

CIP

Capital Improvement Plan
2020 - 2024



Preliminary Draft 2.0
December 13, 2018

APPENDIX A Water Projects



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

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

Lake Huron WTP



CIP Type Project

Project New To CIP

Project Engineer/Manager Eric Kramp

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Treatment Plants and Facilities

Date Original Business Case Prepared 3/3/2010

Class Lvl 3 Lake Huron

Year Project Added to CIP 2010

Location Saint Clair County

Fund and Cost Center Water - 5519-882111

Project Significance 111003 RECLASSIFIED INTO THIS PROJECT. Improvements needed to align the existing low lift pumping rate with the Lake Huron WTP production rate per the 2015 WMPU. Currently constant speed pumping forces the WTP to operate in a batch mode. 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. Replacement of phosphoric acid chemical storage tanks and fill piping. Flocculation moved to new project proposed CIP Project for filter rehabilitation and flocculators.

Scope of Work Currently constant speed pumping forces the Lake Huron WTP to operate in a batch mode as the low lift pump capacities exceed the high lift pump capacities. Improvements needed to align the existing low lift pumping rate with the Lake Huron WTP production rate per the 2015 WMPU. Replace with new:

1. High-voltage electrical system
2. Replace LL Pumps 3 and 4 with new pumps to meet 2015 WMPU
3. Improve HL Pump resilience & flexibility
4. Improve WW Pump capability and update as necessary
4. Phosphoric acid system upgrades

Challenges 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.

Lookup Driver 8 - Efficiency

Other Important Info *Innovation note: Ensure energy efficiency. Updated project expenses to account for inflation, moved contract start back one year, added GLWA costs.



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

Portions of project were identified in the 2015 Master Plan.

Explanation

Not provided.

PM Weighted Score

64.6

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

RC Weighted Score

71.6

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



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

Phase GLWA Employees Project management

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY20	\$18	7	1	
GLWA Salaries CIP2020	FY21	\$42	17	2	
GLWA Salaries CIP2020	FY22	\$42	17	2	
GLWA Salaries CIP2020	FY23	\$42	17	2	
GLWA Salaries CIP2020	FY24	\$42	17	2	
GLWA Salaries CIP2020	FY25+	\$116	46	6	2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	26	61	61	61	61	168	438

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



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

Phase Design & Construction Assistance

Contract NA

Status Future Planned Start

Title LH WTP Low and High Lift Pumping Improvements - Design & Constr Assistance

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

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY20	\$375			
Engineering Services	FY21	\$1,550			
Engineering Services	FY22	\$3,108			
Engineering Services	FY23	\$352			
Engineering Services	FY24	\$400			
Engineering Services	FY25+	\$2,600			2020CIP
Other	FY20	\$0			2020CIP
Other	FY21	\$0			2020CIP

Task	Start Date	End Date	Duration
Scope Development	12/30/2018	3/30/2019	90
Procurement	3/31/2019	3/30/2020	365



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

Task	Start Date	End Date	Duration
Project Execution	3/31/2020	10/26/2026	2400
Project Closeout	10/27/2026	1/25/2027	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	375	1,550	3,108	352	400	2,600	8,385

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



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

Phase Construction

Contract NA

Status Future Planned Start

Title LH WTP Low and High Lift Pumping Improvements - 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 1/22/2022

Fund Construction Bond Fund

End Date 1/25/2027

Useful Life >20Yrs? Yes

Tot. Federal Loan Amount

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	FY23	\$4,037			
Construction	FY24	\$9,539			
Construction	FY25+	\$29,989			2020CIP

Task	Start Date	End Date	Duration
Scope Development	1/25/2022	4/25/2022	90
Procurement	4/26/2022	10/31/2022	188
Project Execution	11/1/2022	10/26/2026	1455
Project Closeout	10/27/2026	1/25/2027	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	4,037	9,539	29,989	43,565

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



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	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		200	2,500	3,000					0	0	5,700
2019	0				401	1,611	3,169	4,450	42,757	0	52,388
2020	0	0		0	401	1,611	3,169	4,450	10,000	32,757	52,388

Lake Huron Water Treatment Plant, Miscellaneous Mechanical HVAC Improvements

- Innovation
- 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 Todd King

Manager 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

Project Significance	Existing heating, ventilating and air-conditioning systems Lake Huron are 40 years old and are either not operable or energy-inefficient. Thus, replacement with new, energy efficient mechanical HVAC systems is needed.
Scope of Work	The work includes replacement of the existing Natural Gas-Fired hot water boilers, back flow preventers, and dehumidification units with related accessories.
Challenges	Heating system modifications will be seasonally dependent.
Project History	The Lake Huron WTP was placed in service in 1976. The boilers in the admin building, the chiller, and the dehumidification system have surpassed their expected life span and require replacement.
Related Project	This BCE requests augmentation of the construction budget for CIP No. 1280 from \$2.5 million to \$7.14 million based on the preliminary engineering work conducted by Tetrattech under project CS-1732.
Lookup Driver	1 - Condition
Other Important Info	Complete analysis and the report are attached below.
Explanation	N/A - Under Procurement

Lake Huron Water Treatment Plant, Miscellaneous Mechanical HVAC Improvements

PM Weighted Score

66.8

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

RC Weighted Score

77

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



Lake Huron Water Treatment Plant, Miscellaneous Mechanical HVAC Improvements

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$1,594			FY18
Engineering Services	FY18-	\$98			FY18
Unknown	FY18-	\$309			EndFY17
GLWA Salaries CIP2020	FY18-	\$14	5		FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
2,020								2,020

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



Lake Huron Water Treatment Plant, Miscellaneous Mechanical HVAC Improvements

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$21	8	1	CS-1732
GLWA Salaries CIP2020	FY20	\$21	8	1	CS-1732
GLWA Salaries CIP2020	FY21	\$0	0	0	CS-1732

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	30	30	0					60

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



Lake Huron Water Treatment Plant, Miscellaneous Mechanical HVAC Improvements

Phase Construction

Contract CON-182

Status Future Planned Start

Title CON-182, Miscellaneous Mechanical Improvements at Lake Huron WTP, C1

Backflow Preventor Replacement

Phase Budget Water

Cost Allocation CTA

Phase Status Future Planned Start

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	

Task	Start Date	End Date	Duration
Scope Development	8/27/2016	11/25/2016	90
Procurement	11/26/2016	11/26/2017	365
Project Execution	11/27/2017	5/25/2018	179
Project Closeout	5/26/2018	8/24/2018	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



Lake Huron Water Treatment Plant, Miscellaneous Mechanical HVAC Improvements

Phase Study and Design and Construction Assistance

Contract CS-1732

Status Active

Title CS-1732, Miscellaneous Mechanical Improvements at Lake Huron WTP

\$155K Projects Capitalized/Expensed @FY18

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	\$102			
Engineering Services	FY20	\$109			

Task	Start Date	End Date	Duration
Scope Development	2/21/2015	5/22/2015	90
Procurement	5/23/2015	5/22/2016	365
Project Execution	5/23/2016	4/23/2020	1431
Project Closeout	4/24/2020	7/23/2020	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	102	109	0	0	0	0	0	211

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



Lake Huron Water Treatment Plant, Miscellaneous Mechanical HVAC Improvements

Phase Construction

Contract CON-212

Status Active

Title CON-212, LH WTP Electrical & Mechanical Process Improvements, C2

Misc Mech HVAC Imprvts

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	\$4,290			
Construction	FY20	\$1,743			

Task	Start Date	End Date	Duration
Scope Development	11/15/2016	2/13/2017	90
Procurement	2/14/2017	2/14/2018	365
Project Execution	2/14/2018	1/14/2020	699
Project Closeout	1/14/2020	5/14/2020	121

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	4,290	1,743	0	0	0	0	0	6,033

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		270	1,030	3,130	3,050	422			0	0	7,902



Lake Huron Water Treatment Plant, Miscellaneous Mechanical HVAC Improvements

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total	
2019	0	309	781	3,666	3,873	13				0	8,642	
2020	0	0	2,020	4,422	1,882	0	0	0	0	0	8,324	

Lake Huron Water Treatment Plant, Electrical Tunnel Rehabilitation

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

Lake Huron WTP
Electrical Tunnel



CIP Type Project

Project New To CIP

Project Engineer/Manager Jorge Nicolas

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Treatment Plants and Facilities

Date Original Business Case Prepared 6/26/2014

Class Lvl 3 Lake Huron

Year Project Added to CIP 2014

Location Saint Clair County

Fund and Cost Center Water - 5519-882111

Project Significance 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.

Scope of Work Repairing electrical tunnel to prevent intrusion of water and further structural damage to concrete cables, duct banks and cable trays.

Challenges None.

Project History n/a

Related Project none

Lookup Driver 1 - Condition

Other Important Info moved construction start to FY2019, added GLWA costs, changed project delivery from DBB to DB

Explanation Not provided.

**PM Weighted
Score**

46.8

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

**RC Weighted
Score**

38.6

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



Lake Huron Water Treatment Plant, Electrical Tunnel Rehabilitation

Phase Design & Construction Assistance

Contract CS-245

Status Active

Title CS-245 LH WTP Electrical Tunnel Rehabilitation

Benesch

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	\$16			
Engineering Services	FY20	\$34			

Task	Start Date	End Date	Duration
Scope Development	10/31/2016	1/29/2017	90
Procurement	1/30/2017	1/30/2018	365
Project Execution	1/31/2018	4/1/2020	791
Project Closeout	4/2/2020	7/1/2020	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	16	34	0	0	0	0	0	50

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



Lake Huron Water Treatment Plant, Electrical Tunnel Rehabilitation

Phase GLWA Employees Project management

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY20	\$21	8	1	CS-245
GLWA Salaries CIP2020	FY21	\$4	2	0	CS-245

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
		30	6	0	0	0	0	36

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



Lake Huron Water Treatment Plant, Electrical Tunnel Rehabilitation

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$63			FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
63								63

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



Lake Huron Water Treatment Plant, Electrical Tunnel Rehabilitation

Phase Construction

Contract NA

Status Future Planned Start

Title LH WTP Electrical Tunnel Rehabilitation

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$368			
Construction	FY20	\$4,232			

Task	Start Date	End Date	Duration
Scope Development	5/2/2018	7/31/2018	90
Procurement	8/1/2018	2/5/2019	188
Project Execution	2/6/2019	4/1/2020	420
Project Closeout	4/2/2020	7/1/2020	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	368	4,232	0	0	0	0	0	4,600

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018			1,000	3,000	1,600				0	0	5,600
2019	0		116	414	4,296	6				0	4,832



GLWA FY 2020-2024 CIP

111004 CIP#

Lake Huron Water Treatment Plant, Electrical Tunnel Rehabilitation

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total		
2020	0	0	63	384	4,296	6	0	0	0	0	4,749		

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

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

Raw Water Flow Meter



CIP Type Project

Project New To CIP

Project Engineer/Manager Todd King

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Treatment Plants and Facilities

Date Original Business Case Prepared 6/26/2014

Class Lvl 3 Lake Huron

Year Project Added to CIP 2014

Location Saint Clair County

Fund and Cost Center Water - 5519-882111

Project Significance The filter instrumentation and raw water metering at the Lake Huron WTP is non-functioning and is in need of replacement. Replacement of this equipment is needed for reliable plant operations.

Scope of Work Replacement of the filter instrumentation and raw water metering equipment.

Challenges The existing raw water venturi meters do not have standard dimensions and determining accuracy may be difficult.

Project History n/a

Related Project none

Lookup Driver N/A - Under Procurement

Other Important Info Design is in progress by TetraTech under CS-1771

Explanation N/A - Under Procurement

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

**PM Weighted
Score**

64.2

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

**RC Weighted
Score**

62.2

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



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

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$482			FY18
Unknown	FY18-	\$1			FY16
Unknown	FY18-	\$252			FY17

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
735								735

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



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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$21	8	1	CS-1771
GLWA Salaries CIP2020	FY20	\$21	8	1	CS-1771
GLWA Salaries CIP2020	FY21	\$21	8	1	CS-1771
GLWA Salaries CIP2020	FY22	\$21	8	1	CS-1771
GLWA Salaries CIP2020	FY23	\$0	0	0	CS-1771
GLWA Salaries CIP2020	FY24	\$0	0	0	2020CIP
GLWA Salaries CIP2020	FY25+	\$0	0	0	2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	30	30	30	30	0	0	0	120

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



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

Phase Construction

Contract NA

Status Future Planned Start

Title LH WTP Replacement of Filter Instrumentation and Raw Water Flow Metering Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY20	\$3,248			
Construction	FY21	\$3,248			
Construction	FY22	\$3,220			

Task	Start Date	End Date	Duration
Scope Development	3/5/2018	6/3/2018	90
Procurement	6/4/2018	6/2/2019	363
Project Execution	6/3/2019	11/26/2021	907
Project Closeout	11/27/2021	2/25/2022	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	3,248	3,248	3,220	0	0	0	9,716

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



GLWA FY 2020-2024 CIP

111006 CIP#

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total	
2019	0	253	643	43	8,647	9,816	6,909	4		0	26,315	
2020	0	0	735	55	3,333	3,333	3,333	0	0	0	10,789	

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

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

Raw sludge clarifier at
Lake Huron WTP



CIP Type Project

Project New To CIP

Project Engineer/Manager Todd King

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Treatment Plants and Facilities

Date Original Business Case Prepared 8/7/2015

Class Lvl 3 Lake Huron

Year Project Added to CIP 2016

Location Saint Clair County

Fund and Cost Center Water - 5519-882111

Project Significance This project will provide a study and design on the structural integrity, capacity and performance requirements for pumps and piping to meet maximum design flows. The construction services will re-construct the raw sludge clarifiers and sludge pumping and conveyance system to meet the plant demands for pumping and conveying raw sludge to the existing lagoons.

Scope of Work The sludge clarifier is integral to the backwash water treatment system and the walls of the clarifiers are severely bowed and in the process of failing. If the clarifier and backwash tank fail, the ability to backwash the Lake Huron WTP filters will be lost and result in the loss of the Lake Huron WTP to the system until a temporary bypass can be arranged.

Challenges Improvements will require coordination with plant operations (filter backwashing).

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.

Related Project This project is being designed by Brown & Caldwell under Contract No. CS-171.

Lookup Driver 1 - Condition

Other Important Info This project should be completed prior to cessation of treatment at the Northeast WTP.

Explanation Not provided.

PM Weighted Score
62.2

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

RC Weighted Score
53.2

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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$15	6	1	CS-171
GLWA Salaries CIP2020	FY20	\$15	6	1	CS-171
GLWA Salaries CIP2020	FY21	\$15	6	1	CS-171
GLWA Salaries CIP2020	FY22	\$0	0	0	CS-171

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	22	22	22	0	0	0	0	66

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



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

Phase Construction

Contract NA

Status Future Planned Start

Title LH WTP - Raw Sludge Clarifier and Raw Sludge Pumping System Improvements

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$0			2020CIP
Construction	FY20	\$4,450			
Construction	FY21	\$4,450			
Construction	FY22	\$0			

Task	Start Date	End Date	Duration
Scope Development	9/3/2018	12/2/2018	90
Procurement	12/3/2018	9/2/2019	273
Project Execution	9/1/2019	12/24/2020	480
Project Closeout	12/24/2020	3/24/2021	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	4,450	4,450	0	0	0	0	8,900

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



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

Phase Study and Design and Construction Assistance

Contract CS-171

Status Under Procurement

Title CS-171, Brown & Caldwell, LH WTP-Raw Sludge Clarifier and Raw Sludge Pumping System Improvements

CS-171 is almost awarded as of 9/18/2017.

