low Lift Station required the demolition of pump Nos. 9 and 10, as well as the replacement of sump pump S1 and S2. Challenges: Maintaining system operations during construction and eliminating the potential for flooding the Low Lift Station during construction. LOTO of low lift pumping units for diver work associated with plugging the suction line to pump Nos. 9 and 10. Project History: Work was originally included in CS-1474, but due to reconsideration of system demands and putting SP-569 on hold, the structural improvements were necessary to protect the safety of operators and others working on-site.

Related Project	Low Lift and High Lift Pumping Improvements at Springwells (CS-103).
Primary Driver	5 - Public Health & Safety

PM Weighted Score
100

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	5	
Operations and Maintenance	5	
Public Health and Safety	5	
Public Benefit	5	
Financial	5	
Efficiency and Innovation	5	

RC Weighted Score
100

Criteria	Score	Comment
Performance (Service Level/Reliability)	5	
Operations and Maintenance	5	
Public Health and Safety	5	
Public Benefit	5	
Condition	5	
Regulatory (Environmental/Legal)	5	
Efficiency and Innovation	5	
Financial	5	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

114015 CIP#

Springwells Water Treatment Plant Emergency Grating Replacement

Phase Design and Build **Contract** SCP-DB-112 **Status** Closed Out

Title Emergency Grating Replacement at Springwells WTP

Contract No. is SCP-DB-112 - Projects Capitalized/Expensed @FY18 $2,533K

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date	5/1/2017	**Fund**	Construction Bond Fund
End Date	8/27/2018	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2017	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY19-	$3,315			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
3,315	0	0	0	0	0	0	0	3,315	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	1/30/2016	4/29/2016	90
Procurement	4/30/2016	4/30/2017	365
Project Execution	5/1/2017	12/27/2018	605
Project Closeout	12/28/2018	3/29/2019	91
Project Closeout	12/28/2018	3/29/2019	91

Springwells Water Treatment Plant Emergency Grating Replacement

Phase GLWA Employees Project management **Contract** NA **Status** Closed Out

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2017	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$51			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
51	0	0	0	0	0	0	0	51	0

Phase Task Dates

Springwells Water Treatment Plant Emergency Grating Replacement

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	3,366	0	0	0	0	0	0	0	3,366	0
2020	0	0	2,737	729	0	0	0	0	0	0	0	3,466	0
2019	0	254	2,507	11						0	0	2,772	11
2018		500	2,000						0	0	0	2,500	2,000

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes (1.) Revised per CO-001 for time and money

Springwells Water Treatment Plant 1958 Settled Water Conduits and Loading Dock Concrete

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Future Planned

CIP Type Project

☐ **Project New To CIP**

Project Engineer/Manager Peter Fromm
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 10/1/2018
Year Project Added to CIP 2018

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Springwells
Location Wayne County - Outside Detroit
Fund and Cost Center

Problem Statement	The existing concrete pavement that covers the 1958 settled water conduits has failed with significant concrete deterioration and corrosion of the reinforcement embedded steel. The condition of the concrete pavement has become much worse over the past 12 months. The condition so bad that the concrete is friable and crumbling in many major areas. The conditions in certain areas are such that there are now potential safety hazards to those who have to walk on the pavement. The plant chemists have to walk some of the areas to obtain settled water samples at times. The concrete pavement over the 1958 settled water conduits also serves as a service road that provides vehicular access to the 1958 filter building. This paved service road also serves as the roof to the settled water conduit that conveys settled water to the 1958 filter train at Springwells.
Scope of Work / Project Alternatives	This CIP project is being delivered under a design-bid-build project delivery method and generally includes the following scope of work: 1. Demolition of the existing concrete pavement that covers the 1958 settled water conduit and the loading dock. 2. Placement of new concrete pavement that covers the 1958 settled water conduit and the loading dock. 3. Demolition and installation of handrail around the 1958 settled water conduit.
Other Important Info	Challenge: Equipment limitations on the settled water conduit and not damaging the structure concrete of the settled water conduit.
Primary Driver	1 - Condition
Driver Explanation	The condition of the existing concrete pavement has failed in multiple areas and is large in its extent of failure.

PM Weighted Score
52

Criteria	Score	Comment
Public Health and Safety	4	
Financial	1	
Regulatory (Environmental/Legal)	1	
Performance (Service Level/Reliability)	3	
Operations and Maintenance	3	
Efficiency and Innovation	2	
Public Benefit	1	
Condition	5	

RC Weighted Score
52

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	3	
Financial	1	
Efficiency and Innovation	2	
Public Benefit	1	
Public Health and Safety	4	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	3	

Springwells Water Treatment Plant 1958 Settled Water Conduits and Loading Dock Concrete

Phase Construction **Contract** TBD **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY20	$41			2021CIP
Construction	FY21	$1,611			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	41	1,611	0	0	0	0	0	1,652	1,611

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	5/1/2019	11/22/2019	205
Procurement	11/23/2019	5/22/2020	181
Project Execution	5/23/2020	5/23/2021	365
Project Closeout	5/24/2021	8/22/2021	90

Springwells Water Treatment Plant 1958 Settled Water Conduits and Loading Dock Concrete

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY20	$53			2021CIP
GLWA Salaries CIP2021	FY21	$52			2021CIP
GLWA Salaries CIP2021	FY22	$7			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	53	52	7	0	0	0	0	112	59

Phase Task Dates

Springwells Water Treatment Plant 1958 Settled Water Conduits and Loading Dock Concrete

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	94	1,663	7	0	0	0	0	1,764	1,670
2020	0	0			206	656					0	862	862

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes Up-dated the "primary driver" under the "Detaited project Information" tab and adjusted the "Public heathly and Safety" score under the "Project Scoting"

Springwells Water Treatment Plant Flocculator Drive Replacements

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Future Planned

CIP Type Project

☐ **Project New To CIP**

Project Engineer/Manager Peter Fromm
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 10/1/2018
Year Project Added to CIP 2018

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Springwells
Location Wayne County - Outside Detroit
Fund and Cost Center

Problem Statement	The existing flocculator drives, motors, and control panels are beyond useful service life.
Scope of Work / Project Alternatives	This CIP will be delivered under a design-bid-build project delivery model. The scope of work will generally include the following: 1. Replacement of the existing flocculator drives, motors, and control panels. 2. Replacement of all drive shaft bearings and associated grease lines. 3. Replacement of access doors between the flocculator chambers 4. Replacement of ladder rungs into all flocculators. 5. Improvement of flocculation system related instrumentation and controls.
Other Important Info	Implementation of this CIP project is being sequenced and coordinated with another Springwells WTP CIP project, namely the 1930 Sedimentation Basins Sluice Gate Improvements Project.
Primary Driver	1 - Condition
Driver Explanation	Existing flocculator drivers are beyond the useful service life

PM Weighted Score
48.4

Criteria	Score	Comment
Regulatory (Environmental/Legal)	2	
Financial	2	
Public Health and Safety	1	
Performance (Service Level/Reliability)	3	
Condition	4	
Operations and Maintenance	3	
Efficiency and Innovation	3	
Public Benefit	2	

RC Weighted Score
47

Criteria	Score	Comment
Operations and Maintenance	3	
Performance (Service Level/Reliability)	2	
Efficiency and Innovation	2	
Condition	4	
Public Benefit	2	
Regulatory (Environmental/Legal)	2	
Financial	2	
Public Health and Safety	2	

Springwells Water Treatment Plant Flocculator Drive Replacements

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY20	$29			2021CIP
GLWA Salaries CIP2021	FY21	$44			2021CIP
GLWA Salaries CIP2021	FY22	$44			2021CIP
GLWA Salaries CIP2021	FY23	$70			2021CIP
GLWA Salaries CIP2021	FY24	$70			2021CIP
GLWA Salaries CIP2021	FY25	$17			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	29	44	44	70	70	17	0	274	245

Phase Task Dates

Springwells Water Treatment Plant Flocculator Drive Replacements

Phase Construction **Contract** TBD **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY23	$1,927			2021CIP
Construction	FY24	$5,243			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	1,927	5,243	0	0	7,170	7,170

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/19/2021	1/2/2022	75
Procurement	1/2/2022	7/2/2022	181
Project Execution	7/3/2022	6/29/2024	727
Project Closeout	6/30/2024	9/28/2024	90

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

114017 CIP#

Springwells Water Treatment Plant Flocculator Drive Replacements

Phase Design & Construction Assistance **Contract** TBD **Status** Future Planned Start

Title Design/Construction Administration

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY21	$271			2021CIP
Engineering Services	FY22	$591			2021CIP
Engineering Services	FY23	$268			2021CIP
Engineering Services	FY24	$722			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	271	591	268	722	0	0	1,852	1,852

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	11/1/2019	1/15/2020	75
Procurement	1/16/2020	1/14/2021	364
Project Execution	1/15/2021	6/28/2024	1260
Project Closeout	6/29/2024	9/26/2024	89

Springwells Water Treatment Plant Flocculator Drive Replacements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	29	315	635	2,265	6,035	17	0	9,296	9,267
2020	0	0					10	2,314	4		0	2,328	2,328

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

New project added to the CIP. PF 2018

The cost of this CIP was increased from last fiscal year because the cost of consulting engineering services was added this fiscal year, and the estimated cost for construction was increased because the concept design of the project was advanced from last year. In addition, the schedule to implement this CIP was expanded to account for procurement of engineering services, conducting the detailed design, and to coordinate with another project at Springwells related to replacement of the 1930 sedimentation basin sluice gates. PF 8/9/2019

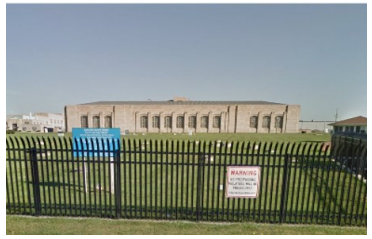
Springwells Water Treatment Plant - Service Building Electrical Substation and Miscellaneous

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Future Planned

CIP Type Project

☑ **Project New To CIP**



Project Engineer/Manager Justin Kietur

Director Terry Daniel

Managing Dept Water Eng

Date Original Business Case Prepared 8/12/2019

Year Project Added to CIP 2019

Budget Water

Class Lvl 1 Water

Class Lvl 2 Treatment Plants and Facilities

Class Lvl 3 Springwells

Location Wayne County - Outside Detroit

Fund and Cost Center

Problem Statement

The electrical substation located inside the Service Building provides electrical service to the entire service building including the filter wash water pumping units. The existing electrical substation is a double-ended unit that has experienced corrosion to its interior components and electrical cables. As a result the substation does not automatically switch-over during power trips and requires manual switch-over, which defeats the purpose of the automatic switch-over feature of the substation. This substation provides power to the filter wash water pumps and as a result when there are power disruptions associated with the substation, the plant is not able to wash filters. This situation causes water production issues at the plant whenever there are failures of the substation. Although certain components (e.g. breakers) of the electrical substation can be replaced, there are corroded internal electrical circuits, cables and contactors that cannot be replaced and are still causing problems with the substation's performance.

The electrical breaker panel located in the 1930 filter building is original construction and is severely corroded. This panel supplies power to a portion of the 1930 Filter Building and its failure would result in loss of water production capacity.

The concrete area of the phosphoric acid outdoor fill station is deterioated and the water service to the associated emergency eye-wash station suffers frequent breaks. The eye wash station is required to be in service for phosphoric acid deliveries and repair requires working in the tight confines of a pipe chase.

Scope of Work / Project Alternatives

Project will be delivered using a design-build project delivery. The scope of improvements will generally include:
1. Replacement of the electrical substation in the 1958 Service Building

2. Connection of replacement electrical substation to Ovation for status monitoring
3. Replacement of electrical panel in 1930 plant and new conduit and cable runs to the associated equipment
4. Rehab of masonry on exterior of phosphoric acid fill station
5. Insulation of piping and pipe chase behind phosphoric acid fill station
6. Installiation of tank level gauges and alarms at fill station to prevent overfilling of chemical storage tanks

Primary Driver 1 - Condition

PM Weighted Score
46.4

Criteria	Score	Comment
Regulatory (Environmental/Legal)	1	2019/08 JRK
Performance (Service Level/Reliability)	3	2019/08 JRK
Public Benefit	1	2019/08 JRK
Financial	2	2019/08 JRK
Efficiency and Innovation	1	2019/08 JRK
Operations and Maintenance	3	2019/08 JRK
Public Health and Safety	3	2019/08 JRK
Condition	4	2019/08 JRK

RC Weighted Score
53

Criteria	Score	Comment
Efficiency and Innovation	1	
Performance (Service Level/Reliability)	4	
Condition	4	
Regulatory (Environmental/Legal)	2	
Financial	2	
Public Health and Safety	3	
Operations and Maintenance	3	
Public Benefit	1	

Springwells Water Treatment Plant - Service Building Electrical Substation and Miscellaneous

Phase Design and Build **Contract** TBD **Status** Future Planned Start

Title Design-Build

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY23	$1,263			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	1,263	0	0	0	1,263	1,263

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	9/30/2021	12/28/2021	89
Procurement	12/29/2021	7/1/2022	184
Project Execution	7/2/2022	6/26/2023	359
Project Closeout	6/27/2023	9/24/2023	89

Springwells Water Treatment Plant - Service Building Electrical Substation and Miscellaneous

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY22	$90			2021CIP
GLWA Salaries CIP2021	FY23	$115			2021CIP
GLWA Salaries CIP2021	FY24	$40			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	90	115	40	0	0	245	245

Phase Task Dates

Springwells Water Treatment Plant - Service Building Electrical Substation and Miscellaneous

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	90	1,378	40	0	0	1,508	1,508

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

115001 CIP#

Water Works Park Water Treatment Plant Yard Piping, Valves and Venturi Meters

- ☐ Innovation
- ☐ Conceptual WW MP
- ☑ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☑ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Pumps and Piping

Project Engineer/Manager Timothy Kuhns
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 4/23/2007
Year Project Added to CIP 2007

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Water Works Park
Location City of Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement	Most of the existing yard piping is greater than 100 years old and requires replacement with new piping installed in a more efficient configuration.
Scope of Work / Project Alternatives	This project is being delivered using a design-bid-build project delivery method. The scope of work generally includes: 1. Designing the project. 2. Removing existing yard piping, valves and buried venturi meters and related vaults. 3. Constructing new yard piping, valves, water production flow meters, buried valve and meter vaults, and related system equipment. 4. Connecting to existing transmission main piping. 5. Testing and commissioning the new main, valves and water production flow metering equipment. 6. Restoring the site.
Other Important Info	This project is being coordinated with the new Waterworks Park to Northeast Transmission Main. Challenges: Complicated sequence of construction, and demands of DWSD must be maintained along with coordination transmission system between Water Works Park and Northeast WTPs. Condition of existing valves required to complete the work is unknown. Complex construction staging is accounted for in the design to avoid loss of service and delays to the construction contract.
Related Project	CS-152: WWP to NE transmission main route study, Jacobs (active) CS-055 Yard Piping Project Design, AECOM (active)

Primary Driver	1 - Condition
Driver Explanation	Yard piping is long past its design service life and there is a history of leaks and breaks.

PM Weighted Score
66.2

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	5	
Public Health and Safety	2	
Public Benefit	4	
Financial	3	
Efficiency and Innovation	3	

RC Weighted Score
65.4

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	2	
Operations and Maintenance	3	
Public Health and Safety	2	
Public Benefit	4	
Financial	3	
Efficiency and Innovation	3	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

115001 CIP#

Water Works Park Water Treatment Plant Yard Piping, Valves and Venturi Meters

Phase Construction **Contract** NA **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date	11/19/2018	**Fund**	Construction Bond Fund
End Date	7/23/2021	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY21	$5,080			2021CIP
Construction	FY22	$12,479			2021CIP
Construction	FY23	$20,106			2021CIP
Construction	FY24	$19,548			2021CIP
Construction	FY25	$8,246			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	5,080	12,479	20,106	19,548	8,246	0	65,459	65,459

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	3/26/2016	12/30/2019	1374
Procurement	12/31/2019	6/30/2020	182
Project Execution	7/1/2020	3/27/2025	1730

Phase Task Name	Start Date	End Date	Duration
Project Closeout	3/28/2025	6/26/2025	90

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

115001 CIP#

Water Works Park Water Treatment Plant Yard Piping, Valves and Venturi Meters

Phase Study and Design and Construction Assistance **Contract** CS-055 **Status** Active

Title Study/Design/Construction Administration

CS-055, AECOM, WWP WTP Yard Piping, Valves and Venturi Meters Replacement

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date	5/22/2017	**Fund**	Construction Bond Fund
End Date	7/23/2021	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$1,728			2021CIP
Engineering Services	FY20	$178			2021CIP
Engineering Services	FY21	$334			2021CIP
Engineering Services	FY22	$822			2021CIP
Engineering Services	FY23	$1,324			2021CIP
Engineering Services	FY24	$1,287			2021CIP
Engineering Services	FY25	$543			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
1,728	178	334	822	1,324	1,287	543	0	6,216	4,310

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration

Water Works Park Water Treatment Plant Yard Piping, Valves and Venturi Meters

Phase Task Name	Start Date	End Date	Duration
Procurement	6/25/2016	6/25/2017	365
Project Execution	6/26/2017	3/27/2025	2831
Project Closeout	3/28/2025	6/26/2025	90

Water Works Park Water Treatment Plant Yard Piping, Valves and Venturi Meters

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

4	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$32			2021CIP
GLWA Salaries CIP2021	FY20	$73			2021CIP
GLWA Salaries CIP2021	FY21	$48			2021CIP
GLWA Salaries CIP2021	FY22	$48			2021CIP
GLWA Salaries CIP2021	FY23	$48			2021CIP
GLWA Salaries CIP2021	FY24	$48			2021CIP
GLWA Salaries CIP2021	FY25	$47			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
32	73	48	48	48	48	47	0	344	239

Phase Task Dates

Water Works Park Water Treatment Plant Yard Piping, Valves and Venturi Meters

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	1,760	251	5,462	13,349	21,478	20,883	8,836	0	72,019	70,008
2020	0	0	682	899	17,333	17,333	17,333	0	0	0	0	53,580	51,999
2019	0	9	412	968	20,771	34,466	14,397	28		0	0	71,051	70,630
2018			5,500	27,900	20,500				0	0	0	53,900	53,900

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Approximately $10M in spend shifted out to FY22 to accommodate the additional stormwater and security access drive work that needs to be completed concurrent with the yard piping replacement.
Project costs updated based on 50% design estimate.

Water Works Park Water Treatment Plant Comprehensive Condition Assessment

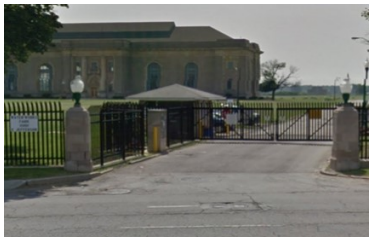
- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Waterworks Park WTP



Project Engineer/Manager Michael Dunn
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 6/26/2014
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Water Works Park
Location City of Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement	A condition assessment of Waterworks Park Water Treatment Plant has not been completed since the 2004 reconstruction. Condition assessment is needed to identify critical assets in need of repair or replacement.
Scope of Work / Project Alternatives	A condition assessment of Waterworks Park Water Treatment Plant has not been completed since the 2004 reconstruction. Continued and periodic inspection of the Water Treatment Plant is needed to maintain a reliable production system, especially given the reliance on Waterworks Park to provide finish water to the Northeast Service Area.
Other Important Info	Contract No. 147 with Hubbell, Roth & Clark is underway. Challenges: Coordinating shutdowns required for condition assessment inspections.
Related Project	Yard Piping, Valves and Venturi Meters Replacement
Primary Driver	1 - Condition
Driver Explanation	Not provided.

Water Works Park Water Treatment Plant Comprehensive Condition Assessment

PM Weighted Score
22.4

Criteria	Score	Comment
Condition	2	
Performance (Service Level/Reliability)	1	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	1	
Public Health and Safety	1	
Public Benefit	1	
Financial	1	
Efficiency and Innovation	1	

RC Weighted Score
35.6

Criteria	Score	Comment
Condition	2	
Performance (Service Level/Reliability)	3	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	2	
Public Health and Safety	1	
Public Benefit	3	
Financial	1	
Efficiency and Innovation	2	

Water Works Park Water Treatment Plant Comprehensive Condition Assessment

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$9			2021CIP
GLWA Salaries CIP2021	FY20	$17			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
9	17	0	0	0	0	0	0	26	0

Phase Task Dates

Water Works Park Water Treatment Plant Comprehensive Condition Assessment

Phase Study **Contract** CS-147 **Status** Active

Title Study

WWP Comprehensive Condition Assessment Project

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Revenue Financed Capital
Start Date	8/2/2017	**Fund**	Improvement & Extension Fun
End Date	8/2/2019	**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$505			2021CIP
Engineering Services	FY20	$51			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
505	51	0	0	0	0	0	0	556	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	9/30/2016	12/31/2016	92
Procurement	1/1/2017	7/4/2017	184
Project Execution	7/5/2017	12/31/2019	909
Project Closeout	1/3/2020	2/29/2020	57

Water Works Park Water Treatment Plant Comprehensive Condition Assessment

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	514	68	0	0	0	0	0	0	582	0
2020	0	0	440	262	153	0	0	0	0	0	0	855	153
2019	0		131	262	153					0	0	546	415
2018		200	375						0	0	0	575	375

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

115004 CIP#

Water Works Park Water Treatment Plant Chlorine System Upgrade

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

The Water Works Park Chlorine System has experienced several leaks and requires complete replacement. The Water Works Park storage room will have an updated scrubber system to neutralize up to 4000 lbs. of chlorine gas

Project Engineer/Manager Michael Dunn
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 3/17/2017
Year Project Added to CIP 2017

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Water Works Park
Location City of Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement	The existing gas chlorine feed system has experienced numerous leaks and has compromised the safety of plant personnel. In addition, the chlorine gas leaks caused significant damage to all equipment inside the chlorine storage room. Secondary damage also occurred to equipment in adjacent rooms.
Scope of Work / Project Alternatives	This project is being delivered under a design-bid-build project delivery method. The scope of work generally includes the following: 1. Removal of existing chlorine feed system, including evaporators, feeders and associated electrical, instrumentation and control equipment. 2. Installation of new chlorine evaporators, feeders, and associated electrical, instrumentation and control equipment. 3. Installation of new heating, ventilating and air-conditioning system equipment in the chlorine storage, feeder and adjacent electrical equipment room. 4. Installation of new gas chlorine scrubbing system. 5. Installation of new Ovation monitoring and control system for the entire chlorine disinfection system at WWP.
Other Important Info	Project History: The WWP facility began serving customers with finished water in 2003. More recently, the chlorine system has had one major leak and several minor leaks on a recurring and more frequent basis. Since chlorine is a

	highly toxic material, yet integral for providing finished water in accordance with the Safe Drinking Water Act, a study and design project was initiated under the CIP allowance as project CS-1721. This construction project will be based on the study and design conducted under that work. In addition, the original design was oversized relative to the current operating conditions and resulted in operational problems due to the turndown required.
Related Project	CS-1721 Design & Construction Administration, CDM (active) CON-208, Construction, Detroit Contracting, Inc. (active)
Primary Driver	1 - Condition

PM Weighted Score
85.8

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	3	
Operations and Maintenance	5	
Public Health and Safety	4	
Public Benefit	5	
Financial	5	
Efficiency and Innovation	3	

RC Weighted Score
84

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	4	
Public Benefit	5	
Financial	3	
Efficiency and Innovation	2	
Operations and Maintenance	5	
Regulatory (Environmental/Legal)	4	
Public Health and Safety	5	

Water Works Park Water Treatment Plant Chlorine System Upgrade

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$10			2021CIP
GLWA Salaries CIP2021	FY20	$50			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
10	50	0	0	0	0	0	0	60	0

Phase Task Dates

Water Works Park Water Treatment Plant Chlorine System Upgrade

Phase Construction **Contract** NA **Status** Active

Title Construction

CON-208, Detroit Contracting, Inc.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date	9/1/2017	**Fund**	Construction Bond Fund
End Date	6/8/2020	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2017	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$6,097			2021CIP
Construction	FY20	$565			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
6,097	565	0	0	0	0	0	0	6,662	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	8/1/2017	10/11/2017	71
Procurement	10/11/2017	1/10/2018	91
Project Execution	1/10/2018	7/31/2019	567
Project Closeout	8/1/2019	10/30/2019	90

Water Works Park Water Treatment Plant Chlorine System Upgrade

Phase Design & Construction Assistance **Contract** CS-1721 **Status** Active

Title Design and Construction Assistance

CS-1721 CDM Smith

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date	7/8/2016	**Fund**	Construction Bond Fund
End Date	1/25/2018	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$579			2021CIP
Engineering Services	FY20	$139			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
579	139	0	0	0	0	0	0	718	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	4/6/2015	7/5/2015	90
Procurement	7/6/2015	7/5/2016	365
Project Execution	7/1/2016	7/31/2019	1125
Project Closeout	8/1/2019	10/30/2019	90

Water Works Park Water Treatment Plant Chlorine System Upgrade

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	6,686	754	0	0	0	0	0	0	7,440	0
2020	0	0	2,527	4,196	2,047	1	0	0	0	0	0	8,771	2,048
2019	0	371	672	3,124	2,878	4				0	0	7,049	6,006
2018		290	700	8,700					0	0	0	9,690	9,400

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Updated FY2020 CIP costs based on active construction (CON-208) and consultant (CS-1721) contract progress and projected completion times. 2018
Updated FY2021 CIP costs based on progress of work under contracts CS-1721 and CON-208. Update detailed project information. MD 8/2019

WWP WTP Building Ventilation Improvements

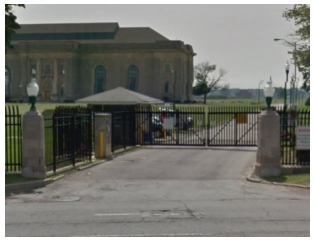
- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Water Works Park



Project Engineer/Manager Michael Dunn
Director Terry Daniel
Managing Dept Water Eng
Date Original Business Case Prepared
Year Project Added to CIP 2018

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Water Works Park
Location City of Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement	The existing ventilation systems are not adequate for the chemical storage rooms, the ozone generator room, ozone destruct room, laboratory rooms, pilot plant rooms, flocculation and sedimentation rooms, and filter galleries at the Water Works Park Water Treatment Plant. Inadequate ventilation poses safety hazards to employees and visitors alike.
Scope of Work / Project Alternatives	This project will be delivered using a design-bid-build project delivery method. The scope of work will generally include the following: 1) Design of the improved, new ventilation systems for the facility. 2) Selective removal of existing ventilation system equipment. 3) Construction of new mechanical ventilation systems. 4) Installation of electrical feeders for new mechanical ventilation equipment. 5) Installation of new instrumentation equipment for monitoring and alarms, including necessary interlocks with the process control network.
Related Project	CS-147 Condition Assessment project, HRC (active)
Primary Driver	5 - Public Health & Safety
Driver Explanation	Inadequate ventilation system poses potential health and safety hazards to employees and visitors.

WWP WTP Building Ventilation Improvements

PM Weighted Score
84.4

Criteria	Score	Comment
Operations and Maintenance	4	
Public Health and Safety	5	
Public Benefit	4	
Regulatory (Environmental/Legal)	5	
Efficiency and Innovation	2	
Financial	3	
Condition	4	
Performance (Service Level/Reliability)	5	

RC Weighted Score
76

Criteria	Score	Comment
Public Health and Safety	5	
Regulatory (Environmental/Legal)	5	
Financial	3	
Public Benefit	3	
Efficiency and Innovation	2	
Condition	3	
Performance (Service Level/Reliability)	5	
Operations and Maintenance	2	

WWP WTP Building Ventilation Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
HRC	**Cost Est. Source**
HRC	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

WWP WTP Building Ventilation Improvements

115005 CIP#

Phase Design & Construction Assistance **Contract** TBD **Status** Active

Title Design and Construction Administration

Engineering Services Contract to be retained

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
HRC	**Cost Est. Source**
HRC	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY20	$1,614			2021CIP
Engineering Services	FY21	$1,999			2021CIP
Engineering Services	FY22	$2,004			2021CIP
Engineering Services	FY23	$618			2021CIP
Engineering Services	FY24	$63			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	1,614	1,999	2,004	618	63	0	0	6,298	4,684

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	1/1/2019	8/30/2019	241
Procurement	8/31/2019	8/29/2020	364

WWP WTP Building Ventilation Improvements

Phase Task Name	Start Date	End Date	Duration
Project Execution	8/30/2020	8/29/2023	1094
Project Closeout	8/30/2023	11/27/2023	89

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

WWP WTP Building Ventilation Improvements

115005 CIP#

Phase Construction **Contract** TBD **Status** Future Planned Start

Title Construction

Construction contract to be determined

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY22	$1,606			2021CIP
Construction	FY23	$1,921			2021CIP
Construction	FY24	$316			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	1,606	1,921	316	0	0	3,843	3,843

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	11/28/2020	2/25/2021	89
Procurement	2/26/2021	8/24/2021	179
Project Execution	8/30/2021	8/29/2023	729
Project Closeout	8/30/2023	11/27/2023	89

WWP WTP Building Ventilation Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	1,614	1,999	3,610	2,539	379	0	0	10,141	8,527
2020	0	0		7	507	3,907	650	0	0	0	0	5,071	5,064

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Updated requested CIP budget based on final recommendations of the Contract CS-147 condition assessment report. Also, updated the detailed project information again based on the final CS-147 recommendations relative to the scope of work. 8/15/2019 MD

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP
Water Works Park Site/Civil Improvements

115006 CIP#

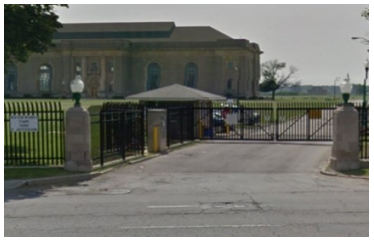
- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Future Planned

CIP Type Project

☑ **Project New To CIP**

Water Works Park



Project Engineer/Manager Michael Dunn
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 8/15/2019
Year Project Added to CIP 2019

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 Water Works Park
Location City of Detroit
Fund and Cost Center

Problem Statement

Many of the existing roadways and pedestrian side walks have substantial cracking, crumbiling concrete and un-even surfaces whose condition becomes worse every year. The concrete bases for several portions of the site perimeter security fencing are also heavily deteriorated with crumbling concrete. Additionally, there is not sufficient employee and visitor parking space for the facility and new parking areas are needed to meet the needs of employees and visitors alike. Furthermore, there is no truck vehicle weight scale on site to verify the quantities of chemicals delivered to the site from suppliers, as well as to verify quantities of dewatered sludge transported off site for disposal. Currently, vendor-generated quantities are used soley for payment purposes putting GLWA at a disadvantage whenever disputes arise regarding amounts invoiced. Lastly, there are several areas throughout the grounds with concrete in a poor condition that requires rehabilitation to extend its service life.

Scope of Work / Project Alternatives

This project will be delivered using a design-build project delivery. The schedule is predicated on using AECOM's design build assistance services under its CIP Program Management Contract CS-272. The scope of work for this project generally includes the following:

1. Construct 30 car parking lot adjacent to plant employee lot.
2. Construct 20 car parking lot across from maintenance garage to serve as GLWA vehicle parking.
3. Construct 10 car parking lot across from engineering building to serve as visitor parking.
4. Construct 20 car parking lot adjacent to current engineering building lot.
5. Install sidewalk from new proposed security entrance to flag pole.
6. Install hardscape, softscape, and signage on engineering building.
7. Install truck weigh scale.

	8. Repair perimeter fencing and support structures. 9. Install access hatch for screen house catch basin. 10. Repair misc. concrete defects by shallow spall repair and crack injections. 11. Remove and replace areas of failing roadway.
Primary Driver	1 - Condition
Driver Explanation	Many of the existing roadways, sidewalks and other structures have deteriorated concrete conditions that require rehabilitation

PM Weighted Score
46.8

Criteria	Score	Comment
Regulatory (Environmental/Legal)	1	
Performance (Service Level/Reliability)	3	
Financial	3	
Operations and Maintenance	3	
Efficiency and Innovation	2	
Public Health and Safety	2	
Condition	4	
Public Benefit	1	

RC Weighted Score
39.4

Criteria	Score	Comment
Operations and Maintenance	2	
Financial	2	
Efficiency and Innovation	1	
Public Benefit	1	
Performance (Service Level/Reliability)	3	
Public Health and Safety	3	
Regulatory (Environmental/Legal)	1	
Condition	2	

Water Works Park Site/Civil Improvements

Phase Design Build Assistance **Contract** CS-272 **Status** Future Planned Start

Title Design and Construction Administration

AECOM is the Contract No. CS-272 vendor

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
8/23/2019	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY26+	$1,321			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	1,321	1,321	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Project Execution	1/1/2026	9/30/2028	1003
Project Closeout	10/1/2028	12/29/2028	89

Water Works Park Site/Civil Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
8/23/2019	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Water Works Park Site/Civil Improvements

115006 CIP#

Phase Design and Build **Contract** TBD **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
8/23/2019	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY26+	$4,322			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	4,322	4,322	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	9/2/2026	11/30/2026	89
Procurement	12/1/2026	5/29/2027	179
Project Execution	5/30/2027	9/30/2028	489
Project Closeout	10/1/2028	12/29/2028	89

Water Works Park Site/Civil Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	0	0	0	0	5,643	5,643	0

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Pennsylvania and Springwells Raw Water Supply Tunnel Improvements

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Crown cracks are especially concerning in the Springwells Raw Water Tunnel

Project Engineer/Manager Todd King
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 8/11/2015
Year Project Added to CIP 2016

Budget Water
Class Lvl 1 Water
Class Lvl 2 Treatment Plants and Facilities
Class Lvl 3 General Purpose
Location City of Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement	Significant structural distress in the form of cracking and ovality have been detected in the Pennsylvannia, Northeast and Springwells raw water tunnels that deliver raw water to the Northeast and Springwells Water Treatment Plants. The extent and magnitude of the distress requires that these segments of tunnel be rehabilitated and restored to provide renewed structural intergrity and consequently reliability.
Scope of Work / Project Alternatives	This project is being delivered using a progressive design-build project delivery method. The scope of work generally includes supplemental remove operated vehicle (ROV) and personnel diver underwater, detailed investigations to determine the nature, magnitude and extent of total tunnel rehabilitation required. The detailed investigations are also used to collect sufficient information and data to determine the preferred design and construction approach best suited to the conditions identified during the detailed underwater investigations. The investigation work of DB-150 focused on those sections of tunnel where concerns were observed during the condition assessment work conducted under former DWSD Contract No. CS-1623. Three areas were identified including the Pennsylvania Tunnel at Water Works Park (non structural rehab), Northeast Raw Water Tunnel (structural rehab) located in the Outer Drive greenbelt and the highest concern being a portion of the Springwells Tunnel near the Springwells WTP (structural rehab). Project alternatives evaluated included tunnel dewatering with rehab done in dry conditions along with tunnel bypass pumping; new tunnel construction, and tunnel rehab in the wet using underwater diver teams. The DB-150 project approach will involve the latter alternative to rehab the tunnel sections of concern.
Other Important Info	The tunnels are approximately 80 to 100 feet below ground surface. Dewatering the tunnels to repair them will create extensive stresses that must be considered prior to performing the work. Maintaining a supply of raw water to Springwells, Northeast and Water Works Park throughout construction to meet finished water production

	requirements/demands of the system. Specialized/complicated construction. Project History: Portions of the Raw Water Tunnel system are approaching 100 years of service. The Northeast Tunnel failed catastrophically in the late 80s due to infiltration of sand through cracking. This project is based on the recommendations of CS-1623, currently underway, which is inspecting all GLWA raw water tunnels.
Related Project	CS-1623 Raw water tunnel condition assessment (closed) CS-187 Raw water tunnel condition assessment (active) DB-150 Pennsylvannia, Northeast & Springwells Raw Water Tunnel Rehabilitation (active)
Primary Driver	2 - Performance
Driver Explanation	Failure of the affected raw water tunnels could impact as much as 50% of the GLWA customers.

PM Weighted Score

82

Criteria	Score	Comment
Financial	5	
Public Benefit	5	
Operations and Maintenance	5	
Condition	5	
Performance (Service Level/Reliability)	5	
Efficiency and Innovation	1	
Regulatory (Environmental/Legal)	2	
Public Health and Safety	5	

RC Weighted Score

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

Pennsylvania and Springwells Raw Water Supply Tunnel Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

4	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
FKE	**Cost Est. Source**
FKE	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$46			2021CIP
GLWA Salaries CIP2021	FY20	$153			2021CIP
GLWA Salaries CIP2021	FY21	$110			2021CIP
GLWA Salaries CIP2021	FY22	$110			2021CIP
GLWA Salaries CIP2021	FY23	$110			2021CIP
GLWA Salaries CIP2021	FY24	$27			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
46	153	110	110	110	27	0	0	556	357

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

116002 CIP#

Pennsylvania and Springwells Raw Water Supply Tunnel Improvements

Phase Design and Build **Contract** DB-150 **Status** Active

Title Design -Build

DB-150 is a progresive design build contract (active)

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

4	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
FKE	**Cost Est. Source**
FKE	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY19-	$10,154			2021CIP
Design-Build	FY20	$500			2021CIP
Design-Build	FY21	$14,028			2021CIP
Design-Build	FY22	$21,807			2021CIP
Design-Build	FY23	$8,700			2021CIP
Design-Build	FY24	$5,500			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
10,154	500	14,028	21,807	8,700	5,500	0	0	60,689	50,035

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	11/15/2016	2/13/2017	90

Phase Task Name	Start Date	End Date	Duration
Procurement	2/14/2017	1/26/2018	346
Project Execution	1/29/2018	6/30/2023	1978
Project Closeout	7/1/2023	9/29/2023	90

Pennsylvania and Springwells Raw Water Supply Tunnel Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	10,200	653	14,138	21,917	8,810	5,527	0	0	61,245	50,392
2020	0	0	2,178	7,513	5,467	5,467	5,467	3,998	0	0	0	30,090	20,399
2019	0	10	3,625	9,042	5,468	5,468	5,468	3,998		0	0	33,079	29,444
2018		500	2,000	10,000	15,000	4,900			0	0	0	32,400	31,900

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

The detailed tunnel investigation/inspection was completed this past fiscal year under the active progressive design-build contract (DB-150) and determined that the scope of required tunnel rehabilitation was expanded by about 40% beyond that previously discovered during the CS-1623 condition assessment work. Note that the extent and magnitude of tunnel rehabilitation work estimated under CS-1623 was merely based on a cursory tunnel inspection. The DB-150 contract work has involved significantly more detailed tunnel inspection to quantity the required rehabilitation. NAH 8/26/19

Parallel 42-Inch Main in 24 Mile Road from Rochester Station to Romeo Plank Road

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Closed

CIP Type Project

☐ **Project New To CIP**

A large water main

Project Engineer/Manager Khader Hamad
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 6/2/2005
Year Project Added to CIP 2005

Budget Water
Class Lvl 1 Water
Class Lvl 2 Field Services
Class Lvl 3 Transmission System
Location Macomb County
Fund and Cost Center Water - 5519-882411

Problem Statement	Paralleling original 36" water main that is critical to the supply of three communities and has had history of breaks
Scope of Work / Project Alternatives	This project will provide for the installation of approximately 35,650 feet of parallel 42-inch diameter pre-stressed embedded concrete cylinder pipe (PCCP) and approximately 1,070 linear feet of 36-inch diameter of PCCP in 24 Mile Road from Rochester Station to Romeo Plank Road. The work will also provide for all interconnections and valves.
Other Important Info	Challenges: N/A - Pending Closeout
Primary Driver	N/A - Pending Closeout
Driver Explanation	N/A - Pending Closeout

Parallel 42-Inch Main in 24 Mile Road from Rochester Station to Romeo Plank Road

Phase Construction **Contract** WS-681 **Status** Closed Out

Title WS-681 Parallel 42-Inch Main in 24 Mile Road from Rochester Station to Romeo Plank Road

Ric-Man Detroit, Awaiting final change order.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date	4/7/2014	**Fund**	Construction Bond Fund
End Date	10/9/2016	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2012	**Cost Est. Date**
Somat	**Cost Est. Source**
Somat	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$33,246			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
33,246	0	0	0	0	0	0	0	33,246	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Project Execution	1/1/2017	1/2/2017	1
Project Closeout	1/4/2017	4/4/2017	90

Parallel 42-Inch Main in 24 Mile Road from Rochester Station to Romeo Plank Road

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	33,246	0	0	0	0	0	0	0	33,246	0
2020	0	0	33,566	0	0	0	0	0	0	0	0	33,566	0
2019	0	32,571	2,813							0	0	35,384	0
2018	26926	2,367	715						0	0	0	30,008	715

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes Project to be closed out by December 31, 2018 with a negative change order in the amount of $2.55M. CCD-002 has been successfully negotiated with the Contractor and is awaiting execution as of July 17, 2018.

Replacement of Five (5) PRV Pits of Treated Water Transmission System

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Closed

CIP Type Project

☐ **Project New To CIP**

An example PRV

Project Engineer/Manager Eric Kramp
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 3/12/2010
Year Project Added to CIP 2010

Budget Water
Class Lvl 1 Water
Class Lvl 2 Field Services
Class Lvl 3 Transmission System
Location Multiple Counties
Fund and Cost Center Water - 5519-882111

Problem Statement	Replacement of the PRVs to enhance operability of the system and improve control of the system to meet customer pressure needs
Scope of Work / Project Alternatives	This project has replaced five existing pressure reducing valves (PRVs) that were defective and no longer controlling downstream pressures. During the replacement, the PRV pits were upgraded to improve accessibility, provide new sump pumps as needed, and make other necessary improvements to operations.
Other Important Info	Challenges: N/A - Closed Project History: Change Order Number one has been executed, and contractor final payment issued.
Primary Driver	1 - Condition
Driver Explanation	All five PRV vaults were not working.

Replacement of Five (5) PRV Pits of Treated Water Transmission System

Phase Construction **Contract** DWS-891 **Status** Pending Close-out

Title DWS-891 Replacement of Five (5) PRV Pits of Treated Water Transmission System

Lakeshore Global

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Pending Close-out	**Funding Source**	Bond Proceeds
Start Date	5/14/2015	**Fund**	Construction Bond Fund
End Date	6/30/2017	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Metco	**Cost Est. Source**
Metco	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$2,783			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
2,783	0	0	0	0	0	0	0	2,783	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Project Execution	5/15/2015	5/1/2019	1447
Project Closeout	5/2/2019	8/2/2019	92

Replacement of Five (5) PRV Pits of Treated Water Transmission System

Phase GLWA Employees Project management **Contract** NA **Status** Pending Close-out

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Pending Close-out	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

1	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Metco	**Cost Est. Source**
Metco	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$2			2021CIP
GLWA Salaries CIP2021	FY20	$5			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
2	5	0	0	0	0	0	0	7	0

Phase Task Dates

Replacement of Five (5) PRV Pits of Treated Water Transmission System

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	2,785	5	0	0	0	0	0	0	2,790	0
2020	0	0	1,844	804	0	0	0	0	0	0	0	2,648	0
2019	0	1,697	670							0	0	2,367	0
2018	1015	1,205							0	0	0	2,220	0

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes The CIP plan here is showing the final, resolved Change Order being paid in FY 2019. All contracts associated with this CIP are closed and not active. NAH 8/6/2019

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP
Water Works Park to Northeast Transmission Main

122003 CIP#

- ☐ Innovation
- ☐ Conceptual WW MP
- ☑ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☑ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Project Engineer/Manager Timothy Kuhns
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 9/8/2016
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Field Services
Class Lvl 3 Transmission System
Location City of Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement

The 2015 GLWA Water Master Plan update indicated that the regional system has significant excess capacity for water treatment compared to projected water demands. The analysis contained in the Water Mater Plan update indicated that for average day demand conditions, the five WTPs typically operate between 23 percent to 35 percent of the rated treatment capacity and for maximum day demand conditions, the five WTPs typically operate between 38 percent to 67 percent of the treatment rated capacity. To address this imbalance, the Water Master Plan update recommended a program to reduce the regional treatment capacity to better align it with future system water demands. In order to align treatment capacity and projected system demands, the 2015 Water Master Plan update recommended that a new water transmission system be constructed from the Water Works Park WTP to the Northeast WTP to provide finished water to the Northeast reservoirs from the Water Works Park WTP. Under this recommendation, low lift and treatment facilities would be decommissioned at the Northeast WTP and the high-lift pumps/reservoirs at the Northeast WTP will be repurposed to function as a booster pump station to re-pump the treated, finished water delivered to the Northeast WTP site from the Water Works Park WTP through the new water transmission main system. the finished water reservoirs and high lift station at Northeast could be left in service such that the site could operate as a booster station moving forward.

Scope of Work / Project Alternatives

This project includes three separate construction phases for the completion of the overall water transmission system from Water Works Park to Northeast:
(1) Phase 1 - Construction of 84-inch yard piping and a Flow Control Facility at the Northeast site.
(2) Phase 2 - Construction of 19,000 feet of 81-inch water transmission main (WTM) from the Northeast site to the intersection of Harper/Venice
(3) Phase 3 - Construction of 3,000 feet of 81-inch WTM from intersection of Harper/Venice to the intersection of

	South Edsel Ford Service Drive/Garland, construction of 6,700 feet of 66-inch WTM from the intersection of the South Edsel Ford Service Drive/Garland to the intersection of Hurlbut/Sylvester.
Other Important Info	Challenges: Construction of large diameter WTM in the road ROW north of I-94. Identification of as-built host pipe condition for Hurlbut, Bewick, and Garland Mains to maximize I.D. of liner pipe. This project was recommended as part of the 2015 Water Master Plan Update to align treatment capacity with decreasing water demands.
Related Project	CIP No. 115001 - WWP WTP Yard Piping, Valves and Venturi Meters Replacement CIP No. 122018 - Garland, Hurlbut, and Bewick WTM Rehab
Primary Driver	8 - Efficiency
Driver Explanation	This project provides for efficiencies in facilitating the decommissioning of treatment at the Northeast WTP.

PM Weighted Score
78.4

Criteria	Score	Comment
Condition	4	
Performance (Service Level/Reliability)	4	
Regulatory (Environmental/Legal)	3	
Operations and Maintenance	4	
Public Health and Safety	3	
Public Benefit	5	
Financial	5	
Efficiency and Innovation	5	

RC Weighted Score
62.4

Criteria	Score	Comment
Condition	1	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	5	
Public Health and Safety	1	
Public Benefit	5	
Financial	5	
Efficiency and Innovation	5	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Water Works Park to Northeast Transmission Main

122003 CIP#

Phase GLWA Employees Project management **Contract** TBD **Status** Future Planned Start

Title Phase 3 WWP to NE Transmission Main

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	
Start Date		**Fund**	
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY21	$4,043			2021CIP
Design-Build	FY22	$6,387			2021CIP
Design-Build	FY23	$6,481			2021CIP
Design-Build	FY24	$6,304			2021CIP
Design-Build	FY25	$7,233			2021CIP
Design-Build	FY26+	$22,886			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	4,043	6,387	6,481	6,304	7,233	22,886	53,334	30,448

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2020	9/28/2020	89
Procurement	9/29/2020	10/13/2021	379

Water Works Park to Northeast Transmission Main

Phase Task Name	Start Date	End Date	Duration
Project Execution	10/14/2021	10/7/2028	2550
Project Closeout	10/8/2028	1/6/2029	90

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Water Works Park to Northeast Transmission Main

122003 CIP#

Phase Design and Build **Contract** NA **Status** Future Planned Start

Title Phase 2 WWP to NE Transmission Main - Transmission Main

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date	9/11/2017	**Fund**	Construction Bond Fund
End Date	9/10/2018	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY21	$5,836			2021CIP
Design-Build	FY22	$9,219			2021CIP
Design-Build	FY23	$9,355			2021CIP
Design-Build	FY24	$9,100			2021CIP
Design-Build	FY25	$10,441			2021CIP
Design-Build	FY26+	$33,035			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	5,836	9,219	9,355	9,100	10,441	33,035	76,986	43,951

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2019	1/3/2020	186
Procurement	1/4/2020	11/4/2020	305

Water Works Park to Northeast Transmission Main

Phase Task Name	Start Date	End Date	Duration
Project Execution	11/5/2020	2/11/2029	3020
Project Closeout	2/12/2029	5/13/2029	90

Phase Study **Contract** CS-152 **Status** Active

Title CS-152 New Waterworks Park to Northeast Transmission Main

CS-152 CH2M Route Study

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$2,544			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
2,544	0	0	0	0	0	0	0	2,544	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Project Execution	9/14/2017	6/30/2022	1750

Water Works Park to Northeast Transmission Main

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$67			2021CIP
GLWA Salaries CIP2021	FY20	$90			2021CIP
GLWA Salaries CIP2021	FY21	$87			2021CIP
GLWA Salaries CIP2021	FY22	$57			2021CIP
GLWA Salaries CIP2021	FY23	$57			2021CIP
GLWA Salaries CIP2021	FY24	$57			2021CIP
GLWA Salaries CIP2021	FY25	$57			2021CIP
GLWA Salaries CIP2021	FY26+	$199			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
67	90	87	57	57	57	57	199	671	315

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Water Works Park to Northeast Transmission Main

122003 CIP#

Phase Design and Build **Contract** NA **Status** Future Planned Start

Title Phase 1 WWP to NE Transmission Main - Flow Control Station at NE

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY20	$1,079			2021CIP
Design-Build	FY21	$1,737			2021CIP
Design-Build	FY22	$2,744			2021CIP
Design-Build	FY23	$2,785			2021CIP
Design-Build	FY24	$2,709			2021CIP
Design-Build	FY25	$3,108			2021CIP
Design-Build	FY26+	$9,829			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	1,079	1,737	2,744	2,785	2,709	3,108	9,829	23,991	13,083

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	9/30/2018	5/1/2019	213

Water Works Park to Northeast Transmission Main

Phase Task Name	Start Date	End Date	Duration
Procurement	1/8/2019	10/7/2019	272
Project Execution	10/8/2019	9/30/2028	3280
Project Closeout	10/1/2028	12/30/2028	90

Water Works Park to Northeast Transmission Main

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	2,611	1,169	11,703	18,407	18,678	18,170	20,839	65,949	157,526	87,797
2020	0	0	1,655	1,121	871	15,786	24,115	29,615	29,994	30,115	0	133,272	100,381
2019	0	19	1,305	1,372	8,622	17,547	46,022	30,722	25,270	0	0	130,879	104,285
2018			1,500	5,000	10,000	74,000	2,000	37,500	0	0	0	130,000	92,500

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

CIP 112001 has been reclassified. Budgeted dollars from that project have been transferred over to this CIP number, thus the increase in the CIP value for the project. The project has been split into two phases to account for DWRF loan schedule deadlines.
CIP budget has been updated based on actual bid prices for phase 1 (Northeast Flow Control Facility) of this project.
CIP budget has been updated based on updated CS-152 costs. Previous estimates did not include all trenchless pipe installation costs required to complete construction of the pipeline.

96-inch Water Transmission Main Relocation and Isolation Valve Installations

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Map of the 96-inch main relocation away from the landfill

Project Engineer/Manager Grant Gartrell
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 1/1/2015
Year Project Added to CIP 2016

Budget Water
Class Lvl 1 Water
Class Lvl 2 Field Services
Class Lvl 3 Transmission System
Location Multiple Counties
Fund and Cost Center Water - 5519-882411

Problem Statement	Project critical to providing isolation and redundancy to Lake Huron WTP supply, while protecting the water supply from potential contamination at the G&H Landfill. Project includes relocation around existing superfund landfill addition of isolation valves along the 96-inch water transmission main.
Scope of Work / Project Alternatives	Relocate 2.5 miles of 96-inch transmission main currently located in an EPA NPL landfill, a portion of which is submerged in landfill leachate. Relocation includes crossing the Clinton River, coordination with many various authorities having jurisdiction and easement acquisition. Isolation valve installation portion of the project provides the ability to isolate segments of the 96-inch main between Imlay Station and North Service Center for maintenance while maintaining customer expected level of service.
Other Important Info	Challenges: Shutdown, continued customer service, isolation valve installations while maintaining the Lake Huron WTP supply to Rochester Station. Property acquisition will be required for the chesterfield temporary booster station and East Pond Creek discharge facility for relocation around the landfill.
Related Project	Contract No. CS-165, Route Study, Jacobs (closed)
Primary Driver	2 - Performance
Driver Explanation	The 96-inch operates with no isolation or bypass valves between 33 Mile and Rochester Station. In addition, while contamination is alleviated while the pipe is under pressure, any drop in pressure or service could result in the leaching of contaminants.

PM Weighted Score
83.6

Criteria	Score	Comment
Condition	5	Driven by appurtenances
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	4	
Operations and Maintenance	5	
Public Health and Safety	4	
Public Benefit	5	
Financial	3	
Efficiency and Innovation	2	

RC Weighted Score
65.2

Criteria	Score	Comment
Condition	2	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	2	
Operations and Maintenance	5	
Public Health and Safety	4	
Public Benefit	5	
Financial	1	
Efficiency and Innovation	2	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

122004 CIP#

96-inch Water Transmission Main Relocation and Isolation Valve Installations

Phase Construction **Contract** NA **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date	4/3/2017	**Fund**	Construction Bond Fund
End Date	5/22/2023	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY22	$10,075			2021CIP
Construction	FY23	$17,714			2021CIP
Construction	FY24	$17,589			2021CIP
Construction	FY25	$17,589			2021CIP
Construction	FY26+	$53,201			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	10,075	17,714	17,589	17,589	53,201	116,168	62,967

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2021	9/29/2021	90
Procurement	9/30/2021	4/6/2022	188
Project Execution	4/7/2022	6/30/2029	2641

Phase Task Name	Start Date	End Date	Duration
Project Closeout	7/1/2029	9/21/2029	82

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

122004 CIP#

96-inch Water Transmission Main Relocation and Isolation Valve Installations

Phase Design & Construction Assistance **Contract** NA **Status** Future Planned Start

Title Design/Construction Administration

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$413			2021CIP
Engineering Services	FY20	$2,422			2021CIP
Engineering Services	FY21	$5,140			2021CIP
Engineering Services	FY22	$5,617			2021CIP
Engineering Services	FY23	$2,150			2021CIP
Engineering Services	FY24	$2,135			2021CIP
Engineering Services	FY25	$2,135			2021CIP
Engineering Services	FY26+	$6,458			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
413	2,422	5,140	5,617	2,150	2,135	2,135	6,458	26,470	17,177

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration

96-inch Water Transmission Main Relocation and Isolation Valve Installations

Phase Task Name	Start Date	End Date	Duration
Procurement	4/30/2019	11/15/2019	199
Project Execution	11/16/2019	6/30/2029	3514
Project Closeout	7/1/2029	9/29/2029	90

Phase Study **Contract** CS-165 **Status** Closed Out

Title Study

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Revenue Financed Capital
Start Date	3/28/2017	**Fund**	Improvement & Extension Fun
End Date	3/28/2018	**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$1,336			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
1,336	0	0	0	0	0	0	0	1,336	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Project Execution	3/29/2017	3/1/2019	702

96-inch Water Transmission Main Relocation and Isolation Valve Installations

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2017	**Cost Est. Date**
Jacobs	**Cost Est. Source**
Jacobs	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$41			2021CIP
GLWA Salaries CIP2021	FY20	$127			2021CIP
GLWA Salaries CIP2021	FY21	$127			2021CIP
GLWA Salaries CIP2021	FY22	$73			2021CIP
GLWA Salaries CIP2021	FY23	$73			2021CIP
GLWA Salaries CIP2021	FY24	$73			2021CIP
GLWA Salaries CIP2021	FY25	$73			2021CIP
GLWA Salaries CIP2021	FY26+	$310			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
41	127	127	73	73	73	73	310	897	419

Phase Task Dates

96-inch Water Transmission Main Relocation and Isolation Valve Installations

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	1,790	2,549	5,267	15,765	19,937	19,797	19,797	59,969	144,871	80,563
2020	0	0	1,130	837	5,000	6,000	26,453	35,886	23,453	33,907	0	132,666	96,792
2019	0	460	570	1,797	2,644	895	23,087	45,825	57,389	0	0	132,667	74,248
2018		500	1,500	6,000	35,900	31,700	31,700	31,700	0	0	0	139,000	106,800

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Based on the conclusions made during the route study and implementation strategy development conducted under Contract No. CS-165, it has been determined by a new parallel transmission main is not required to construct this project. Therefore, a new parallel main is not included in this scope. Instead, the project scope involves installing large (i.e. about 42-inch diameter) by-passes strategically located at each master meter along the 96-inch main between the Dorsey-Dickenson Valve and North Service Center. In addition, the cost of this CIP has been increased to account for the actual bid submitted for engineering services as well as the updated, estimated cost of construction. GAG 8/26/2019

Schoolcraft Road Water Transmission Main

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Water main replacement

Budget Water
Class Lvl 1 Water
Class Lvl 2 Field Services
Class Lvl 3 Transmission System
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882411

Project Engineer/Manager Nick Hoffman
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 8/17/2015
Year Project Added to CIP 2016

Problem Statement	We currently operate an existing 48-inch water trasnmission main on West Bound Schoolcraft Road. This existing PCCP transmission main was manufactured by Interpace Corporation which has a long documented history of PCCP failures due to manufacturing means and methods of the pre-stressed wires. Due to excessive breaks over the years and the downstream effect on customers, we are improving the transmission system reliability and redundancy by installing a new 48-inch water transmission main on Eastbound Schoolcraft Road.
Scope of Work / Project Alternatives	Design and Construction of approximately 12,000 linear feet of new PCCP or Carbon Steel 48-inch water transmission main along Eastbound Schoolcraft service drive between Middlebelt and Beech Daly. Including isolation valves, blowoff's, valve vaults, manhole entrances and related appurtenances. Upon completion and tie-in of the new Eastbound Schoolcraft transmission main the existing will be abandoned in place.
Other Important Info	Designed under CS-1488 by Somat Engineering
Related Project	CS-1488 (closed) CS-259 (active)
Primary Driver	2 - Performance
Driver Explanation	Existing main has a track history of excessive breaks due to the pipe manufacturer. New main will help alleviate any disruption of service.

PM Weighted Score
58

Criteria	Score	Comment
Condition	4	
Efficiency and Innovation	1	
Financial	2	
Public Benefit	1	
Public Health and Safety	4	
Operations and Maintenance	4	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	1	

RC Weighted Score
42

Criteria	Score	Comment
Condition	3	
Performance (Service Level/Reliability)	3	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	3	
Public Health and Safety	3	
Public Benefit	1	
Financial	1	
Efficiency and Innovation	1	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP
Schoolcraft Road Water Transmission Main

122005 CIP#

Phase Design & Construction Assistance **Contract** CS-1488 **Status** Active

Title Design/Construction Administration

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Somat	**Cost Est. Source**
Somat	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$117			2021CIP
Engineering Services	FY20	$134			2021CIP
Engineering Services	FY21	$193			2021CIP
Engineering Services	FY22	$57			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
117	134	193	57	0	0	0	0	501	250

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/1/2016	12/30/2016	90
Procurement	12/31/2016	5/23/2018	508
Project Execution	6/4/2018	10/16/2021	1230
Project Closeout	10/17/2021	1/15/2022	90

Schoolcraft Road Water Transmission Main

Phase Construction **Contract** NA **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Somat	**Cost Est. Source**
Somat	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY20	$3,180			2021CIP
Construction	FY21	$12,914			2021CIP
Construction	FY22	$1,406			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	3,180	12,914	1,406	0	0	0	0	17,500	14,320

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/1/2018	12/30/2018	90
Procurement	8/23/2019	10/21/2019	59
Project Execution	10/22/2019	10/16/2021	725
Project Closeout	10/17/2021	1/15/2022	90

Schoolcraft Road Water Transmission Main

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Somat	**Cost Est. Source**
Somat	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$24			2021CIP
GLWA Salaries CIP2021	FY20	$28			2021CIP
GLWA Salaries CIP2021	FY21	$34			2021CIP
GLWA Salaries CIP2021	FY22	$19			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
24	28	34	19	0	0	0	0	105	53

Phase Task Dates

Schoolcraft Road Water Transmission Main

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	141	3,342	13,141	1,482	0	0	0	0	18,106	14,623
2020	0	0	4	180	8,100	9,145	633	0	0	0	0	18,062	17,878
2019	0		16	50	6,249	6,899	591			0	0	13,805	13,789
2018				7,300	7,250				0	0	0	14,550	14,550

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes Up-dated the Engineering cost per FY to cover the RPR. Added the Engineering Contract number. NAH 8/26/2019

Wick Road Water Transmission Main

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Transmission main

Project Engineer/Manager Nick Hoffman

Director Grant Gartrell

Managing Dept Water Eng

Date Original Business Case Prepared 8/17/2015

Year Project Added to CIP 2016

Budget Water

Class Lvl 1 Water

Class Lvl 2 Field Services

Class Lvl 3 Transmission System

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882411

Problem Statement	Existing water main from Wick Station to Ypsilanti station has history of excessive breaks. Additionally, the main is the only primary connection between the two facilities with multiple community Master Meters along its alignment. A break in this line is disruptive to several communities dependent upon the failure location. The intent is to improve the transmission system reliability/redundancy by means of constructing a parallel 48-inch water main along Wick Road.
Scope of Work / Project Alternatives	Design and Construction of the new 48-inch transmission main along Westbound Wick Road in Romulus, MI including isolation valves and interconnects that will tie-in with the existing main along the alignment. Completion of this project will alleviate pressures and potential transients between the two mains, as well as increase reliability/redundancies in the general area.
Related Project	MOU-4848: Roughly 2000 linear feet of 48-inch PCCP was administred and constructed by Romulus through the above mentioned agreement.
Primary Driver	2 - Performance
Driver Explanation	This project complete the remainder of the parallel main between Wick Station and Ypsilanti Station.