Phase Budget Water

Cost Allocation CTA

Phase Status Under Procurement

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

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	\$172			
Engineering Services	FY20	\$188			
Engineering Services	FY21	\$189			
Engineering Services	FY22	\$0			

Task	Start Date	End Date	Duration
Scope Development	8/1/2016	10/30/2016	90
Procurement	10/31/2016	10/31/2017	365
Project Execution	11/1/2017	6/30/2021	1337
Project Closeout	8/31/2021	11/29/2021	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	172	188	189	0	0	0	0	549

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



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

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$275			FY18
Unknown	FY18-	\$9			FY17

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
284								284

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018			50	920	6,163				0	0	7,133
2019	0	9	422	212	1,612	3,608	1,221			0	7,084
2020	0	0	284	194	4,660	4,661	0	0	0	0	9,799

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

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

Lake Huron Water Treatment Plant



CIP Type Project

Project New To CIP

Project Engineer/Manager TBD

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Treatment Plants and Facilities

Date Original Business Case Prepared 9/27/2017

Class Lvl 3 Lake Huron

Year Project Added to CIP 2017

Location Saint Clair County

Fund and Cost Center Water - 5519-882111

Project Significance Existing laboratory and admin. Building interior is original to the plant and is in need of modernization.

Scope of Work Modernize lab and admin building offices, common areas, conference room, lunch room, lobby, entry-way, locker rooms, showers, and bathrooms.

**PM Weighted
Score**

47.2

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

**RC Weighted
Score**

40.6

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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2016"/>	Cost Est. Date
<input type="text" value="GLWA"/>	Cost Est. Source
<input type="text" value="GLWA"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY25+	\$300			2020CIP

Task	Start Date	End Date	Duration
Scope Development	8/1/2025	12/29/2025	150
Procurement	12/29/2025	7/27/2026	210
Project Execution	7/27/2026	7/27/2027	365
Project Closeout	7/27/2027	10/25/2027	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	300	300

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2019	0								300	0	300
2020	0	0		0	0	0	0	0	0	300	300

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

CIP Type Project

Project New To CIP



Project Engineer/Manager Brian VanHall

Manager 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

Project Significance Two new, smaller capacity, high-lift pumping units are needed to provide lower finished water flows out of Lake Huron WTP to accommodate the relocation of the 96-inch transmission main south of Imlay Pumping Station and to accommodate the installation of a new water production flow meter at the Lake Huron WTP. The two new 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 two new smaller high-lift pumping units are installed.

Scope of Work Design and install a new flow meter and isolation valve to the north high lift header, a new bypass line from the south high lift header, two new 35 MGD high lift pumps.

Challenges Adding the high lift header bypass and new isolation valve requires the existing valve to adequately seat.

Project History This job includes the flow meter and bypass that was originally part of CS-1771 under CIP 111006 and was removed due to poor Consultant performance. The additional high lift pumps are needed to support the 96in relocation by allowing for reduced plant capacity. The pumps will be used after to better match the required plant demand and add redundancy to the system.

Lookup Driver 6 - Public Benefit

Explanation This project is a predecessor project to relocating the 96-inch transmission main outside the closed G&H Industrial landfill.

PM Weighted Score

68

Criteria	Score	Comment
Condition	4	Adds new pumps that can supplement older pumps
Efficiency and Innovation	5	Allows flexibility to run pump capacity at demand
Financial	2	Project is expensive for added permanent value
O&M	2	Adds bypass and isolation of north header when needed
Performance (Service Level/Reliability)	4	Adds redundancy
Public Benefit	5	Adds meter to measure finished water flow
Public Health & Safety	3	Allows for relocation of 96in main
Regulatory (Environmental/Legal)	3	Allows for relocation of 96in main

RC Weighted Score

62.2

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



Lake Huron Water Treatment Plant, Two New High-Lift Pumps, Water Production Flow Meter,

Phase Design and Build

Contract TBD

Status Future Planned Start

Title LH-WTP Two 35-MGD High Lift Pumps, Water Production Flow Meters and Yard Piping Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY20	\$9,000			2020CIP
Design-Build	FY21	\$10,000			2020CIP
Design-Build	FY22	\$7,000			2020CIP

Task	Start Date	End Date	Duration
Scope Development	11/20/2018	3/1/2019	101
Procurement	3/1/2019	6/30/2019	121
Project Execution	7/1/2019	4/1/2022	1005
Project Closeout	4/1/2022	6/30/2022	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
		9,000	10,000	7,000				26,000

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



Lake Huron Water Treatment Plant, Two New High-Lift Pumps, Water Production Flow Meter,

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$11	4	1	2020CIP
GLWA Salaries CIP2020	FY20	\$21	8	1	2020CIP
GLWA Salaries CIP2020	FY21	\$21	8	1	2020CIP
GLWA Salaries CIP2020	FY22	\$21	8	1	2020CIP

Task	Start Date	End Date	Duration
Scope Development	11/20/2018	3/1/2019	101
Project Execution	3/1/2019	4/1/2022	1127
Project Closeout	4/1/2022	6/30/2022	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	16	30	30	30				106

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2020	0	0		16	9,030	10,030	7,030				26,106



Phase 1 WWP to NE Transmission - Flow Control Station at NE WTP

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Reclassified

CIP Type Project

Project New To CIP

Project Engineer/Manager Timothy Kuhns

Manager 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

Project Significance Flow control valves are needed at the terminus of the proposed 81-inch Waterworks Park to Northeast finish water transmission system. This project is needed to control flow rates from Waterworks Park to the re-purposed Northeast system.

Scope of Work The work includes providing and installing new flow control station at the NE WTP site.

Challenges Sequencing of construction with the phase-over of Northeast WTP becoming a booster station. Connecting to existing piping and/or reservoirs will require reservoir shut and isolation, requiring close coordination with operations.

Lookup Driver 2 - Performance

Explanation Not provided.

**PM Weighted
Score**

46

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

**RC Weighted
Score**

62.2

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



Phase 1 WWP to NE Transmission - Flow Control Station at NE WTP

Phase GLWA Employees Project management

Contract NA

Status Cancelled

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



Phase 1 WWP to NE Transmission - Flow Control Station at NE WTP

Phase Design and Build

Contract NA

Status Cancelled

Title Phase 1 WWP to NE Transmission - Flow Control Station at NE WTP

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	\$0			
Design-Build	FY22	\$0			

Task	Start Date	End Date	Duration
Scope Development	4/1/2019	6/30/2019	90
Procurement	7/1/2019	6/30/2020	365
Project Execution	7/1/2020	6/28/2022	727
Project Closeout	6/29/2022	9/27/2022	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018			800						0	0	800
2019	0					700	1,988	112		0	2,800

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

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

Low Lift Pumping Plant
at Northeast WTP



CIP Type Project

Project New To CIP

Project Engineer/Manager Govind Patel

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Treatment Plants and Facilities

Date Original Business Case Prepared 6/26/2014

Class Lvl 3 Northeast

Year Project Added to CIP 2014

Location City of Detroit

Fund and Cost Center Water - 5519-882111

Project Significance Preventing further degradation of steel and concrete structure of the Low Lift Pumps Caisson at the Northeast WTP

Scope of Work The work includes design and repair of concrete cracks and concrete restoration to stop leakage on the concrete covers of the encased steel beams and along the inner surfaces of the caisson wall.

Related Project CS-1744 is the engineering services contract associated with this project. CON -215A is the construction contract.

Lookup Driver 1 - Condition

Other Important Info The project is currently under construction and is on schedule to be completed by November 2019.

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

PM Weighted Score

51.4

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

RC Weighted Score

51.6

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



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

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$20	8	1	CS-1744
GLWA Salaries CIP2020	FY20	\$10	4	0	CS-1744
GLWA Salaries CIP2020	FY21	\$0	0	0	CS-1744
GLWA Salaries CIP2020	FY22	\$0	0	0	CS-1744

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	29	14	0	0	0	0	0	43

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



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

Phase Study and Design and Construction Assistance

Contract CS-1744

Status Active

Title CS-1744, FKE, NE WTP Low Lift Pumping Plant Caisson Rehabilitation

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

2 **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	\$60			
Engineering Services	FY20	\$26			

Task	Start Date	End Date	Duration
Scope Development	8/18/2015	11/16/2015	90
Procurement	11/17/2015	11/16/2016	365
Project Execution	6/15/2016	1/31/2020	1325
Project Closeout	1/1/2020	3/31/2020	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	60	26	0	0	0	0	0	86

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



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

Phase Construction

Contract CON-215A

Status Active

Title NE WTP Low Lift Pumping Plant Caisson Rehabilitation

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$800			
Construction	FY20	\$163			

Task	Start Date	End Date	Duration
Scope Development	8/17/2017	11/15/2017	90
Procurement	11/16/2017	5/23/2018	188
Project Execution	5/1/2018	11/1/2019	549
Project Closeout	1/1/2020	3/31/2020	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	800	163	0	0	0	0	0	963

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



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

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$257			2020CIP
Engineering Services	FY18-	\$42			2020CIP
Unknown	FY18-	\$11			FY16
Unknown	FY18-	\$152			FY17
GLWA Salaries CIP2020	FY18-	\$8	3	0	2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
473								473

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		150	1,183						0	0	1,333
2019	0	163	70	831	619	30	4			0	1,717
2020	0	0	473	889	203	0	0	0	0	0	1,565

Northeast Water Treatment Plant High-Lift Pumping Station Electrical Improvements

- Innovation
- 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 Jorge Nicolas

Manager 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

Project Significance Upgrade the existing medium voltage and low voltage electrical systems for the high-lift pumping station only.

Scope of Work Electrical system improvements for high-lift pumping equipment only.

Other Important Info Identified in the 2015 WMPU

Northeast Water Treatment Plant High-Lift Pumping Station Electrical Improvements

PM Weighted Score

53.4

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

RC Weighted Score

50.8

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



Northeast Water Treatment Plant High-Lift Pumping Station Electrical Improvements

Phase Design & Construction Assistance

Contract NA

Status Future Planned Start

Title NE WTP High-Lift Pumping Station Electrical Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	NonPersonnel	Comment
Engineering Services	FY24	\$0			
Engineering Services	FY25+	\$6,223			2020CIP

Task	Start Date	End Date	Duration
Scope Development	8/18/2025	11/16/2025	90
Procurement	11/17/2025	10/1/2026	318
Project Execution	12/15/2026	12/11/2030	1457
Project Closeout	12/12/2030	3/28/2031	106

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	6,223	6,223

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



Northeast Water Treatment Plant High-Lift Pumping Station Electrical Improvements

Phase Construction

Contract NA

Status Future Planned Start

Title NE WTP High-Lift Pumping Station Electrical Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY25+	\$54,766			2020CIP

Task	Start Date	End Date	Duration
Scope Development	8/18/2025	11/16/2025	90
Procurement	11/17/2025	5/24/2026	188
Project Execution	5/25/2026	5/17/2030	1453
Project Closeout	5/18/2030	8/16/2030	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	54,766	54,766

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



Northeast Water Treatment Plant High-Lift Pumping Station Electrical Improvements

Phase GLWA Employees Project management

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY25+	\$861	341	43	2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	1,245	1,245

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2019	0								62,265	0	62,265
2020	0	0		0	0	0	0	0	0	62,234	62,234

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Cancelled

CIP Type Project

Project New To CIP

Project Engineer/Manager Govind Patel

Manager 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 Treatment Plants and Facilities

Class Lvl 3 Northeast

Location City of Detroit

Fund and Cost Center

Project Significance Plant service water is currently fed off of a DWSD owned 12" water main along 8 Mile Road in front of the plant. GLWA is charged by DWSD for use of this water which represents a substantial long term cost. Project involves disconnecting from the DWSD 12" main and connecting to a GLWA main exiting the plant for its service water supply.

Scope of Work Disconnect service water feed for plant from the existing 12" water main owned by DWSD and connect it via new service water piping to an existing GLWA transmission main existing the plant grounds. Work involves site civil and buried piping work.

Challenges Coordinating with DWSD on the disconnection from its 12" water main.

**PM Weighted
Score**

24

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

**RC Weighted
Score**

22

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



GLWA FY 2020-2024 CIP
NE - WTP Relocation of 12" service line at front of plant

112004 CIP#

Phase GLWA Employees Project management

Contract NA

Status Cancelled

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2016"/>	Cost Est. Date
<input type="text" value="GLWA"/>	Cost Est. Source
<input type="text" value="GLWA"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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

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

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

CIP Type Project

Project New To CIP



Project Engineer/Manager Peter Fromm

Manager 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

Project Significance The existing steel covers that cover equipment and entry openings into settled water and 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 Replace steel covers, frames and associated structural support beams over the settled water and filtered water conduits.

Challenges Temporary support of sluice gate operators and partial shutdown of certain portions of the plant to facilitate replacement of embedded frames and structural supports that are located immediately above settled water and filtered water flows.

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

PM Weighted Score

72

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

RC Weighted Score

61

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



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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY20	\$4	2	0	2020CIP
GLWA Salaries CIP2020	FY21	\$5	2	0	2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
		6	7					13

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



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

Phase Construction

Contract TBD

Status Future Planned Start

Title NE Steel Cover Replacement

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY20	\$160			2020CIP
Construction	FY21	\$640			2020CIP

Task	Start Date	End Date	Duration
Scope Development	7/1/2019	8/15/2019	45
Procurement	8/16/2019	2/17/2020	185
Project Execution	2/18/2020	2/19/2021	367
Project Closeout	2/22/2021	5/23/2021	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
		160	640					800

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2020	0	0			166	647					813

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

CIP Type Project

Project New To CIP



Project Engineer/Manager Peter Fromm

Manager 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

Project Significance	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.
Scope of Work	Replace 1/2 of the existing flocculators, including drives, motors, shafts, and paddles with new.
Challenges	Water production during construction
Lookup Driver	1 - Condition
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.
Explanation	Most of the existing flocculators are not operating and are beyond repair.

**PM Weighted
Score**

65

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

**RC Weighted
Score**

67.4

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



**GLWA FY 2020-2024 CIP
Northeast Water Treatment Plant Flocculator Replacements**

112006 CIP#

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

Title NE WTP Flocculator Replacement

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY20	\$1,350			2020CIP
Construction	FY21	\$1,350			2020CIP

Task	Start Date	End Date	Duration
Scope Development	7/1/2019	10/1/2019	92
Procurement	10/2/2019	4/2/2020	183
Project Execution	4/3/2020	6/30/2021	453
Project Closeout	7/1/2021	9/29/2021	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
		1,350	1,350					2,700

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



Northeast Water Treatment Plant Flocculator Replacements

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$2	1	0	2020CIP
GLWA Salaries CIP2020	FY20	\$4	2	0	2020CIP
GLWA Salaries CIP2020	FY21	\$4	2	0	2020CIP
GLWA Salaries CIP2020	FY22	\$2	1	0	2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	3	6	6	3				18

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2020	0	0		3	1,356	1,356	3				2,718

- Innovation
- 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

Manager 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

Project Significance	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	This project involves replacement of the valve actuators at the high lift pump system as the existing oil hydraulic actuators are leaking and at the end of their service life.
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 Contract No. CS-034, Design and Construction Administration Services
Lookup Driver	1 - Condition
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.

PM Weighted Score
64

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

RC Weighted Score
53.2

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



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

Phase Design & Construction Assistance

Contract CS-034

Status Active

Title CS-034, Tetra Tech, High Lift Pump Discharge Valve Actuators Replacement at Southwest WTP

Design contract is CS-034 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	\$46			
Engineering Services	FY20	\$65			
Engineering Services	FY21	\$33			

Task	Start Date	End Date	Duration
Scope Development	4/2/2016	7/1/2016	90
Procurement	7/2/2016	7/2/2017	365
Project Execution	7/3/2017	11/30/2020	1246
Project Closeout	12/1/2020	3/1/2021	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	46	65	33	0	0	0	0	144

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



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

Phase Construction

Contract NA

Status Active

Title Construction, SW WTP High Lift Pump Discharge Valve Actuators Replacement

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$1,100			
Construction	FY20	\$2,800			
Construction	FY21	\$1,100			

Task	Start Date	End Date	Duration
Scope Development	11/30/2017	2/28/2018	90
Procurement	3/1/2018	12/3/2018	277
Project Execution	12/4/2018	11/30/2020	727
Project Closeout	12/1/2020	3/1/2021	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	1,100	2,800	1,100	0	0	0	0	5,000

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



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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$8	3	0	
GLWA Salaries CIP2020	FY20	\$8	3	0	
GLWA Salaries CIP2020	FY21	\$8	3	0	
GLWA Salaries CIP2020	FY22	\$4	2	0	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	11	11	11	6	0	0	0	39

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



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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$106			FY18
Unknown	FY18-	\$112			FY17
Unknown	FY18-	\$3			FY16
GLWA Salaries CIP2020	FY18-	\$20	8		FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
249								249

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		160	160	900	900				0	0	2,120
2019	0	115	186	1,157	2,876	1,144	6			0	5,484
2020	0	0	249	1,157	2,876	1,144	6	0	0	0	5,432

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

- Innovation
- 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

Manager 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

Project Significance Replacing improperly functioning as well as cracked valves and gates, causing operational and maintenance concerns. Low and High Lift Pumping Improvements: Existing pumping station equipment including pumps, motors, switchgear, controls, gates, valves, etc. are all original to the plant and are over-sized for the current and projected system water demands for at least the next 20 years. The station's electrical system and controls are difficult and costly to maintain and have reduced reliability due to age and lack of available parts on the market. Large size and age of pumps and motors are inefficient. Flocculation & Filtration System Improvements: Existing filter media, auxiliary scour, backwash, and related appurtenances are all original to the plant construction (circa 1962) and need to be replaced for reliability and efficiency improvements. Flocculator equipment upgrades were identified in the 2015 WMPU project.

Scope of Work The work includes study, design, and construction services for the replacement of 2 - 72" diameter butterfly valves, 4 motorized sluice gates, 7 potable sluice gates, and 1 - 36" flag valve. Replacement of high and low lift pumps, motors, motor controls, medium-voltage switchgear, and MCCs. Replace and improve filtration system equipment and components as well as flocculator equipment upgrades.

Lookup Driver

Other Important Info This work is included in the 2015 water master plan update

PM Weighted Score

66.6

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

RC Weighted Score

67.6

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



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

Phase Design & Construction Assistance

Contract NA

Status Future Planned Start

Title SW WTP Low and High Lift Pumping & Rapid Mix Chamber BFVs, Sluice Gates, Flocculation & Filtration System Improvements (E1, E2, E3, E2B, E3B,)

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY24	\$0			
Engineering Services	FY25+	\$15,000			2020CIP

Task	Start Date	End Date	Duration
Scope Development			
Procurement			
Project Execution			
Project Closeout			

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	15,000	15,000

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



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

Phase Construction

Contract NA

Status Future Planned Start

Title SW WTP Low and High Lift Pumping & Rapid Mix Chamber BFVs, Sluice Gates (C, C2)

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY25+	\$132,563			2020CIP

Task	Start Date	End Date	Duration
Scope Development			
Procurement			
Project Execution			
Project Closeout			

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	132,563	132,563

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



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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY24	\$0	0	0	
GLWA Salaries CIP2020	FY25+	\$500	198	25	2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	723	723

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018								2,940	0	0	2,940
2019	0								148,286	0	148,286
2020	0	0		0	0	0	0	0	0	148,286	148,286

Southwest Water Treatment Plant, Raw Water Sampling Modifications

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

Access manhole



CIP Type Project

Project New To CIP

Project Engineer/Manager Shakil Ahmed

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Treatment Plants and Facilities

Date Original Business Case Prepared 6/26/2014

Class Lvl 3 Southwest

Year Project Added to CIP 2014

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882111

Project Significance	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	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.
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.
Project History	n/a
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.
Lookup Driver	3 - Regulatory
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.
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	
Efficiency and Innovation	0	
Financial	0	
O&M	3	
Performance (Service Level/Reliability)	4	
Public Benefit	1	
Public Health & Safety	3	
Regulatory (Environmental/Legal)	5	

RC Weighted Score

44.8

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



Southwest Water Treatment Plant, Raw Water Sampling Modifications

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$4	2	0	
GLWA Salaries CIP2020	FY20	\$7	3	0	
GLWA Salaries CIP2020	FY21	\$1	0	0	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	6	10	1	0	0	0	0	17

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



Southwest Water Treatment Plant, Raw Water Sampling Modifications

Phase Construction

Contract NA

Status Future Planned Start

Title SW WTP Residual Handling Facility's Decant Flow Modifications

near procurement

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

Cost Est. Class

Program/Allowance Task Information

Cost Est. Date

Project Manager

Cost Est. Source

CIP Number

Cost Est. Prepared By

Description

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19	\$293			
Construction	FY20	\$340			
Construction	FY21	\$0			

Task	Start Date	End Date	Duration
Scope Development	1/2/2018	4/2/2018	90
Procurement	4/3/2018	10/8/2018	188
Project Execution	10/9/2018	9/21/2020	713
Project Closeout	9/22/2020	12/21/2020	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	293	340	0	0	0	0	0	633

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



Southwest Water Treatment Plant, Raw Water Sampling Modifications

Phase Study and Design and Construction Assistance

Contract CS-1730

Status Active

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 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**

Program/Allowance Task Information

1/1/2016 **Cost Est. Date**

Project Manager

GLWA **Cost Est. Source**

CIP Number

GLWA **Cost Est. Prepared By**

Description

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19	\$20			
Engineering Services	FY20	\$30			
Engineering Services	FY21	\$0			

Task	Start Date	End Date	Duration
Scope Development	6/26/2016	9/24/2016	90
Procurement	9/25/2016	9/25/2017	365
Project Execution	9/26/2017	9/21/2020	1091
Project Closeout	9/22/2020	12/21/2020	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	20	30	0	0	0	0	0	50

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



Southwest Water Treatment Plant, Raw Water Sampling Modifications

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$37			FY18
Unknown	FY18-	\$135			FY17
Unknown	FY18-	\$7			FY16
GLWA Salaries CIP2020	FY18-	\$14	5		FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
198								198

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		100	3,100	2,309					0	0	5,509
2019	0	142	165	1,054	1,785	206				0	3,352
2020	0	0	198	319	380	1	0	0	0	0	898

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Reclassified

Southwest Water
Treatment Plant



CIP Type Project

Project New To CIP

Project Engineer/Manager Shakil Ahmed

Manager 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

Project Significance The current system is too limited with regard to the plant's ability to quickly discharge and otherwise dispose of water plant residuals from the sedimentation basins, flocculator chambers, associated channels, and the residuals handling facility raw solids storage tanks, thickeners, and associated channels to the local sewer system in instances where the plant needs to free the water treatment process from excess solids that inhibit effective water treatment.

Scope of Work Study the existing design and construction of the plant facilities, determine hydraulic and treatment bottlenecks, develop alternative solutions, and identify the best alternative to quickly discharge water plant residuals from plant processes, tanks, channels, etc. to the local sewer system so that water treatment and quality problems are avoided.

Lookup Driver

**PM Weighted
Score**

59.4

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

**RC Weighted
Score**

58

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



**GLWA FY 2020-2024 CIP
Southwest Water Treatment Plant Residuals Management**

113005 CIP#

Phase GLWA Employees Project management

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY24	\$0	0	0	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



Southwest Water Treatment Plant Residuals Management

Phase Study

Contract NA

Status Future Planned Start

Title SW WTP Residuals Management

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY24	\$0			

Task	Start Date	End Date	Duration
Scope Development	12/4/2017	2/1/2018	59
Procurement	2/2/2018	8/31/2018	210
Project Execution	8/31/2018	6/27/2019	300
Project Closeout	6/27/2019	9/25/2019	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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

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

- Innovation
- 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

Manager 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

Project Significance Existing chlorine gas scrubber needs to be replaced for reliability and safety reasons. Related improvements include ventilation, alarms, instruments, and controls. The existing raw water screens are original to the plant, do not operate and are needed to protect the low lift pumps.

Scope of Work Replace the existing gas chlorine scrubber with new unit plus related ventilation, alarms, instruments, and controls; as well as replacement of the existing raw water screens.

Lookup Driver 5 - Public Health & Safety

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

**PM Weighted
Score**

46.6

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

**RC Weighted
Score**

46.6

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



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

Phase Design and Build

Contract NA

Status Future Planned Start

Title SW WTP Chlorine Scrubber, Raw Water Screens & Related Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY25+	\$7,000			2020CIP

Task	Start Date	End Date	Duration
Scope Development	5/11/2027	8/9/2027	90
Procurement	8/10/2027	8/9/2028	365
Project Execution	8/10/2028	12/26/2029	503
Project Closeout	12/27/2029	3/27/2030	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	7,000	7,000

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



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

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY24	\$0	0	0	
GLWA Salaries CIP2020	FY25+	\$22	9	1	2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	32	32

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2019	0								7,032	0	7,032
2020	0	0		0	0	0	0	0	0	7,032	7,032

Southwest Water Treatment Plant Architectural and Building Mechanical Improvements

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

Southwest Water
Treatment Plant



CIP Type Project

Project New To CIP

Project Engineer/Manager Shakil Ahmed

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Treatment Plants and Facilities

Date Original Business Case Prepared 9/27/2017

Class Lvl 3 Southwest

Year Project Added to CIP 2017

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882111

Project Significance The existing building mechanical equipment (HVAC, dehumidification, plumbing) and architectural features (doors, windows, flooring, furnishings, etc.) throughout the facility are over 50 years old. They are beyond their useful service life and need to be replaced with more reliable, energy efficient systems. The architectural improvements will be limited to the administration and high/low lift buildings on this project. Existing filter media, auxiliary scour, backwash, and related appurtenances are all original to the plant construction (circa 1962) and need to be replaced for reliability and efficiency improvements. Flocculator equipment upgrades were identified in the 2015 WMPU project.

Scope of Work Replace the dehumidification, HVAC and selected plumbing system equipment with new as well as replacing exterior and interior doors and windows with new. Renovate the existing laboratory. FROM FORMER 113008: Replace and improve filtration system equipment and components as well as flocculator equipment upgrades.

Other Important Info CS-1528 water master plan update included these improvements.

Southwest Water Treatment Plant Architectural and Building Mechanical Improvements

PM Weighted Score

46.6

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

RC Weighted Score

36

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



Southwest Water Treatment Plant Architectural and Building Mechanical Improvements

Phase Design & Construction Assistance

Contract NA

Status Future Planned Start

Title SW WTP Architectural and Building Mechanical Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY24	\$0			
Engineering Services	FY25+	\$6,100			2020CIP

Task	Start Date	End Date	Duration
Scope Development	5/11/2027	8/9/2027	90
Procurement	8/10/2027	8/9/2028	365
Project Execution	8/10/2028	8/2/2033	1818
Project Closeout	8/3/2033	11/1/2033	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	6,100	6,100

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



Southwest Water Treatment Plant Architectural and Building Mechanical Improvements

Phase Construction

Contract NA

Status Future Planned Start

Title SW WTP Architectural and Building Mechanical Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY25+	\$31,000			2020CIP

Task	Start Date	End Date	Duration
Scope Development	11/12/2029	2/10/2030	90
Procurement	2/11/2030	8/18/2030	188
Project Execution	8/19/2030	8/2/2033	1079
Project Closeout	8/3/2033	11/1/2033	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	31,000	31,000

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



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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY24	\$0	0	0	
GLWA Salaries CIP2020	FY25+	\$163	65	8	2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	236	236

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2019	0								37,336	0	37,336
2020	0	0		0	0	0	0	0	0	37,336	37,336

Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

Springwells filter building



CIP Type Project

Project New To CIP

Project Engineer/Manager Khader Hamad

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Treatment Plants and Facilities

Date Original Business Case Prepared 3/29/2004

Class Lvl 3 Springwells

Year Project Added to CIP 2002

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882111

Project Significance Reconstruction of the 40 filters and 19 filters at the Springwells 1958 and 1930 filter plants, respectively has provided 295 MGD of reliable filtration capacity at the Springwells Water Treatment Plant. The existing mechanical HVAC, dehumidification, electrical, instrumentation, and controls systems serving the 1958 filters have also been upgraded to make them more reliable and efficient. Likewise, the existing mechanical HVAC and dehumidification system serving the 1930 filter building was replaced with new again to provide reliability and efficiency. The existing elevators at the facility have been replaced with new and upgraded to bring them into compliance with current building codes and safety standards. The administration building offices and laboratory have been improved architecturally, including new HVAC and lighting systems.

Scope of Work 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 replacement of Phosphoric Acid Feed System, rehabilitation of the 1958 Filters, rehabilitation of failed 1930s Filters, Update of Operation and Maintenance Manuals, and addition of polymer systems and controls. 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; install a local instrumentation and controls system.

Challenges Completion of the

Related Project Contract Nos. CS-1425 and CS-200 with CDM Smith for the Design and Construction Administration Services Contract No. SP-563 with Walsh for construction.



Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

Lookup Driver	1 - Condition
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.
Explanation	The 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

Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

PM Weighted Score

62.2

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

RC Weighted Score

62.2

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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$74	29	4	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	107	0	0	0	0	0	0	107

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



Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

Phase Design and Build

Contract SP-563

Status Active

Title SP-563, Walsh, SPW WTP 1958 Filter Rehabilitation and Auxiliary Facilities ©

Walsh Construction Group - per Scott Schultz: Serial Capitalization of 30s filter beds, 58 serv bldg items

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
Design-Build	FY19	\$7,000			construction

Task	Start Date	End Date	Duration
Scope Development	10/9/2012	1/7/2013	90
Procurement	1/8/2013	7/7/2013	180
Project Execution	7/8/2013	4/1/2019	2093
Project Closeout	4/2/2019	7/2/2019	91

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	7,000	0	0	0	0	0	0	7,000

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



Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

Phase Study and Design and Construction Assistance

Contract CS-1425

Status Closed Out

Title CS-1425, CDM, SPW WTP 1958 Filter Rehabilitation and Auxiliary Facilities (E1 & E2)

CDM - per Scott Schultz: Serial Capitalization of 30s filter beds, 58 serv bldg items

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	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19	\$0			

Task	Start Date	End Date	Duration
Scope Development	10/8/2010	1/6/2011	90
Procurement	1/7/2011	1/7/2012	365
Project Execution	1/8/2012	11/12/2018	2500
Project Closeout	11/13/2018	2/11/2019	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

Phase Construction Assistance

Contract cs-073

Status Active

Title CS-073, Lake Erie Electric Inspection Services (2nd C)

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

<input type="text" value="1"/>	Cost Est. Class
<input type="text" value="1/1/2013"/>	Cost Est. Date
<input type="text" value="CDM Smith"/>	Cost Est. Source
<input type="text" value="CDM Smith"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



Springwells Water Treatment Plant, 1958 Filter Rehabilitation and Auxiliary Facilities

Phase Construction Assistance

Contract CS-200

Status Active

Title CS-200, CDM, SPW WTP 1958 Filter Rehabilitation and Auxiliary Facilities (E3)

Add CS-200 CDM

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	\$871			

Task	Start Date	End Date	Duration
Project Execution	6/5/2017	12/18/2018	561

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	871	0	0	0	0	0	0	871

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

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

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

CIP Type Project

Project New To CIP

High Lift Station viewed from Low Lift Station operating floor showing high lift pump pits and windows to be replaced.



Project Engineer/Manager Erich Klun

Manager 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

Project Significance 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 The electrical gear at the Springwells WTP high and low lift stations is old and parts are no longer available. The outdated equipment also poses safety issues. Furthermore, the pumps may be right-sized to provide more efficient pumping systems.

Challenges Complicated sequence of construction required to replace electrical gear while maintaining system demands throughout construction. During construction, new costly equipment will be operating next to existing equipment/facilities to be demolished

Related Project Contract No. CS-103 with CDM Smith Design and Construction Administration Services

Lookup Driver 1 - Condition

Explanation Not provided.

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

PM Weighted Score

78.6

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

RC Weighted Score

69.2

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



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

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$468			FY18
Unknown	FY18-	\$22			FY17
GLWA Salaries CIP2020	FY18-	\$7	1	0	FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
498								498

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



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

Phase Construction

Contract NA

Status Future Planned Start

Title SPW WTP - Low Lift and High Lift Pump Station

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY20	\$3,590			2020CIP
Construction	FY21	\$8,157			2020CIP
Construction	FY22	\$13,079			
Construction	FY23	\$13,079			
Construction	FY24	\$25,000			
Construction	FY25+	\$40,000			2020CIP

Task	Start Date	End Date	Duration
Scope Development	9/29/2020	12/28/2020	90
Procurement	12/29/2020	7/2/2021	185
Project Execution	7/6/2021	6/1/2026	1791
Project Closeout	6/2/2026	8/31/2026	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	3,590	8,157	13,079	13,079	25,000	40,000	102,905

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



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 CS-103, SPW WTP - Low Lift and High Lift Pump Station

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$2,462			
Engineering Services	FY20	\$2,250			
Engineering Services	FY21	\$1,000			
Engineering Services	FY22	\$500			
Engineering Services	FY23	\$500			
Engineering Services	FY24	\$1,000			
Engineering Services	FY25+	\$2,686			2020CIP

Task	Start Date	End Date	Duration
Scope Development	11/2/2016	1/31/2017	90
Procurement	2/1/2017	2/1/2018	365
Project Execution	2/2/2018	6/1/2026	3041
Project Closeout	6/2/2026	8/31/2026	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	2,462	2,250	1,000	500	500	1,000	2,686	10,398



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

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

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$100	40	5	
GLWA Salaries CIP2020	FY20	\$100	40	5	
GLWA Salaries CIP2020	FY21	\$100	40	5	
GLWA Salaries CIP2020	FY22	\$100	40	5	
GLWA Salaries CIP2020	FY23	\$100	40	5	
GLWA Salaries CIP2020	FY24	\$100	40	5	
GLWA Salaries CIP2020	FY25+	\$100	40	5	2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	145	145	145	145	145	145	145	1,015

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018			1,500	2,000	12,500	22,000	21,500	26,500	0	0	86,000



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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total	
2019	0	22	463	1,433	2,481	1,453	11,228	8,675	59,748	0	85,503	
2020	0	0	498	2,607	5,985	9,302	13,724	13,724	26,145	42,831	114,816	

Water Production Flow Metering Improvements at Northeast, Southwest and Springwells

- Innovation
- 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

Manager 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

Project Significance	Existing water production flow meters need to be rehabilitated to place back into reliable and accurate service. Once completed, accurate flow measurement from these plants will answer non-revenue water questions.
Scope of Work	Water production metering is needed at the Water Treatment Plants to manage non-revenue and provide estimates of usage for non-wholesale customers.
Challenges	Removing and replacing existing meters in original piping requires isolation using existing yard piping and valving. Condition of existing pipe and valves needs to be adequately addressed in the final design documents and coordinated with operations.
Project History	n/a
Related Project	Contract No. CS-1656 with Applied Science, Inc. for Design and Construction Administration
Lookup Driver	7 - Financial
Other Important Info	n/a
Explanation	New water production flow metering will provide better accuracy no measuring finished water flows from these plants.

Water Production Flow Metering Improvements at Northeast, Southwest and Springwells

PM Weighted Score

59.8

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

RC Weighted Score

50.6

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



Water Production Flow Metering Improvements at Northeast, Southwest and Springwells

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$21	8	1	
GLWA Salaries CIP2020	FY20	\$21	8	1	
GLWA Salaries CIP2020	FY21	\$13	5	1	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	30	30	19	0	0	0	0	79

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



Water Production Flow Metering Improvements at Northeast, Southwest and Springwells

Phase Construction

Contract CON-133

Status Active

Title CON-133, Water Production Flow Metering Improvements at NE, SW, and SPW WTP

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	\$3,531			
Construction	FY20	\$50			
Construction	FY21	\$0			

Task	Start Date	End Date	Duration
Scope Development			
Procurement			
Project Execution	7/31/2017	3/31/2020	974
Project Closeout	4/1/2020	6/30/2020	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	3,531	50	0	0	0	0	0	3,581

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



Water Production Flow Metering Improvements at Northeast, Southwest and Springwells

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$3,020			FY18
Engineering Services	FY18-	\$186			FY18
Unknown	FY18-	\$14			FY17
Unknown	FY18-	\$141			FY16
Unknown	FY18-	\$30			Pre-Bifurcation
GLWA Salaries CIP2020	FY18-	\$40	14		FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
3,445								3,445

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		1,000	8,800	2,100	1,000				0	0	12,900
2019	0	186	704	2,506	2,506	1,257				0	7,159
2020	0	0	3,445	3,561	80	19	0	0	0	0	7,105

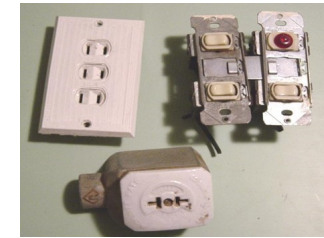
- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

CIP Type Project

Project New To CIP

Outdated electrical outlets



Project Engineer/Manager Peter Fromm

Manager 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

Project Significance Existing administration building is over 80 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 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 work also includes relocating the electrical gear from basement to first floor locker room. 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.

Challenges Major component of this project includes the relocation/replacement of existing electrical gear located in the basement, and switchover to the new gear and location will need to be seamless. All plumbing needs to be replaced, the majority of which is conc. 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.

Springwells Water Treatment Plant, Administration Building Improvements & Underground

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.
Related Project	Depending on when the project gets underway, this project may need to be coordinated with current on-going contracts SP-563, SCP-SP-009 and construction contracts resulting from the designs being completed under contracts CS-1671 and SCP-CS-1656. Other planned projects that may be related to this project include paving improvements, underground structure rehabilitation and 72" yard piping improvements/replacement.
Lookup Driver	1 - Condition
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 \$1,076,400.00.
Explanation	Not provided.

PM Weighted Score

63.8

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

RC Weighted Score

67.4

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



Springwells Water Treatment Plant, Administration Building Improvements & Underground

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$7	3	0	
GLWA Salaries CIP2020	FY20	\$21	8	1	
GLWA Salaries CIP2020	FY21	\$21	8	1	
GLWA Salaries CIP2020	FY22	\$21	8	1	
GLWA Salaries CIP2020	FY23	\$17	7	1	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	10	30	30	30	25	0	0	125

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



Springwells Water Treatment Plant, Administration Building Improvements & Underground

Phase Study and Design and Construction Assistance

Contract NA

Status Active

Title SPW WTP Administration Building Improvements & Underground Fire Protection Loop

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$20			
Engineering Services	FY20	\$383			
Engineering Services	FY21	\$186			
Engineering Services	FY22	\$290			
Engineering Services	FY23	\$121			

Task	Start Date	End Date	Duration
Scope Development	2/24/2018	6/7/2018	103
Procurement	6/8/2018	5/26/2019	352
Project Execution	5/27/2019	12/23/2022	1306
Project Closeout	12/24/2022	3/24/2023	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	20	383	186	290	121	0	0	1,000

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



Springwells Water Treatment Plant, Administration Building Improvements & Underground

Phase Construction

Contract NA

Status Future Planned Start

Title SPW WTP Administration Building Improvements & Underground Fire Protection Loop

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY21	\$2,042			
Construction	FY22	\$3,500			
Construction	FY23	\$1,458			

Task	Start Date	End Date	Duration
Scope Development	2/24/2020	5/24/2020	90
Procurement	5/25/2020	11/29/2020	188
Project Execution	11/30/2020	12/23/2022	753
Project Closeout	12/24/2022	3/24/2023	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	2,042	3,500	1,458	0	0	7,000

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018				300	1,700				0	0	2,000



GLWA FY 2020-2024 CIP

114005 CIP#

Springwells Water Treatment Plant, Administration Building Improvements & Underground

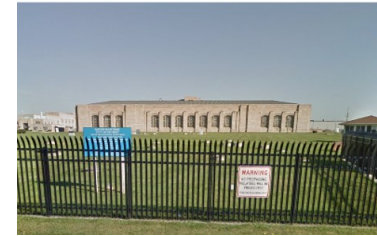
CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total	
2019	0			30	413	2,258	3,820	1,604		0	8,125	
2020	0	0		30	413	2,258	3,820	1,604	0	0	8,125	

Springwells Water Treatment Plant Replacement of 1958 Rapid Mixing Units

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

Springwells WTP



CIP Type Project

Project New To CIP

Project Engineer/Manager Peter Fromm

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Treatment Plants and Facilities

Date Original Business Case Prepared 6/26/2017

Class Lvl 3 Springwells

Year Project Added to CIP 2014

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882111

Project Significance	Existing rapid mixing units at the 1958 treatment train are not operable and are needed for effective water treatment at Springwells.
Scope of Work	The work includes removal and replacement of all of the four rapid mixers including electrical, mechanical and structural components.
Challenges	Work requires treatment trains to be shut down to complete the installation/replacement, so coordination with operations and overall system demands required.
Project History	n/a
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
Lookup Driver	1 - Condition
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.
Explanation	Existing rapid mix units are not operational at the 1958 treatment train.

Springwells Water Treatment Plant Replacement of 1958 Rapid Mixing Units

**PM Weighted
Score**

72

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

**RC Weighted
Score**

69.4

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



Springwells Water Treatment Plant Replacement of 1958 Rapid Mixing Units

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$30			FY18
Engineering Services	FY18-	\$33			2020CIP
n/a	FY18-	\$0			FY18
Unknown	FY18-	\$104			FY17
GLWA Salaries CIP2020	FY18-	\$7	3	0	FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
177								177

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



Springwells Water Treatment Plant Replacement of 1958 Rapid Mixing Units

Phase Construction

Contract CON-251

Status Active

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

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$750			
Construction	FY20	\$54			

Task	Start Date	End Date	Duration
Scope Development	9/21/2017	12/20/2017	90
Procurement	12/21/2017	5/14/2018	144
Project Execution	5/15/2018	7/14/2019	425
Project Closeout	7/15/2019	10/15/2019	92

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	750	54	0	0	0	0	0	804

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



Springwells Water Treatment Plant Replacement of 1958 Rapid Mixing Units

Phase Design & Construction Assistance

Contract SCP-CS-045

Status Active

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 Active

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	\$122			

Task	Start Date	End Date	Duration
Scope Development	5/3/2016	8/1/2016	90
Procurement	8/2/2016	1/23/2017	174
Project Execution	1/24/2017	5/19/2019	845
Project Closeout	5/20/2019	8/18/2019	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	122	0	0	0	0	0	0	122

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



Springwells Water Treatment Plant Replacement of 1958 Rapid Mixing Units

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$10	4	0	
GLWA Salaries CIP2020	FY20	\$5	2	0	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	14	7	0	0	0	0	0	21

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

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

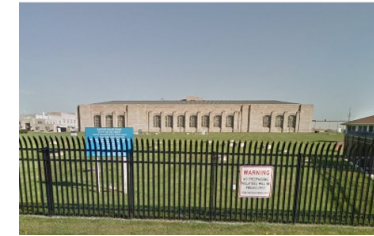
CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		100	875	275					0	0	1,250
2019	0	104	123	1,284	211					0	1,722
2020	0	0	177	886	61	0	0	0	0	0	1,124

Springwells Water Treatment Plant, Powdered Activated Carbon System Improvements

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

Springwells WTP



CIP Type Project

Project New To CIP

Project Engineer/Manager TBD

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Treatment Plants and Facilities

Date Original Business Case Prepared 6/26/2014

Class Lvl 3 Springwells

Year Project Added to CIP 2014

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882111

Project Significance Although the existing powdered activated carbon (PAC) system is operable, it is difficult to operate and maintain when needed for taste and odor control. The PAC system needs to be replaced with a new system using a different design that provides for improved operation and maintainability. The plant is able to feed powdered activated carbon (PAC) when needed but only through extraordinary measures because the existing PAC feed systems does not operate as intended. The extraordinary measures cause additional operation and maintenance expense and inefficiencies that should be corrected in the long term. Due to the infrequent need to feed PAC, there is not an immediate need to replace the entire existing PAC system at Springwells. If raw water quality deteriorates unexpectedly and taste and odor causing compound concentrations steadily increase, then replacement of the PAC system at an earlier date would be warranted.

Scope of Work Replace the existing PAC system with a new system of a different design that provides improved operations and maintainability when PAC dosing is needed to control taste and odor in the raw water supply.

Challenges Layout of piping to correct existing problems and drainage difficult. Diffuser replacement/relocation/installation will require plant shutdowns to complete, so it will be seasonal demand dependent.

Project History n/a

Related Project none

Lookup Driver 2 - Performance

Other Important Info n/a

Explanation The existing PAC system is cumbersome and difficult to operate and maintain.