PM Weighted Score
65.8

Criteria	Score	Comment
Condition	4	
Financial	1	
Public Benefit	4	
Efficiency and Innovation	3	
Public Health and Safety	4	
Operations and Maintenance	3	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	2	

RC Weighted Score
54.2

Criteria	Score	Comment
Condition	4	
Performance (Service Level/Reliability)	4	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	3	
Public Health and Safety	3	
Public Benefit	3	
Financial	1	
Efficiency and Innovation	3	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Wick Road Water Transmission Main

122006 CIP#

Phase Construction **Contract** CON-306 **Status** Active

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Somat	**Cost Est. Source**
Somat	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY20	$5,790			2021CIP
Construction	FY21	$9,642			2021CIP
Construction	FY22	$5,530			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	5,790	9,642	5,530	0	0	0	0	20,962	15,172

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/10/2018	5/2/2019	296
Procurement	5/3/2019	8/8/2019	97
Project Execution	8/9/2019	3/31/2022	965
Project Closeout	4/1/2022	6/30/2022	90

Wick Road Water Transmission Main

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Somat	**Cost Est. Source**
Somat	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$42			2021CIP
GLWA Salaries CIP2021	FY20	$75			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
42	75	0	0	0	0	0	0	117	0

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Wick Road Water Transmission Main

122006 CIP#

Phase Construction Assistance **Contract** CS-1488 **Status** Active

Title Construction Administration

CS1488 task 7

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Somat	**Cost Est. Source**
Somat	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY20	$298			2021CIP
Engineering Services	FY21	$333			2021CIP
Engineering Services	FY22	$250			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	298	333	250	0	0	0	0	881	583

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Project Execution	8/9/2019	3/31/2022	965
Project Closeout	4/1/2022	6/30/2022	90

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Wick Road Water Transmission Main

122006 CIP#

Phase Design **Contract** CS-1488 **Status** Active

Title Design Consulting Engineering Services

CS-1488 task 4

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Somat	**Cost Est. Source**
Somat	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$378			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
378	0	0	0	0	0	0	0	378	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/1/2016	12/30/2016	90
Procurement	12/31/2016	11/22/2017	326
Project Execution	11/26/2017	8/8/2019	620

Wick Road Water Transmission Main

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	420	6,163	9,975	5,780	0	0	0	0	22,338	15,755
2020	0	0	126	1,370	18,028	12,334	60	0	0	0	0	31,918	30,422
2019	0	23	16	1,743	12,373	10,154	10			0	0	24,319	24,280
2018		10,000	9,350						0	0	0	19,350	9,350

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes CIP cost updated this year to reflect the actual construction bid pricing received. NAH 8/6/2019

Merriman Road Water Transmission Main Loop

- ☐ Innovation
- ☐ Conceptual WW MP
- ☑ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Future Planned

CIP Type Project

☐ **Project New To CIP**

Water main installation

Budget Water
Class Lvl 1 Water
Class Lvl 2 Field Services
Class Lvl 3 Transmission System
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882411

Project Engineer/Manager Jacob Mangum
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 8/11/2015
Year Project Added to CIP 2016

Problem Statement

Currently, several member partners (served by master meters WL-08, WL-03, WL-01, WL-12, WY-01, RS-01, GC-03) are fed by a single 36-inch water transmission main along Michigan Avenue. Construction of this proposed Merriman Road transmission main will provide a second feed to these member partners and therefore provide redundancy. Additionally, construction of this proposed Merriman Road transmission main improves and reinforces water service delivery to the point where the Michigan Avenue Booster Pumping Station is not needed anymore. Therefore, as was recommended in the 2015 Water Master Plan Update, this proposed project is also a predecessor project to decommissioning the Michigan Avenue Booster Station.

Scope of Work / Project Alternatives

This project involves design and construction services associated with the installation of 2 miles of new 30-inch transmission main along Merriman Road between Glenwood and Marquette Roads. Alternatives evaluated included new main on either:
1. Hannon Road (rejected because of its poor route relative to other options)
2. Newburgh Road (rejected because it is not technically feasible as it will not meet contract pressures.
3. Merriman Road (accepted because it is superior in its transmission capabilities, routing and opportunity to decommission the Michigan Avenue Pump Station).

Primary Driver 2 - Performance

Driver Explanation

Allowing Michigan Avenue Pump Station and Ford Road Station to support one another will greatly improve redundancy in this portion of the transmission system.

PM Weighted Score
70

Criteria	Score	Comment
Condition	3	changed from 1
Financial	5	same
Public Benefit	5	changed from 3
Efficiency and Innovation	4	same
Public Health and Safety	3	changed from 2
Operations and Maintenance	4	same
Performance (Service Level/Reliability)	5	same
Regulatory (Environmental/Legal)	1	same

RC Weighted Score
61.6

Criteria	Score	Comment
Condition	1	same
Performance (Service Level/Reliability)	5	changed from 4
Regulatory (Environmental/Legal)	1	same
Operations and Maintenance	4	same
Public Health and Safety	3	same
Public Benefit	4	changed from 3
Financial	4	same
Efficiency and Innovation	4	same

Merriman Road Water Transmission Main Loop

Phase Construction **Contract** NA **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	Eric Kramp
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY26+	$17,532			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	17,532	17,532	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	9/25/2025	12/23/2025	89
Procurement	12/24/2025	6/30/2026	188
Project Execution	7/1/2026	8/24/2030	1515
Project Closeout	8/25/2030	11/23/2030	90

Merriman Road Water Transmission Main Loop

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY23	$15			2021CIP
GLWA Salaries CIP2021	FY24	$28			2021CIP
GLWA Salaries CIP2021	FY25	$28			2021CIP
GLWA Salaries CIP2021	FY26+	$149			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	15	28	28	149	220	71

Phase Task Dates

Merriman Road Water Transmission Main Loop

Phase Design & Construction Assistance **Contract** NA **Status** Future Planned Start

Title Design/Construction Administration

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	N/A
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY24	$362			2021CIP
Engineering Services	FY25	$1,269			2021CIP
Engineering Services	FY26+	$2,074			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	362	1,269	2,074	3,705	1,631

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	12/20/2022	3/19/2023	89
Procurement	3/20/2023	3/18/2024	364
Project Execution	3/19/2024	8/24/2030	2349
Project Closeout	8/25/2030	11/23/2030	90

Merriman Road Water Transmission Main Loop

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	0	15	390	1,297	19,755	21,457	1,702
2020	0	0		0	0	0	0	30	5,209	0	0	5,239	5,239
2019	0		6	653	1,611	2,076	901			0	0	5,247	5,241
2018			1,800	2,200					0	0	0	4,000	4,000

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes Name changed to Merriman Road from Newburgh Rd. due to better route along Newburgh Road (instead of Hannon Road) to create the loop. JEM 8/6/2019

Water System Improvements in Joy Road from Southfield Road to Trinity

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Closed

CIP Type Project

☐ **Project New To CIP**

Water main being laid

Budget Water
Class Lvl 1 Water
Class Lvl 2 Field Services
Class Lvl 3 Transmission System
Location City of Detroit
Fund and Cost Center Water - 5519-882411

Project Engineer/Manager Khader Hamad
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 2/28/2014
Year Project Added to CIP 2014

Problem Statement	Replacement of original piping with excessive break history with new ductile iron main along Wayne County roadway.
Scope of Work / Project Alternatives	The work consists of replacement of existing distribution mains and existing 24-inch transmissions mains, including gate valve, blow offs, air release valves and other appurtenances along Joy Road from Southfield Freeway to Trinity Road in the City of Detroit. A portion of this work is part of the Retail system (not included in this amount) CIP No. 463. Joy Road is also a significant Wayne County roadway within Detroit and a DDOT bus route.
Other Important Info	Challenges: N/A - Pending Closeout
Primary Driver	N/A - Pending Closeout
Driver Explanation	N/A - Pending Closeout

Water System Improvements in Joy Road from Southfield Road to Trinity

Phase Construction **Contract** WS-693 **Status** Closed Out

Title WS-693 Water System Improvements in Joy Road from Southfield Road to Trinity

Major Cement Company, DWSD contract.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date	8/11/2014	**Fund**	Construction Bond Fund
End Date	8/10/2016	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
9/15/2017	**Cost Est. Date**
Contractor	**Cost Est. Source**
Biren Saparia	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$149			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
149	0	0	0	0	0	0	0	149	0

Phase Task Dates

Water System Improvements in Joy Road from Southfield Road to Trinity

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	149	0	0	0	0	0	0	0	149	0
2020	0	0	107								0	107	0
2019	0	107								0	0	107	0
2018	8323	100							0	0	0	8,423	0

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Water Main Replacement within the City of Detroit - Joy Rd from Greenfield to Schaefer and

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Closed

CIP Type Project

☐ **Project New To CIP**

Water main being replaced

Project Engineer/Manager Eric Kramp
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 8/18/2016
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Field Services
Class Lvl 3 Transmission System
Location City of Detroit
Fund and Cost Center Water - 5519-882431

Problem Statement	Original piping has history of excessive breaks; replacing to minimize disruption in high-traffic area
Scope of Work / Project Alternatives	Work includes replacement of approx. 18500 ft. of existing water main with 8", 12", and 16" DI pipe along both Joy Rd and Davison. The scope of work also includes approx. 5300 ft. of 24" DI pipe along Joy Rd. A portion of this work is part of the Retail system (amounts not included) CIP No. 463.
Other Important Info	Challenges: N/A - Active
Related Project	WS-693
Primary Driver	N/A - Active
Driver Explanation	N/A - Active

Water Main Replacement within the City of Detroit - Joy Rd from Greenfield to Schaefer and

Phase Construction **Contract** WS-693 **Status** Closed Out

Title WS-693 Water Main Replacement within the City of Detroit - Joy Rd from Greenfield to Schaefer and Davison Ave from Lindwood to Livernois

Shared service with DWSD. 4/28/18
Yes this is a joint project 38%-GLWA 62%-DWSD as of 6/30/17 the project was 29% complete with GLWA portion completed at 15% or $536,930

Contract Split
38% GLWA - $3,617130
62% DWSD - $5,862,746
Total $9,479,876

Estimated Spend
2018 $7,050,000
2019 $580,000

This will not tie completely because it does not take into account the portion that was for FY2017 but paid in FY2018 and a $450,000 allowance that the Engineers are not yet sure of the need to spend.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Federal Loan Programs
Start Date	9/6/2016	**Fund**	Improvement & Extension Fun
End Date	11/5/2018	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Project Execution	1/1/2017	1/1/2017	0
Project Closeout	4/1/2019	4/30/2019	29

Water Main Replacement within the City of Detroit - Joy Rd from Greenfield to Schaefer and

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	0	0	0	0	0	0	0
2020	0	0		0	0	0	0	0	0	0	0	0	0
2019	0		16							0	0	16	0
2018		1,370	1,106	652					0	0	0	3,128	1,758

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Park-Merriman Road Water Transmission Main

122011 CIP#

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Water main being installed

Project Engineer/Manager Peter Fromm
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 4/12/2017
Year Project Added to CIP 2015

Budget Water
Class Lvl 1 Water
Class Lvl 2 Field Services
Class Lvl 3 Transmission System
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882411

Problem Statement	Currently, most of the wholesale master meters serving the cities of Wayne and Westland are fed off a single, "dead-end" transmission main, which provides no redundancy in service aside from customer lateral distribution opportunities. Additionally, Wayne, Westland and Inkster have deduct wholesale meters that are fed off the single, "dead-end" transmission main. Construction of this new 24-inch water main will create a loop for these member partners and thereby eliminate the single, "dead-end" main. Direct meter connections will be made to the new 24-inch transmission main so that all deduct water meters will be eliminated as part of this CIP project.
Scope of Work / Project Alternatives	This CIP project is being delivered under a design-bid-build project delivery method and generally includes the following scope of work: 1. Construction of 7,000 linear feet of 24-inch diameter ductile iron water transmission main, which includes 2 directional drills to install this main under the lower Rouge River, and 1 jack-and-bore to install this main under Michigan Avenue. 2. Constructing 2 new wholesale master meters and associated vaults for the city of Wayne. 3. Associated park improvements where the new transmission main is installed through the Wayne County Venoy-Dorsey Park.
Other Important Info	Challenges: Shutdowns to connect the two new meters with the City of Wayne. The water pressure during these two shutdowns will be reducers and coordination will need to take place with the City of Wayne, their residents and local businesses.
Related Project	CS-1488 – Design Services. Two previous construction contracts.

Primary Driver	2 - Performance
Driver Explanation	Completion of this loop will improve system redundancy for two member partners and eliminate deduct meters for three member partners.

Park-Merriman Road Water Transmission Main

PM Weighted Score
58

Criteria	Score	Comment
Condition	4	
Financial	2	
Public Benefit	1	
Efficiency and Innovation	1	
Public Health and Safety	4	
Operations and Maintenance	4	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	1	

RC Weighted Score
30.2

Criteria	Score	Comment
Condition	1	
Performance (Service Level/Reliability)	3	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	2	
Public Health and Safety	1	
Public Benefit	1	
Financial	2	
Efficiency and Innovation	1	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Park-Merriman Road Water Transmission Main

122011 CIP#

Phase Design & Construction Assistance **Contract** CS-259 **Status** Active

Title Design/Construction Administration

Engineering Services Contract No. CS-259, Somat Engineering (active)

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Somat	**Cost Est. Source**
Somat	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$296			2021CIP
Engineering Services	FY20	$208			2021CIP
Engineering Services	FY21	$93			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
296	208	93	0	0	0	0	0	597	93

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/24/2016	10/22/2016	90
Procurement	10/23/2016	11/24/2017	397
Project Execution	11/27/2017	12/11/2020	1110
Project Closeout	12/12/2020	4/15/2021	124

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Park-Merriman Road Water Transmission Main

122011 CIP#

Phase Construction **Contract** 1802775 **Status** Active

Title Construction

Construction Contract No. 1802775, Salenbien Trucking and Excavating (active)

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Somat	**Cost Est. Source**
Somat	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$654			2021CIP
Construction	FY20	$4,158			2021CIP
Construction	FY21	$1,985			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
654	4,158	1,985	0	0	0	0	0	6,797	1,985

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	3/15/2018	9/29/2018	198
Procurement	8/27/2018	3/11/2019	196
Project Execution	3/11/2019	12/11/2020	641
Project Closeout	12/12/2020	4/15/2021	124

Park-Merriman Road Water Transmission Main

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Somat	**Cost Est. Source**
Somat	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$38			2021CIP
GLWA Salaries CIP2021	FY20	$108			2021CIP
GLWA Salaries CIP2021	FY21	$85			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
38	108	85	0	0	0	0	0	231	85

Phase Task Dates

Park-Merriman Road Water Transmission Main

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	988	4,474	2,163	0	0	0	0	0	7,625	2,163
2020	0	0	156	1,067	4,737	2,237	6	0	0	0	0	8,203	6,980
2019	0		23	955	3,676	1,549	6			0	0	6,209	6,186
2018			1,800	2,200					0	0	0	4,000	4,000

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Up-dated the procurement start date and the construction start/finish date. Up-dated the Contract numbers for Engineering and Construction. PF 2018
Cost of CIP updated this fiscal year to account for the actual cost of construction contract award that occurred in FY19. PF 2019
Updated project title for clarity. 8/19/2019 GAG

36-inch Water Main in Telegraph Road

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Pending Closeout

CIP Type Project

☐ **Project New To CIP**

Water main ready to install

Project Engineer/Manager Khader Hamad
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 8/18/2016
Year Project Added to CIP 2012

Budget Water
Class Lvl 1 Water
Class Lvl 2 Field Services
Class Lvl 3 Transmission System
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882411

Problem Statement	Excessive joint leaks warrant replacement; new water line to be placed in greenbelt
Scope of Work / Project Alternatives	This project includes installation of approximately 10,530 feet of 36-inch dia. water main in Telegraph Road from Cherry Hill to Warren Ave.
Other Important Info	Challenges: N/A - Active
Related Project	WS-684
Primary Driver	1 - Condition
Driver Explanation	N/A - Active

36-inch Water Main in Telegraph Road

PM Weighted Score
55

Criteria	Score	Comment
Condition	4	
Financial	3	
Public Benefit	4	
Efficiency and Innovation	2	
Public Health and Safety	3	
Operations and Maintenance	3	
Performance (Service Level/Reliability)	3	
Regulatory (Environmental/Legal)	1	

RC Weighted Score
45.6

Criteria	Score	Comment
Condition	3	
Performance (Service Level/Reliability)	3	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	3	
Public Health and Safety	2	
Public Benefit	3	
Financial	2	
Efficiency and Innovation	2	

36-inch Water Main in Telegraph Road

Phase not applicable **Contract** NA **Status** Closed Out

Title Prior Year Actual Expenses

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	
Start Date		**Fund**	
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Somat	**Cost Est. Source**
Somat	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
-1,225	0	0	0	0	0	0	0	-1,225	0

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

36-inch Water Main in Telegraph Road

122012 CIP#

Phase Construction **Contract** WS-684A **Status** Pending Close-out

Title WS-684A 36-inch Water Main in Telegraph Road

Ric-Man

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Pending Close-out	**Funding Source**	Bond Proceeds
Start Date	4/25/2016	**Fund**	Construction Bond Fund
End Date	6/24/2017	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Somat	**Cost Est. Source**
Somat	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$1,193			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
1,193	0	0	0	0	0	0	0	1,193	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/19/2015	10/17/2015	90
Procurement	10/18/2015	4/23/2016	188
Project Execution	4/24/2016	4/27/2018	733
Project Closeout	4/30/2018	10/31/2018	184

36-inch Water Main in Telegraph Road

Phase Design & Construction Assistance **Contract** NA **Status** Pending Close-out

Title 36-inch Water Main in Telegraph Road

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Pending Close-out	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Somat	**Cost Est. Source**
Somat	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$552			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
552	0	0	0	0	0	0	0	552	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/21/2013	10/19/2013	90
Procurement	10/20/2013	10/20/2014	365
Project Execution	10/21/2014	2/5/2018	1203
Project Closeout	2/6/2018	4/25/2018	78

36-inch Water Main in Telegraph Road

Phase GLWA Employees Project management **Contract** NA **Status** Pending Close-out

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Pending Close-out	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

1	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Somat	**Cost Est. Source**
Somat	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$9,439			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
9,439	0	0	0	0	0	0	0	9,439	0

Phase Task Dates

36-inch Water Main in Telegraph Road

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	9,959	0	0	0	0	0	0	0	9,959	0
2020	0	0	9,418	155	0	0	0	0	0	0	0	9,573	0
2019	0	8,125	2,257	3						0	0	10,385	3
2018		2,000	5,061						0	0	0	7,061	5,061

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Project closeout delayed due to MDOT requirement for extended warranty on restoration and newly planted trees. CO-01 has been agreed to by the Contractor and GLWA for time and money and is currently being executed as of July 16, 2018.

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

14 Mile Transmission Main Loop

122013 CIP#

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Project Engineer/Manager Sara Mille
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 10/28/2016
Year Project Added to CIP 2017

Budget Water
Class Lvl 1 Water
Class Lvl 2 Field Services
Class Lvl 3 Transmission System
Location Oakland County
Fund and Cost Center Water - 5519-882111

Problem Statement	The 14 Mile Transmission Main that currently serves West Bloomfield Township, Farmington Hills, Commerce Township, Novi, Walled Lake, and Wixom is a single feed transmission system. If a disruption to service were to occur on this transmission main, many of the users along this main would experience a complete loss of pressure and flow. This project would provide a transmission main loop to the 14 Mile system to increase redundancy on this branch of the system.
Scope of Work / Project Alternatives	Install approximately 6 Miles of 48-inch transmission main from 8 Mile Road to 14 Mile Road. It also includes construction of approximately 1 mile of new 24-inch parallel transmission main along 14 Mile from M-5 to west of Decker Road to reinforce the 14 Mile Transmission System. The work will also include connections to the yard piping and reservoir fill line at the Haggerty Booster Station as well as a control valve to regulate flows along the transmission main.
Other Important Info	GLWA is collaborating with the City of Novi on the potential to provide an additional master meter connection with Novi along Napier Road where the new 48-inch tranmission main will be installed. Project History: The 2015 Water Master Plan Update included a recommendation to evaluate options along this branch of the system to increase redundancy. Since that recommendation, GLWA Water Supply Operations Engineering performed a hydraulic analysis of redundancy alternatives for the 14 Mile Transmission System. The results of the hydraulic analysis was presented at the May 15, 2017 and September 19, 2017 Analytical Work Group Meetings and based on the discussion at these meetings, the Haggerty Loop Option described in the scope of work appears to be the preferred alternative.

	Challenges: Routing and construction staging for the proposed piping in the vicinity of the Haggerty and 8 Mile Intersection appears to be a significant challenge as this intersection is one of the highest traffic volume intersections in Southeast Michigan.
Related Project	CIP 1336 West Service Center Division Valve Upgrades and Newburgh Active Bypass System
Primary Driver	2 - Performance
Driver Explanation	Completion of the 14 Mile Road Transmission Loop will eliminate a single feed to over 250,000 people.

PM Weighted Score
70.6

Criteria	Score	Comment
Condition	3	
Regulatory (Environmental/Legal)	3	
Public Health and Safety	4	
Public Benefit	5	
Operations and Maintenance	3	
Performance (Service Level/Reliability)	5	
Financial	2	
Efficiency and Innovation	3	

RC Weighted Score
58.4

Criteria	Score	Comment
Financial	1	
Operations and Maintenance	3	
Public Health and Safety	4	
Condition	1	
Regulatory (Environmental/Legal)	2	
Efficiency and Innovation	2	
Public Benefit	5	
Performance (Service Level/Reliability)	5	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

14 Mile Transmission Main Loop

122013 CIP#

Phase Design & Construction Assistance **Contract** 1802448 **Status** Active

Title Design/Construction Administration

Brown & Caldwell is the engineering consultant for the design, construction adminstration, and RPR services.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date	3/12/2019	**Fund**	Construction Bond Fund
End Date	1/12/2024	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
	Cost Est. Date
Brown and Caldwell	**Cost Est. Source**
	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$616			2021CIP
Engineering Services	FY20	$3,689			2021CIP
Engineering Services	FY21	$1,087			2021CIP
Engineering Services	FY22	$1,413			2021CIP
Engineering Services	FY23	$1,413			2021CIP
Engineering Services	FY24	$1,413			2021CIP
Engineering Services	FY25	$1,413			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
616	3,689	1,087	1,413	1,413	1,413	1,413	0	11,044	6,739

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration

14 Mile Transmission Main Loop

Phase Task Name	Start Date	End Date	Duration
Procurement	7/31/2018	3/20/2019	232
Project Execution	3/20/2019	9/18/2023	1643

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

14 Mile Transmission Main Loop

122013 CIP#

Phase Construction **Contract** TBD **Status** Future Planned Start

Title Construction Contract #1- 14 Mile Transmission Main Loop

Construction of approximately 1 mile of a new parallel 24-inch transmission main along 14 Mile from M-5 to west of Decker Road to reinforce the 14 Mile Transmission Main.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

3	**Cost Est. Class**
7/1/2019	**Cost Est. Date**
B & C	**Cost Est. Source**
	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY22	$1,396			2021CIP
Construction	FY23	$1,396			2021CIP
Construction	FY24	$1,396			2021CIP
Construction	FY25	$1,396			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	1,396	1,396	1,396	1,396	0	5,584	5,584

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/1/2019	1/1/2020	92
Procurement	1/1/2020	7/15/2020	196

14 Mile Transmission Main Loop

Phase Task Name	Start Date	End Date	Duration
Project Execution	7/16/2020	4/23/2025	1742
Project Closeout	4/24/2025	7/23/2025	90

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

14 Mile Transmission Main Loop

122013 CIP#

Phase Construction **Contract** TBD **Status** Future Planned Start

Title Construction Contract # 2 - 14 Mile Transmission Main Loop

This phase involves construction of approximately 6 Miles of 48-inch transmission main from 8 Mile Road to 14 Mile Road, as well as a new flow control station.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

4	**Cost Est. Class**
7/1/2019	**Cost Est. Date**
B &C	**Cost Est. Source**
	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY22	$14,168			2021CIP
Construction	FY23	$14,168			2021CIP
Construction	FY24	$14,168			2021CIP
Construction	FY25	$14,168			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	14,168	14,168	14,168	14,168	0	56,672	56,672

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/3/2020	1/2/2021	91
Procurement	1/2/2021	7/31/2021	210

14 Mile Transmission Main Loop

Phase Task Name	Start Date	End Date	Duration
Project Execution	8/1/2021	6/30/2025	1429
Project Closeout	7/1/2025	9/29/2025	90

14 Mile Transmission Main Loop

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2017	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$22			2021CIP
GLWA Salaries CIP2021	FY20	$73			2021CIP
GLWA Salaries CIP2021	FY21	$107			2021CIP
GLWA Salaries CIP2021	FY22	$108			2021CIP
GLWA Salaries CIP2021	FY23	$108			2021CIP
GLWA Salaries CIP2021	FY24	$108			2021CIP
GLWA Salaries CIP2021	FY25	$108			2021CIP
GLWA Salaries CIP2021	FY26+	$7			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
22	73	107	108	108	108	108	7	641	539

Phase Task Dates

14 Mile Transmission Main Loop

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	638	3,762	1,194	17,085	17,085	17,085	17,085	7	73,941	69,534
2020	0	0		0	751	1,315	1,507	13,420	12,000	25,433	0	54,426	28,993
2019	0				751	1,315	1,507	13,420	37,433	0	0	54,426	16,993
2018		1,300	10,500	12,000	6,000				0	0	0	29,800	28,500

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes Engineering related costs changed to reflect the actual contract award (Contract No. 1802448) for engineering services. 8/6/2019 SM

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Downriver Transmission Main Loop

122016 CIP#

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Example transmission main

Budget Water
Class Lvl 1 Water
Class Lvl 2 Field Services
Class Lvl 3 Transmission System
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882411

Project Engineer/Manager Sara Mille
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 10/12/2017
Year Project Added to CIP 2017

Problem Statement

The Downriver Transmission Main that currently serves Brownstown, Riverview, Woodhaven, Trenton, Flat Rock, Gibraltar, Rockwood, South Rockwood, Berlin Township, and Grosse Isle is a single feed transmission system. If a disruption to service were to occur on this transmission main, many of the users along this main would experience a complete loss of pressure and flow. The number of users that would experience pressure loss would depend on the location of the break. This project would provide a transmission main loop to the Downriver system to provide redundancy on this branch of the system.

Scope of Work / Project Alternatives

This project will be delivered using a design-bid-build project delivery method. The scope of work generally includes: installing approximately 9 miles of 16-inch transmission main and 1 mile of 24-inch transmission main paralleling the existing Allen Road/Dixie Highway transmission main and install 4 miles of 30-inch transmission main along Inkster road between Wick and Pennsylvania road. This will provide redundancy to the Downriver communities of Brownstown, Riverview, Woodhaven, Trenton, Flat Rock, Gibraltar, Rockwood, South Rockwood, Berlin Township, and Grosse Isle. The project's scope will also include the demolition of the Electric Avenue Booster Pumping Station reserviors, as well as replacement of the city of Trenton's billing meters.

Other Important Info

Completion of the Downriver Transmission main loop is predicated on acquiring ownership of a portion of 24-inch transmission main owned but not used by the City of Trenton. As of this CIP update, the acquisition of this Trenton main is nearing completion.

Project History: The 2015 Water Master Plan Update included a recommendation to evaluate options along this branch of the system to increase redundancy. Since that recommendation, GLWA Water Supply Operations Engineering performed a hydraulic analysis of redundancy alternatives for the Downriver Transmission System. The

	results of the hydraulic analysis were presented at the May 15, 2017, September 19, 2017, May 31,2018, and February 26, 2019 Analytical Work Group Meetings and based on the discussion at these meetings the approach described in the scope of work was determined as the best alternative.
Related Project	None
Primary Driver	2 - Performance
Driver Explanation	This transmission main project will complete a loop to provide redundancy to numerous GLWA member partners.