Springwells Water Treatment Plant, Powdered Activated Carbon System Improvements

PM Weighted Score

46.6

Criteria	Score	Comment
Condition	3	11/28/18 - Gartrell & Caldwell revised scores b
Efficiency and Innovation	1	11/28/18 - Gartrell & Caldwell revised scores b
Financial	1	11/28/18 - Gartrell & Caldwell revised scores b
O&M	4	11/28/18 - Gartrell & Caldwell revised scores b
Performance (Service Level/Reliability)	2	11/28/18 - Gartrell & Caldwell revised scores b
Public Benefit	2	11/28/18 - Gartrell & Caldwell revised scores b
Public Health & Safety	2	11/28/18 - Gartrell & Caldwell revised scores b
Regulatory (Environmental/Legal)	3	11/28/18 - Gartrell & Caldwell revised scores b

RC Weighted Score

46.6

Criteria	Score	Comment
Condition	3	11/28/18 - Gartrell & Caldwell revised scores ba
Efficiency and Innovation	1	11/28/18 - Gartrell & Caldwell revised scores ba
Financial	1	11/28/18 - Gartrell & Caldwell revised scores ba
O&M	4	11/28/18 - Gartrell & Caldwell revised scores ba
Performance (Service Level/Reliability)	2	11/28/18 - Gartrell & Caldwell revised scores ba
Public Benefit	2	11/28/18 - Gartrell & Caldwell revised scores ba
Public Health & Safety	2	11/28/18 - Gartrell & Caldwell revised scores ba
Regulatory (Environmental/Legal)	3	11/28/18 - Gartrell & Caldwell revised scores ba



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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY24	\$0			
Engineering Services	FY25+	\$820			2020CIP

Task	Start Date	End Date	Duration
Scope Development	10/8/2022	1/6/2023	90
Procurement	1/7/2023	1/7/2024	365
Project Execution	1/8/2024	4/17/2026	830
Project Closeout	4/18/2026	7/17/2026	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	820	820

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



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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY24	\$0	0	0	
GLWA Salaries CIP2020	FY25+	\$82	32	4	2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	118	118

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



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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY24	\$0			
Construction	FY25+	\$3,000			2020CIP

Task	Start Date	End Date	Duration
Scope Development	7/15/2024	10/13/2024	90
Procurement	10/14/2024	4/20/2025	188
Project Execution	4/21/2025	4/17/2026	361
Project Closeout	4/18/2026	7/17/2026	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	3,000	3,000

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018					900	2,000			0	0	2,900
2019	0								3,939	0	3,939



Springwells Water Treatment Plant, Powdered Activated Carbon System Improvements

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total	
2020	0	0		0	0	0	0	0	0	3,938	3,938	

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

NONE

CIP Type Project

Project New To CIP



Project Engineer/Manager Peter Fromm

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Treatment Plants and Facilities

Date Original Business Case Prepared 6/26/2014

Class Lvl 3 Springwells

Year Project Added to CIP 2014

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882111

Project Significance	Existing sedimentation basin gates, guides and hoists are early 1930s and are in need of upgrade. Further, upgrades must result in a safer mode of gate operation.
Scope of Work	This project will evaluate and rehabilitate or replace the sluice gates, guides and hoists at the 1930s Filter Building at the Springwells Water Treatment Plant. These gates and appurtenances have surpassed their expected service life and require rehabilitation and/or replacement for the isolation and operation of the 1930s filters and overall maintenance of various systems at the Springwells WTP. Options for maintenance of flows are limited with current condition of these gates.
Challenges	Work will either require sedimentation basins to be shut down and dewatered or the work performed by divers. In either case, portions of the 1930 plant will need to be shut down to complete the work.
Project History	n/a
Related Project	none
Lookup Driver	5 - Public Health & Safety
Other Important Info	n/a
Explanation	The existing sluice gates are unsafe to operate. In addition, the condition of the guides is poor.

**PM Weighted
Score**

61.8

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

**RC Weighted
Score**

52.8

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



Springwells Water Treatment Plant, 1930 Sedimentation Basin Sluice Gates, Guides & Hoists

Phase Design and Build

Contract DB-309

Status Active

Title 1930 Sedimentation Basin Sluice Gates, Guides & Hoists Improvements at Springwells WTP

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$411			
Design-Build	FY20	\$4,123			
Design-Build	FY21	\$6,800			
Design-Build	FY22	\$5,667			

Task	Start Date	End Date	Duration
Scope Development	1/24/2018	8/23/2018	211
Procurement	8/24/2018	4/25/2019	244
Project Execution	4/26/2019	4/21/2022	1091
Project Closeout	4/22/2022	7/21/2022	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	411	4,123	6,800	5,667	0	0	0	17,001

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



Springwells Water Treatment Plant, 1930 Sedimentation Basin Sluice Gates, Guides & Hoists

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$9	4	0	
GLWA Salaries CIP2020	FY20	\$21	8	1	
GLWA Salaries CIP2020	FY21	\$21	8	1	
GLWA Salaries CIP2020	FY22	\$21	8	1	
GLWA Salaries CIP2020	FY23	\$2	1	0	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	13	30	30	30	3	0	0	106

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



Springwells Water Treatment Plant, 1930 Sedimentation Basin Sluice Gates, Guides & Hoists

Phase Design

Contract CS-289

Status Active

Title Design 1930 Sedimentation Basin Sluice Gates, Guides, & Hoists Improvements at Springwells

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$18			2020CIP

Task	Start Date	End Date	Duration
Scope Development	2/28/2018	4/15/2018	46
Procurement	4/16/2018	5/29/2018	43
Project Execution	6/7/2018	8/24/2018	78
Project Closeout	8/24/2018	11/22/2018	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	18							18

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018			1,200	2,000	4,000	300			0	0	7,500
2019	0			424	4,153	6,830	5,697	3		0	17,107
2020	0	0		442	4,153	6,830	5,697	3	0	0	17,125

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Pending Closeout

NONE



CIP Type Project

Project New To CIP

Project Engineer/Manager Timothy Kuhns

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Treatment Plants and Facilities

Date Original Business Case Prepared 6/26/2014

Class Lvl 3 Springwells

Year Project Added to CIP 2014

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882111

Project Significance 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 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.

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

Lookup Driver 1 - Condition

Explanation N/A - Under Procurement

**PM Weighted
Score**

85.6

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

**RC Weighted
Score**

78

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



**GLWA FY 2020-2024 CIP
SPW WTP Service Area Redundancy Study**

114009 CIP#

Phase Study **Contract** CS-1772 **Status** Pending Close-out

Title CS-1772 Springwells Water Treatment Plant Service Area Redundancy Study

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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

Task	Start Date	End Date	Duration
Scope Development	10/24/2017	2/26/2018	125
Procurement	2/27/2018	12/19/2018	295
Project Execution	12/20/2018	12/18/2019	363
Project Closeout	7/1/2019	9/26/2019	87

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



GLWA FY 2020-2024 CIP
SPW WTP Service Area Redundancy Study

114009 CIP#

Phase GLWA Employees Project management

Contract NA

Status Pending Close-out

Title GLWA Salaries

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

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

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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

Springwells Water Treatment Plant, Yard Piping and High-Lift Header Improvements

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

Springwells WTP



CIP Type Project

Project New To CIP

Project Engineer/Manager Erich Klun

Manager 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

Project Significance 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. Other yard piping, including gravity sewers and process piping, need to be assessed and replaced and or rehabilitated.

Scope of Work Existing yard piping is original riveted steel from the early 1930s and has experienced leaks. These leaks have potential to disrupt service to Springwells Service area customers. Scope will also include performing a condition assessment, cleaning and replacement/rehabilitation of all gravity sewers (including manholes) and other pressure pipe. Other site improvements will include replacement of access drives, new guard shack, construction trailer utility hook-up station, and other site miscellaneous site improvements. Formerly CIP 1248.

Challenges Complex construction sequencing, and reliability of existing gate valves for isolation will be critical. Design will need to address the isolation valve issue, as well as the condition of the existing yard piping being connected to.

Project History n/a

Related Project Low-Lift and High-Lift Station Upgrades, Water Production Flow Metering Upgrades at Springwells WTP.

Lookup Driver 1 - Condition

Other Important Info n/a

Explanation Not provided.

Springwells Water Treatment Plant, Yard Piping and High-Lift Header Improvements

PM Weighted Score

53.8

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

RC Weighted Score

62.2

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



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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY24	\$50	20	2	
GLWA Salaries CIP2020	FY25+	\$400	158	20	2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	72	578	650

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



Springwells Water Treatment Plant, Yard Piping and High-Lift Header Improvements

Phase Design and Build

Contract NA

Status Future Planned Start

Title SPW WTP Yard Piping Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY25+	\$110,000			2020CIP

Task	Start Date	End Date	Duration
Scope Development	3/9/2024	6/7/2024	90
Procurement	6/8/2024	6/8/2025	365
Project Execution	6/9/2025	6/4/2032	2552
Project Closeout	6/5/2032	9/3/2032	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	110,000	110,000

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



Springwells Water Treatment Plant, Yard Piping and High-Lift Header Improvements

Phase Design Build Assistance

Contract NA

Status Future Planned Start

Title SPW WTP Yard Piping Improvements

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

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)

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018				2,000	7,000	8,000	8,000		0	0	25,000
2019	0								110,129	0	110,129
2020	0	0		0	0	0	0	0	72	110,578	110,650

Springwells Water Treatment Plant Steam, Condensate Return, and Compressed Air Piping

- Innovation
- 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

Manager 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

Project Significance	These existing mechanical systems are largely broken and leaking, creating an inefficient use of energy.
Scope of Work	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 (SP-TBD) to replace the leaking steam piping, condensate return piping and compressed air piping throughout the Springwells WTP. The scope of work includes replacing inefficient 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.
Challenges	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.
Project History	n/a
Related Project	none
Lookup Driver	N/A - Under Procurement
Other Important Info	n/a
Explanation	N/A - Under Procurement

**PM Weighted
Score**

63.8

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

**RC Weighted
Score**

62.4

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



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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$172			FY18
Unknown	FY18-	\$261			FY17
Unknown	FY18-	\$19			FY16
GLWA Salaries CIP2020	FY18-	\$15	6		FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
473								473

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



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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$21	8	1	
GLWA Salaries CIP2020	FY20	\$21	8	1	
GLWA Salaries CIP2020	FY21	\$21	8	1	
GLWA Salaries CIP2020	FY22	\$21	8	1	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	30	30	30	30	0	0	0	120

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



Springwells Water Treatment Plant Steam, Condensate Return, and Compressed Air Piping

Phase Construction

Contract NA

Status Active

Title Steam, Condensate Return, and Compressed Air Piping Improvements at Springwells WTP

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$2,938			
Construction	FY20	\$5,134			
Construction	FY21	\$7,526			
Construction	FY22	\$8,003			2020CIP

Task	Start Date	End Date	Duration
Scope Development	11/30/2017	2/28/2018	90
Procurement	3/1/2018	2/1/2019	337
Project Execution	2/1/2019	4/1/2022	1155
Project Closeout	4/1/2022	6/30/2022	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	2,938	5,134	7,526	8,003	0	0	0	23,601

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



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

5 **Cost Est. Class**

Program/Allowance Task Information

1/1/2017 **Cost Est. Date**

Project Manager

Metco **Cost Est. Source**

CIP Number

Metco **Cost Est. Prepared By**

Description

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19	\$141			
Engineering Services	FY20	\$228			
Engineering Services	FY21	\$198			
Engineering Services	FY22	\$228			2020CIP

Task	Start Date	End Date	Duration
Scope Development	10/1/2016	12/30/2016	90
Procurement	12/31/2016	12/31/2017	365
Project Execution	1/1/2018	4/1/2022	1551
Project Closeout	4/1/2022	6/30/2022	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	141	228	198	228	0	0	0	795

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



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	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		300	3,450	2,500					0	0	6,250
2019	0	280	450	1,406	4,824	4,654	7			0	11,621
2020	0	0	473	3,109	5,392	7,754	8,261	0	0	0	24,989

SPW WTP Water Treatment Plant 1930 Filter Building-Roof Replacement

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

Filter Building roof



CIP Type Project

Project New To CIP

Project Engineer/Manager Paula Anderson

Budget Water

Manager Paula Anderson

Class Lvl 1 Water

Managing Dept Fleet and Facilities

Class Lvl 2 Treatment Plants and Facilities

Date Original Business Case Prepared 10/11/2016

Class Lvl 3 Springwells

Year Project Added to CIP 2016

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882111

Project Significance	The existing roof over the 1930 filters is leaking in places and poses water quality concerns due to roof leaks.
Scope of Work	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.
Challenges	Seasonal construction work, and construction will require working around new rooftop equipment installed under SP-563.
Project History	n/a
Related Project	none
Lookup Driver	1 - Condition
Other Important Info	n/a
Explanation	Not provided.

SPW WTP Water Treatment Plant 1930 Filter Building-Roof Replacement

**PM Weighted
Score**

70.6

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

**RC Weighted
Score**

61

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



SPW WTP Water Treatment Plant 1930 Filter Building-Roof Replacement

Phase Design and Build

Contract DB-093

Status Active

Title Springwells Water Treatment Plant 1930 Filter Building-Roof Replacement

DB093	
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
Cost Estimation Information	
4 Cost Est. Class	Program/Allowance Task Information
1/1/2016 Cost Est. Date	
Testing Engineers & Consult Cost Est. Source	
Testing Engineers & Consult Cost Est. Prepared By	
Tot. Federal Loan Amount	
Project Manager	
CIP Number	
Description	

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY19	\$2,778			

Task	Start Date	End Date	Duration
Scope Development	8/15/2017	9/30/2017	46
Procurement	10/1/2017	3/1/2018	151
Project Execution	4/12/2018	4/17/2019	370
Project Closeout	4/18/2019	7/18/2019	91

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	2,778	0	0	0	0	0	0	2,778

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



SPW WTP Water Treatment Plant 1930 Filter Building-Roof Replacement

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$7	3	0	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	10	0	0	0	0	0	0	10

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

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

Springwells WTP



CIP Type Project

Project New To CIP

Project Engineer/Manager Erich Klun

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Treatment Plants and Facilities

Date Original Business Case Prepared 10/11/2016

Class Lvl 3 Springwells

Year Project Added to CIP 2016

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882111

Project Significance Reservoir fill line to Springwells is needed to provide finished water to the Springwells high service area from Southwest and Waterworks Park while the Springwells raw water tunnel is out of service for repairs and during times when the Springwells Low Lift Station is taken offline for inspections, repairs or maintenance.

Scope of Work Reservoir fill line to Springwells is needed to provide finished water to the Springwells high service area from Southwest and Waterworks Park while the Springwells raw water tunnel is out of service for repairs.

Challenges Very complicated sequence of construction, and coordination with wholesale customers is required.

Project History n/a

Related Project Contract No. CS-038 with AECOM for design and construction administration services
Contract No. CON-253 with Ric-Man for construction

Lookup Driver 1 - Condition

Other Important Info The construction contract, CON-253, is scheduled to be complete in July 2019.

Explanation Not provided.

**PM Weighted
Score**

68.2

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

**RC Weighted
Score**

77.2

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



Springwells Water Treatment Plant, Reservoir Fill Line Improvements

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$20	8	1	
GLWA Salaries CIP2020	FY20	\$10	4	0	
GLWA Salaries CIP2020	FY21	\$0	0	0	
GLWA Salaries CIP2020	FY22	\$0	0	0	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	29	14	0	0	0	0	0	43

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



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
Construction	FY19	\$0			2020CIP
Construction	FY20	\$0			2020CIP
Engineering Services	FY19	\$70			
Engineering Services	FY20	\$37			

Task	Start Date	End Date	Duration
Scope Development	8/9/2015	11/7/2015	90
Procurement	11/8/2015	11/7/2016	365
Project Execution	11/8/2016	12/31/2019	1148
Project Closeout	7/25/2019	12/31/2019	159

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	70	37	0	0	0	0	0	107

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



Springwells Water Treatment Plant, Reservoir Fill Line Improvements

Phase Construction

Contract New

Status Active

Title SPW WTP Reservoir Fill Line Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$2,750			
Construction	FY20	\$1,500			

Task	Start Date	End Date	Duration
Scope Development	10/23/2017	1/21/2018	90
Procurement	1/22/2018	10/29/2018	280
Project Execution	4/30/2020	7/29/2020	90
Project Execution	10/30/2018	4/29/2020	547

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	2,750	1,500	0	0	0	0	0	4,250

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



Springwells Water Treatment Plant, Reservoir Fill Line Improvements

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$117			FY18
Engineering Services	FY18-	\$88			FY18
Unknown	FY18-	\$119			FY17
GLWA Salaries CIP2020	FY18-	\$7	1		FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
332								332

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		200	3,300	4,000					0	0	7,500
2019	0	120	181	2,469	3,656	61	21			0	6,508
2020	0	0	332	2,849	1,551	0	0	0	0	0	4,732

Springwells Water Treatment Plant Emergency Grating Replacement

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

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

Manager 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

Project Significance	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	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).
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).
Lookup Driver	5 - Public Health & Safety
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.

Springwells Water Treatment Plant Emergency Grating Replacement

**PM Weighted
Score**

100

Criteria	Score	Comment
Condition	5	
Efficiency and Innovation	5	
Financial	5	
O&M	5	
Performance (Service Level/Reliability)	5	
Public Benefit	5	
Public Health & Safety	5	
Regulatory (Environmental/Legal)	5	

**RC Weighted
Score**

100

Criteria	Score	Comment
Condition	5	
Efficiency and Innovation	5	
Financial	5	
O&M	5	
Performance (Service Level/Reliability)	5	
Public Benefit	5	
Public Health & Safety	5	
Regulatory (Environmental/Legal)	5	



Springwells Water Treatment Plant Emergency Grating Replacement

Phase Design and Build

Contract NA

Status Active

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 Active

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	\$718			2020CIP

Task	Start Date	End Date	Duration
Scope Development	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	10/2/2018	12/27/2018	86

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	718	0	0	0	0	0	0	718

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



Springwells Water Treatment Plant Emergency Grating Replacement

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$8	3	0	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	11	0	0	0	0	0	0	11

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

Springwells Water Treatment Plant 1958 Settled Water Conduits Concrete Pavement

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

CIP Type Project

Project New To CIP



Project Engineer/Manager Peter Fromm

Manager 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

Project Significance The existing concrete pavement that covers the 1958 settled water conduits is failing and requires replacement. The existing pavement is severely deteriorated and is crumbling in several areas. This pavement is 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 feeds process water to the 1958 filters.

Scope of Work Remove existing concrete pavement and replace with new concrete pavement around the entire 1958 filter building at the Springwells Water Treatment Plant.

Challenges Equipment limits on the settled water conduit and not damaging the structure concrete of the settled water conduit.

Springwells Water Treatment Plant 1958 Settled Water Conduits Concrete Pavement

PM Weighted Score

40.6

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

RC Weighted Score

36.6

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



Springwells Water Treatment Plant 1958 Settled Water Conduits Concrete Pavement

Phase Construction

Contract TBD

Status Future Planned Start

Title SPW 1958 Settled Water Conduit Concrete Replacement

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY20	\$200			2020CIP
Construction	FY21	\$650			2020CIP

Task	Start Date	End Date	Duration
Scope Development	7/1/2019	9/2/2019	63
Procurement	9/3/2019	3/2/2020	181
Project Execution	3/3/2020	3/2/2021	364
Project Closeout	3/3/2021	6/3/2021	92

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
		200	650					850

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



Springwells Water Treatment Plant 1958 Settled Water Conduits Concrete Pavement

Phase GLWA Employees Project management

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY20	\$4	2	0	2020CIP
GLWA Salaries CIP2020	FY21	\$4	2	0	2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
		6	6					12

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2020	0	0			206	656					862

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

CIP Type Project

Project New To CIP



Project Engineer/Manager Peter Fromm

Manager 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

Project Significance The existing flocculator drives (20 total) are beyond useful service life and required replacement to maintain reliable flocculation.

Scope of Work Replace flocculator drive units, realign drive shafts, and replace mechanical seals at shaft wall penetrations.

Challenges Maintenance of plant operations during construction.

Lookup Driver 1 - Condition

Explanation Existing flocculator drivers are beyond the useful service life

**PM Weighted
Score**

43.8

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

**RC Weighted
Score**

47

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



Springwells Water Treatment Plant Flocculator Drive Replacement

Phase GLWA Employees Project management

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY22	\$7	3	0	2020CIP
GLWA Salaries CIP2020	FY23	\$10	4	0	2020CIP
GLWA Salaries CIP2020	FY24	\$3	1	0	2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
				10	14	4		28

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



Springwells Water Treatment Plant Flocculator Drive Replacement

Phase Construction

Contract TBD

Status Future Planned Start

Title SPW WTP Flocculator Drive Replacement

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY23	\$2,300			2020CIP

Task	Start Date	End Date	Duration
Scope Development	11/1/2019	1/15/2020	75
Procurement	1/16/2020	7/16/2020	182
Project Execution	7/17/2020	6/30/2021	348
Project Closeout	7/1/2021	10/1/2021	92

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
					2,300			2,300

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2020	0	0					10	2,314	4		2,328

Water Works Park Water Treatment Plant Yard Piping, Valves and Venturi Meters

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

Pumps and Piping



CIP Type Project

Project New To CIP

Project Engineer/Manager Timothy Kuhns

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Treatment Plants and Facilities

Date Original Business Case Prepared 4/23/2007

Class Lvl 3 Water Works Park

Year Project Added to CIP 2007

Location City of Detroit

Fund and Cost Center Water - 5519-882111

Project Significance 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 Much of the yard piping and valve system at Waterworks Park is old and at the end of its service life. Furthermore, the Water Treatment Plant does not have functioning production flow metering as the existing equipment is oversized and non-functioning. Replacement of the yard piping, valve, and metering system is needed at the site.

Challenges Complicated sequence of construction, and demands of DWSD-R must be maintained along with coordination with 84" between Water Works Park and Northeast WTPs. Condition of existing valves required to complete the work is unknown.

Lookup Driver

Other Important Info This project is being coordinated with the new Waterworks Park to Northeast Transmission Main

Explanation Yard piping is long past its design service life and there is a history of leaks and breaks.

Water Works Park Water Treatment Plant Yard Piping, Valves and Venturi Meters

PM Weighted Score

58.6

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

RC Weighted Score

65.4

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



Water Works Park Water Treatment Plant Yard Piping, Valves and Venturi Meters

Phase Construction

Contract NA

Status Future Planned Start

Title WWP WTP Yard Piping, Valves and Venturi Meters Replacement

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY20	\$16,739			
Construction	FY21	\$16,871			
Construction	FY22	\$16,999			

Task	Start Date	End Date	Duration
Scope Development	3/26/2016	3/31/2019	1100
Procurement	4/1/2019	11/17/2019	230
Project Execution	11/18/2019	11/12/2021	725
Project Closeout	11/13/2021	2/11/2022	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	16,739	16,871	16,999	0	0	0	50,609

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



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 CS-055, AECOM, WWP WTP Yard Piping, Valves and Venturi Meters Replacement

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$838			
Engineering Services	FY20	\$533			
Engineering Services	FY21	\$401			
Engineering Services	FY22	\$273			

Task	Start Date	End Date	Duration
Scope Development	3/26/2016	6/24/2016	90
Procurement	6/25/2016	6/25/2017	365
Project Execution	6/26/2017	11/12/2021	1600
Project Closeout	11/13/2021	2/11/2022	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	838	533	401	273	0	0	0	2,045

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



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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$42	17	2	
GLWA Salaries CIP2020	FY20	\$42	17	2	
GLWA Salaries CIP2020	FY21	\$42	17	2	
GLWA Salaries CIP2020	FY22	\$42	17	2	
GLWA Salaries CIP2020	FY23	\$0	0	0	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	61	61	61	61	0	0	0	244

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



Water Works Park Water Treatment Plant Yard Piping, Valves and Venturi Meters

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$655			FY18
Unknown	FY18-	\$9			FY17
GLWA Salaries CIP2020	FY18-	\$12	5	1	FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
682								682

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018			5,500	27,900	20,500				0	0	53,900
2019	0	9	412	968	20,771	34,466	14,397	28		0	71,051
2020	0	0	682	899	17,333	17,333	17,333	0	0	0	53,580

Water Works Park Water Treatment Plant Comprehensive Condition Assessment

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

Waterworks Park WTP



CIP Type Project

Project New To CIP

Project Engineer/Manager Grant Gartrell

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Treatment Plants and Facilities

Date Original Business Case Prepared 6/26/2014

Class Lvl 3 Water Works Park

Year Project Added to CIP 2014

Location City of Detroit

Fund and Cost Center Water - 5519-882111

Project Significance	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	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.
Challenges	Coordinating shutdowns required for condition assessment inspections.
Project History	n/a
Related Project	Yard Piping, Valves and Venturi Meters Replacement
Lookup Driver	1 - Condition
Other Important Info	Contract No. 147 with Hubbell, Roth & Clark is underway.
Explanation	Not provided.

Water Works Park Water Treatment Plant Comprehensive Condition Assessment

PM Weighted Score

38

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

RC Weighted Score

35.6

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



Water Works Park Water Treatment Plant Comprehensive Condition Assessment

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



Water Works Park Water Treatment Plant Comprehensive Condition Assessment

Phase Study

Contract NA

Status Active

Title Comprehensive Condition Assessment at Waterworks Park WTP

CS-147, HRC

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

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	\$262			
Engineering Services	FY20	\$153			

Task	Start Date	End Date	Duration
Scope Development			
Procurement			
Project Execution	8/2/2017	8/2/2019	730
Project Closeout	8/5/2019	10/1/2019	57

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	262	153	0	0	0	0	0	415

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



Water Works Park Water Treatment Plant Comprehensive Condition Assessment

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$430			FY18
GLWA Salaries CIP2020	FY18-	\$7	3	0	FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
440								440

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		200	375						0	0	575
2019	0		131	262	153					0	546
2020	0	0	440	262	153	0	0	0	0	0	855

Water Works Park Water Treatment Plant Chlorine System Upgrade

- Innovation
- 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 Todd King

Manager 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

Project Significance	WWP Chlorine System has experienced numerous leaks and has compromised the safety of plant
Scope of Work	Demolition and replacement of all mechanical systems, equipment and piping related to chlorine transport, vaporization and application. New chlorine system will be able to meet current dose rates and be able to meet future loadings estimated for WWP after the Northeast WTP treatment system is taken off line.
Challenges	It will be critical for the contractor to phase the work to provide ongoing chlorine application during the retrofit.
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 is the study and design project for this proposed work. It is currently underway and at 50% design completion as of March 2017. Also, this project must be completed prior to the decommissioning of the Northeast WTP treatment process.
Lookup Driver	1 - Condition

PM Weighted Score

85.8

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

RC Weighted Score

84

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



Water Works Park Water Treatment Plant Chlorine System Upgrade

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$5	2	0	
GLWA Salaries CIP2020	FY20	\$5	2	0	
GLWA Salaries CIP2020	FY21	\$1	0	0	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	7	7	1	0	0	0	0	15

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



Water Works Park Water Treatment Plant Chlorine System Upgrade

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$2,013			FY18
Engineering Services	FY18-	\$135			FY18
Unknown	FY18-	\$371			FY17
GLWA Salaries CIP2020	FY18-	\$6	2		FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
2,527								2,527

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



Water Works Park Water Treatment Plant Chlorine System Upgrade

Phase Construction

Contract NA

Status Under Procurement

Title Water Works Park WTP Chlorine System Upgrade

CON-208,

Phase Budget Water

Cost Allocation CTA

Phase Status Under Procurement

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	\$4,051			
Construction	FY20	\$1,940			

Task	Start Date	End Date	Duration
Scope Development	7/18/2017	10/16/2017	90
Procurement	10/17/2017	1/9/2018	84
Project Execution	1/10/2018	4/10/2020	821
Project Closeout	4/11/2020	7/10/2020	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	4,051	1,940	0	0	0	0	0	5,991

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



Water Works Park Water Treatment Plant Chlorine System Upgrade

Phase Design & Construction Assistance

Contract CS-1721

Status Active

Title CS-1721 Water Works Park WTP Chlorine System Upgrade

CDM

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	\$138			
Engineering Services	FY20	\$100			

Task	Start Date	End Date	Duration
Scope Development	4/6/2015	7/5/2015	90
Procurement	7/6/2015	7/5/2016	365
Project Execution	7/6/2016	4/10/2020	1374
Project Closeout	4/11/2020	7/10/2020	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	138	100	0	0	0	0	0	238

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		290	700	8,700					0	0	9,690



Water Works Park Water Treatment Plant Chlorine System Upgrade

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total		
2019	0	371	672	3,124	2,878	4				0	7,049		
2020	0	0	2,527	4,196	2,047	1	0	0	0	0	8,771		



GLWA FY 2020-2024 CIP
WWP WTP Building Ventilation Improvements

115005 CIP#

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

CIP Type Project

Project New To CIP

Project Engineer/Manager Mike Dunn

Manager 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

Project Significance Design and construction of ventilation system improvements for certain chemical storage rooms and the ozone generator and destruct rooms at the Water Works Park Water Treatment Plant to improve employee and visitor safety.

Project History Needs for this project were identified during the Contract CS-147 condition assessment work.