PM Weighted Score
70.6

Criteria	Score	Comment
Condition	3	Electric Avenue Reserviors are in very poor co
Performance (Service Level/Reliability)	5	Will cause significant capacity problems if ma
Operations and Maintenance	3	Moderate levels of O&M will keep mean times
Financial	2	Minimal/no financial impact.
Regulatory (Environmental/Legal)	3	Low/moderate risk of causing health risks(boil
Public Benefit	5	Key part of GLWA's strategic plan for providing
Efficiency and Innovation	3	Major/measurable positive impact on GLWA s
Public Health and Safety	4	Complete loss of water to some customer cor

RC Weighted Score
58.4

Criteria	Score	Comment
Condition	1	
Performance (Service Level/Reliability)	5	
Operations and Maintenance	3	
Public Health and Safety	4	
Public Benefit	5	
Efficiency and Innovation	2	
Regulatory (Environmental/Legal)	2	
Financial	1	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Downriver Transmission Main Loop

122016 CIP#

Phase Design & Construction Assistance **Contract** 1803942 **Status** Future Planned Start

Title Design/Construction Administration

Award of this engineering services contract is in the negotiation stage

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

4	**Cost Est. Class**
	Cost Est. Date
OHM/WSP	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY20	$1,282			2021CIP
Engineering Services	FY21	$1,634			2021CIP
Engineering Services	FY22	$221			2021CIP
Engineering Services	FY23	$425			2021CIP
Engineering Services	FY24	$427			2021CIP
Engineering Services	FY25	$425			2021CIP
Engineering Services	FY26+	$361			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	1,282	1,634	221	425	427	425	361	4,775	3,132

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration

Downriver Transmission Main Loop

Phase Task Name	Start Date	End Date	Duration
Procurement	4/6/2019	11/15/2019	223
Project Execution	11/16/2019	5/6/2026	2363
Project Closeout	5/7/2026	8/5/2026	90

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Downriver Transmission Main Loop

122016 CIP#

Phase Construction **Contract** TBD **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY22	$3,476			2021CIP
Construction	FY23	$7,463			2021CIP
Construction	FY24	$7,484			2021CIP
Construction	FY25	$7,463			2021CIP
Construction	FY26+	$6,339			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	3,476	7,463	7,484	7,463	6,339	32,225	25,886

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	4/16/2021	7/15/2021	90
Procurement	7/16/2021	1/11/2022	179
Project Execution	1/12/2022	5/6/2026	1575

Phase Task Name	Start Date	End Date	Duration
Project Closeout	5/7/2026	8/5/2026	90

Downriver Transmission Main Loop

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$24			2021CIP
GLWA Salaries CIP2021	FY20	$116			2021CIP
GLWA Salaries CIP2021	FY21	$114			2021CIP
GLWA Salaries CIP2021	FY22	$96			2021CIP
GLWA Salaries CIP2021	FY23	$96			2021CIP
GLWA Salaries CIP2021	FY24	$96			2021CIP
GLWA Salaries CIP2021	FY25	$96			2021CIP
GLWA Salaries CIP2021	FY26+	$106			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
24	116	114	96	96	96	96	106	744	498

Phase Task Dates

Downriver Transmission Main Loop

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	24	1,398	1,748	3,793	7,984	8,007	7,984	6,806	37,744	29,516
2020	0	0		0	297	964	3,051	10,763	22,122	0	0	37,197	37,197
2019	0				297	964	3,051	10,763	22,122	0	0	37,197	15,075

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

CIP cost increased to account for the anticipated award amount for the engineering services contract (Contract No. 1803942). In addition, the estimated cost to construct the new tranmission mains to complete the loop was increased from last fiscal year based on construction cost data received on other projects over the past year. SM 8/6/2019

7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station

- ☐ Innovation
- ☐ Conceptual WW MP
- ☑ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Future Planned

CIP Type Project

☐ **Project New To CIP**

Project Engineer/Manager Timothy Kuhns
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 9/21/2018
Year Project Added to CIP 2019

Budget Water
Class Lvl 1 Water
Class Lvl 2 Field Services
Class Lvl 3 Transmission System
Location City of Detroit
Fund and Cost Center Water - 5519-882411

Problem Statement	The primary driver of this project is to provide back up water service from Springwells WTP to the Water Works and Northeast Service Areas in case of loss of service to the Water Works Park WTP or Northeast WTP. The secondary driver to this project is to support Northeast WTP repurposing by providing a second finished water supply main to the Northeast site to support maximum day demands for the Northeast service area, which can be as high as 190 MGD. With the upcoming decommissioning of treatment at the Northeast WTP, Water Works Park will provide 150 MGD of finished water to the Northeast high lift pumping system to provide service to the existing Northeast service area, which means that 40 MGD must be delivered from other water treatment plants during the maximum day demand conditions. 7 Mile/Nevada Transmission Main provides transmission between the Springwells and Water Works Park Service areas and will provide needed redundancy once Northeast WTP treatment is decommissioned.
Scope of Work / Project Alternatives	Project includes inspection and rehab of the 7 Mile/Nevada Transmission Main and construction of a new flow control station at Carrie/Nevada.
Other Important Info	This project highlights the need to reinforce the transmission system in order to reliably provide service during existing conditions and after treatment is decommissioned at the Northeast WTP. This project would be completed regardless of whether the Northeast WTP treatment is decommissioned.
Related Project	CIP122003: WWP to NE Transmission Main Project
Primary Driver	2 - Performance
Driver Explanation	This project provides redundancy to two WTP service areas.

PM Weighted Score
87.6

Criteria	Score	Comment
Public Benefit	4	same
Operations and Maintenance	5	changed from 2
Regulatory (Environmental/Legal)	4	changed from 1
Performance (Service Level/Reliability)	5	same
Condition	5	changed from 1
Public Health and Safety	4	same
Financial	4	changed from 2
Efficiency and Innovation	4	changed from 2

RC Weighted Score
84.2

Criteria	Score	Comment
Condition	5	changed from 1 - over 90 years
Financial	4	changed from 1
Public Benefit	4	same
Public Health and Safety	4	same
Performance (Service Level/Reliability)	4	same
Efficiency and Innovation	5	changed from 1
Regulatory (Environmental/Legal)	4	changed from 1
Operations and Maintenance	4	changed from 1

7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY20	$74			2021CIP
GLWA Salaries CIP2021	FY21	$74			2021CIP
GLWA Salaries CIP2021	FY22	$74			2021CIP
GLWA Salaries CIP2021	FY23	$126			2021CIP
GLWA Salaries CIP2021	FY24	$178			2021CIP
GLWA Salaries CIP2021	FY25	$164			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	74	74	74	126	178	164	0	690	616

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

122017 CIP#

7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station

Phase Design and Build **Contract** TBD **Status** Future Planned Start

Title Design-Build

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY21	$1,720			2021CIP
Design-Build	FY22	$3,436			2021CIP
Design-Build	FY23	$9,097			2021CIP
Design-Build	FY24	$7,442			2021CIP
Design-Build	FY25	$7,408			2021CIP
Design-Build	FY26+	$30,784			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	1,720	3,436	9,097	7,442	7,408	30,784	59,887	29,103

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	3/1/2019	1/6/2020	311
Procurement	1/7/2020	1/6/2021	365

7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station

Phase Task Name	Start Date	End Date	Duration
Project Execution	1/7/2021	3/1/2025	1514
Project Closeout	3/2/2025	5/31/2025	90

7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	74	1,794	3,510	9,223	7,620	7,572	30,784	60,577	29,719
2020	0	0			1,040	6,050	6,910	3,750	2,750		0	20,500	20,500

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes Project costs were adjusted to account for recent bid prices received by GLWA on other pipeline projects.

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

122018 CIP#

Garland, Hurlbut, Bewick Water Transmission System Rehabilitation

- [x] Innovation
- [ ] Conceptual WW MP
- [ ] Water MP Right Sizing
- [x] Reliability/Redundancy
- [x] NEWTP Repurposing

Project Status Future Planned

CIP Type Project

[x] **Project New To CIP**

Project Engineer/Manager Timothy Kuhns
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 8/15/2019
Year Project Added to CIP 2019

Budget Water
Class Lvl 1 Water
Class Lvl 2 Field Services
Class Lvl 3 Transmission System
Location City of Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement	A large proportion of the water transmission mains (WTM) within the City of Detroit were constructed between the decades of 1870 and 1930. Mains constructed during this period have exceeded their service life and will require replacement in the near term. Several WTM within this age of construction have strategic importance as they can be used to transmit flows between the Water Works Park WTP and the Northeast WTP.
Scope of Work / Project Alternatives	This project involves rehab of WTM along Garland Street, Hurlbut Street, and Bewick Street between Jefferson Avenue and I-94 within the east side of the City of Detroit. This project will include a detailed condition assessment of these WTM to evaluate the appropriate rehabilitation method.
Other Important Info	This project will be implemented concurrently with Phase 3 of CIP:122003 WWP to NE Transmision Main Project.
Related Project	CIP 122003: WWP to NE Transmission Main Project
Primary Driver	1 - Condition
Driver Explanation	WTM described for this CIP project are aged and at the end of their service life.

PM Weighted Score
94.6

Criteria	Score	Comment
Regulatory (Environmental/Legal)	4	
Condition	5	
Efficiency and Innovation	4	
Public Benefit	5	
Financial	5	
Operations and Maintenance	5	
Public Health and Safety	5	
Performance (Service Level/Reliability)	5	

RC Weighted Score
89

Criteria	Score	Comment
Performance (Service Level/Reliability)	5	
Condition	5	
Operations and Maintenance	4	
Public Health and Safety	4	
Efficiency and Innovation	4	
Financial	5	
Public Benefit	5	
Regulatory (Environmental/Legal)	4	

Garland, Hurlbut, Bewick Water Transmission System Rehabilitation

Phase GLWA Employees Project management **Contract** TBD **Status** Active

Title GLWA salaries

GLWA salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
8/15/2019	**Cost Est. Date**
Water Engineering	**Cost Est. Source**
Tim Kuhns	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY20	$121			2021CIP
GLWA Salaries CIP2021	FY21	$120			2021CIP
GLWA Salaries CIP2021	FY22	$120			2021CIP
GLWA Salaries CIP2021	FY23	$133			2021CIP
GLWA Salaries CIP2021	FY24	$169			2021CIP
GLWA Salaries CIP2021	FY25	$169			2021CIP
GLWA Salaries CIP2021	FY26+	$586			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	121	120	120	133	169	169	586	1,418	711

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Garland, Hurlbut, Bewick Water Transmission System Rehabilitation

122018 CIP#

Phase Design and Build **Contract** TBD **Status** Future Planned Start

Title Design Build (progressive DB)

Progressive Design Build for design and rehab of WTM described in this CIP project.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
8/15/2019	**Cost Est. Date**
Water Engineering	**Cost Est. Source**
Tim Kuhns	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY21	$1,597			2021CIP
Design-Build	FY22	$1,917			2021CIP
Design-Build	FY23	$2,557			2021CIP
Design-Build	FY24	$3,837			2021CIP
Design-Build	FY25	$3,837			2021CIP
Design-Build	FY26+	$29,414			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	1,597	1,917	2,557	3,837	3,837	29,414	43,159	13,745

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2019	9/28/2019	89

Phase Task Name	Start Date	End Date	Duration
Procurement	9/29/2019	9/27/2020	364
Project Execution	9/28/2020	9/21/2028	2915
Project Closeout	9/22/2028	12/20/2028	89

Garland, Hurlbut, Bewick Water Transmission System Rehabilitation

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	121	1,717	2,037	2,690	4,006	4,006	30,000	44,577	14,456

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes New project - no changes from previous versions

Wick Road Booster Pumping Station Rehabilitation

132001 CIP#

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Closed

CIP Type Project

☐ **Project New To CIP**

Wick Road Station

Project Engineer/Manager Eric Kramp
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 8/8/2016
Year Project Added to CIP 2004

Budget Water
Class Lvl 1 Water
Class Lvl 2 Systems Control Center
Class Lvl 3 Pump Station/Reservoir
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement	Provides improved control on the far-western portion of the transmission system.
Scope of Work / Project Alternatives	Rehab 3 pumps and added VFDs and related controls system upgrades
Other Important Info	Project closed FY 2019
Primary Driver	2 - Performance
Driver Explanation	N/A - Pending Closeout

PM Weighted Score

54.4

Criteria	Score	Comment
Efficiency and Innovation	4	
Operations and Maintenance	4	
Condition	3	
Performance (Service Level/Reliability)	4	
Regulatory (Environmental/Legal)	2	
Public Health and Safety	2	
Public Benefit	2	
Financial	1	

RC Weighted Score

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

Wick Road Booster Pumping Station Rehabilitation

Phase not applicable **Contract** NA **Status** Closed Out

Title Prior Year Actual Expenses

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	
Start Date		**Fund**	
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

1	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
n/a	FY19-	$130			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
130	0	0	0	0	0	0	0	130	0

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Wick Road Booster Pumping Station Rehabilitation

132001 CIP#

Phase Design and Build **Contract** DWS-858 **Status** Closed Out

Title DWS-858 Wick Road Station Rehabilitation

Tooles Contracting: End Date: contract time expired on 6/30/2016. It will have to be extended once the contractor adequately completes the defective work listed in the certificate of substantial completion. At this time a final change order will be executed to extend the contract time and adjust final contract price in order to close out the contract.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date	11/25/2008	**Fund**	Construction Bond Fund
End Date	6/30/2016	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY19-	$5			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
5	0	0	0	0	0	0	0	5	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Project Execution	1/1/2017	1/2/2017	1

Wick Road Booster Pumping Station Rehabilitation

132001 CIP#

Phase GLWA Employees Project management **Contract** NA **Status** Closed Out

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

1	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Wick Road Booster Pumping Station Rehabilitation

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	135	0	0	0	0	0	0	0	135	0
2020	0	0	130	35	0	0	0	0	0	0	0	165	0
2019	0		147							0	0	147	0
2018	13452	250							0	0	0	13,702	0

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes The closeout of this project is dependent on receipt of final waiver from a major vender on the project. Once this paperwork is received, this project will be closed.

West Service Center Pumping Station, Isolation Gate Valves for Line Pumps

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Isolation gate valves

Project Engineer/Manager Andrew Juergens
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 6/26/2014
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Systems Control Center
Class Lvl 3 Pump Station/Reservoir
Location Oakland County
Fund and Cost Center Water - 5519-882111

Problem Statement	There are six line pumping units in the main pump house at the West Service Center Booster Pumping Station. There are butterfly valves located on the suction side all six line pumps, and resilient seated gate valves on the discharge side of three of the six line pumps. Three of the line pumps do not have a valve on their discharge side and therefore no immediate means of isolation. The existing butterfly and resilient seated gate valves are all leaking and not reliable for isolating pumps. Moreover, as mentioned, three of the line pumps do not have an isolation valve of any kind on their discharge. The poor condition and lack of discharge isolation valves on all line pumps makes it extremely challenging to take pumps out for service, repair and maintenance. Extraordinary means are required to remove pumps out for service because the entire high-pressure or intermediate-pressure pumping systems have to be temporarily shutdown.
Scope of Work / Project Alternatives	This project is being delivered using a design-bid-build project delivery. The scope of work generally includes removing 6 existing butterfly valves from the pump suction piping and 3 existing gate valves from the high-pressure pumping system discharge piping; and providing 6 new double-disc gate valves on the pump suction piping and 6 new double disc gate valves on the pump discharge piping.
Other Important Info	Challenges: Sequence of construction and meeting system demands will need to be coordinated with operations.
Primary Driver	2 - Performance
Driver Explanation	Currently there is no means to isolate the individual pumping units at the West Service Center.

PM Weighted Score
58.2

Criteria	Score	Comment
Condition	4	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	5	
Public Health and Safety	2	
Public Benefit	3	
Financial	1	
Efficiency and Innovation	3	

RC Weighted Score
70.8

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	3	
Operations and Maintenance	4	
Public Health and Safety	3	
Public Benefit	4	
Financial	2	
Efficiency and Innovation	2	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

132003 CIP#

West Service Center Pumping Station, Isolation Gate Valves for Line Pumps

Phase Construction **Contract** CON-270 **Status** Active

Title Construction

Weiss is the construction contractor

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date	2/27/2018	**Fund**	Construction Bond Fund
End Date	8/26/2019	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$66			2021CIP
Construction	FY20	$1,463			2021CIP
Construction	FY21	$59			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
66	1,463	59	0	0	0	0	0	1,588	59

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	11/28/2017	3/3/2018	95
Procurement	3/2/2018	11/27/2018	270
Project Execution	11/27/2018	5/15/2020	535
Project Closeout	5/16/2020	8/14/2020	90

West Service Center Pumping Station, Isolation Gate Valves for Line Pumps

Phase Design & Construction Assistance **Contract** CS-062 **Status** Active

Title Design/Construction Administration

Hubbell, Roth & Clark is the consulting engineer

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date	10/24/2017	**Fund**	Construction Bond Fund
End Date	8/26/2019	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$166			2021CIP
Engineering Services	FY20	$157			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
166	157	0	0	0	0	0	0	323	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/24/2016	10/22/2016	90
Procurement	10/23/2016	7/1/2017	251
Project Execution	7/2/2017	5/15/2020	1048
Project Closeout	5/16/2020	8/14/2020	90

West Service Center Pumping Station, Isolation Gate Valves for Line Pumps

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

1	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$16			2021CIP
GLWA Salaries CIP2021	FY20	$46			2021CIP
GLWA Salaries CIP2021	FY21	$6			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
16	46	6	0	0	0	0	0	68	6

Phase Task Dates

West Service Center Pumping Station, Isolation Gate Valves for Line Pumps

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	248	1,666	65	0	0	0	0	0	1,979	65
2020	0	0	138	1,186	490	0	0	0	0	0	0	1,814	490
2019	0	66	147	1,229	96					0	0	1,538	1,325
2018			521	1,000					0	0	0	1,521	1,521

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Cost of this CIP increased this fiscal year to account for Change Order No. 1 to construction Contract CON-270 regarding the tarriff on Chinese imports, which affects the new valves being furnished under the aforementioned contract. ADJ 8/7/2019

North Service Center Pumping Station - Hydraulic Surge Control

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Closed

CIP Type Project

☐ **Project New To CIP**

Observed pressure data from meter at the border of Warren and Madison Heights.

Project Engineer/Manager Timothy Kuhns
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 6/26/2014
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Systems Control Center
Class Lvl 3 Pump Station/Reservoir
Location Oakland County
Fund and Cost Center Water - 5519-882111

Problem Statement	Madison Heights, Troy, and Sterling Heights experience pressure spikes from the suction side of the North Service Center when line pumps trip. Hydraulic transient study is needed to identify the most cost effective solution to mitigate the pressure spikes
Scope of Work / Project Alternatives	In recent years, the North Service Center has experienced power failures resulting in pump trips at the facility. The pump trips have caused high pressure transients along the transmission mains serving Madison Heights, Sterling Heights, Troy, Warren, Fraser, Clinton Township, and Roseville. The proposed project involves the study of control measures to mitigate the hydraulic transients present within the system.
Other Important Info	Challenges: Coordination with operations and customers necessary to complete the work.
Related Project	none
Primary Driver	6 - Public Benefit
Driver Explanation	N/A - Under Procurement

North Service Center Pumping Station - Hydraulic Surge Control

PM Weighted Score
37.2

Criteria	Score	Comment
Condition	1	
Performance (Service Level/Reliability)	3	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	3	
Public Health and Safety	1	
Public Benefit	4	
Financial	2	
Efficiency and Innovation	1	

RC Weighted Score
28.2

Criteria	Score	Comment
Condition	1	
Performance (Service Level/Reliability)	1	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	1	
Public Health and Safety	1	
Public Benefit	5	
Financial	1	
Efficiency and Innovation	2	

North Service Center Pumping Station - Hydraulic Surge Control

Phase GLWA Employees Project management **Contract** NA **Status** Closed Out

Title GLWA Salaries

Phase Budget	Water	Cost Allocation	CTA
Phase Status	Closed Out	Funding Source	Bond Proceeds
Start Date		Fund	Construction Bond Fund
End Date		Useful Life >20Yrs?	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	Cost Est. Class
1/1/2015	Cost Est. Date
CDM Smith	Cost Est. Source
CDM Smith	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

North Service Center Pumping Station - Hydraulic Surge Control

Phase Design & Construction Assistance **Contract** NA **Status** Closed Out

Title Hydraulic Surge Control for North Service Center Pumping Station

Phase Budget	Water	Cost Allocation	CTA
Phase Status	Closed Out	Funding Source	Bond Proceeds
Start Date	2/26/2018	Fund	Construction Bond Fund
End Date	9/20/2022	Useful Life >20Yrs?	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	Cost Est. Class
	Cost Est. Date
	Cost Est. Source
	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

North Service Center Pumping Station - Hydraulic Surge Control

132004 CIP#

Phase Study **Contract** SCP-CS-054 **Status** Closed Out

Title SCP-CS-054 Hydraulic Surge Control for North Service Center Pumping Station

Brown & Caldwell

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$215			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
215	0	0	0	0	0	0	0	215	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Project Execution	12/19/2016	12/19/2017	365
Project Closeout	12/20/2017	3/20/2018	90

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

North Service Center Pumping Station - Hydraulic Surge Control

132004 CIP#

Phase Construction **Contract** NA **Status** Closed Out

Title Hydraulic Surge Control for North Service Center Pumping Station

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date	1/15/2020	**Fund**	Construction Bond Fund
End Date	9/20/2022	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

North Service Center Pumping Station - Hydraulic Surge Control

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	215	0	0	0	0	0	0	0	215	0
2020	0	0	215	0	0	0	0	0	0	0	0	215	0
2019	0	75	157							0	0	232	0
2018		200	500	2,000	100				0	0	0	2,800	2,600

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Ford Road Pumping Station, Pressure and Control Improvements

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Ford Road Booster Pumping Station

Project Engineer/Manager Eric Kramp
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 6/26/2014
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Systems Control Center
Class Lvl 3 Pump Station/Reservoir
Location Wayne County - Outside Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement	Design of isolation, pressure and flow control equipment for efficient delivery of consistent pressures to wholesale customers at Ford Road water booster pumping station
Scope of Work / Project Alternatives	The project generally consists of: Replacing all pump suction butterfly valves with new triple offset high performance butterfly valves (10) Replacing all control butterfly valves with new metal seated ball valves (10) Replacement of th existing 16-inch cone valve-driven reservoir fill line a new 20-incg plunger valve controlled fill line Nnew 75 KW generator and appurtenances, and related work.
Other Important Info	The project is currently under procurement, and a predecisor to any work along the Newburgh water main and Michigan Avenue Station. The two major observed challenges for the project include isolation of the station during the critical initial shutdown, and the lead time of the first six valves for the line pump isolation valves and the first reservoir isolation valve.
Related Project	none
Primary Driver	2 - Performance
Driver Explanation	Existing piping and valving do not allow for optimal pressure control. New system equipment will provide operations improve pressure and flow control with pump startups.

PM Weighted Score
65.6

Criteria	Score	Comment
Efficiency and Innovation	4	
Operations and Maintenance	3	
Condition	4	
Performance (Service Level/Reliability)	4	
Regulatory (Environmental/Legal)	2	
Public Health and Safety	3	
Public Benefit	3	
Financial	4	

RC Weighted Score
43.4

Criteria	Score	Comment
Condition	2	
Performance (Service Level/Reliability)	3	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	2	
Public Health and Safety	1	
Public Benefit	3	
Financial	4	
Efficiency and Innovation	3	

Ford Road Pumping Station, Pressure and Control Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$29			2021CIP
GLWA Salaries CIP2021	FY20	$32			2021CIP
GLWA Salaries CIP2021	FY21	$32			2021CIP
GLWA Salaries CIP2021	FY22	$32			2021CIP
GLWA Salaries CIP2021	FY23	$8			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
29	32	32	32	8	0	0	0	133	72

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

132006 CIP#

Ford Road Pumping Station, Pressure and Control Improvements

Phase Design & Construction Assistance **Contract** CS-1749 **Status** Active

Title Design/Construction Administration

Benesch

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date	9/6/2017	**Fund**	Construction Bond Fund
End Date	12/6/2019	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$260			2021CIP
Engineering Services	FY20	$209			2021CIP
Engineering Services	FY21	$87			2021CIP
Engineering Services	FY22	$59			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
260	209	87	59	0	0	0	0	615	146

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	6/6/2016	9/4/2016	90
Procurement	9/5/2016	9/8/2017	368
Project Execution	9/9/2017	6/30/2022	1755

Phase Task Name	Start Date	End Date	Duration
Project Closeout	7/1/2022	9/29/2022	90

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

132006 CIP#

Ford Road Pumping Station, Pressure and Control Improvements

Phase Construction **Contract** 1803538 **Status** Active

Title Construction

Construction Contract No. 1803538 -- Ford Road Booster Station Improvements

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date	8/1/2019	**Fund**	Construction Bond Fund
End Date	1/22/2021	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
2/14/2019	**Cost Est. Date**
Hard Bids	**Cost Est. Source**
Hard Bids	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY20	$795			2021CIP
Construction	FY21	$868			2021CIP
Construction	FY22	$868			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	795	868	868	0	0	0	0	2,531	1,736

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	6/6/2018	9/4/2018	90
Procurement	10/18/2018	8/1/2019	287
Project Execution	8/2/2019	6/30/2022	1063
Project Closeout	7/1/2022	9/29/2022	90

Ford Road Pumping Station, Pressure and Control Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	289	1,036	987	959	8	0	0	0	3,279	1,954
2020	0	0	161	235	2,515	18	0	0	0	0	0	2,929	2,533
2019	0	8	106	245	1,805	445				0	0	2,609	2,495
2018			200	2,800					0	0	0	3,000	3,000

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Energy Management: Freeze Protection Pump Installation at Imlay Pump Station

- [x] Innovation
- [ ] Conceptual WW MP
- [x] Water MP Right Sizing
- [x] Reliability/Redundancy
- [ ] NEWTP Repurposing

Project Status Active

CIP Type Project

- [ ] **Project New To CIP**

Imlay Pump Station

Project Engineer/Manager Vittoria Hogue
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 6/26/2014
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Systems Control Center
Class Lvl 3 Pump Station/Reservoir
Location Lapeer County
Fund and Cost Center Water - 5519-882111

Problem Statement	This CIP project will address two principle needs. The first is the need to replace an existing large pumping units with a smaller pumping unit for the purpose of recirculating finished water inside the station's reservoir. Recirculation of reservoir water is required during the low-demand season to maintain water quality. Recirculation of reservoir water using a smaller suitability sized pumping unit will reduce operating complexity and the possibility for damage to the larger pump units. The second need for the new smaller pumping unit is to meet the lower station demands for customers served west of Imlay Station. The lower station demands are a result of Genesee County communities (outside the city of Flint) that have left GLWA's system.
Scope of Work / Project Alternatives	This project is being delivered using a design-build project delivery method. The scope of work generally includes replacing one of Imlay Sation's 75 MGD pump's and 6,000 HP motor's with a smaller 22.5 MGD pump with 1,500 HP motor. The associated VFD, valves, piping and appurtenences will also be removed and replaced to accommodate the new smaller pump.
Other Important Info	N/A
Related Project	None
Primary Driver	8 - Efficiency
Driver Explanation	Replacement of an existing 75 MGD pumping unit with a 22.5 MGD unit right sizes the pump that normally serves communities to the west of Imlay Station.

Energy Management: Freeze Protection Pump Installation at Imlay Pump Station

PM Weighted Score
57.4

Criteria	Score	Comment
Condition	4	
Performance (Service Level/Reliability)	3	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	4	
Public Health and Safety	2	
Public Benefit	4	
Financial	3	
Efficiency and Innovation	4	

RC Weighted Score
37.6

Criteria	Score	Comment
Condition	1	
Performance (Service Level/Reliability)	1	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	3	
Public Health and Safety	1	
Public Benefit	1	
Financial	4	
Efficiency and Innovation	5	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

132007 CIP#

Energy Management: Freeze Protection Pump Installation at Imlay Pump Station

Phase Design and Build **Contract** 1900516 **Status** Active

Title Imlay Pumping Station Pump Right Sizing

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date	2/5/2018	**Fund**	Construction Bond Fund
End Date	10/9/2020	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

3	**Cost Est. Class**
2/1/2019	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY19-	$16			2021CIP
Design-Build	FY20	$646			2021CIP
Design-Build	FY21	$4,153			2021CIP
Design-Build	FY22	$195			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
16	646	4,153	195	0	0	0	0	5,010	4,348

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	2/5/2018	2/15/2019	375
Procurement	2/15/2019	12/19/2019	307
Project Execution	12/23/2020	6/6/2021	165
Project Execution	12/20/2019	6/6/2021	534

Energy Management: Freeze Protection Pump Installation at Imlay Pump Station

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$81			2021CIP
GLWA Salaries CIP2021	FY20	$39			2021CIP
GLWA Salaries CIP2021	FY21	$58			2021CIP
GLWA Salaries CIP2021	FY22	$11			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
81	39	58	11	0	0	0	0	189	69

Phase Task Dates

Energy Management: Freeze Protection Pump Installation at Imlay Pump Station

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	97	685	4,211	206	0	0	0	0	5,199	4,417
2020	0	0	9	14	592	1,315	230	0	0	0	0	2,160	2,137
2019	0			38	385	134				0	0	557	557
2018			200	500	300				0	0	0	1,000	1,000

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Under SCC direction, the pumping unit P3 is being expanded from Freeze Protection Pump to a winter service pump. It is designed to address the entire load of the 72-inch water main during base load conditions. Consequently, the overall budget has increased. TDK 7/15/2018

Various Pumping Stations - Needs Assessment Study

132008 CIP#

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Pending Closeout

CIP Type Project

☐ **Project New To CIP**

Example of a large pipe and valve installation

Project Engineer/Manager Erich Klun
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 6/26/2014
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Systems Control Center
Class Lvl 3 Pump Station/Reservoir
Location Multiple Counties
Fund and Cost Center Water - 5519-882111

Problem Statement	Existing pumping stations were constructed in the 1960s and 1970s and most of the pumping units were sized to meet maximum hydraulic condition and perceived to be inefficient.
Scope of Work / Project Alternatives	This project includes a comprehensive condition and needs assessment study of all water booster stations, exclusive of reservoirs. System wide modelling will confirm station decommissioning as recommended by the 2015 Water Master Plan Update. The condition assessments will include all engineering disciplines, with a focus on variable speed pumping applications to meet changing station demands, DTE rate incentive identification, station metering, valve and yard piping improvements and station bypasses.
Other Important Info	Challenges: Shutdown, operation and manpower required to cover the condition assessment inspections to complete the work.
Related Project	None
Primary Driver	1 - Condition
Driver Explanation	Age and condition of stations leave potential for station improvements that yield stations that are more efficient and easier to maintain.