Lookup Driver 5 - Public Health & Safety

**PM Weighted
Score**

76

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

**RC Weighted
Score**

76

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



**GLWA FY 2020-2024 CIP
WWP WTP Building Ventilation Improvements**

115005 CIP#

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$5	2	0	2020CIP
GLWA Salaries CIP2020	FY20	\$5	2	0	2020CIP
GLWA Salaries CIP2020	FY21	\$5	2	0	2020CIP new

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	7	7	7	0	0	0	0	21

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



**GLWA FY 2020-2024 CIP
WWP WTP Building Ventilation Improvements**

115005 CIP#

Phase Design and Build

Contract TBD

Status Active

Title Emergency WWP WTP Building Ventilation Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY21	\$3,500			2020CIP
Construction	FY22	\$500			2020CIP
Engineering Services	FY20	\$500			2020CIP
Engineering Services	FY21	\$400			2020CIP
Engineering Services	FY22	\$150			2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	500	3,900	650				5,050

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2020	0	0		7	507	3,907	650	0	0	0	5,071

Pennsylvania, Springwells and Northeast Raw Water Supply Tunnel Improvements

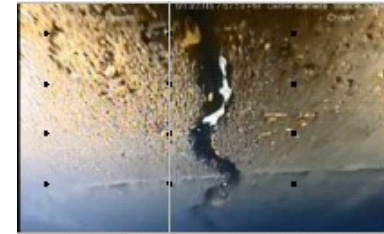
- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

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

Manager 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

Project Significance	Project critical to production at Springwells WTP during repurposing of Northeast WTP as recommended by the 2015 WMPU. Contract CS-1623 identified problem areas on the raw water supply system that compromised the system's ability to meet demands during the repurposing of Northeast WTP.
Scope of Work	The scope of work is to conduct supplemental investigations to design the repairs for the sections of tunnel identified in CS-1623 as having structural concerns. Three areas were identified with the highest concern being a portion of the Springwells Tunnel near the Springwells WTP.
Challenges	The tunnels are approximately 80 feet below the surface of the Detroit River. This poses challenges for assessing the extent of damage to the structures, as well as repair. 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 is currently being completed. This project is a predecessor project to allow for the repurposing of NE WTP.
Lookup Driver	1 - Condition
Other Important Info	n/a
Explanation	Failure of the affected raw water tunnels could impact as much as 50% of the GLWA customers.

Pennsylvania, Springwells and Northeast Raw Water Supply Tunnel Improvements
**PM Weighted
Score**
85.6

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

**RC Weighted
Score**
0

Criteria	Score	Comment
Condition		
Condition		
Financial		
O&M		
Performance (Service Level/Reliability)		
Public Benefit		
Public Health & Safety		
Regulatory (Environmental/Legal)		



Pennsylvania, Springwells and Northeast Raw Water Supply Tunnel Improvements

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$84	33	4	
GLWA Salaries CIP2020	FY20	\$84	33	4	
GLWA Salaries CIP2020	FY21	\$84	33	4	
GLWA Salaries CIP2020	FY22	\$84	33	4	
GLWA Salaries CIP2020	FY23	\$83	33	4	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	121	121	121	121	120	0	0	604

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



Pennsylvania, Springwells and Northeast Raw Water Supply Tunnel Improvements

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$2,163			FY18
Unknown	FY18-	\$10			FY17
GLWA Salaries CIP2020	FY18-	\$4	1	0	FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
2,178								2,178

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



Pennsylvania, Springwells and Northeast Raw Water Supply Tunnel Improvements

Phase Design and Build

Contract DB-150

Status Active

Title DB-150 Pennsylvania, Springwells and Northeast Raw Water Supply Tunnel Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$7,392			2020 CIP
Design-Build	FY20	\$5,346			
Design-Build	FY21	\$5,346			
Design-Build	FY22	\$5,346			
Design-Build	FY23	\$3,878			

Task	Start Date	End Date	Duration
Scope Development	11/15/2016	2/13/2017	90
Procurement	2/14/2017	2/14/2018	365
Project Execution	1/25/2018	1/16/2023	1817
Project Closeout	1/17/2023	4/17/2023	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	7,392	5,346	5,346	5,346	3,878	0	0	27,308

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



Pennsylvania, Springwells and Northeast Raw Water Supply Tunnel Improvements

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		500	2,000	10,000	15,000	4,900			0	0	32,400
2019	0	10	3,625	9,042	5,468	5,468	5,468	3,998		0	33,079
2020	0	0	2,178	7,513	5,467	5,467	5,467	3,998	0	0	30,090

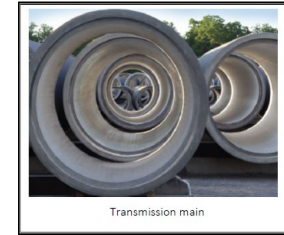
- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Closed

Transmission main

CIP Type Project

Project New To CIP



Project Engineer/Manager Todd King

Manager Grant Gartrell

Managing Dept Water Eng

Date Original Business Case Prepared 4/27/2017

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 Multiple Counties

Fund and Cost Center Water - 5519-882111

Project Significance	Project critical to maintaining chlorine residual to customers connected to the 72" main feeding Flint and Genesee County and abandonment of the 72" main once Flint and Genesee County are off the system. Projects need to be substantially complete by July
Scope of Work	With the departure of Flint and Genesee County from the GLWA system, the water age in the 72-inch transmission main increases to levels where minimum chlorine residuals cannot be maintains. Chlorine booster stations are needed along the 72-inch transmission main to maintain acceptable chlorine residuals.
Challenges	Live tapping and line stops on 72" PCCP required for both projects and is specialized construction. Work requires close coordination with operations to meet pressure requirements required to tap the pipe.
Project History	The memorandum of understanding executed between the State of Michigan, City of Flint ,GLWA, KWA, and GCDC regarding a new model contract between GLWA and Flint, reciprocal backup water service between GLWA and GCDC, and GLWA's securing of KWA's raw water rights have all established the need for this CIP.
Related Project	none
Lookup Driver	5 - Public Health & Safety
Other Important Info	n/a
Explanation	Not provided.

**PM Weighted
Score**

56.2

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

**RC Weighted
Score**

54.6

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



Genesee and Lapeer County Transmission System Improvements

Phase Design and Build

Contract DBW-070

Status Closed Out

Title DBW-070 Genesee and Lapeer County Transmission System Improvements

DBW-070

Phase Budget Water

Cost Allocation CTA

Phase Status Closed Out

Funding Source Bond Proceeds

Start Date 2/5/2016

Fund Construction Bond Fund

End Date 9/26/2019

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

Task	Start Date	End Date	Duration
Scope Development	4/1/2017	6/30/2017	90
Procurement	7/1/2017	7/1/2018	365
Project Execution	7/2/2018	6/28/2019	361
Project Closeout	6/29/2019	9/27/2019	90

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



Genesee and Lapeer County Transmission System Improvements

Phase Design

Contract NA

Status Closed Out

Title Genesee and Lapeer County Transmission System Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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

Task	Start Date	End Date	Duration
Scope Development			
Procurement			
Project Execution			
Project Closeout			

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

Parallel 42-Inch Main in 24 Mile Road from Rochester Station to Romeo Plank Road

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Pending Closeout

A large water main



CIP Type Project

Project New To CIP

Project Engineer/Manager Khader Hamad

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Field Services

Date Original Business Case Prepared 6/2/2005

Class Lvl 3 Transmission System

Year Project Added to CIP 2005

Location Macomb County

Fund and Cost Center Water - 5519-882411

Project Significance Paralleling original 36" water main that is critical to the supply of three communities and has had history of breaks

Scope of Work 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.

Challenges N/A - Pending Closeout

Lookup Driver N/A - Pending Closeout

Explanation N/A - Pending Closeout



Parallel 42-Inch Main in 24 Mile Road from Rochester Station to Romeo Plank Road

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$862			WS-681
Engineering Services	FY18-	\$131			WS-681
Other	FY18-	\$1			Other Expenses
Unknown	FY18-	\$1,611			FY17
Unknown	FY18-	\$1,898			FY16
Unknown	FY18-	\$29,062			Pre-Bifurcation
GLWA Salaries CIP2020	FY18-	\$1			2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
33,566								33,566

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

Replacement of Five (5) PRV Pits of Treated Water Transmission System

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Pending Closeout

An example PRV



CIP Type Project

Project New To CIP

Project Engineer/Manager Eric Kramp

Manager 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

Project Significance	Replacement of the PRVs to enhance operability of the system and improve control of the system to meet customer pressure needs
Scope of Work	This project will replace five existing pressure reducing valves (PRVs) that are defective and no longer controlling downstream pressures. During the replacement, the PRV pits will be upgraded to improve accessibility, provide new sump pumps as needed, and make other necessary improvements.
Challenges	N/A - Active
Project History	Only element remaining of project is the completion of Proposed Change Order Number One. Once this and associated close work paperwork is complete, the project will be closed.
Lookup Driver	N/A - Active
Explanation	N/A - Active



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

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	\$804			2020CIP

Task	Start Date	End Date	Duration
Project Execution	1/31/2018	3/31/2018	59
Project Closeout	4/1/2018	6/30/2018	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	804	0	0	0	0	0	0	804

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



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

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

<input type="text" value="1"/>	Cost Est. Class
<input type="text" value="1/1/2016"/>	Cost Est. Date
<input type="text" value="Metco"/>	Cost Est. Source
<input type="text" value="Metco"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

NONE

CIP Type Project

Project New To CIP



Project Engineer/Manager Timothy Kuhns

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Field Services

Date Original Business Case Prepared 9/8/2016

Class Lvl 3 Transmission System

Year Project Added to CIP 2014

Location City of Detroit

Fund and Cost Center Water - 5519-882111

Project Significance	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, an 81-inch transmission main is proposed between Water Works Park and Northeast to convey 150 MGD of finished water to the Northeast high lift pumping system to provide service to the existing Northeast service area to meet a large portion of the Northeast service area maximum day demands.
Scope of Work	This project includes construction of 35,000 feet of 81-inch diameter piping between Water Works Park and Northeast. The project includes a flow control station at the Northeast site to control flows between Water Works Park and the Northeast High Lift Station
Challenges	Route determination, utility conflicts and connections to yard piping at Northeast and Water Works Park WTPs. The large new main will cross I-94 and run through 7 miles of residential/commercial streets.
Project History	This project was proposed as part of the 2015 Water Master Plan.
Related Project	115001 - WWP WTP Yard Piping, Valves and Venturi Meters Replacement
Lookup Driver	8 - Efficiency
Other Important Info	n/a
Explanation	This project provides for efficiencies in facilitating the decommissioning of treatment at the Northeast WTP.

**PM Weighted
Score**

53.2

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

**RC Weighted
Score**

62.4

Criteria	Score	Comment
Condition	1	
Efficiency and Innovation	5	
Financial	5	
O&M	5	
Performance (Service Level/Reliability)	5	
Public Benefit	5	
Public Health & Safety	1	
Regulatory (Environmental/Legal)	1	



**GLWA FY 2020-2024 CIP
WWP to NE 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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY20	\$0			
Design-Build	FY21	\$5,215			
Design-Build	FY22	\$21,294			
Design-Build	FY23	\$29,494			
Design-Build	FY24	\$29,800			
Design-Build	FY25+	\$30,115			2020CIP

Task	Start Date	End Date	Duration
Scope Development	7/8/2018	10/6/2018	90
Procurement	10/7/2018	10/7/2019	365
Project Execution	10/8/2019	9/30/2024	1819
Project Closeout	10/1/2024	12/30/2024	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	5,215	21,294	29,494	29,800	30,115	115,918

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



**GLWA FY 2020-2024 CIP
WWP to NE Transmission Main**

122003 CIP#

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

<input type="text" value="1"/>	Cost Est. Class
<input type="text"/>	Cost Est. Date
<input type="text"/>	Cost Est. Source
<input type="text"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager	<input type="text"/>
CIP Number	<input type="text"/>
Description	<input type="text"/>

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19	\$1,000			
Engineering Services	FY20	\$750			2020CIP
Engineering Services	FY21	\$450			2020CIP
Engineering Services	FY22	\$500			2020CIP

Task	Start Date	End Date	Duration
Scope Development			
Procurement			
Project Execution			
Project Closeout			

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	1,000	750	450	500	0	0	0	2,700

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



**GLWA FY 2020-2024 CIP
WWP to NE Transmission Main**

122003 CIP#

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2015"/>	Cost Est. Date
<input type="text" value="CDM Smith"/>	Cost Est. Source
<input type="text" value="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 CIP2020	FY19	\$84	33	4	
GLWA Salaries CIP2020	FY20	\$84	33	4	
GLWA Salaries CIP2020	FY21	\$84	33	4	
GLWA Salaries CIP2020	FY22	\$84	33	4	
GLWA Salaries CIP2020	FY23	\$84	33	4	
GLWA Salaries CIP2020	FY24	\$134	53	7	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	121	121	121	121	121	194	0	799

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



GLWA FY 2020-2024 CIP
WWP to NE Transmission Main

122003 CIP#

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$1,612			FY18
Unknown	FY18-	\$19			FY17
GLWA Salaries CIP2020	FY18-	\$17	7		FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
1,655								1,655

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



**GLWA FY 2020-2024 CIP
WWP to NE 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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	\$10,000			2020CIP
Design-Build	FY22	\$2,200			2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
			10,000	2,200				12,200

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018			1,500	5,000	10,000	74,000	2,000	37,500	0	0	130,000
2019	0	19	1,305	1,372	8,622	17,547	46,022	30,722	25,270	0	130,879
2020	0	0	1,655	1,121	871	15,786	24,115	29,615	29,994	30,115	133,272

96-inch Main Relocation, Isolation Valves Installations, and New Parallel Main

- Innovation
- 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

Manager 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

Project Significance	Project critical to providing redundancy to Lake Huron WTP supply and protection of water supply from potential contamination. Project includes relocation around existing landfill and addition of a parallel main with interconnection to meters between Romeo and 24 Mile Road.
Scope of Work	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.
Challenges	Shutdown, isolation and live tapping of the 96" main while maintaining the Lake Huron WTP supply and operations of Rochester Station. Routing and possible property acquisition for both the parallel main and relocation around the landfill.
Project History	n/a
Related Project	Contract No. CS-165 with Jacobs for pre-design work is underway
Lookup Driver	2 - Performance
Other Important Info	n/a
Explanation	Not provided.

96-inch Main Relocation, Isolation Valves Installations, and New Parallel Main

PM Weighted Score

72.6

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

RC Weighted Score

65.2

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



96-inch Main Relocation, Isolation Valves Installations, and New Parallel Main

Phase Construction

Contract NA

Status Future Planned Start

Title 96-inch Main Relocation, Isolation Valves Installations, and New Parallel Main

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

<input type="text" value="5"/>	Cost Est. Class
<input type="text"/>	Cost Est. Date
<input type="text"/>	Cost Est. Source
<input type="text"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY21	\$1,116			2020CIP
Construction	FY22	\$24,786			
Construction	FY23	\$34,091			
Construction	FY24	\$19,615			
Construction	FY25+	\$33,907			2020CIP

Task	Start Date	End Date	Duration
Scope Development	10/19/2020	1/17/2021	90
Procurement	1/18/2021	7/25/2021	188
Project Execution	7/26/2021	7/18/2025	1453
Project Closeout	7/19/2025	10/17/2025	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	1,116	24,786	34,091	19,615	33,907	113,515

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



96-inch Main Relocation, Isolation Valves Installations, and New Parallel Main

Phase Design & Construction Assistance

Contract NA

Status Active

Title 96-inch Main Relocation, Isolation Valves Installations, and New Parallel Main

CS-165 CH2 Hill???