Various Pumping Stations - Needs Assessment Study

PM Weighted Score
46.4

Criteria	Score	Comment
Condition	3	
Performance (Service Level/Reliability)	2	
Regulatory (Environmental/Legal)	2	
Operations and Maintenance	3	
Public Health and Safety	2	
Public Benefit	1	
Financial	1	
Efficiency and Innovation	5	

RC Weighted Score
51.2

Criteria	Score	Comment
Condition	3	
Performance (Service Level/Reliability)	3	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	2	
Public Health and Safety	2	
Public Benefit	2	
Financial	4	
Efficiency and Innovation	5	

Various Pumping Stations - Needs Assessment Study

Phase GLWA Employees Project management **Contract** NA **Status** Pending Close-out

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Pending Close-out	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$43			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
43	0	0	0	0	0	0	0	43	0

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Various Pumping Stations - Needs Assessment Study

132008 CIP#

Phase Study **Contract** SCP-CS-052 **Status** Pending Close-out

Title SCP-CS-052 Needs Assessment Study for all Water Booster Pumping Stations

Tetra Tech

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Pending Close-out	**Funding Source**	Revenue Financed Capital
Start Date	6/5/2016	**Fund**	Improvement & Extension Fun
End Date	7/1/2017	**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$1,795			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
1,795	0	0	0	0	0	0	0	1,795	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	3/1/2017	6/29/2017	120
Procurement	7/1/2017	8/3/2017	33
Project Execution	8/4/2017	11/16/2018	469
Project Closeout	11/19/2018	5/30/2019	192

Various Pumping Stations - Needs Assessment Study

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	1,838	0	0	0	0	0	0	0	1,838	0
2020	0	0	913	764	0	0	0	0	0	0	0	1,677	0
2019	0	33	722	1,178						0	0	1,933	1,178
2018		500	1,200						0	0	0	1,700	1,200

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

(1.) Revised expenditures to reflect split between FY18 and FY19
(2.) Final Condition and Needs Assessment reports were delivered by consultant within contract time. Contract closeout is being negotiated, with expectation for project closeout in early FY20. E. Klun 8/15/19.

West Service Center Pumping Station - Reservoir, Reservoir Pumping, and Division Valve

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Project Engineer/Manager Andrew Juergens
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 10/11/2016
Year Project Added to CIP 2017

Budget Water
Class Lvl 1 Water
Class Lvl 2 Systems Control Center
Class Lvl 3 Pump Station/Reservoir
Location Oakland County
Fund and Cost Center Water - 5519-882111

Problem Statement	Construction of West Service Center Division Valves is needed to convey flows originating from the Lake Huron Water Treatment Plant through the West Service Center to the Springwells high-pressure service area while the Springwells raw water tunnel is out of service for repairs. The existing reservoirs at the West Service Center are in poor condition and continue to require periodic structural repairs despite numerous past repairs. Additionally, half of the existing reservoir pumps experience suction hydraulic issues when the reservoir level falls below half full.
Scope of Work / Project Alternatives	This project is being delivered using a design-build project delivery method. The scope of work generally involves: 1. Rehabilitating Valve Vaults #1, #4, and #7. 2. Demolishing existing Valve Vault #3 3. Constructing a new Valve Vault #3 containing a new 24-inch cone valve. 4. Demolishing two existing 10 MG reservoirs and the associated Reservoir Pump Houses #1 and #2, and the associated yard piping. 5. Constructing two new 5 MG reservoirs. 6. Constructing a new Reservoir Pump House, including three new reservoir pumping units and two new reservoir fill valves. 7. Installing new the local valve control panel and instrumentation. 8. Testing and commissioning the new pumping facilities and finished water reservoirs. 9. Restoring the site.
Other Important Info	Challenges: Water storage capacity and reservoir pumping capacity need to be maintained during construction. Sequence of construction and meeting system demands will need to be coordinated with operations. Construction of the new reservoirs is subject to the city of Southfield's zoning ordinances especially

	related to the height of the reservoirs.
Related Project	Engineering Study Phase Services for Division Valves at West Service Center, Springwells WTP Reservoir Fill Line
Primary Driver	2 - Performance
Driver Explanation	This project will provide new reservoirs with a reservoir pumping system capable of pumping from the reservoirs to the station suction header under all operational conditions.

West Service Center Pumping Station - Reservoir, Reservoir Pumping, and Division Valve

PM Weighted Score
76.2

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	3	
Operations and Maintenance	4	
Public Health and Safety	4	
Public Benefit	3	
Financial	2	
Efficiency and Innovation	4	

RC Weighted Score
54

Criteria	Score	Comment
Condition	3	
Performance (Service Level/Reliability)	4	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	4	
Public Health and Safety	1	
Public Benefit	5	
Financial	1	
Efficiency and Innovation	5	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

132010 CIP#

West Service Center Pumping Station - Reservoir, Reservoir Pumping, and Division Valve

Phase Design and Build **Contract** NA **Status** Under Procurement

Title Design-Build

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Under Procurement	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY19-	$214			2021CIP
Design-Build	FY20	$573			2021CIP
Design-Build	FY21	$4,228			2021CIP
Design-Build	FY22	$12,100			2021CIP
Design-Build	FY23	$11,744			2021CIP
Design-Build	FY24	$8,256			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
214	573	4,228	12,100	11,744	8,256	0	0	37,115	36,328

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/17/2018	4/4/2019	261
Procurement	4/5/2019	12/6/2019	245

West Service Center Pumping Station - Reservoir, Reservoir Pumping, and Division Valve

Phase Task Name	Start Date	End Date	Duration
Project Execution	12/7/2019	3/15/2024	1560
Project Closeout	3/16/2024	6/14/2024	90

West Service Center Pumping Station - Reservoir, Reservoir Pumping, and Division Valve

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$82			2021CIP
GLWA Salaries CIP2021	FY20	$90			2021CIP
GLWA Salaries CIP2021	FY21	$95			2021CIP
GLWA Salaries CIP2021	FY22	$109			2021CIP
GLWA Salaries CIP2021	FY23	$109			2021CIP
GLWA Salaries CIP2021	FY24	$105			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
82	90	95	109	109	105	0	0	590	418

Phase Task Dates

West Service Center Pumping Station - Reservoir, Reservoir Pumping, and Division Valve

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	296	663	4,323	12,209	11,853	8,361	0	0	37,705	36,746
2020	0	0		0	2,620	7,430	15,570	8,910	2,606	0	0	37,136	37,136
2019	0				2,620	7,430	15,570	8,910	2,606	0	0	37,136	34,530
2018			7,600	4,200					0	0	0	11,800	11,800

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes Removed construction of the active bypass at the Newburgh Pump Station from the project scope. Removed the replacement of Division Valves #8, #9 and #10 at West Service Center from the project scope. AJ-7/30/19

Ypsilanti Booster Pumping Station Improvements

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Ypsilanti Pump Station

Project Engineer/Manager Jorge Nicolas

Director Grant Gartrell

Managing Dept Water Eng

Date Original Business Case Prepared 9/28/2017

Year Project Added to CIP 2017

Budget Water

Class Lvl 1 Water

Class Lvl 2 Systems Control Center

Class Lvl 3 Pump Station/Reservoir

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882111

Problem Statement	The Ypsilanti Booster Pumping Station does not have backup power generation and needs one in the event of a power loss to the site so that system pressure loss is avoided during these conditions. The entire station and its pumping and electrical system equipment are are original to the facility and are past their useful service life. The existing electrical system requires substantial maintenance to keep it in service. The existing pumps and motors are in poor condition and also require cumbersome maintenance to keep in service.
Scope of Work / Project Alternatives	This project is being delivered using a design-bid-build project delivery method. The scope of work generally includes building a new booster pumping station that meets current water system demands, current building and electrical codes, and best industry practices for water pumping station design, operation and maintenance needs. The new station will be equipped with all new pumps, motors, drives, electrical switchgear, power distribution system, building mechanical, station passive bypass, and electrical backup power generation.
Related Project	CS-052A, Condition Assessment (pending close)
Primary Driver	1 - Condition
Driver Explanation	Existing station mechanical and electrical equipment is original and past its useful life.

PM Weighted Score
80.2

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	5	
Regulatory (Environmental/Legal)	3	
Operations and Maintenance	4	
Public Health and Safety	3	
Public Benefit	5	
Financial	5	
Efficiency and Innovation	3	

RC Weighted Score
61.2

Criteria	Score	Comment
Condition	5	
Performance (Service Level/Reliability)	4	
Regulatory (Environmental/Legal)	1	
Operations and Maintenance	4	
Public Health and Safety	3	
Public Benefit	2	
Financial	3	
Efficiency and Innovation	3	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Ypsilanti Booster Pumping Station Improvements

132012 CIP#

Phase Construction **Contract** NA **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date	9/14/2020	**Fund**	Construction Bond Fund
End Date	11/17/2023	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY23	$3,067			2021CIP
Construction	FY24	$8,968			2021CIP
Construction	FY25	$11,185			2021CIP
Construction	FY26+	$3,290			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	3,067	8,968	11,185	3,290	26,510	23,220

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/27/2021	1/26/2022	91
Procurement	1/26/2022	7/31/2022	186
Project Execution	8/1/2022	1/10/2026	1258
Project Closeout	1/11/2026	4/11/2026	90

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Ypsilanti Booster Pumping Station Improvements

132012 CIP#

Phase Study and Design and Construction Assistance **Contract** NA **Status** Active

Title Study/Design/Construction Administration

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date	3/5/2018	**Fund**	Construction Bond Fund
End Date	11/17/2023	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$4			2021CIP
Engineering Services	FY20	$682			2021CIP
Engineering Services	FY21	$816			2021CIP
Engineering Services	FY22	$816			2021CIP
Engineering Services	FY23	$688			2021CIP
Engineering Services	FY24	$678			2021CIP
Engineering Services	FY25	$676			2021CIP
Engineering Services	FY26+	$359			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
4	682	816	816	688	678	676	359	4,719	3,674

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration

Ypsilanti Booster Pumping Station Improvements

Phase Task Name	Start Date	End Date	Duration
Procurement	5/4/2018	8/30/2019	483
Project Execution	8/31/2019	1/10/2026	2324
Project Closeout	1/11/2026	4/11/2026	90

Ypsilanti Booster Pumping Station Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	Jorge Nicolas
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$17			2021CIP
GLWA Salaries CIP2021	FY20	$30			2021CIP
GLWA Salaries CIP2021	FY21	$30			2021CIP
GLWA Salaries CIP2021	FY22	$30			2021CIP
GLWA Salaries CIP2021	FY23	$72			2021CIP
GLWA Salaries CIP2021	FY24	$75			2021CIP
GLWA Salaries CIP2021	FY25	$75			2021CIP
GLWA Salaries CIP2021	FY26+	$59			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
17	30	30	30	72	75	75	59	388	282

Phase Task Dates

Ypsilanti Booster Pumping Station Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	21	712	846	846	3,827	9,721	11,936	3,708	31,617	27,176
2020	0	0	4	28	585	865	2,855	4,205	1,319	0	0	9,861	9,829
2019	0			93	606	820	2,594	4,134	900	0	0	9,147	8,247

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Updated projected expenditures based on the current status of procurement of the consultant services contract (CS 267) as of September 25, 2018.

The scope of improvements to the Ypsilanti Station in prior years only focused on rehabilitation of the existing station's mechanical and electrical equipment. Contract CS-052A, Comprehensive Booster Station Needs Assessment, was completed last fiscal year and showed that the cost to rehabilitate the existing station is comparable to building a new station. Therefore, the cost included in this fiscal year's CIP update reflects the cost of a new station. JN 8/7/2019

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Adams Road Pumping Station Improvements

132014 CIP#

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Future Planned

CIP Type Project

☐ **Project New To CIP**

Project Engineer/Manager Timothy Kuhns
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 1/4/2018
Year Project Added to CIP 2017

Budget Water
Class Lvl 1 Water
Class Lvl 2 Systems Control Center
Class Lvl 3 Pump Station/Reservoir
Location Oakland County
Fund and Cost Center Water - 5519-882111

Problem Statement	The Adams Road booster pumping station was constructed in 1971 and is nearing the end of its service life. Recent condition assessment of the station indicates that there are several needs at the site that need to be addressed due to aging infrastructure. Improvements required at the site include site drive improvements, site valve replacements, building sump replacement, site drain PS replacement, structural improvements, pumping system improvements, flow metering improvements, bypass upgrades, interior valve replacement, control valve replacement, valve actuator replacement, air-vacuum valve replacement, station piping improvements, service water system improvements, HVAC upgrades, plumbing upgrades, and various electrical system improvements. Cost estimates for these site improvements indicate construction cost to build a new station adjacent to the current site may be cost comparable.
Scope of Work / Project Alternatives	This project will be delivered using a design-bid-build project delivery method. The scope of work generally includes reconstructing a new pumping station next to the existing station on the current site. The new station will be designed to bring it up to current building and electrical codes, industry standards, and best practices for operation and maintenance of pumping stations.
Related Project	CS-052A, Condition Assessment, TetraTech (closed)
Primary Driver	1 - Condition
Driver Explanation	Station is approaching the end of its service life

Adams Road Pumping Station Improvements

PM Weighted Score
68.2

Criteria	Score	Comment
Public Benefit	4	same
Efficiency and Innovation	5	changed from 4
Financial	3	same
Public Health and Safety	2	same
Condition	5	changed from 4
Performance (Service Level/Reliability)	4	same
Regulatory (Environmental/Legal)	2	same
Operations and Maintenance	4	same

RC Weighted Score
64.6

Criteria	Score	Comment
Regulatory (Environmental/Legal)	2	same
Operations and Maintenance	3	same
Condition	5	changed from 4
Efficiency and Innovation	4	same
Public Benefit	4	changed from 3
Public Health and Safety	3	same
Financial	3	changed from 1
Performance (Service Level/Reliability)	3	same

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Adams Road Pumping Station Improvements

132014 CIP#

Phase Design & Construction Assistance **Contract** NA **Status** Future Planned Start

Title Design/Construction Administration

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date	3/31/2021	**Fund**	Construction Bond Fund
End Date	9/23/2027	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/15/2015	**Cost Est. Date**
CS-052A	**Cost Est. Source**
Tim Kuhns	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY24	$153			2021CIP
Engineering Services	FY25	$873			2021CIP
Engineering Services	FY26+	$2,735			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	153	873	2,735	3,761	1,026

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	3/31/2023	4/28/2023	28
Procurement	4/29/2023	4/27/2024	364
Project Execution	4/28/2024	6/30/2031	2619
Project Closeout	7/1/2031	9/28/2031	89

Adams Road Pumping Station Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY23	$13			2021CIP
GLWA Salaries CIP2021	FY24	$52			2021CIP
GLWA Salaries CIP2021	FY25	$52			2021CIP
GLWA Salaries CIP2021	FY26+	$410			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	13	52	52	410	527	117

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Adams Road Pumping Station Improvements

132014 CIP#

Phase Construction **Contract** TBD **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
8/15/2019	**Cost Est. Date**
CS-052 Needs Assessment	**Cost Est. Source**
Tim Kuhns	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY26+	$23,248			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	23,248	23,248	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	9/29/2026	12/27/2026	89
Procurement	12/28/2026	6/25/2027	179
Project Execution	7/1/2027	6/30/2031	1460
Project Closeout	7/1/2031	9/28/2031	89

Adams Road Pumping Station Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	0	13	205	925	26,393	27,536	1,143
2020	0	0		0	0	0	21	1,029	2,312	2,312	0	5,674	3,362
2019	0						21	1,030	4,625	0	0	5,676	1,051

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes Project costs for this project have been updated based on CS-052A Needs Assessment Report.

Newburgh Road Booster Pumping Station Improvements

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Project

☐ **Project New To CIP**

Project Engineer/Manager Andrew Juergens
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 1/4/2018
Year Project Added to CIP

Budget Water
Class Lvl 1 Water
Class Lvl 2 Systems Control Center
Class Lvl 3 Pump Station/Reservoir
Location Wayne County - Outside Detroit
Fund and Cost Center

Problem Statement	Existing pumps, motors and electrical gear are beyond useful service life. The existing pump manufacturer has discontinued maintenance support of the pumps, increasing the difficulty and cost of maintenance. Additionally, a new transmission main will be designed to allow the Newburgh Station to pump flows to the Haggerty Station reservoir. The Haggerty reservoir fill operation may require additional pumps at the Newburgh Station that are rated to higher discharge pressures.
Scope of Work / Project Alternatives	Construct a new Newburgh Road Booster Pumping Station, including new pumps, motors, VFDs, electrical gear, building mechanical equipment, and backup power generation. Alternatives include constructing a new Newburgh Road Booster Pumping Station on the existing site, expanding the existing site to accommodate a new station, or construction of the new station on a new site.
Other Important Info	Challenges: The existing site may not be large enough to construct the new Newburgh Station. Coordination with the 14-Mile Road Transmission Main Loop Contract will be required.
Related Project	14 Mile Transmission Main Loop construction
Primary Driver	2 - Performance
Driver Explanation	New pumps at the Newburgh Road Booster Pumping Station are required to pump flows to the Haggerty Station reservoir through the new 14-Mile Transmission Main Loop.

Newburgh Road Booster Pumping Station Improvements

PM Weighted Score
70

Criteria	Score	Comment
Operations and Maintenance	5	
Public Health and Safety	2	
Public Benefit	3	
Condition	5	
Regulatory (Environmental/Legal)	2	
Performance (Service Level/Reliability)	5	
Efficiency and Innovation	4	
Financial	3	

RC Weighted Score
56.6

Criteria	Score	Comment
Regulatory (Environmental/Legal)	2	
Performance (Service Level/Reliability)	3	
Public Benefit	3	
Operations and Maintenance	3	
Public Health and Safety	3	
Efficiency and Innovation	4	
Condition	4	
Financial	1	

Newburgh Road Booster Pumping Station Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$3			2021CIP
GLWA Salaries CIP2021	FY20	$34			2021CIP
GLWA Salaries CIP2021	FY21	$34			2021CIP
GLWA Salaries CIP2021	FY22	$36			2021CIP
GLWA Salaries CIP2021	FY23	$40			2021CIP
GLWA Salaries CIP2021	FY24	$40			2021CIP
GLWA Salaries CIP2021	FY25	$40			2021CIP
GLWA Salaries CIP2021	FY26+	$40			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
3	34	34	36	40	40	40	40	267	190

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Newburgh Road Booster Pumping Station Improvements

132015 CIP#

Phase Construction **Contract** TBD **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY22	$1,327			2021CIP
Construction	FY23	$4,570			2021CIP
Construction	FY24	$5,639			2021CIP
Construction	FY25	$8,487			2021CIP
Construction	FY26+	$6,394			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	1,327	4,570	5,639	8,487	6,394	26,417	20,023

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	6/6/2021	9/4/2021	90
Procurement	9/18/2021	3/16/2022	179
Project Execution	3/17/2022	4/1/2026	1476

Phase Task Name	Start Date	End Date	Duration
Project Closeout	4/2/2026	7/1/2026	90

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Newburgh Road Booster Pumping Station Improvements

132015 CIP#

Phase Design & Construction Assistance **Contract** NA **Status** Future Planned Start

Title Design/Construction Administration

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date	7/1/2017	**Fund**	Construction Bond Fund
End Date	12/29/2023	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/15/2015	**Cost Est. Date**
2015 WMPU	**Cost Est. Source**
CDM	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY20	$547			2021CIP
Engineering Services	FY21	$939			2021CIP
Engineering Services	FY22	$232			2021CIP
Engineering Services	FY23	$606			2021CIP
Engineering Services	FY24	$607			2021CIP
Engineering Services	FY25	$606			2021CIP
Engineering Services	FY26+	$456			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	547	939	232	606	607	606	456	3,993	2,990

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	1/1/2019	5/14/2019	133

Newburgh Road Booster Pumping Station Improvements

Phase Task Name	Start Date	End Date	Duration
Procurement	5/15/2019	12/16/2019	215
Project Execution	12/17/2019	4/1/2026	2297

Newburgh Road Booster Pumping Station Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	3	581	973	1,595	5,216	6,286	9,133	6,890	30,677	23,203
2020	0	0		0	16	621	2,396	2,396	2,429	4,311	0	12,169	7,858
2019	0				607	2,396	2,396	2,396	4,375	0	0	12,170	7,795

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

The scope of improvements to the Newburgh Station in prior years only focused on rehabilitation of the existing station's mechanical and electrical equipment. Contract CS-052A, Comprehensive Booster Station Needs Assessment, was completed last fiscal year and showed that it was as costly to rehabilitate the existing station versus constructing a new station. Therefore, the cost included in this fiscal year's CIP update reflects the cost of a new station. - ADJ 8/5/2019

North Service Center Pumping Station Improvements

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Future Planned

CIP Type Project

☐ **Project New To CIP**

Project Engineer/Manager Timothy Kuhns
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 1/4/2018
Year Project Added to CIP 2017

Budget Water
Class Lvl 1 Water
Class Lvl 2 Systems Control Center
Class Lvl 3 Pump Station/Reservoir
Location Oakland County
Fund and Cost Center Water - 5519-882111

Problem Statement	The North Service Center was constructed in 1962 and is nearing the end of its service life. Recent condition assessment of the station indicates that there are several needs at the site that need to be addressed due to aging infrastructure. Improvements required at the site include site drive improvements, site valve replacements, valve operator replacement, abandonment of pitot tube well, belt drain replacement, septic tank and well field replacement, electric room improvements, station wall upgrades, building structure improvements, line and reservoir pump upgrades, flow meter improvements, bypass upgrades, interior valve upgrades, control valve upgrades, valve actuator upgrades, station piping improvements, service water system upgrades, sump pump upgrades, sampling system upgrades, and various electrical improvements. Cost estimates for these site improvements indicate construction cost to build a new station adjacent to the current site may be cost comparable.
Scope of Work / Project Alternatives	This project includes complete reconstruction of the North Service Center Pumping Station.
Related Project	CS-052A, Condition Assessment, TetraTech (pending close)
Primary Driver	1 - Condition
Driver Explanation	The North Service Center was constructed in 1962 and is nearing the end of its service life.

North Service Center Pumping Station Improvements

PM Weighted Score
74

Criteria	Score	Comment
Performance (Service Level/Reliability)	4	
Efficiency and Innovation	4	
Operations and Maintenance	5	
Regulatory (Environmental/Legal)	2	
Public Benefit	4	
Financial	4	
Condition	5	
Public Health and Safety	3	

RC Weighted Score
58.2

Criteria	Score	Comment
Public Benefit	4	
Efficiency and Innovation	4	
Public Health and Safety	3	
Regulatory (Environmental/Legal)	2	
Performance (Service Level/Reliability)	3	
Operations and Maintenance	3	
Condition	4	
Financial	1	

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

North Service Center Pumping Station Improvements

132016 CIP#

Phase Design & Construction Assistance **Contract** TBD **Status** Future Planned Start

Title North Service Center BPS Improvements

North Service Center BPS Improvements

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CS-052A	**Cost Est. Source**
Tim Kuhns	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY23	$195			2021CIP
Engineering Services	FY24	$2,302			2021CIP
Engineering Services	FY25	$1,770			2021CIP
Engineering Services	FY26+	$3,561			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	195	2,302	1,770	3,561	7,828	4,267

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	3/31/2022	6/30/2022	91
Procurement	7/1/2022	5/30/2023	333
Project Execution	5/31/2023	3/30/2034	3956

North Service Center Pumping Station Improvements

Phase Construction **Contract** TBD **Status** Future Planned Start

Title North Service Center BPS Improvements

North Service Center BPS Improvements

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
8/15/2019	**Cost Est. Date**
CS-052A	**Cost Est. Source**
Tim Kuhns	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY26+	$37,036			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	37,036	37,036	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	3/31/2025	6/28/2025	89
Procurement	6/29/2025	12/25/2025	179
Project Execution	12/26/2025	3/30/2034	3016
Project Closeout	3/31/2034	6/29/2034	90

North Service Center Pumping Station Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY22	$21			2021CIP
GLWA Salaries CIP2021	FY23	$84			2021CIP
GLWA Salaries CIP2021	FY24	$83			2021CIP
GLWA Salaries CIP2021	FY25	$62			2021CIP
GLWA Salaries CIP2021	FY26+	$228			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	21	84	83	62	228	478	250

Phase Task Dates

North Service Center Pumping Station Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	21	279	2,385	1,832	40,825	45,342	4,517
2020	0	0		0	0	0	0	6	6,325	18,589	0	24,920	6,331
2019	0						6	4,520	20,394	0	0	24,920	4,526

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

CIP 132017 entry has been deleted and the work associated with CIP 132017 has been moved to the CIP132016 project entry. Project costs were updated based on CS-052A Needs Assessment Report.

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

132017 CIP#

North Service Center Booster Pump Station - On-Site & Off-Site Yard Piping & Valve

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Reclassified

CIP Type Project

☐ **Project New To CIP**

Project Engineer/Manager TBD
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 1/4/2018
Year Project Added to CIP 2018

Budget Water
Class Lvl 1 Water
Class Lvl 2 Systems Control Center
Class Lvl 3 Pump Station/Reservoir
Location Oakland County
Fund and Cost Center

Problem Statement	Yard piping and valves are original to the facility and are beyond useful service life. New valves and yard piping are needed to improve reliable operation; and in order to provide reliable shutoff and water tightness during the subsequent station upgrades to the pumping equipment.
Scope of Work / Project Alternatives	Civil Work: Improvements are ncessary to the drive, drain pump station and related piping, building strucgtures Mechanical All pumps should be rehabilitated, with new mechanical seals etc. All isolation valves should be assessed and/or replaced The category 5 cost for rehabilitation is in the magnitude of 15 million dollars; to replace with new is 75. Therefore, rehabilitation is recommended. All control valves should be assessed and/or replaced All actuators should be replaced to modern standards. Electrical: imrpvovements to transformers, grounding, &VFDs are necessary.
Other Important Info	Challenge: Maintenance of facility operations during construction.
Related Project	CS-052A, Condition Assessement, TetraTech (pending close)
Primary Driver	1 - Condition

Driver Explanation	Significant issues were observed as part of the pump station needs assesment. The rehabilitation of several key compoenents of this station must be addressed.

PM Weighted Score
71.2

Criteria	Score	Comment
Regulatory (Environmental/Legal)	2	
Public Benefit	4	
Performance (Service Level/Reliability)	5	
Efficiency and Innovation	3	
Operations and Maintenance	5	
Financial	2	
Public Health and Safety	3	
Condition	5	

RC Weighted Score
57.8

Criteria	Score	Comment
Public Benefit	3	
Efficiency and Innovation	1	
Performance (Service Level/Reliability)	5	
Operations and Maintenance	4	
Public Health and Safety	3	
Condition	4	
Financial	2	
Regulatory (Environmental/Legal)	1	

North Service Center Booster Pump Station - On-Site & Off-Site Yard Piping & Valve

Phase GLWA Employees Project management **Contract** NA **Status** Cancelled

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Cancelled	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

North Service Center Booster Pump Station - On-Site & Off-Site Yard Piping & Valve

Phase Design and Build **Contract** NA **Status** Cancelled

Title Design-Build

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Cancelled	**Funding Source**	Bond Proceeds
Start Date	4/1/2019	**Fund**	Construction Bond Fund
End Date	9/27/2022	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/15/2015	**Cost Est. Date**
2015 WMPU	**Cost Est. Source**
CDM	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	6/1/2021	8/30/2021	90
Procurement	8/31/2021	8/31/2021	0
Project Execution	8/31/2021	8/28/2023	727
Project Closeout	8/29/2023	11/27/2023	90

North Service Center Booster Pump Station - On-Site & Off-Site Yard Piping & Valve

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	0	0	0	0	0	0	0
2020	0	0		0	6	2,300	2,506	264	0	0	0	5,076	5,076
2019	0				6	2,300	2,506	264		0	0	5,076	5,076

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Significant additional items of work were docuemnted in the Pump Station Condition Survey. This revised CIP incorporates these changes. ECK 7/22/2019

This project CIP has been merged with CIP 132016 as a single CIP entry for the North Service Center. TK 8/19/2019

Schoolcraft Pumping Station Improvements

132018 CIP#

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Future Planned

CIP Type Project

☐ **Project New To CIP**

Project Engineer/Manager Eric Kramp
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 1/4/2018
Year Project Added to CIP 2018

Budget Water
Class Lvl 1 Water
Class Lvl 2 Systems Control Center
Class Lvl 3 Pump Station/Reservoir
Location Wayne County - Outside Detroit
Fund and Cost Center

Problem Statement	Following the Pump Station Condition Survey and Needs Assesment, significant issues were observed in the Schoolcraft Pumping Station. This needs assesment has found several significant areas of necessary improvement to the station as described in the project scope fo work:
Scope of Work / Project Alternatives	This project will be delivered using a design-bid-build project delivery method. The scope of work will generally include replacing existing pumps, motors, drives, electrical switchgear, motor control centers, valves, valve operators, yard piping, and yard valves with new infrastructure. Additionally, the underdrain system that serves the finished water reservoirs will either be rehabilitated in place or replaced with new.
Related Project	CS-052A Condition Assessment, TetraTech (pending close)
Primary Driver	2 - Performance
Driver Explanation	Existing pumping equipment including electrical gear are nearing end of useful service life and will need to be replaced to provide continued adequate performance.

Schoolcraft Pumping Station Improvements

PM Weighted Score
51.2

Criteria	Score	Comment
Public Benefit	3	changed from 1
Regulatory (Environmental/Legal)	1	same
Public Health and Safety	3	changed from 1
Efficiency and Innovation	2	changed from 4
Condition	3	changed from 4
Performance (Service Level/Reliability)	3	changed from 4
Financial	2	same
Operations and Maintenance	4	changed from 5

RC Weighted Score
56.6

Criteria	Score	Comment
Operations and Maintenance	3	3
Efficiency and Innovation	4	4
Regulatory (Environmental/Legal)	2	2
Public Benefit	3	3
Performance (Service Level/Reliability)	3	3
Public Health and Safety	3	3
Financial	1	1
Condition	4	4

Schoolcraft Pumping Station Improvements

Phase Design & Construction Assistance **Contract** NA **Status** Future Planned Start

Title Design/Construction Administration

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	6/30/2037	9/28/2037	90
Procurement	9/29/2037	7/1/2038	275
Project Execution	7/2/2038	7/1/2046	2921

Schoolcraft Pumping Station Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Schoolcraft Pumping Station Improvements

132018 CIP#

Phase Construction **Contract** TBD **Status** Future Planned Start

Title Construction

Phase Budget	Water	Cost Allocation	CTA
Phase Status	Future Planned Start	Funding Source	Bond Proceeds
Start Date		Fund	Construction Bond Fund
End Date		Useful Life >20Yrs?	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/5/2039	1/3/2040	90
Pre-Procurement	10/5/2039	1/3/2040	90
Procurement	1/4/2040	7/1/2040	179
Procurement	1/4/2040	7/1/2040	179
Project Execution	7/2/2040	6/27/2046	2186
Project Closeout	6/28/2046	9/26/2046	90
Project Closeout	6/28/2046	9/26/2046	90

Schoolcraft Pumping Station Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	0	0	0	0	0	0	0
2020	0	0		0	0	10	1,958	2,048	3,048	3,500	0	10,564	7,064
2019	0					10	1,916	2,085	6,553	0	0	10,564	4,011

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

On December 2018, the Booster Station Condition & Needs Assessment was published. The review of this station indicated that significant upgrades, above those listed in the FY 2020 CIP, were needed. This revised CIP captures the additional work at this site. 7/23/2019 ECK

Contract phases changed from DB to DBB. 8/15/2019 ECK

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP
Wick Road Pumping Station Improvements

132019 CIP#

- [x] Innovation
- [ ] Conceptual WW MP
- [ ] Water MP Right Sizing
- [x] Reliability/Redundancy
- [ ] NEWTP Repurposing

Project Status Future Planned

CIP Type Project

☐ **Project New To CIP**

Project Engineer/Manager Vittoria Hogue
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 1/4/2018
Year Project Added to CIP 2018

Budget Water
Class Lvl 1 Water
Class Lvl 2 Systems Control Center
Class Lvl 3 Pump Station/Reservoir
Location Wayne County - Outside Detroit
Fund and Cost Center

Problem Statement	Wick Pump Station is currently oversized based on the demands it experiences, has poor valve isolation capabilities and much of its equipment was installed in 1981 and is passed its useful service life. This project's intent is to right size the station and replace valves and other aging equipment.
Scope of Work / Project Alternatives	This project will be delivered under a design-bid-build delivery method. This project's scope of work will be rightsizing the station's pumping capacity, improving valve control and isolation, and replacing and/or upgrading equipment that is at the end of its useful life. The improvements intended to right size the station include replacing reservoir pumping units and installing another small line pump (jockey pump) to accommodate low flow conditions. Valve control and isolation work will involve replacing existing station bypass check valve and isolation valves, replacing interior valves, rehabbing pump control valves, replacing the cone valve on the reservoir fill line and replacing the hydraulic actuator control system with an electrically motor actuated system. The equipment that is at the end of its useful service life and will be replaced are as follows: effluent flow meter, the pressure reducing station for the service water system, the sump pumps, the service entrance transformers, the grounding ring, and the medium and low voltage equipment. Other miscellaneous work that will be conducted under this project will be improving the heating and ventilation, isolating potable water supply from non-potable water supply, installing lighting improvements, upgrading the existing generators, correcting the power factors, improving site driveway to accommodate semi trucks, and reconfiguring the station's discharge piping.
Related Project	CS-052A Condition Assesment, TetraTech (pending close)
Primary Driver	1 - Condition

Driver Explanation	The resevoir pumping units and switchgear are at end of life.

Wick Road Pumping Station Improvements

PM Weighted Score
66.4

Criteria	Score	Comment
Public Benefit	3	Right sizing the station.
Regulatory (Environmental/Legal)	2	Will experience will issues in 7-10 years.
Public Health and Safety	3	Has potential for causing a boil water advisory
Efficiency and Innovation	3	Right sizes the station and increases effecienc
Condition	5	Whole station is in very poor condition. Excessi
Performance (Service Level/Reliability)	4	(Low end service is hard to maintian for statior
Operations and Maintenance	4	The VFD's need maintenance often.
Financial	3	Canceling project will have moderate financi

RC Weighted Score
68.4

Criteria	Score	Comment
Efficiency and Innovation	3	changed from 4
Financial	4	changed from 1
Operations and Maintenance	4	changed from 3
Regulatory (Environmental/Legal)	2	same
Public Benefit	3	same
Performance (Service Level/Reliability)	4	changed from 3
Condition	5	changed from 4
Public Health and Safety	3	same

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Wick Road Pumping Station Improvements

132019 CIP#

Phase Construction **Contract** TBD **Status** Future Planned Start

Title Wick Road Booster Pumping Station - Switchgear, Control Valves and Hydropneumatic Tank Replacement Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
	Cost Est. Date
CS-052a (Pump Station Con	**Cost Est. Source**
Tetra Tech	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY26+	$948			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	948	948	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2029	9/29/2029	90
Procurement	9/30/2029	3/28/2030	179
Project Execution	3/29/2030	7/1/2034	1555
Project Closeout	7/2/2034	9/30/2034	90

Wick Road Pumping Station Improvements

132019 CIP#

Phase Design & Construction Assistance **Contract** TBD **Status** Future Planned Start

Title Wick Road Booster Pumping Station - Switchgear, Control Valves and Hydropneumatic Tank Replacement Design and Construction Assistance

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
	Cost Est. Date
CS-052a (Pump Station Con	**Cost Est. Source**
Tetra Tech	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY26+	$1,741			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	1,741	1,741	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	4/1/2025	6/30/2025	90
Procurement	7/1/2025	7/1/2026	365
Project Execution	7/2/2026	7/1/2034	2921

Wick Road Pumping Station Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWAs Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date	3/31/2021	**Fund**	Construction Bond Fund
End Date	9/23/2027	**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
12/27/2017	**Cost Est. Date**
2015 Water Master Plan Upd	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY25	$15			2021CIP
GLWA Salaries CIP2021	FY26+	$236			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	15	236	251	15

Phase Task Dates

Wick Road Pumping Station Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	0	0	0	15	2,925	2,940	15
2020	0	0		0	0	0	6	1,009	4,554	0	0	5,569	5,569
2019	0						6	1,009	4,555	0	0	5,570	1,015

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

On December 2018, the Booster Station Condition & Needs Assessment was published under Contract CS-052a. The review of this station indicated that significant upgrades, above those listed in the FY 2020 CIP, are needed. This revised CIP captures the additional work needed the Wick Station. 7/23/2019 ECK

Franklin Pumping Station Improvements

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Future Planned

CIP Type Project

☐ **Project New To CIP**

Project Engineer/Manager TBD
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 1/4/2018
Year Project Added to CIP 2018

Budget Water
Class Lvl 1 Water
Class Lvl 2 Systems Control Center
Class Lvl 3 Pump Station/Reservoir
Location Oakland County
Fund and Cost Center Water - 5519-882111

Problem Statement	The Franklin Booster Pumping Station was constructed in 1968 and is nearing the end of its service life. Recent condition assessment of the station indicates that there are several needs at the site that need to be addressed due to aging infrastructure. Improvements required at the site include site drive improvements, sanitary holding tank improvements, site valve replacements, mezzanine valve access improvements, electrical room upgrades, building structure improvements, pumping improvements, flow metering improvements, station bypass upgrades, interior valve upgrades, control valve replacement and rehabilitation, valve actuator system improvements, station piping improvements, service water system upgrades, sampling system upgrades, HVAC upgrades, plumbing upgrades, and various electrical improvements. Cost estimates for these site improvements indicate construction cost to build a new station adjacent to the current site may be cost comparable.
Scope of Work / Project Alternatives	This project includes complete reconstruction of the Franklin Booster Station.
Related Project	CS-052A Condition Assessment, TetraTech (pending close)
Primary Driver	1 - Condition
Driver Explanation	The Franklin Booster Pumping Station was constructed in 1968 and is nearing the end of its service life.

Franklin Pumping Station Improvements

PM Weighted Score
67.2

Criteria	Score	Comment
Condition	4	same
Performance (Service Level/Reliability)	5	changed from 4
Operations and Maintenance	4	same
Regulatory (Environmental/Legal)	3	changed from 1
Efficiency and Innovation	3	same
Financial	3	same
Public Health and Safety	2	same
Public Benefit	3	same

RC Weighted Score
64.6

Criteria	Score	Comment
Condition	4	same
Performance (Service Level/Reliability)	5	changed from 3
Efficiency and Innovation	4	same
Public Benefit	3	same
Regulatory (Environmental/Legal)	2	same
Financial	2	changed from 1
Operations and Maintenance	3	same
Public Health and Safety	3	same

Franklin Pumping Station Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY26+	$251			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	251	251	0

Phase Task Dates

Franklin Pumping Station Improvements

Phase Design and Construction **Contract** NA **Status** Future Planned Start

Title Design/Construction Administration

Franklin Booster Pumping Station Improvements Design and Construction Contract

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date	10/4/2020	**Fund**	Construction Bond Fund
End Date	3/29/2027	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/15/2015	**Cost Est. Date**
2015 WMPU	**Cost Est. Source**
CDM	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY26+	$2,191			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	2,191	2,191	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/4/2026	1/2/2027	90
Procurement	1/3/2027	1/3/2028	365
Project Execution	1/4/2028	6/28/2035	2732

Franklin Pumping Station Improvements

Phase Construction **Contract** TBD **Status** Future Planned Start

Title Construction

Franklin Booster Pumping Station Improvements Design and Construction Contract

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
8/15/2019	**Cost Est. Date**
CS-052A Needs Assessment	**Cost Est. Source**
Tim Kuhns	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2030	9/29/2030	90
Procurement	9/30/2030	6/30/2031	273
Project Execution	7/1/2031	6/28/2035	1458
Project Closeout	6/29/2035	9/27/2035	90

Franklin Pumping Station Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	0	0	0	0	2,442	2,442	0
2020	0	0		0	0	0	0	0	0	10,109	0	10,109	0
2019	0						846	2,009	7,315	0	0	10,170	2,855

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes Project budget updated based on CS-052A Needs Assessment Report.

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Imlay Pumping Station Improvements

132021 CIP#

- [x] Innovation
- [ ] Conceptual WW MP
- [x] Water MP Right Sizing
- [x] Reliability/Redundancy
- [ ] NEWTP Repurposing

Project Status Future Planned

CIP Type Project

- [ ] **Project New To CIP**

Project Engineer/Manager Eric Kramp
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 1/4/2018
Year Project Added to CIP 2018

Budget Water
Class Lvl 1 Water
Class Lvl 2 Systems Control Center
Class Lvl 3 Pump Station/Reservoir
Location Lapeer County
Fund and Cost Center

Problem Statement	Following completion of the 2018 Booster Station Condition Assesment, several significant issues have been documented at the Imlay Booster Station. In addition to the updates to the VFD systems identified in the FY 2020 CIP. Site/civil, mechanical, and electrical improvements have been identified far in excess of the initial 2020 CIP, including the complete replacement of all outdated electrical switchgear. It was recently documented that approximatley half of the reservoir fill system is working at less than full capacity, and this has revised this BCE accordingly.
Scope of Work / Project Alternatives	Significant improvementst to the site/civil, mechanical, and electrical systems at the Imlay Booster Station. Highlights in each discipline are indentified as follows: Site/Civil -- Replace crumbling retaining walls. Roofing rehabilitation Pumping -- "Right size" remaining pump and motor units based on 2015 WMPU. Rehabilitate any pumping units that are determined to be correctly sized. Mechanical -- Improvements to HVAC. Replacement or reinforcement of all station isolation gate and butterfly valves. Rehabilitaiton or replacement of reservoir fill valves. Electrical -- Additional and replacement of generators. Replacement of double-ended 13.2 KVA switch-gear. Rehabilitation or replacement of VFDs
Other Important Info	VFD size is unusual in the marketplace and cooling systems are complex for the VFDs.
Related Project	DB-305 -- DB of New Freeze Pump, Imlay Booster Station
Primary Driver	2 - Performance

Driver Explanation	Performance of the existing station pumps, motors and drives is cumbersome and in the case of the drives reliability is costly to maintain.

Imlay Pumping Station Improvements

PM Weighted Score
65.2

Criteria	Score	Comment
Condition	4	
Public Benefit	3	
Performance (Service Level/Reliability)	5	
Operations and Maintenance	4	
Efficiency and Innovation	4	
Regulatory (Environmental/Legal)	1	
Public Health and Safety	3	
Financial	3	

RC Weighted Score
58.2

Criteria	Score	Comment
Operations and Maintenance	3	
Efficiency and Innovation	4	
Public Benefit	4	
Regulatory (Environmental/Legal)	2	
Public Health and Safety	3	
Financial	1	
Performance (Service Level/Reliability)	3	
Condition	4	

Imlay Pumping Station Improvements

Phase Design & Construction Assistance **Contract** TBD **Status** Future Planned Start

Title Design/Construction Administration

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date	4/2/2022	**Fund**	Construction Bond Fund
End Date	9/25/2026	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
2015 WMPU	**Cost Est. Source**
CDM	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	5/2/2030	7/31/2030	90
Procurement	8/1/2030	4/27/2031	269
Project Execution	4/28/2031	6/24/2041	3710
Project Closeout	6/25/2041	9/23/2041	90

Imlay Pumping Station Improvements

132021 CIP#

Phase Construction **Contract** TBD **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date	7/1/2023	**Fund**	Construction Bond Fund
End Date	12/31/2026	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	9/27/2033	12/26/2033	90
Procurement	12/27/2033	6/24/2034	179
Project Execution	6/25/2034	6/24/2041	2556
Project Closeout	6/25/2041	9/23/2041	90

Imlay Pumping Station Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date	1/1/2023	**Fund**	Construction Bond Fund
End Date	12/31/2029	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY26+	$13			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	13	13	0

Phase Task Dates

Imlay Pumping Station Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	0	0	0	0	13	13	0
2020	0	0		0	0	0	0	6	2,103	10,000	0	12,109	2,109
2019	0							6	12,103	0	0	12,109	6

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

This project has undergone a significant upgrade to scope based on an evaluation of its condition performed under CS-052A. As such, it's names has been changed from "Imlay Booster Station: Pumps, Motors, and HVAC" to "Imlay Station Improvements" ECK 7/30/2019

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Joy Road Pumping Station Improvements

132022 CIP#

- [x] Innovation
- [ ] Conceptual WW MP
- [ ] Water MP Right Sizing
- [x] Reliability/Redundancy
- [ ] NEWTP Repurposing

Project Status Future Planned

CIP Type Project

- [ ] **Project New To CIP**

Project Engineer/Manager Jacob Mangum
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 1/4/2018
Year Project Added to CIP 2018

Budget Water
Class Lvl 1 Water
Class Lvl 2 Systems Control Center
Class Lvl 3 Pump Station/Reservoir
Location Wayne County - Outside Detroit
Fund and Cost Center

Problem Statement

The station is undersized with limited space for maintenance and personnel access. The main walkway inside the station is built on top of the discharge header and six stairways connected to it are non-code compliant. There is not enough room to install normal stairs. The electrical room addition was partially built on top of the pump station top slab and blocks access to the reservoir fill line valves. The pump station roof hatches leak and drip onto equipment below. The discharge header is heavily corroded and is in need of replacement. Three reservoir pumps, motors and valves are past their useful service life. Two additional VFDs and associated new motors are needed to provide operational flexibility. The station is without a flow meter and a station bypass.

Scope of Work / Project Alternatives

Design contract will consider life-cycle costs of rehabilitating the current station versus building a new station on available land located to the south of the current station. A listing of the type of station improvements by discipline is provided below.
Site Drive Improvements - The existing site drive geometry needs to be improved to allow for a mobile crane or semi-trailer truck.
Site Drain Lift Station - Installation of a new site drain pump station next to existing with removal of the existing equipment
Electrical Room - A new electrical room addition is required for the new recommended VFD gear
Building Structures Improvements - The existing building structures require maintenance and repair. Details of the associated interior and exterior repair items are provided within this report
Pump Improvements - Rehabilitate the existing line and reservoir pumps with the addition of 2 new VFD and associated motors
New Effluent Flow Meter - Construction of a new effluent flow magmeter within the existing station

	Station Bypass - A station bypass is planned through replacement of existing exterior valves with motorized gate valves Replace Interior Valves - Replace butterfly valves with metal seated gate valves and replace the Res No. 1 Fill line cone valve with a new 14" cone valve Rehabilitate Control Valves - Rehabilitate pump control valves with new stuffing box packing and drain Valve Actuator System - Replace the existing control valve actuator system with a new electric motor actuator system Piping Improvements - Replacement of piping as noted and improve suction and discharge headers in compliance with ANSI/HI 9.6.6 standard Service Water System - Updates to the service water system are required; replacement of galvanized piping, pressure reducing station and backflow preventer Building Sump Pumps - The building sump pumps are recommended for replacement Heating and Ventilation - Improvements are required to the existing heating and ventilation Plumbing and Fixtures - Improvements are needed to separate the potable water supply from the service water piping as well as other misc. improvements Grounding - Provide new grounding ring along the outside parameter of the building and transformer yard Variable Frequency Drives - New VFD drives for all three line pumps are recommended LED Lighting - Replace lighting with LED lighting Instrumentation - Provide new field instruments for the station, specifically for the pumping systems Existing Generator - Update the existing generator with new fuel and bulk storage tank as well as other upgrades
Related Project	CS-052A Condition Assessment, TetraTech (pending close)
Primary Driver	1 - Condition
Driver Explanation	Reservoir pumps and motors are beyond their service life. Discharge header is heavily corroded. Station is undersized with limited space for maintenance

PM Weighted Score
56.6

Criteria	Score	Comment
Efficiency and Innovation	3	
Condition	4	
Regulatory (Environmental/Legal)	1	
Performance (Service Level/Reliability)	4	
Public Health and Safety	3	
Financial	3	
Operations and Maintenance	3	
Public Benefit	2	

RC Weighted Score
56.6

Criteria	Score	Comment
Efficiency and Innovation	4	
Condition	4	
Public Health and Safety	3	
Performance (Service Level/Reliability)	3	
Operations and Maintenance	3	
Public Benefit	3	
Regulatory (Environmental/Legal)	2	
Financial	1	

Joy Road Pumping Station Improvements

Phase Design & Construction Assistance **Contract** NA **Status** Future Planned Start

Title Design/Construction Administration

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date	4/2/2022	**Fund**	Construction Bond Fund
End Date	9/25/2026	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/15/2015	**Cost Est. Date**
2015 WMPU	**Cost Est. Source**
CDM	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2029	9/29/2029	90
Procurement	9/30/2029	6/30/2030	273
Project Execution	7/1/2030	12/25/2036	2369
Project Closeout	12/26/2036	3/26/2037	90

Joy Road Pumping Station Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

6.5 yrs.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$7			2021CIP
GLWA Salaries CIP2021	FY26+	$48			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
7	0	0	0	0	0	0	48	55	0

Phase Task Dates

Joy Road Pumping Station Improvements

Phase Construction **Contract** TBD **Status** Future Planned Start

Title Construction

Phase Budget	Water	Cost Allocation	CTA
Phase Status	Future Planned Start	Funding Source	Bond Proceeds
Start Date		Fund	Construction Bond Fund
End Date		Useful Life >20Yrs?	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	Cost Est. Class
	Cost Est. Date
	Cost Est. Source
	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/5/2032	10/4/2032	91
Procurement	10/4/2032	7/4/2033	273
Project Execution	7/5/2033	12/29/2036	1273
Project Closeout	12/30/2036	3/30/2037	90

Joy Road Pumping Station Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	7	0	0	0	0	0	0	48	55	0
2020	0	0		0	0	0	0	6	6,103	0	0	6,109	6,109
2019	0							6	6,103	0	0	6,109	6

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

On December 2018, the Booster Station Condition & Needs Assessment done under Contract CS-052A was published. The review of this station indicated that significant upgrades, above those listed in the FY 2020 CIP, were needed. This revised CIP captures the additional work at this site. 7/25/2018 JEM

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Northwest Booster Station Yard Piping Improvements

132025 CIP#

- ☐ Innovation
- ☐ Conceptual WW MP
- ☑ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☑ NEWTP Repurposing

Project Status Cancelled

CIP Type Project

☐ **Project New To CIP**

Project Engineer/Manager Eric Kramp
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 9/21/2018
Year Project Added to CIP 2019

Budget Water
Class Lvl 1 Water
Class Lvl 2 Systems Control Center
Class Lvl 3 Pump Station/Reservoir
Location City of Detroit
Fund and Cost Center Water - 5519-882411

Problem Statement	Historical pumpage data for the Northeast WTP indicates that the maximum day demands for the Northeast service area can be as high as 190 MGD. With the upcoming decommissioning of treatment at the Northeast WTP, Water Works Park will provide 150 MGD of finished water to the Northeast high lift pumping system to provide service to the existing Northeast service area, which means that 40 MGD must be delivered from other water treatment plants during the maximum day demand conditions. Upgrades to the yard piping at the Northwest Booster Station would allow flows to be pumped from the Springwells WTP through the Northwest Booster Station to the Northeast Service Area to provide a portion of the needed 40 MGD. This project will provide the needed transfer of demand loads from Water Works Park to Springwells once Northeast WTP treatment is decommissioned.
Scope of Work / Project Alternatives	Project includes construction of a new reservoir fill valve system to fill the existing reservoirs from Springwells. The project also includes replacement of the isolation valves and pumping units.
Other Important Info	This project highlights the need to reinforce the transmission system in order to reliably provide service after treatment is decommissioned at the Northeast WTP. Challenges: The project challenges include working with older piping and transmission valves. Isolation of piping to make connections to the existing piping system may be a challenge. Project History: The 2015 Water Master Plan proposed decommissioning of this booster station. However, the Master Plan assumed that the excess capacity at Water Works Park could fully supply the Northeast Service Area demands, which is not the case. For this reason, it will be necessary to use this station to provide maximum day demands from the Springwells WTP to the Northeast Service Area once decommissioning at the Northeast WTP is complete.

Related Project	CIP 122017 - 7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station
Primary Driver	8 - Efficiency
Driver Explanation	This project provides for efficiencies in facilitating the decommissioning of treatment at the Northeast WTP.

PM Weighted Score
54.6

Criteria	Score	Comment
Public Benefit	4	
Public Health and Safety	1	
Performance (Service Level/Reliability)	4	
Operations and Maintenance	2	
Condition	4	
Efficiency and Innovation	4	
Financial	4	
Regulatory (Environmental/Legal)	1	

RC Weighted Score
63.6

Criteria	Score	Comment
Public Benefit	5	
Condition	4	
Regulatory (Environmental/Legal)	2	
Financial	3	
Operations and Maintenance	2	
Performance (Service Level/Reliability)	2	
Efficiency and Innovation	3	
Public Health and Safety	5	

Northwest Booster Station Yard Piping Improvements

Phase Design & Construction Assistance **Contract** TBD **Status** Future Planned Start

Title Northwest Booster Station Yard Piping Improvements

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/1/2019	4/30/2020	212
Procurement	5/1/2020	5/1/2021	365
Project Execution	5/2/2021	4/3/2023	701

Northwest Booster Station Yard Piping Improvements

Phase GLWA Employees Project management **Contract** NA **Status** Future Planned Start

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$1			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
1	0	0	0	0	0	0	0	1	0

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Northwest Booster Station Yard Piping Improvements

132025 CIP#

Phase Construction **Contract** TBD **Status** Future Planned Start

Title Northwest Booster Station Yard Piping Improvements

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	5/1/2021	11/1/2021	184
Procurement	11/2/2021	5/2/2022	181
Project Execution	5/3/2022	4/3/2023	335
Project Closeout	4/4/2023	6/30/2023	87

Northwest Booster Station Yard Piping Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	1	0	0	0	0	0	0	0	1	0
2020	0	0				50	1,700	3,750			0	5,500	5,500

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Franklin Pumping Station Valve Replacement

132026 CIP#

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Allowance

☑ **Project New To CIP**

Project Engineer/Manager Mini Panicker
Director Biren Saparia
Managing Dept SCC
Date Original Business Case Prepared
Year Project Added to CIP 2019

Budget Water
Class Lvl 1 Water
Class Lvl 2 Systems Control Center
Class Lvl 3 Pump Station/Reservoir
Location City of Detroit
Fund and Cost Center Water - 5519-882111

Problem Statement	The existing gate valves and butterfly (suction) valves that service the four (4) line pumps and two (2) reservoir pumps in the Franklin Pumping Station have exceeded their useful life and are in need of replacement.
Scope of Work / Project Alternatives	Scope of work is demolition and replacement of six (6) 24" manually operated gate valves, demolition and replacement of three (3) 24" and three (3) 30" manually operated butterfly (suction) valves, demolition and replacement of two (2) 30" electrically actuated butterfly (suction) valves and rebuild of the existing gate valves.
Related Project	DWS-820
Primary Driver	1 - Condition
Driver Explanation	Current valves that require replacement are in service for over 45 years

Franklin Pumping Station Valve Replacement

PM Weighted Score
66.2

Criteria	Score	Comment
Public Health and Safety	1	
Regulatory (Environmental/Legal)	3	
Financial	3	
Efficiency and Innovation	3	
Public Benefit	3	
Performance (Service Level/Reliability)	5	
Condition	5	
Operations and Maintenance	4	

RC Weighted Score

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

Franklin Pumping Station Valve Replacement

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

1	**Cost Est. Class**
9/24/2018	**Cost Est. Date**
Bid	**Cost Est. Source**
FM Sylvan	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	Mini Panicker
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY20	$153			2021CIP
GLWA Salaries CIP2021	FY21	$169			2021CIP
GLWA Salaries CIP2021	FY22	$126			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	153	169	126	0	0	0	0	448	295

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	2/1/2019	11/1/2019	273

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Franklin Pumping Station Valve Replacement

132026 CIP#

Phase Construction **Contract** SCP-DWS-064 **Status** Active

Title Construction

RFB-1802146

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

2	**Cost Est. Class**
8/12/2019	**Cost Est. Date**
Bid Tab	**Cost Est. Source**
NA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY20	$296			2021CIP
Construction	FY21	$444			2021CIP
Construction	FY22	$223			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	296	444	223	0	0	0	0	963	667

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	2/1/2019	5/1/2019	89
Procurement	5/1/2019	11/1/2019	184
Project Execution	11/1/2019	12/30/2021	790
Project Closeout	12/31/2021	3/30/2022	89

Franklin Pumping Station Valve Replacement

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	449	613	349	0	0	0	0	1,411	962

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes Newly added CIP

Water Treatment Plant /Pump Station Allowance

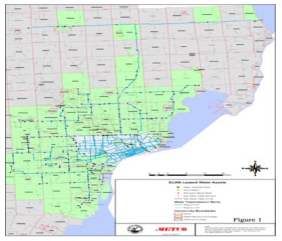
- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Allowance

☐ **Project New To CIP**

GLWA Water Service Area



Project Engineer/Manager Grant Gartrell

Director Grant Gartrell

Managing Dept Water Eng

Date Original Business Case Prepared 10/11/2016

Year Project Added to CIP 2012

Budget Water

Class Lvl 1 Water

Class Lvl 2 Programs

Class Lvl 3 Programs

Location Multiple Counties

Fund and Cost Center Water - 5519-882111

Problem Statement	This allowance is reserved for unplanned, emergency and critical project needs that need to be addressed quickly.
Scope of Work / Project Alternatives	This project is an allowance for unplanned, critical projects that may occur at the Water Treatment Plants and Booster Pump Stations throughout the system. These projects may include repair, replacement or rehabilitation of key assets as required to allow the Authority to provide sufficient water quality, quantity and pressure to meet customer demands in accordance with federal and state requirements under the Safe Drinking Water Act.
Other Important Info	Challenges: Close coordination with operations and ability to jump on needs.
Related Project	none
Primary Driver	Varies
Driver Explanation	Not provided.

Water Treatment Plant /Pump Station Allowance

Phase Construction **Contract** SCP-SP-009 **Status** Closed Out

Title SP-009: Weiss: 1958 Sedimentation Basin

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	170118
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

Water Treatment Plant /Pump Station Allowance

Phase Design Build Assistance **Contract** SCP-CS-1692 **Status** Pending Close-out

Title 170120 - SCP-CS-1692: OHM Advisors: Phosphoric Acid

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Pending Close-out	**Funding Source**	Revenue Financed Capital
Start Date	10/1/2014	**Fund**	Improvement & Extension Fun
End Date	6/30/2016	**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	Ella Dabao
CIP Number	170120
Description	Engineering Design and Construction Phase Services for the replacement of the existing phosphoric acid feed system equipment, replacement of chlorine feed system valves, and concrete restoration for the phosphoric acid secondary containment area.

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY19-	$470			2021CIP
Design-Build	FY20	$29			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
470	29	0	0	0	0	0	0	499	0

Phase Task Dates

Water Treatment Plant /Pump Station Allowance

Phase Construction **Contract** SCP-NE-017 **Status** Closed Out

Title SCP-NE-017: Weiss Construction: Phosphor

170105 - Projects Capitalized/Expensed @FY18 $1,936K

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date	7/27/2015	**Fund**	Construction Bond Fund
End Date	3/27/2017	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	Zahid Jawadi
CIP Number	170105
Description	This project involves replacement of the phosphoric acid feed system piping, metering pumps and day tanks, replacement of one heater coil inside an existing steam generator, replacement of steam and hot water heating units in the pumping building, filter building and administration building, and replacement of condensate return pumping units at various locations through the Northeast Water Treatment Plant

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
-6	0	0	0	0	0	0	0	-6	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Project Execution	1/1/2017	1/1/2017	0

Water Treatment Plant /Pump Station Allowance

Phase Task Name	Start Date	End Date	Duration
Project Closeout	1/2/2017	4/1/2017	89

Phase Construction **Contract** CON-225 **Status** Closed Out

Title CON-225 Orion Booster Station

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
11/1/2017	**Cost Est. Date**
Consultant	**Cost Est. Source**
	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager	Jorge Nicolas
CIP Number	170104
Description	Orion and Newburgh Booster Station Improvements

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$1,561			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
1,561	0	0	0	0	0	0	0	1,561	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Project Execution	8/29/2018	7/26/2019	331
Project Closeout	7/27/2019	10/24/2019	89

Water Treatment Plant /Pump Station Allowance

Phase Construction **Contract** LH-398 **Status** Closed Out

Title SCP-LH-398: Phosphoric Acid Tank Fill Lines

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date	10/26/2015	**Fund**	Construction Bond Fund
End Date	9/16/2016	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	Todd King
CIP Number	170106
Description	This project involves the replacement of the phosphoric acid fill lines at the Lake Huron WTP. There are two fill lines and one has failed. The lines are 20 years old and have reached the end of their service life.

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

Water Treatment Plant /Pump Station Allowance

Phase Design & Construction Assistance **Contract** CS-1656 **Status** Active

Title CS-1656: Applied Science: Flow Measurement

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date	5/27/2014	**Fund**	Construction Bond Fund
End Date	6/30/2018	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	Jorge Nicolas
CIP Number	170102
Description	The objectives of this project are to design and oversee construction of water production flow meters at Northeast, Southwest, and Springwells Water Treatment Plants.

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$234			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
234	0	0	0	0	0	0	0	234	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/19/2014	10/17/2014	90
Procurement	10/18/2014	10/18/2015	365
Project Execution	10/19/2015	5/27/2019	1316
Project Closeout	5/27/2019	9/29/2019	125

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP
Water Treatment Plant /Pump Station Allowance

170100 CIP#

Phase To Be Determined **Contract** NA **Status** Future Planned Start

Title Unallocated Water Treatment Plant /Pump Station Allowance

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	n/a
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Unknown	FY19-	$166			2021CIP
Unknown	FY20	$1,363			2021CIP
Unknown	FY21	$1,359			2021CIP
Unknown	FY22	$1,359			2021CIP
Unknown	FY23	$1,359			2021CIP
Unknown	FY24	$1,363			2021CIP
Unknown	FY25	$1,359			2021CIP
Unknown	FY26+	$51,665			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
166	1,363	1,359	1,359	1,359	1,363	1,359	51,665	59,993	6,799

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Water Treatment Plant /Pump Station Allowance

170100 CIP#

Phase Design & Construction Assistance **Contract** CS-1738 **Status** Closed Out

Title CS-1738: Alfred Benesch: Orion & Newberg

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date	6/5/2015	**Fund**	Construction Bond Fund
End Date	6/2/2017	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
11/1/2016	**Cost Est. Date**
Consultant	**Cost Est. Source**
	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager	Jorge Nicolas
CIP Number	170104
Description	Design, construction administration, and resident project representative services to increase Orion station pumping capacity and to provide an emergency bypass at the Newburgh pumping station.

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$85			2021CIP
Engineering Services	FY20	$32			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
85	32	0	0	0	0	0	0	117	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Project Execution	7/1/2017	8/14/2019	774
Project Closeout	8/15/2019	11/12/2019	89

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP
Water Treatment Plant /Pump Station Allowance

170100 CIP#

Phase Construction **Contract** SCP-DWS-059 **Status** Closed Out

Title SCP-DWS-059: CA Hull: Intake Lagoon

170107 - Projects Capitalized/Expensed @FY18 $298K

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date	6/10/2016	**Fund**	Construction Bond Fund
End Date	12/1/2016	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	Grant Gartrell
CIP Number	170107
Description	Construct structural improvements to the main entrance bridge and intake building that provides access to GLWA's water supply intake and lagoon on Belle Isle. This intake supplies raw water to three of GLWA's water treatment plants: Northeast, Springwells, and Water Works Park.

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$25			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
25	0	0	0	0	0	0	0	25	0

Phase Task Dates

Water Treatment Plant /Pump Station Allowance

Phase Design & Construction Assistance **Contract** CS-1432A **Status** Closed Out

Title CS-1432A Belle Isle Water Station

170103

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date	2/1/2016	**Fund**	Construction Bond Fund
End Date	8/1/2018	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	Todd King
CIP Number	170103
Description	Construct the Replacement and Reinforcement of the three 90 ft-long Belle Isle Intake Ice Booms per the design documents prepared by Benesch under CS-1432A Task 45.

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$3			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
3	0	0	0	0	0	0	0	3	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Project Execution	8/8/2017	7/18/2018	344
Project Closeout	7/20/2018	4/24/2019	278

Water Treatment Plant /Pump Station Allowance

Phase Construction **Contract** SCP-NE-007 **Status** Active

Title SCP-NE-007: DeCal: Instrument Air Compressor

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Revenue Financed Capital
Start Date	7/10/2014	**Fund**	Improvement & Extension Fun
End Date	4/1/2015	**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	Zahid Jawadi
CIP Number	170117
Description	This project involves installation of new instrument air compressor system at Northeast Water Treatment Plant

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

Water Treatment Plant /Pump Station Allowance

Phase Construction **Contract** DWS-063 **Status** Active

Title DWS-063 Adams Road Water Isolation Gate

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date	11/1/2017	**Fund**	Construction Bond Fund
End Date	6/30/2019	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	Biren Saparia
CIP Number	170108
Description	Renovation and Upgrade of Suction and Discharge valves for Adams Road Water Booster Station.

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

Water Treatment Plant /Pump Station Allowance

Phase Construction **Contract** SW-011 **Status** Pending Close-out

Title SW-011, Alfred Benesh: Heating Improvements

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Pending Close-out	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	170111
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

Water Treatment Plant /Pump Station Allowance

Phase Design **Contract** CS-1630 **Status** Closed Out

Title CS-1630: Black & Veatch: Master Specs

Phase Budget	Water	Cost Allocation	CTA
Phase Status	Closed Out	Funding Source	Revenue Financed Capital
Start Date		Fund	Improvement & Extension Fun
End Date		Useful Life >20Yrs?	No
		Tot. Federal Loan Amount	

Cost Estimation Information

5	Cost Est. Class
	Cost Est. Date
	Cost Est. Source
	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager	
CIP Number	170101
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

Water Treatment Plant /Pump Station Allowance

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	n/a
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$156			2021CIP
GLWA Salaries CIP2021	FY20	$126			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
156	126	0	0	0	0	0	0	282	0

Phase Task Dates

Water Treatment Plant /Pump Station Allowance

Phase not applicable **Contract** NA **Status** Closed Out

Title Prior Year Actual Expenses

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	
Start Date		**Fund**	
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2018	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	n/a
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
n/a	FY19-	$6,404			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
6,404	0	0	0	0	0	0	0	6,404	0

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP
Water Treatment Plant /Pump Station Allowance

170100 CIP#

Phase Study **Contract** CS-187 **Status** Active

Title GLWA-CS-187: FK Eng: Raw Water Intake

Was formerly GLWA-SCP-CS-1623, change order added funds and changed contract number to GLWA-CS-187.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Revenue Financed Capital
Start Date	3/17/2014	**Fund**	Improvement & Extension Fun
End Date	12/12/2019	**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	Maher Abbasi
CIP Number	170109
Description	This project involves the comprehensive inspection, condition assessment and engineering evaluation of GLWA's three raw water intakes, raw water conveyance tunnels and related raw water facilities (gate structures and tunnel access shafts) by a licensed professional engineering firm with significant experience in geotechnical, tunnel and structural engineering evaluations and condition assesments.

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$399			2021CIP
Engineering Services	FY20	$263			2021CIP
Engineering Services	FY21	$140			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
399	263	140	0	0	0	0	0	802	140

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Project Execution	7/1/2018	12/12/2019	529

Phase Design **Contract** CS-1674 **Status** Closed Out

Title CS-1674: Testing Engineers: Roof Inspect

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	170116
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

Water Treatment Plant /Pump Station Allowance

Phase Construction **Contract** SCP-CON-094 **Status** Closed Out

Title SCP-CON-094: Z Contr: Belle Isle Water Station

Projects Capitalized/Expensed @FY18 $287K

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	Bond Proceeds
Start Date	2/1/2016	**Fund**	Construction Bond Fund
End Date	8/1/2018	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	Todd King
CIP Number	170103
Description	Construct the Replacement and Reinforcement of the three 90 ft-long Belle Isle Intake Ice Booms per the design documents prepared by Benesch under CS-1425A Task 45.

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$250			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
250	0	0	0	0	0	0	0	250	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Project Execution	8/8/2017	7/18/2018	344
Project Closeout	7/20/2018	4/24/2019	278

Water Treatment Plant /Pump Station Allowance

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	9,747	1,813	1,499	1,359	1,359	1,363	1,359	51,665	70,164	6,939
2020	0	0	6,635	3,176	3,000	3,000	3,000	3,000	3,000	15,000	0	39,811	15,000
2019	0	6,777	1,597	4,296	3,058	3,144	3,000	3,000	15,000	0	0	39,872	16,498
2018		10,000	10,000	20,000	20,000	19,650	12,645		0	0	0	92,295	82,295

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes Updated CIP to reflect contract costs incurred to date since last year's CIP update as well as projected expenditures since last year's CIP update.

As-Needed Construction Materials, Environmental Media and Special Testing Services,

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Allowance

☐ **Project New To CIP**

Example of concrete testing

Project Engineer/Manager Peter Fromm
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 6/26/2014
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Programs
Class Lvl 3 Programs
Location Multiple Counties
Fund and Cost Center Water - 5519-882111

Problem Statement	GLWA engineering and operations need a contract mechanism to obtain professional engineering services in a timely manner to investigate environmental, geotechnical and specialized engineering problems that occur on a regular basis throughout the system.
Scope of Work / Project Alternatives	This engineering/technical services contract involves as-needed engineering and technical services related to geotechnical investigations and related geotechnical engineering, construction materials sampling and testing, environmental media sampling and testing, soils sampling and testing, land surveying, corrosion testing and inspection, computer-aided design, and construction inspection.
Primary Driver	Varies
Driver Explanation	Due to the nature, size and complexity of the GLWA water system, this CIP provides timely access to specialized engineering services.

As-Needed Construction Materials, Environmental Media and Special Testing Services,

Phase Study and Design and Construction Assistance **Contract** CS-201 **Status** Active

Title Study/Design/Construction Administration

Engineering Services Contract No. CS-201, PSI (active)

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

1	**Cost Est. Class**
1/1/2017	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$42			2021CIP
Engineering Services	FY20	$666			2021CIP
Engineering Services	FY21	$685			2021CIP
Engineering Services	FY22	$9			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
42	666	685	9	0	0	0	0	1,402	694

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	6/1/2017	9/29/2017	120
Procurement	9/30/2017	5/23/2018	235
Project Execution	5/23/2018	7/5/2021	1139

As-Needed Construction Materials, Environmental Media and Special Testing Services,

Phase not applicable **Contract** NA **Status** Closed Out

Title Prior Year Actual Expenses

Phase Budget	Water	Cost Allocation	CTA
Phase Status	Closed Out	Funding Source	
Start Date		Fund	
End Date		Useful Life >20Yrs?	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	Cost Est. Class
1/1/2015	Cost Est. Date
GLWA	Cost Est. Source
GLWA	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

As-Needed Construction Materials, Environmental Media and Special Testing Services,

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$22			2021CIP
GLWA Salaries CIP2021	FY20	$391			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
22	391	0	0	0	0	0	0	413	0

Phase Task Dates

As-Needed Construction Materials, Environmental Media and Special Testing Services,

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	64	1,057	685	9	0	0	0	0	1,815	694
2020	0	0	2	472	572	572	0	0	0	0	0	1,618	1,144
2019	0		172	472	572	572				0	0	1,788	1,616
2018			500	500	500				0	0	0	1,500	1,500

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Updated the engineering start and finish dates. Up-dated the Contract Number. 2018
No changes were made to this CIP from last fiscal year. PF 8/9/2019

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP
Water Treatment Plant Automation Program

170300 CIP#

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Program

☐ **Project New To CIP**

Project Engineer/Manager Jeffrey Dorsey
Director Terry Daniel
Managing Dept Water Eng
Date Original Business Case Prepared 4/27/2017
Year Project Added to CIP 2017

Budget Water
Class Lvl 1 Water
Class Lvl 2 Programs
Class Lvl 3 Programs
Location Multiple Counties
Fund and Cost Center Water - 5519-882111

Problem Statement	The automation design and construction project comes from recommendations that identified existing station process data conditions, station needs, GLWA mission critical assets, alternative improvement options to address identified needs, recommended improvements to address the needs, prioritized projects based on the GLWA CIP scoring tool, and scheduling for making the improvements along with associated capital improvement budgets associated with each project established under CS-108.
Scope of Work / Project Alternatives	The purpose of this project is to implement the recommendations from CS-108 that are prioritized in five (5) year increments with an estimated cost of $1 million dollars per year over a twenty (20) year span.
Other Important Info	Challenge: Standardization of multiple different data process equipment already installed throughout the 5 plants could be a problem. Project History: The GLWA Water Operations division is comprised of five water treatment plants. Each plant has process areas ranging from intake, sedimentation, chlorination, filtration and distribution systems. One of the directives from the organizational objectives is to provide the treatment plants with automation. This automation would be one of the main drivers for increased efficiency in data monitoring and regulatory reporting and reduced workload and maintenance cost. The recommendations from this assessment will be the catalyst for automation projects at the pumping stations over the next 20-year planning period. In addition, the recommendations from this assessment are required to be prioritized in 5-year increments with estimated costs.
Related Project	n/a
Primary Driver	8 - Efficiency

Driver Explanation	This automation would be one of the main drivers for increased efficiency in data monitoring and regulatory reporting and reduced workload and maintenance cost.

Water Treatment Plant Automation Program

Phase Design and Build **Contract** TBD **Status** Future Planned Start

Title WTP Ovation Workstation Upgrade Project

This project will upgrade the Ovation workstation software to version 3.7 at all 5 WTPs. Also, it will include new workstation computers, monitors, desks, secure panels and switches.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
9/9/2019	**Cost Est. Date**
glwa	**Cost Est. Source**
glwa	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY20	$200			2021 CIP
Design-Build	FY21	$800			2021 CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	200	800	0	0	0	0	0	1,000	800

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2019	9/28/2019	89
Procurement	9/29/2019	3/26/2020	179
Project Execution	3/27/2020	4/30/2021	399
Project Closeout	5/1/2021	7/29/2021	89

Water Treatment Plant Automation Program

Phase Design and Build **Contract** TBD **Status** Future Planned Start

Title Northeast WTP SCADA System Critical Infrastructure Upgrade Project

This project will upgrade the SCADA system at Northeast WTP. This will include following the standards from the SCADA governance document that will be used to upgrade the network topology, routers, servers, fiber installations, panels, controllers, management and security, software and graphics.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
9/9/2019	**Cost Est. Date**
glwa	**Cost Est. Source**
glwa	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY23	$439			2021CIP
Design-Build	FY24	$561			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	439	561	0	0	1,000	1,000

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	2/1/2022	5/1/2022	89
Procurement	5/2/2022	10/28/2022	179
Project Execution	10/29/2022	11/30/2023	397

Phase Task Name	Start Date	End Date	Duration
Project Closeout	12/1/2023	2/28/2024	89

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2017	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$1			2021CIP
GLWA Salaries CIP2021	FY20	$124			2021CIP
GLWA Salaries CIP2021	FY21	$124			2021CIP
GLWA Salaries CIP2021	FY22	$124			2021CIP
GLWA Salaries CIP2021	FY23	$19			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
1	124	124	124	19	0	0	0	392	267

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP
Water Treatment Plant Automation Program

170300 CIP#

Phase To Be Determined **Contract** NA **Status** Future Planned Start

Title Unallocated Water Treatment Plant Automation Program

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2017	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$1,657			2021CIP
Construction	FY20	$2,481			2021CIP
Construction	FY21	$2,474			2021CIP
Construction	FY22	$2,264			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
1,657	2,481	2,474	2,264	0	0	0	0	8,876	4,738

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Project Execution	5/31/2017	5/30/2022	1825
Project Closeout	5/31/2022	8/28/2022	89

Water Treatment Plant Automation Program

Phase Design **Contract** CS-108 **Status** Pending Close-out

Title CS-108, Arcadis, WTP Automation

CS-108 Arcadis of Michigan

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Pending Close-out	**Funding Source**	Revenue Financed Capital
Start Date	1/1/2017	**Fund**	Improvement & Extension Fun
End Date	5/31/2017	**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2017	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	Jeffrey Dorsey
CIP Number	170301
Description	Project was formerly 170113. This project will provide auditing and a condition assessment of process data networks at each water plant. Additionaly, it will provide recommendations on the conductivity of each process area within those plants using the model of Ovation as supervisroy monitoring and or control and PLC's for process control where applicable.

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

Water Treatment Plant Automation Program

Phase Design and Build **Contract** TBD **Status** Future Planned Start

Title Springwells WTP SCADA System Critical Infrastructure Upgrade Project

This project will upgrade the SCADA system at Water Works Park WTP. This will include following the standards from the SCADA governance document that will be used to upgrade the network servers, switch locations, panels, controllers, management and security, software and graphics.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
9/9/2019	**Cost Est. Date**
glwa	**Cost Est. Source**
glwa	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY23	$542			2021CIP
Design-Build	FY24	$458			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	542	458	0	0	1,000	1,000

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2021	9/28/2021	89
Procurement	9/29/2021	10/1/2022	367
Project Execution	10/2/2022	10/31/2023	394

Phase Task Name	Start Date	End Date	Duration
Project Closeout	11/1/2023	1/29/2024	89

Water Treatment Plant Automation Program

Phase Study **Contract** TBD **Status** Future Planned Start

Title WTP Cyber Security Vulnerability Study Project

This project will perform thorough network penetration testing and cybersecurity assessment to provide complete understanding of potential vulnerabilities and risks to the 5 WTPs. Also, there will be evaluation of the network configuration for all switches and routers, and implementation of network monitoring and traffic analyzer tools.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
9/9/2019	**Cost Est. Date**
glwa	**Cost Est. Source**
glwa	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY24	$315			2021CIP
Engineering Services	FY25	$125			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	315	125	0	440	440

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	5/1/2023	7/29/2023	89
Procurement	7/30/2023	1/25/2024	179
Project Execution	1/26/2024	8/31/2024	218

Phase Task Name	Start Date	End Date	Duration
Project Closeout	9/1/2024	11/29/2024	89

Water Treatment Plant Automation Program

Phase Design and Build **Contract** TBD **Status** Future Planned Start

Title SCADA Asset Management Software (AMS) Project

This project will implement asset health monitoring solutions for critical assets at all 5 WTPs. Also, smart field devices to integrate into the AMS will be installed, and dashboard and reporting capabilities will be implemented.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
9/9/2019	**Cost Est. Date**
glwa	**Cost Est. Source**
glwa	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY24	$109			2021CIP
Design-Build	FY25	$391			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	109	391	0	500	500

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/1/2022	12/29/2022	89
Procurement	12/30/2022	12/29/2023	364
Project Execution	12/30/2023	12/28/2024	364
Project Closeout	12/29/2024	3/28/2025	89

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Water Treatment Plant Automation Program

170300 CIP#

Phase Design and Build **Contract** TBD **Status** Future Planned Start

Title Southwest WTP SCADA System Critical Infrastructure Upgrade Project

This project will upgrade the SCADA system at Southwest WTP. This will include following the standards from the SCADA governance document that will be used to upgrade the network topology, servers, fiber installations, panels, controllers, software, graphics and Device Net removal.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
9/9/2019	**Cost Est. Date**
glwa	**Cost Est. Source**
glwa	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY20	$403			2021CIP
Design-Build	FY21	$2,042			2021CIP
Design-Build	FY22	$555			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	403	2,042	555	0	0	0	0	3,000	2,597

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2019	9/3/2019	64
Procurement	9/4/2019	3/1/2020	179

Phase Task Name	Start Date	End Date	Duration
Project Execution	3/2/2020	9/30/2021	577
Project Closeout	10/1/2021	12/29/2021	89

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Water Treatment Plant Automation Program

170300 CIP#

Phase Design and Build **Contract** TBD **Status** Future Planned Start

Title Water Works Park WTP SCADA System Critical Infrastructure Upgrade Project

This project will upgrade the SCADA system at Water Works Park WTP. This will include following the standards from the SCADA governance document that will be used to upgrade the network topology, routers, servers, fiber installations, panels, controllers, management and security, software and graphics.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
9/9/2019	**Cost Est. Date**
glwa	**Cost Est. Source**
glwa	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY23	$211			2021CIP
Design-Build	FY24	$1,305			2021CIP
Design-Build	FY25	$484			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	211	1,305	484	0	2,000	2,000

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2022	9/28/2022	89
Procurement	9/29/2022	3/27/2023	179

Phase Task Name	Start Date	End Date	Duration
Project Execution	3/28/2023	10/30/2024	582
Project Closeout	10/31/2024	1/28/2025	89

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP
Water Treatment Plant Automation Program

170300 CIP#

Phase Study **Contract** TBD **Status** Future Planned Start

Title WTP Wireless Network Implementation Study Project

This project will perform a study to identify the need and implementation of wireless network technology for monitoring of the SCADA network at all 5 WTPs.

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
9/9/2019	**Cost Est. Date**
glwa	**Cost Est. Source**
glwa	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY24	$369			2021CIP
Engineering Services	FY25	$151			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	369	151	0	520	520

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	5/1/2023	7/31/2023	91
Procurement	8/1/2023	1/31/2024	183
Project Execution	2/1/2024	8/31/2024	212
Project Closeout	9/1/2024	11/29/2024	89

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	1,658	3,208	5,440	2,943	1,211	3,117	1,151	0	18,728	13,862
2020	0	0	1,377	61	1,561	1,561	1,561	1,514	105	0	0	7,740	6,302
2019	0	13	1,425	61	1,561	1,561	1,561	1,514	105	0	0	7,801	6,258
2018			1,500	1,500	1,500	1,500	1,500		0	0	0	7,500	7,500

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Program

☐ **Project New To CIP**

Example of a failed water main

Project Engineer/Manager Todd King
Director Todd King
Managing Dept Field Services
Date Original Business Case Prepared 4/27/2017
Year Project Added to CIP 2010

Budget Water
Class Lvl 1 Water
Class Lvl 2 Programs
Class Lvl 3 Programs
Location Multiple Counties
Fund and Cost Center Water - 5519-882111

Problem Statement	Assessing, rehabilitating or replacing aging transmission mains in the water system
Scope of Work / Project Alternatives	This project is a yearly funding allocation for the design and/or construction work for the rehabilitation or replacement/construction of aging water transmission lines and all appurtenances, connections and related structures.
Other Important Info	O&M manuals, GIS, Section Maps and Gate Books are available for reference. Project History: There are many critical assets that are required to be operated in the transmission system and this yearly allowance is needed to meet the critical needs of these assets. Challenges: May require shut down of large pumps, isolation or shutdown of large mains etc.
Related Project	n/a
Primary Driver	

Phase Construction **Contract** TBD **Status** Future Planned Start

Title ANR Package 2

Phase Budget	Water	Cost Allocation	CTA
Phase Status	Future Planned Start	Funding Source	Bond Proceeds
Start Date		Fund	Construction Bond Fund
End Date		Useful Life >20Yrs?	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	3/16/2031	6/13/2031	89
Procurement	6/14/2031	3/9/2032	269
Project Execution	3/10/2032	3/11/2035	1096
Project Closeout	3/12/2035	6/9/2035	89

Phase Design **Contract** TBD **Status** Future Planned Start

Title SAR Package 3

Phase Budget	Water	Cost Allocation	CTA
Phase Status	Future Planned Start	Funding Source	Bond Proceeds
Start Date		Fund	Construction Bond Fund
End Date		Useful Life >20Yrs?	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	11/7/2034	2/4/2035	89
Procurement	2/5/2035	8/3/2035	179
Project Execution	8/4/2035	8/5/2039	1462
Project Closeout	8/6/2039	11/3/2039	89

Phase Design **Contract** TBD **Status** Future Planned Start

Title SAR Package 1

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY26+	$73			2021 CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	73	73	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/29/2026	1/26/2027	89
Procurement	1/27/2027	7/25/2027	179
Project Execution	7/26/2027	7/25/2028	365
Project Closeout	7/28/2031	10/25/2031	89

Phase Construction **Contract** NA **Status** Future Planned Start

Title Unallocated Water Transmission Improvement Program

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Water Transmission Improvement Program

Phase Design **Contract** NA **Status** Future Planned Start

Title Water Transmission Improvement Program

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$33			2021CIP
Engineering Services	FY20	$1,781			2021CIP
Engineering Services	FY21	$1,776			2021CIP
Engineering Services	FY22	$1,776			2021CIP
Engineering Services	FY23	$1,776			2021CIP
Engineering Services	FY24	$1,781			2021CIP
Engineering Services	FY25	$1,046			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
33	1,781	1,776	1,776	1,776	1,781	1,046	0	9,969	8,155

Phase Task Dates

Phase Construction **Contract** TBD **Status** Future Planned Start

Title ANR Package 1

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY26+	$4,915			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	4,915	4,915	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	2/2/2029	9/4/2029	214
Procurement	9/5/2029	9/5/2029	0
Project Execution	9/5/2029	9/5/2032	1096
Project Closeout	9/6/2032	12/4/2032	89

Phase Construction **Contract** TBD **Status** Future Planned Start

Title SAR Package 3

Phase Budget	Water	Cost Allocation	CTA
Phase Status	Future Planned Start	Funding Source	Bond Proceeds
Start Date		Fund	Construction Bond Fund
End Date		Useful Life >20Yrs?	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	11/8/2035	2/6/2036	90
Procurement	2/6/2036	8/3/2036	179
Project Execution	8/4/2036	8/5/2039	1096
Project Closeout	8/6/2039	11/3/2039	89

Phase Design **Contract** TBD **Status** Future Planned Start

Title SAR Package 2

Phase Budget	Water	Cost Allocation	CTA
Phase Status	Future Planned Start	Funding Source	Bond Proceeds
Start Date		Fund	Construction Bond Fund
End Date		Useful Life >20Yrs?	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	5/4/2032	8/1/2032	89
Procurement	8/2/2032	1/28/2033	179
Project Execution	1/29/2033	1/30/2037	1462
Project Closeout	1/31/2037	4/30/2037	89

Phase Construction **Contract** DBW-070 **Status** Cancelled

Title DBW-070 Weiss: Lapper County Chlor Booster

170403 -Expenses Reallocated

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Cancelled	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	170403
Description	DBW-070 Weiss: Lapper County Chlor Booster

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

Phase Construction **Contract** TBD **Status** Future Planned Start

Title SAR Package 2

Phase Budget	Water	Cost Allocation	CTA
Phase Status	Future Planned Start	Funding Source	Bond Proceeds
Start Date		Fund	Construction Bond Fund
End Date		Useful Life >20Yrs?	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	5/5/2033	8/3/2033	90
Procurement	8/3/2033	1/29/2034	179
Project Execution	1/30/2034	1/30/2037	1096
Project Closeout	1/31/2037	4/30/2037	89

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$1			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
1	0	0	0	0	0	0	0	1	0

Phase Task Dates

Phase Construction **Contract** SCP-DWS-018 **Status** Cancelled

Title SCP-DWS-018: Z Contract: Ypsilanti Pumping Station By-Pass Valve

170401- Expenses Reallocated

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Cancelled	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	Eric Kramp
CIP Number	170401
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$1,453			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
1,453	0	0	0	0	0	0	0	1,453	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Procurement	11/16/2016	11/21/2016	5
Project Execution	11/22/2016	5/31/2018	555
Project Closeout	5/31/2018	7/1/2019	396

Phase Construction **Contract** TBD **Status** Future Planned Start

Title SAR Package 1

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY26+	$11,590			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	11,590	11,590	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/30/2027	1/28/2028	90
Procurement	1/28/2028	7/25/2028	179
Project Execution	7/26/2028	7/27/2031	1096
Project Closeout	7/28/2031	10/25/2031	89

Phase Construction **Contract** NA **Status** Pending Close-out

Title Internal Inspection of GLWA 84" Transmission Main in Troy

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Pending Close-out	**Funding Source**	Bond Proceeds
Start Date	11/21/2016	**Fund**	Construction Bond Fund
End Date	9/30/2017	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	Biren Saparia
CIP Number	170402
Description	Manned visual, sounding and electromagnetic inspection of 84" water main

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$156			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
156	0	0	0	0	0	0	0	156	0

Phase Task Dates

Phase Construction **Contract** TBD **Status** Future Planned Start

Title ANR Package 3

Phase Budget	Water	Cost Allocation	CTA
Phase Status	Future Planned Start	Funding Source	Bond Proceeds
Start Date		Fund	Construction Bond Fund
End Date		Useful Life >20Yrs?	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	9/18/2033	12/16/2033	89
Procurement	12/17/2033	9/12/2034	269
Project Execution	9/13/2034	9/13/2037	1096
Project Closeout	9/14/2037	12/12/2037	89

Phase not applicable **Contract** NA **Status** Closed Out

Title Prior Year Actual Expenses

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	
Start Date		**Fund**	
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	1,643	1,781	1,776	1,776	1,776	1,781	1,046	16,578	28,157	8,155
2020	0	0	156	1,000	1,500	2,000	2,000	2,000	2,000	100,000	0	110,656	9,500
2019	0	1,075	229	1,000	1,500	2,000	2,000	2,000	2,000	0	0	11,804	8,500
2018			10,000	11,000	9,000	11,000	9,000		0	0	0	50,000	50,000

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Transmission System Valve Rehabilitation and Replacement Program

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Program

☐ **Project New To CIP**

A large valve for a transmission pipe

Project Engineer/Manager Todd King
Director Todd King
Managing Dept Field Services
Date Original Business Case Prepared 7/29/2016
Year Project Added to CIP 2017

Budget Water
Class Lvl 1 Water
Class Lvl 2 Programs
Class Lvl 3 Programs
Location Multiple Counties
Fund and Cost Center Water - 5519-882111

Problem Statement	Replacement/Rehabilitation of GLWA Transmission System Gate Valves will aid in implementing a regular valve exercising program as recommended by AWWA as well as increase the reliability of the transmission system.
Scope of Work / Project Alternatives	Evaluate the existing conditions, provide the necessary replacement/ rehabilitation option, design and implement them.
Other Important Info	GIS, Section Maps and Gate Books are available for reference. Project History: There are critical valves that are required to be closed during a main break or an emergency situation. There has not been a regular valve exercising program in past 15 years in the DWSD/GLWA System. Challenges: May require shutdown of large transmission mains.
Related Project	CON-181, Water Transmission Main Assessment Repair
Primary Driver	1 - Condition
Driver Explanation	Conditions of many of the gate valves are unknown and unreliable.

Transmission System Valve Rehabilitation and Replacement Program

Phase Design **Contract** TBD **Status** Future Planned Start

Title SAR Package 1

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY26+	$1,000			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	1,000	1,000	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/29/2026	1/26/2027	89
Procurement	1/27/2027	7/25/2027	179
Project Execution	7/26/2027	7/27/2031	1462
Project Closeout	7/28/2031	10/25/2031	89

Transmission System Valve Rehabilitation and Replacement Program

Phase not applicable **Contract** NA **Status** Closed Out

Title Prior Year Actual Expenses

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	
Start Date		**Fund**	
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

Transmission System Valve Rehabilitation and Replacement Program

Phase Design **Contract** TBD **Status** Future Planned Start

Title SAR Package 3

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	11/7/2034	2/4/2035	89
Procurement	2/5/2035	8/3/2035	179
Project Execution	8/4/2035	8/5/2039	1462
Project Closeout	8/6/2039	11/3/2039	89

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Transmission System Valve Rehabilitation and Replacement Program

170500 CIP#

Phase Construction **Contract** CON-181 **Status** Active

Title CON-181 Transmission System Valve Replacement/Rehabilitation

Water Transmission Main Assessment/Repair - 170502 - Projects Capitalized/Expensed @FY18 $3,182K

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date	8/1/2017	**Fund**	Construction Bond Fund
End Date	6/30/2019	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	Todd King
CIP Number	170502
Description	This Contract is to perform the as needed evaluation of the existing conditions of the transmission system valves, provide the replacement/rehabilitation options, design and installation.

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$3,413			2021CIP
Construction	FY21	$988			2021CIP
Construction	FY22	$2,910			2021CIP
Construction	FY23	$2,910			2021CIP
Construction	FY24	$2,918			2021CIP
Construction	FY25	$2,910			2021CIP
Construction	FY26+	$1,913			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
3,413	-298	988	2,910	2,910	2,918	2,910	1,913	17,664	12,636

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2018	10/1/2018	92
Procurement	10/2/2018	2/26/2021	878
Project Execution	2/27/2021	2/25/2026	1824
Project Closeout	2/26/2026	5/27/2026	90

Transmission System Valve Rehabilitation and Replacement Program

Phase Construction **Contract** TBD **Status** Future Planned Start

Title ANR Package 2

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	2/18/2036	5/17/2036	89
Procurement	5/18/2036	2/11/2037	269
Project Execution	2/12/2037	2/13/2040	1096
Project Closeout	2/14/2040	5/13/2040	89

Transmission System Valve Rehabilitation and Replacement Program

Phase Construction **Contract** TBD **Status** Future Planned Start

Title SAR Package 1

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY26+	$1,605			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	1,605	1,605	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	10/30/2027	1/28/2028	90
Procurement	1/28/2028	7/25/2028	179
Project Execution	7/26/2028	7/27/2031	1096
Project Closeout	7/28/2031	10/25/2031	89

Transmission System Valve Rehabilitation and Replacement Program

Phase Design and Build **Contract** NA **Status** Active

Title Unallocated Transmission System Valve Assessment and Rehabilitation/Replacement

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date	8/1/2017	**Fund**	Construction Bond Fund
End Date	7/30/2019	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY19-	$312			2021CIP
Design-Build	FY20	$761			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
312	761	0	0	0	0	0	0	1,073	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2018	7/1/2019	365
Procurement	10/2/2018	10/15/2018	13
Project Execution	10/16/2018	2/25/2026	2689
Project Closeout	2/26/2026	5/27/2026	90

Transmission System Valve Rehabilitation and Replacement Program

Phase Construction **Contract** TBD **Status** Future Planned Start

Title ANR Package 1

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	2/2/2029	9/4/2029	214
Procurement	9/5/2029	8/9/2034	1799
Project Execution	8/10/2034	8/10/2037	1096
Project Closeout	8/11/2037	11/8/2037	89

Transmission System Valve Rehabilitation and Replacement Program

Phase Construction **Contract** TBD **Status** Future Planned Start

Title ANR Package 3

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	8/23/2038	11/20/2038	89
Procurement	11/21/2038	8/17/2039	269
Project Execution	8/18/2039	8/18/2042	1096
Project Closeout	8/19/2042	11/16/2042	89

Transmission System Valve Rehabilitation and Replacement Program

Phase Construction **Contract** TBD **Status** Future Planned Start

Title SAR Package 2

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	5/5/2033	8/3/2033	90
Procurement	8/3/2033	1/29/2034	179
Project Execution	1/30/2034	1/30/2037	1096
Project Closeout	1/31/2037	4/30/2037	89

Transmission System Valve Rehabilitation and Replacement Program

Phase Design **Contract** TBD **Status** Future Planned Start

Title SAR Package 2

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	5/4/2032	8/1/2032	89
Procurement	8/2/2032	1/28/2033	179
Project Execution	1/29/2033	1/30/2037	1462
Project Closeout	1/31/2037	4/30/2037	89

Transmission System Valve Rehabilitation and Replacement Program

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$3,434			2021CIP
GLWA Salaries CIP2021	FY20	$179			2021CIP
GLWA Salaries CIP2021	FY21	$189			2021CIP
GLWA Salaries CIP2021	FY22	$209			2021CIP
GLWA Salaries CIP2021	FY23	$265			2021CIP
GLWA Salaries CIP2021	FY24	$292			2021CIP
GLWA Salaries CIP2021	FY25	$293			2021CIP
GLWA Salaries CIP2021	FY26+	$266			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
3,434	179	189	209	265	292	293	266	5,127	1,248

Phase Task Dates

Transmission System Valve Rehabilitation and Replacement Program

Phase Construction **Contract** TBD **Status** Future Planned Start

Title SAR Package 3

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	11/8/2035	2/6/2036	90
Procurement	2/6/2036	8/3/2036	179
Project Execution	8/4/2036	8/5/2039	1096
Project Closeout	8/6/2039	11/3/2039	89

Transmission System Valve Rehabilitation and Replacement Program

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	7,159	642	1,177	3,119	3,175	3,210	3,203	4,784	26,469	13,884
2020	0	0	3,430	4,000	4,000	3,274	4,000	4,000	4,000	10,000	0	36,704	19,274
2019	0		2,000	4,000	4,000	3,274	726	4,000	4,000	0	0	22,000	16,000
2018			2,930	3,100	3,100	3,100	3,100		0	0	0	15,330	15,330

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP
Water Transmission Main Asset Assessment Program

170600 CIP#

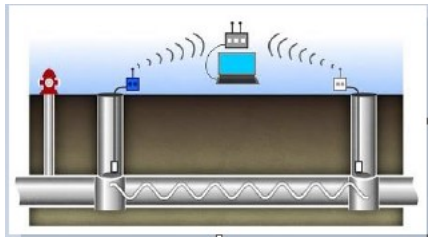
- [x] Innovation
- [ ] Conceptual WW MP
- [ ] Water MP Right Sizing
- [ ] Reliability/Redundancy
- [ ] NEWTP Repurposing

Project Status Active

CIP Type Program

- [ ] **Project New To CIP**

Example of pressure main assessment technology



Project Engineer/Manager Todd King
Director Todd King
Managing Dept Field Services
Date Original Business Case Prepared 8/2/2016
Year Project Added to CIP 2017

Budget Water
Class Lvl 1 Water
Class Lvl 2 Programs
Class Lvl 3 Programs
Location Multiple Counties
Fund and Cost Center Water - 5519-882111

Problem Statement	Many of the water mains serving the GLWA service area were installed in the early part of the 20th century or the later part of the 19th century, and are now reaching the end of their useful life span. This project will pilot and utilize new technologies to accurately identify the condition of these buried assets by constructing access ways for inspection and the installation of sensors and fiber optic cables for real-time monitoring of condition. It's essential for cost-efficient repair and replacement programs which in turn will increase the reliability and performance of the system.
Scope of Work / Project Alternatives	Construct access structures and utilize new technology to evaluate the existing conditions of the transmission system. Construction of in place sensors and cables may be necessary to adequately access condition. Provide the necessary recommendation for replacement and rehabilitation.
Other Important Info	*Innovation Note: Consider new techniques for water main assessment. GIS, Section Maps and Gate Books are available for reference. Challenges: Gaining access to inspect buried pipes is difficult, disruptive and costly. However, there are ways to monitor and test the condition of the piping and methods of performing condition assessment. Project History: There are many critical assets that are required to be operated in the transmission main, but the authority doesn't know the existing conditions. For planning purposes, information about the actual condition of pipes is needed and there has not been a regular condition assessment program related to the transmission System (pipes greater than 24").
Related Project	n/a
Primary Driver	1 - Condition

Driver Explanation	Conditions of many of the gate valves are unknown and unreliable.

Water Transmission Main Asset Assessment Program

Phase Design **Contract** TBD **Status** Future Planned Start

Title Assessment Package 1

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY26+	$9,000			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	9,000	9,000	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2025	1/31/2026	214
Procurement	2/1/2026	2/1/2026	0
Project Execution	2/1/2026	2/1/2029	1096
Project Closeout	2/2/2029	5/2/2029	89

Water Transmission Main Asset Assessment Program

Phase Design **Contract** TBD **Status** Future Planned Start

Title Assessment Package 3

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	2/14/2030	5/14/2030	89
Procurement	5/15/2030	2/8/2031	269
Project Execution	2/9/2031	2/9/2034	1096
Project Closeout	2/10/2034	5/10/2034	89

Water Transmission Main Asset Assessment Program

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY20	$54			2021CIP
GLWA Salaries CIP2021	FY21	$54			2021CIP
GLWA Salaries CIP2021	FY22	$54			2021CIP
GLWA Salaries CIP2021	FY23	$54			2021CIP
GLWA Salaries CIP2021	FY24	$54			2021CIP
GLWA Salaries CIP2021	FY25	$65			2021CIP
GLWA Salaries CIP2021	FY26+	$351			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	54	54	54	54	54	65	351	686	281

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP
Water Transmission Main Asset Assessment Program

170600 CIP#

Phase Design and Build **Contract** NA **Status** Active

Title Unallocated Water Transmission Main Asset Assessment Program

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

5	**Cost Est. Class**
8/1/2018	**Cost Est. Date**
	Cost Est. Source
	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY23	$721			2021CIP
Design-Build	FY24	$2,129			2021CIP
Design-Build	FY25	$4,118			2021CIP
Design-Build	FY26+	$8,405			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	721	2,129	4,118	8,405	15,373	6,968

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2018	1/1/2019	184
Procurement	1/1/2019	2/26/2023	1517
Project Execution	2/27/2023	2/25/2027	1459
Project Closeout	2/26/2027	5/27/2027	90

Phase Design **Contract** TBD **Status** Future Planned Start

Title Assessment Package 2

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY26+	$5,694			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	5,694	5,694	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	8/12/2027	11/9/2027	89
Procurement	11/10/2027	8/5/2028	269
Project Execution	8/6/2028	8/7/2031	1096
Project Closeout	8/8/2031	11/5/2031	89

Water Transmission Main Asset Assessment Program

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	54	54	54	775	2,183	4,183	23,450	30,753	7,249
2020	0	0		2,500	3,000	4,000	4,000	5,000	5,000	25,000	0	48,500	21,000
2019	0		2,627	2,501	3,001	4,001	4,001	5,001	5,001	0	0	26,133	18,505
2018			2,626	2,000	2,000	2,000	2,000		0	0	0	10,626	10,626

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☑ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Program

☐ **Project New To CIP**

Project Engineer/Manager John McCallum
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 10/12/2016
Year Project Added to CIP 2016

Budget Water
Class Lvl 1 Water
Class Lvl 2 Programs
Class Lvl 3 Programs
Location Multiple Counties
Fund and Cost Center

Problem Statement	This project merges all CIPs associated with Reservoir Rehabilitation into a single, compreshensive CIP Project. This new project is being managed against a overall repair schedule to mitigate conflicts in the transmission system so as to minimize the impact for MDEQ Mandated inspections and repairs to GLWA Reservoirs at Booster Stations and Water Treatment Plants. ECK 7/2018 Adjust the cost of this CIP this fiscal year to account for the contract award amount for engineering services related to this CIP, as well as competitive, public bid prices received for rehabilitation work on 10 of the 33 system-wide reservoirs. JPM 8/5/2019
Scope of Work / Project Alternatives	The project will provide inspection, rehabilitation, and maintenance for all 33 finished (potable) reservoirs in the GLWA system on a MDEQ mandated 5 year revolving inspection cycle.
Related Project	Previous historical projects DWS-874 and DWS-823 (closed). Contract CS-151A, engineering svcs (active) Contract 190744, construction contract (pending award)
Primary Driver	3 - Regulatory
Driver Explanation	MDEQ requires inspection of potable water storage tanks on a fixed schedule.

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

170800 CIP#

System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation

Phase Construction **Contract** TBD **Status** Future Planned Start

Title Construction

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Future Planned Start	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY20	$1,683			2021CIP
Construction	FY21	$5,584			2021CIP
Construction	FY22	$5,584			2021CIP
Construction	FY23	$5,584			2021CIP
Construction	FY24	$3,794			2021CIP
Construction	FY25	$10,043			2021CIP
Construction	FY26+	$20,087			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	1,683	5,584	5,584	5,584	3,794	10,043	20,087	52,359	30,589

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2019	10/28/2019	119

System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation

Phase Task Name	Start Date	End Date	Duration
Procurement	10/29/2019	3/12/2020	135
Project Execution	3/13/2020	3/4/2024	1452
Project Closeout	3/5/2024	5/26/2024	82

System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$45			2021CIP
GLWA Salaries CIP2021	FY20	$110			2021CIP
GLWA Salaries CIP2021	FY21	$110			2021CIP
GLWA Salaries CIP2021	FY22	$110			2021CIP
GLWA Salaries CIP2021	FY23	$110			2021CIP
GLWA Salaries CIP2021	FY24	$99			2021CIP
GLWA Salaries CIP2021	FY25	$207			2021CIP
GLWA Salaries CIP2021	FY26+	$413			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
45	110	110	110	110	99	207	413	1,204	636

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

170800 CIP#

System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation

Phase Study and Design and Construction Assistance **Contract** TBD **Status** Active

Title Engineering

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
1/1/2015	**Cost Est. Date**
CDM Smith	**Cost Est. Source**
CDM Smith	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19-	$412			2021CIP
Engineering Services	FY20	$367			2021CIP
Engineering Services	FY21	$393			2021CIP
Engineering Services	FY22	$393			2021CIP
Engineering Services	FY23	$393			2021CIP
Engineering Services	FY24	$207			2021CIP
Engineering Services	FY25	$1,116			2021CIP
Engineering Services	FY26+	$2,232			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
412	367	393	393	393	207	1,116	2,232	5,513	2,502

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration

System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation

Phase Task Name	Start Date	End Date	Duration
Procurement	12/20/2017	11/20/2018	335
Project Execution	11/21/2018	10/7/2023	1781
Project Closeout	10/8/2023	1/6/2024	90

Phase not applicable **Contract** NA **Status** Closed Out

Title Prior Year Actual Expenses

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	
Start Date		**Fund**	
End Date		**Useful Life >20Yrs?**	
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	457	2,160	6,087	6,087	6,087	4,100	11,366	22,732	59,076	33,727
2020	0	0		482	5,128	5,211	5,182	3,888	5,495	33,778	0	59,164	24,904
2019	0		39	472	753	4,510	4,340	4,340	4,645	0	0	19,099	14,415
2018		50	3,300	2,550	2,550	2,550			0	0	0	11,000	10,950

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Redirected to J. McCallum 7/19/2019 -- ECK
CIP projected funding requirements updated to reflex actual bid pricing obtained for CS-151A (170801) JPM 8/8/2019
CIP projected funding updated to include the next cycle of inspection in 5 years for the reserviours getting addressed under CS-151A/190744. JPM 8/8/2019

Suburban Water Meter Pit Rehabilitation and Meter Replacement

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Program

☐ **Project New To CIP**

Example of a Water Meter

Project Engineer/Manager Chandan Sood
Director Chandan Sood
Managing Dept Systems Planning
Date Original Business Case Prepared 1/26/2016
Year Project Added to CIP 2014

Budget Water
Class Lvl 1 Water
Class Lvl 2 Programs
Class Lvl 3 Programs
Location Multiple Counties
Fund and Cost Center Water - 5519-882111

Problem Statement	Improving meter data reliability, ensuring accurate billing, improving customer service and allow high quality analysis of the system
Scope of Work / Project Alternatives	The Proposed improvements should include the following; The replacements of meters that have surpassed their life expectancy, and or the current flow rates exceed the mechanical limits of the meter. Installing entrance hatches that allow safer ingress, and egress, and that can be locked for security. Sand blasting and painting of piping and walls. Waterproofing meter vaults to keep the ground water out. Provide a proper floor slope in meter chambers that allow water to settle in puddles. Repairing damage sump pump discharge lines. Repairing any structural deficiencies in the meter chambers, loose concrete, bricks, and ladder rungs. Installing access tunnels for the meter location that require extensive traffic control, or are very dangerous to enter because of the entrance location. Upgrading and repairing damaged electrical fixtures in the meter vaults. Weather proofing the meter control cabinets, chalking, replacing rubber door seals, replacing missing foam insulation, replacing upgrading cabinet heaters, repairing damaged locking mechanisms. Improving, or paving the access roads, and or parking for meter locations that have limited parking or get overgrown with foliage in the summer time.
Other Important Info	Challenges: Requires temporary shutdown of the water supply through the meter. Project History: Currently GLWA provides water service to 126 communities, and measures flows and volumes by the utilization of 290 wholesale water meters now in service; 17 of these meters are venturi-orifice type meters, 26 of these are dual venturi type meters, 48 of these single venturi type meters, 97 of these are magnetic flow type meters, and 102 of these are turbine or mechanical type meters. Meters were installed between 1945 through 1975 under various projects and tasks.

Related Project	PC-793 provides mechanical help for in-house meter replacement
Primary Driver	2 - Performance
Driver Explanation	Not provided.

Suburban Water Meter Pit Rehabilitation and Meter Replacement

Phase Construction **Contract** NA **Status** Active

Title Unallocated Suburban Water Meter Pit Rehabilitation and Meter Replacement

Phase Budget	Water	**Cost Allocation**	Suburban Only
Phase Status	Active	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Suburban Water Meter Pit Rehabilitation and Meter Replacement

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	Suburban Only
Phase Status	Active	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY20	$121			2021CIP
GLWA Salaries CIP2021	FY21	$120			2021CIP
GLWA Salaries CIP2021	FY22	$120			2021CIP
GLWA Salaries CIP2021	FY23	$120			2021CIP
GLWA Salaries CIP2021	FY24	$121			2021CIP
GLWA Salaries CIP2021	FY25	$120			2021CIP
GLWA Salaries CIP2021	FY26+	$71			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	121	120	120	120	121	120	71	793	601

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

Suburban Water Meter Pit Rehabilitation and Meter Replacement

170900 CIP#

Phase Construction **Contract** CON-285 **Status** Active

Title Wholesale Water Meter Pit Rehabilitation and Meter Replacement

Phase Budget	Water	**Cost Allocation**	Suburban Only
Phase Status	Active	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

1	**Cost Est. Class**
9/4/2018	**Cost Est. Date**
Previous Work	**Cost Est. Source**
SA&MO	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	170901
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19-	$1,238			2021CIP
Construction	FY20	$2,421			2021CIP
Construction	FY21	$2,415			2021CIP
Construction	FY22	$2,415			2021CIP
Construction	FY23	$1,019			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
1,238	2,421	2,415	2,415	1,019	0	0	0	9,508	5,849

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Project Execution	1/1/2018	12/1/2022	1795
Project Closeout	12/2/2022	3/1/2023	89

Suburban Water Meter Pit Rehabilitation and Meter Replacement

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	1,238	2,542	2,535	2,535	1,139	121	120	71	10,301	6,450
2020	0	0		3,000	4,000	4,000	3,997	4,100	4,200	20,500	0	43,797	20,297
2019	0		410	4,613	3,690	3,690	3,997	4,100		0	0	20,500	20,090
2018		500	4,000	4,000	4,000	4,000	4,000		0	0	0	20,500	20,000

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes No changes to CIP per Ali email BF 2019-08-21

LED Lighting & Lighting Control Improvements at All Water Facilities

- [x] Innovation
- [ ] Conceptual WW MP
- [ ] Water MP Right Sizing
- [ ] Reliability/Redundancy
- [ ] NEWTP Repurposing

Project Status Cancelled

CIP Type Program

- [ ] **Project New To CIP**

Project Engineer/Manager Eric Griffin
Director John Norton
Managing Dept Energy Management
Date Original Business Case Prepared 1/5/2018
Year Project Added to CIP

Budget Water
Class Lvl 1 Water
Class Lvl 2 Programs
Class Lvl 3 Programs
Location Multiple Counties
Fund and Cost Center

Problem Statement	Existing lighting systems at most facilities are energy inefficient. Replacement with new, modern LED lighting type systems will reduce electrical usage and costs. Regulatory changes by ASHRAE are required for lighting control and there are safety concearns with egress lighting at our facilities
Scope of Work / Project Alternatives	Replace existing lighting fixtures with new lighting fixtures at the water plants and water booster pumping stations. Update lighting control to new ASHRAE standards and Egress lighting to meet NFPA 101 Life Safety Code
Other Important Info	Updates to ASHRAE Lighting Control and NFPA-101 Life safety code make this of greater importance.
Primary Driver	3 - Regulatory
Driver Explanation	Energy Efficency and GLWA Personell safety

LED Lighting & Lighting Control Improvements at All Water Facilities

PM Weighted Score

47.6

Criteria	Score	Comment
Regulatory (Environmental/Legal)	1	
Financial	2	
Performance (Service Level/Reliability)	3	
Public Benefit	1	
Public Health and Safety	3	
Operations and Maintenance	3	
Condition	3	
Efficiency and Innovation	3	

RC Weighted Score

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

LED Lighting & Lighting Control Improvements at All Water Facilities

Phase Design and Build **Contract** NA **Status** Cancelled

Title LED Lighting & Lighting Control Improvements at All Water Facilities

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Cancelled	**Funding Source**	Revenue Financed Capital
Start Date	6/22/2019	**Fund**	Improvement & Extension Fun
End Date	12/6/2030	**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	

Cost Estimation Information

4	**Cost Est. Class**
7/17/2019	**Cost Est. Date**
GLWA Engineering	**Cost Est. Source**
Group	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	Grant Gartrell
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	7/1/2019	12/31/2019	183
Procurement	1/1/2020	7/31/2020	212
Project Execution	8/1/2020	4/29/2023	1001
Project Closeout	4/30/2023	7/29/2023	90

LED Lighting & Lighting Control Improvements at All Water Facilities

Phase GLWA Employees Project management **Contract** NA **Status** Cancelled

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Cancelled	**Funding Source**	Revenue Financed Capital
Start Date		**Fund**	Improvement & Extension Fun
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

5	**Cost Est. Class**
7/1/2019	**Cost Est. Date**
GLWA	**Cost Est. Source**
GLWA	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	0	0	0	0	0	0

Phase Task Dates

LED Lighting & Lighting Control Improvements at All Water Facilities

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	0	0	0	0	0	0	0
2020	0	0		0	0	0	0	693	693	4,401	0	5,787	1,386
2019	0					520	693	693	5,094	0	0	7,000	1,906

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30

Description of CIP Changes

Updated CIP Naming, Site assesments, regulatory changes by ASHRAE and NFPA. Change to design build project and move CIP dollars ahead.MFG7/25/2019

8/22/19 Project cancelled redundant with CIP 351001 ELG

GLWA FY 2021-2025 CIP

171500 CIP#

Roof Replacement at WWP, SP, LH, NE, SW, NSC, Orion, Franklin, and Conner Creek Facilities

- ☐ Innovation
- ☐ Conceptual WW MP
- ☐ Water MP Right Sizing
- ☐ Reliability/Redundancy
- ☐ NEWTP Repurposing

Project Status Active

CIP Type Program

☐ **Project New To CIP**

Project Engineer/Manager Nick Hoffman
Director Grant Gartrell
Managing Dept Water Eng
Date Original Business Case Prepared 1/5/2018
Year Project Added to CIP 2018

Budget Water
Class Lvl 1 Water
Class Lvl 2 Programs
Class Lvl 3 Programs
Location Multiple Counties
Fund and Cost Center

Problem Statement	This design build project will replace roofing systems on GLWA water plants, water booster pumping stations and sewage pumping stations that were determined to need replacement over the next 5 to 7 years based on the CS-1674 Roofing Assesment Contract. Replacement is needed to protect the facilities interigty with regards to interiors, sensitive electrical equipment and process mechanical equipment vital to operations.
Scope of Work / Project Alternatives	Tear off of existing roofing systems and replace with new roofing systems as follows: Water Works Park- High Lift Building, standing metal seam roof, Raw Water Booster Pump Station, built-up roof Springwells - Turbine House, built-up roof, 1930 Machine Room Conner Sewage Lift Station, built-up roof Franklin Water Booster Pump Station, built-up roof Orion Water Booster Pump Station, standing metal seam roof
Other Important Info	The total estimated replacement value (2016 dollars) of the 1,682,727 square feet of roofing at the water treatment plants, sewage pumping stations and water booster pumping stations is $33,142,054. Project History: A condition assessment was performed and completed under Contract No. CS-1674 in 2016 that included all roofs located at GLWA's 5 water treatment plants, 19 water booster pumping stations and 11 sewage pumping stations. There were 268 separate roof sections totaling 1,682,727 square feet of roof inspected during this condition assessment project.
Related Project	Contract No. CS-1674 Roof Inspection-Water Related Facilities
Primary Driver	1 - Condition

Roof Replacement at WWP, SP, LH, NE, SW, NSC, Orion, Franklin, and Conner Creek Facilities

Driver Explanation	Roofs are well past their useful service life and showing significant deterioration, and in some places leaking.

PM Weighted Score

47.2

Criteria	Score	Comment
Condition	5	
Operations and Maintenance	3	
Public Health and Safety	2	
Efficiency and Innovation	2	
Regulatory (Environmental/Legal)	1	
Performance (Service Level/Reliability)	3	
Public Benefit	1	
Financial	2	

RC Weighted Score

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

Roof Replacement at WWP, SP, LH, NE, SW, NSC, Orion, Franklin, and Conner Creek Facilities

Phase GLWA Employees Project management **Contract** NA **Status** Active

Title GLWA Salaries

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	No
		Tot. Federal Loan Amount	$0

Cost Estimation Information

4	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Testing Engineers & Consult	**Cost Est. Source**
Testing Engineers & Consult	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2021	FY19-	$65			2021CIP
GLWA Salaries CIP2021	FY20	$161			2021CIP
GLWA Salaries CIP2021	FY21	$173			2021CIP
GLWA Salaries CIP2021	FY22	$173			2021CIP
GLWA Salaries CIP2021	FY23	$173			2021CIP
GLWA Salaries CIP2021	FY24	$172			2021CIP
GLWA Salaries CIP2021	FY25	$115			2021CIP
GLWA Salaries CIP2021	FY26+	$430			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
65	161	173	173	173	172	115	430	1,462	806

Phase Task Dates

Roof Replacement at WWP, SP, LH, NE, SW, NSC, Orion, Franklin, and Conner Creek Facilities

Phase Design and Build **Contract** 1803483 **Status** Active

Title Design-Build Contract No. 1803483

Contract No. 1803483, Schreiber Corp. - SP, WWP, Orion, Franklin, and Conner Creek Facilities

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

4	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Testing Engineers & Consult	**Cost Est. Source**
Testing Engineers & Consult	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY19-	$6			2021CIP
Design-Build	FY20	$2,667			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
6	2,667	0	0	0	0	0	0	2,673	0

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	1/1/2018	4/23/2018	112
Procurement	4/24/2018	8/8/2019	471
Project Execution	8/9/2019	12/19/2019	132
Project Execution	8/23/2019	12/19/2019	118

Roof Replacement at WWP, SP, LH, NE, SW, NSC, Orion, Franklin, and Conner Creek Facilities

Phase not applicable **Contract** NA **Status** Closed Out

Title Prior Year Actual Expenses

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Closed Out	**Funding Source**	
Start Date		**Fund**	
End Date		**Useful Life >20Yrs?**	
		Tot. Federal Loan Amount	$0

Cost Estimation Information

4	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Testing Engineers & Consult	**Cost Est. Source**
Testing Engineers & Consult	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Phase Total Expenses By FY (All figures are in $1,000's)

Phase Task Dates

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

171500 CIP#

Roof Replacement at WWP, SP, LH, NE, SW, NSC, Orion, Franklin, and Conner Creek Facilities

Phase Design and Build **Contract** TBD **Status** Active

Title Design Build - Contract TBD

SW, LH, SP Chemical Bldg, SP Boiler House, SP 1958 Service Bldg., NE Admin, NE Switch House, NE Filters, NE LowLift, WWP Treatment Bldg, and NSC

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date	1/23/2018	**Fund**	Construction Bond Fund
End Date	7/22/2020	**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

4	**Cost Est. Class**
12/9/2016	**Cost Est. Date**
CS-1674 roofing CA contrac	**Cost Est. Source**
Testing Engineers & Consult	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY22	$144			2021CIP
Design-Build	FY23	$2,343			2021CIP
Design-Build	FY24	$2,561			2021CIP
Design-Build	FY25	$1,805			2021CIP
Design-Build	FY26+	$10,606			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	144	2,343	2,561	1,805	10,606	17,459	6,853

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	3/31/2021	6/29/2021	90

Phase Task Name	Start Date	End Date	Duration
Procurement	6/30/2021	12/26/2021	179
Project Execution	12/27/2021	6/30/2031	3472
Project Closeout	7/1/2031	9/29/2031	90

GLWA Great Lakes Water Authority

GLWA FY 2021-2025 CIP

171500 CIP#

Roof Replacement at WWP, SP, LH, NE, SW, NSC, Orion, Franklin, and Conner Creek Facilities

Phase Design Build Assistance **Contract** NA **Status** Active

Title Design-Build Assistance

Owner's Agent Services for design-build specifications, procurement and DB contractor oversight

Phase Budget	Water	**Cost Allocation**	CTA
Phase Status	Active	**Funding Source**	Bond Proceeds
Start Date		**Fund**	Construction Bond Fund
End Date		**Useful Life >20Yrs?**	Yes
		Tot. Federal Loan Amount	

Cost Estimation Information

4	**Cost Est. Class**
1/1/2016	**Cost Est. Date**
Testing Engineers & Consult	**Cost Est. Source**
Testing Engineers & Consult	**Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY23	$391			2021CIP
Design-Build	FY24	$393			2021CIP
Design-Build	FY25	$335			2021CIP
Design-Build	FY26+	$960			2021CIP

Phase Total Expenses By FY (All figures are in $1,000's)

Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total
0	0	0	0	391	393	335	960	2,079	1,119

Phase Task Dates

Phase Task Name	Start Date	End Date	Duration
Pre-Procurement	3/31/2022	6/29/2022	90
Procurement	6/30/2022	6/30/2023	365
Project Execution	7/1/2022	6/30/2031	3286

Phase Task Name	Start Date	End Date	Duration
Project Closeout	7/1/2031	9/29/2031	90

Roof Replacement at WWP, SP, LH, NE, SW, NSC, Orion, Franklin, and Conner Creek Facilities

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	71	2,828	173	317	2,907	3,126	2,255	11,996	23,673	8,778
2020	0	0	50	0	2,657	0	0	0	2,000	2,000	0	6,707	4,657
2019	0			111	986	210	24	1,159	24,756	0	0	27,246	2,490

* In Table above, for CIP Alias 2021, FY26 column represents expenses for FY26 through FY30