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$133			
Engineering Services	FY20	\$4,994			
Engineering Services	FY21	\$4,873			
Engineering Services	FY22	\$1,606			
Engineering Services	FY23	\$1,734			
Engineering Services	FY24	\$3,676			

Task	Start Date	End Date	Duration
Scope Development	11/1/2018	1/4/2019	64
Procurement	1/7/2019	5/31/2019	144
Project Execution	6/1/2019	6/1/2025	2192
Project Closeout	6/1/2025	9/1/2025	92

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	133	4,994	4,873	1,606	1,734	3,676	0	17,016



96-inch Main Relocation, Isolation Valves Installations, and New Parallel Main

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

Phase Study

Contract CS-165

Status Active

Title CS-165 96-inch Main Relocation, Isolation Valves Installations, and New Parallel Main

CH2M CS-165

Phase Budget Water

Cost Allocation CTA

Phase Status Active

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	\$700			

Task	Start Date	End Date	Duration
Scope Development			
Procurement			
Project Execution	10/24/2017	10/9/2018	350
Project Closeout			

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	700	0	0	0	0	0	0	700

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



96-inch Main Relocation, Isolation Valves Installations, and New Parallel Main

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$3	1	0	
GLWA Salaries CIP2020	FY20	\$4	2	0	
GLWA Salaries CIP2020	FY21	\$8	3	0	
GLWA Salaries CIP2020	FY22	\$42	17	2	
GLWA Salaries CIP2020	FY23	\$42	17	2	
GLWA Salaries CIP2020	FY24	\$112	44	6	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	4	6	11	61	61	162	0	305

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



96-inch Main Relocation, Isolation Valves Installations, and New Parallel Main

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$542			FY18
Engineering Services	FY18-	\$89			FY18?
Unknown	FY18-	\$460			FY17
GLWA Salaries CIP2020	FY18-	\$29	10		FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
1,130								1,130

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		500	1,500	6,000	35,900	31,700	31,700	31,700	0	0	139,000
2019	0	460	570	1,797	2,644	895	23,087	45,825	57,389	0	132,667
2020	0	0	1,130	837	5,000	6,000	26,453	35,886	23,453	33,907	132,666

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

CIP Type Project

Project New To CIP

Water main replacement



Project Engineer/Manager Peter Fromm

Manager 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

Project Significance Improving transmission system reliability and redundancy

Scope of Work Design work of 10,800 of new 48-inch transmission main along I-96 under the freeway service drive between Middlebelt and Beech Daly. Due to excessive breaks the Schoolcraft water main in Redford/Livonia will be replaced. The purpose is to improve the transmission system reliability/redundancy.

Lookup Driver

Other Important Info Designed under CS-1488 by SOMAT engineering advisors

PM Weighted Score
65.6

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

RC Weighted Score
42

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



**GLWA FY 2020-2024 CIP
Schoolcraft Road Water Transmission Main Replacement**

122005 CIP#

Phase Design & Construction Assistance

Contract CS-1488

Status Active

Title Transmission System Water Main Work - Replacement of Schoolcraft Water Main

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$150			
Engineering Services	FY20	\$125			
Engineering Services	FY21	\$125			
Engineering Services	FY22	\$50			

Task	Start Date	End Date	Duration
Scope Development	10/1/2016	12/30/2016	90
Procurement	12/31/2016	12/31/2017	365
Project Execution	1/1/2018	7/2/2021	1278
Project Closeout	7/3/2021	10/1/2021	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	150	125	125	50	0	0	0	450

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



**GLWA FY 2020-2024 CIP
Schoolcraft Road Water Transmission Main Replacement**

122005 CIP#

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$4			FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
4								4

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



**GLWA FY 2020-2024 CIP
Schoolcraft Road Water Transmission Main Replacement**

122005 CIP#

Phase Construction

Contract NA

Status Future Planned Start

Title Transmission System Water Main Work - Replacement of Schoolcraft Water Main

project is 95% designed under CS-1488 by SOMAT

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	\$7,945			
Construction	FY21	\$8,990			
Construction	FY22	\$565			

Task	Start Date	End Date	Duration
Scope Development	10/1/2018	12/30/2018	90
Procurement	12/31/2018	7/7/2019	188
Project Execution	7/8/2019	7/2/2021	725
Project Closeout	7/3/2021	10/1/2021	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	7,945	8,990	565	0	0	0	17,500

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



**GLWA FY 2020-2024 CIP
Schoolcraft Road Water Transmission Main Replacement**

122005 CIP#

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$21	8	1	
GLWA Salaries CIP2020	FY20	\$21	8	1	
GLWA Salaries CIP2020	FY21	\$21	8	1	
GLWA Salaries CIP2020	FY22	\$12	5	1	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	30	30	30	18	0	0	0	108

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018				7,300	7,250				0	0	14,550
2019	0		16	50	6,249	6,899	591			0	13,805
2020	0	0	4	180	8,100	9,145	633	0	0	0	18,062

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

Transmission main



CIP Type Project

Project New To CIP

Project Engineer/Manager Peter Fromm

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Field Services

Date Original Business Case Prepared 8/17/2015

Class Lvl 3 Transmission System

Year Project Added to CIP 2016

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882411

Project Significance	Placement of parallel water main to minimize service disruptions to customer communities
Scope of Work	Construction of the new 48-inch transmission main along a principal roadway in Romulus. Original water main from Wick station to Ypsilanti station has history of excessive breaks. Additionally, the main is the only principal connection between the two facilities with multiple community Master Meters along its length. A break in this line is disruptive to several communities dependent upon this supply line. The purpose is to improve the transmission system reliability/redundancy.
Challenges	May require shut down of large transmission mains.
Project History	Original water main from Wick station to Ypsilanti station has history of excessive breaks. Additionally, the main is the only principal connection between the two facilities with multiple community Master Meters along its length. A break in this line is disruptive to several communities dependent upon this supply line. The purpose is to improve the transmission system reliability/redundancy.
Related Project	n/a
Lookup Driver	2 - Performance
Other Important Info	n/a

**PM Weighted
Score**

59

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

**RC Weighted
Score**

54.2

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



**GLWA FY 2020-2024 CIP
Wick Road Water Transmission Main Construction**

122006 CIP#

Phase Construction **Contract** CON-306 **Status** Active

Title CS-1488 TASK 4, Transmission System Water Main Work-Wick Road Parallel Water Main

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
Construction	FY19	\$1,000			
Construction	FY20	\$17,689			
Construction	FY21	\$11,995			

Task	Start Date	End Date	Duration
Scope Development	7/10/2018	10/8/2018	90
Procurement	10/9/2018	4/15/2019	188
Project Execution	4/16/2019	4/12/2021	727
Project Closeout	4/13/2021	7/30/2021	108

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	1,000	17,689	11,995	0	0	0	0	30,684

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



**GLWA FY 2020-2024 CIP
Wick Road Water Transmission Main Construction**

122006 CIP#

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2016"/>	Cost Est. Date
<input type="text" value="Somat"/>	Cost Est. Source
<input type="text" value="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 CIP2020	FY19	\$7	3	0	
GLWA Salaries CIP2020	FY20	\$10	4	0	
GLWA Salaries CIP2020	FY21	\$10	4	0	
GLWA Salaries CIP2020	FY22	\$7	3	0	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	10	14	14	10	0	0	0	48

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



**GLWA FY 2020-2024 CIP
Wick Road Water Transmission Main Construction**

122006 CIP#

Phase Construction Assistance

Contract CS-1488

Status Active

Title CS-1488 TASK 7, Transmission System Water Main Work-Wick Road Parallel Water Main

CS1488 task 7

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

Cost Est. Class

Program/Allowance Task Information

Cost Est. Date

Project Manager

Cost Est. Source

CIP Number

Cost Est. Prepared By

Description

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19	\$100			
Engineering Services	FY20	\$325			
Engineering Services	FY21	\$325			
Engineering Services	FY22	\$50			2020CIP

Task	Start Date	End Date	Duration
Scope Development	7/10/2018	10/8/2018	90
Procurement	10/9/2018	4/15/2019	188
Project Execution	4/16/2019	4/12/2021	727
Project Closeout	4/13/2021	7/12/2021	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	100	325	325	50	0	0	0	800

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



**GLWA FY 2020-2024 CIP
Wick Road Water Transmission Main Construction**

122006 CIP#

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$103			FY18
Unknown	FY18-	\$23			FY17

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
126								126

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



GLWA FY 2020-2024 CIP
Wick Road Water Transmission Main Construction

122006 CIP#

Phase Design **Contract** CS-1488 **Status** Active

Title CS-1488, Transmission System Water Main Work-Wick Road Parallel Water Main

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**

Program/Allowance Task Information

1/1/2016 **Cost Est. Date**

Project Manager

Somat **Cost Est. Source**

CIP Number

Somat **Cost Est. Prepared By**

Description

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19	\$260			

Task	Start Date	End Date	Duration
Scope Development	10/1/2016	12/30/2016	90
Procurement	12/31/2016	12/31/2017	365
Project Execution	1/1/2018	4/12/2021	1197
Project Closeout	4/13/2021	7/12/2021	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	260	0	0	0	0	0	0	260

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		10,000	9,350						0	0	19,350
2019	0	23	16	1,743	12,373	10,154	10			0	24,319



GLWA FY 2020-2024 CIP
Wick Road Water Transmission Main Construction

122006 CIP#

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total		
2020	0	0	126	1,370	18,028	12,334	60	0	0	0	31,918		

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

Water main installation



CIP Type Project

Project New To CIP

Project Engineer/Manager Eric Kramp

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Field Services

Date Original Business Case Prepared 8/11/2015

Class Lvl 3 Transmission System

Year Project Added to CIP 2016

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882411

Project Significance Project identified in the 2015 Water Master Plan Update; improves system reliability, redundancy, and provides operational savings. It was also identified in the 2015 WMPU that this project is a predecessor project to decommissioning the Michigan Avenue Booster Station.

Scope of Work This project involves design and construction services associated with the installation of 3 miles of new 24-inch transmission main along Hannon Road.

Lookup Driver 2 - Performance

**PM Weighted
Score**

58.6

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

**RC Weighted
Score**

57

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



**GLWA FY 2020-2024 CIP
Newburgh Road Water Transmission Main**

122007 CIP#

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

Title Newburgh Road Transmission Main

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$0			2020CIP
Construction	FY21	\$0			
Construction	FY22	\$0			
Construction	FY24	\$4,019			2020CIP
Engineering Services	FY23	\$0			2020CIP

Task	Start Date	End Date	Duration
Scope Development	1/1/2023	5/1/2023	120
Procurement	5/1/2023	6/30/2023	60
Project Execution	7/1/2023	4/1/2024	275
Project Closeout	4/1/2024	6/30/2024	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	4,019	0	4,019

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



**GLWA FY 2020-2024 CIP
Newburgh Road Water Transmission Main**

122007 CIP#

Phase GLWA Employees Project management

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$0	0	0	
GLWA Salaries CIP2020	FY20	\$0	0	0	
GLWA Salaries CIP2020	FY21	\$0	0	0	
GLWA Salaries CIP2020	FY22	\$0	0	0	
GLWA Salaries CIP2020	FY23	\$21	8	1	2020CIP
GLWA Salaries CIP2020	FY24	\$40	16	2	2020CIP
GLWA Salaries CIP2020	FY25+	\$0	0	0	2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	30	58	0	88

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



**GLWA FY 2020-2024 CIP
Newburgh Road Water Transmission Main**

122007 CIP#

Phase Design & Construction Assistance

Contract NA

Status Future Planned Start

Title Newburgh Road Transmission Main

Design and Construction Assistance of a new Newburgh Road 24" Main along Newburgh Road between Cherry Hill and Glenwood Avenue

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

Cost Est. Class

Program/Allowance Task Information

Cost Est. Date

Project Manager

Cost Est. Source

CIP Number

Cost Est. Prepared By

Description

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY20	\$0			
Engineering Services	FY21	\$0			
Engineering Services	FY22	\$0			
Engineering Services	FY24	\$1,132			2020CIP
Engineering Services	FY25+	\$0			2020CIP

Task	Start Date	End Date	Duration
Scope Development	1/1/2023	4/1/2023	90
Procurement	4/1/2023	6/30/2023	90
Project Execution	7/1/2023	4/1/2024	275
Project Closeout	4/1/2024	6/30/2024	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	1,132	0	1,132



GLWA FY 2020-2024 CIP
Newburgh Road Water Transmission Main

122007 CIP#

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018			1,800	2,200					0	0	4,000
2019	0		6	653	1,611	2,076	901			0	5,247
2020	0	0		0	0	0	0	30	5,209	0	5,239

Water System Improvements in Joy Road from Southfield Road to Trinity

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Pending Closeout

Water main being laid

CIP Type Project

Project New To CIP



Project Engineer/Manager Khader Hamad

Manager Grant Gartrell

Managing Dept Water Eng

Date Original Business Case Prepared 2/28/2014

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 - 5519-882411

Project Significance	Replacement of original piping with excessive break history with new ductile iron main along Wayne County roadway.
Scope of Work	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.
Challenges	N/A - Pending Closeout
Lookup Driver	N/A - Pending Closeout
Explanation	N/A - Pending Closeout



Water System Improvements in Joy Road from Southfield Road to Trinity

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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
Unknown	FY18-	\$101			FY16
Unknown	FY18-	\$6			FY17

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
107								107

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

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Pending Closeout

Water main being replaced



CIP Type Project

Project New To CIP

Project Engineer/Manager Eric Kramp

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Field Services

Date Original Business Case Prepared 8/18/2016

Class Lvl 3 Transmission System

Year Project Added to CIP 2014

Location City of Detroit

Fund and Cost Center Water - 5519-882431

Project Significance	Original piping has history of excessive breaks; replacing to minimize disruption in high-traffic area
Scope of Work	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.
Challenges	N/A - Active
Related Project	WS-693
Lookup Driver	N/A - Active
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 Pending Close-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 - \$3,617,130
 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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

<input type="text" value="1"/>	Cost Est. Class
<input type="text" value="1/1/2015"/>	Cost Est. Date
<input type="text" value="CDM Smith"/>	Cost Est. Source
<input type="text" value="CDM Smith"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Task	Start Date	End Date	Duration
Project Execution	1/1/2017	1/2/2017	1
Project Closeout	1/3/2017	4/3/2017	90

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

Water main being installed

CIP Type Project



Project New To CIP

Project Engineer/Manager Peter Fromm

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Field Services

Date Original Business Case Prepared 4/12/2017

Class Lvl 3 Transmission System

Year Project Added to CIP 2015

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882411

Project Significance	Replacement of new water main to convert deduct water meters to direct connection meters
Scope of Work	This third and final leg of the 24" water main project will convert a handful of GLWA Master Meters from a deduct to direct connection service and retire Master Meter WY-01 in favor of two new Master Meter vaults.
Challenges	n/a
Project History	n/a
Related Project	CS-1488 – Design Services. Two previous construction contracts.
Lookup Driver	2 - Performance
Other Important Info	n/a

PM Weighted Score

38

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

RC Weighted Score

30.2

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



**GLWA FY 2020-2024 CIP
Park-Merriman Water Transmission Main Construction**

122011 CIP#

Phase Design & Construction Assistance

Contract CS-1488

Status Active

Title Park-Merriman Water Main-Final Phase

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$137			
Engineering Services	FY20	\$107			
Engineering Services	FY21	\$107			
Other	FY19	\$0			2020CIP

Task	Start Date	End Date	Duration
Scope Development	7/24/2016	10/22/2016	90
Procurement	10/23/2016	10/23/2017	365
Project Execution	10/24/2017	1/15/2021	1179
Project Closeout	1/16/2021	4/16/2021	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	137	107	107	0	0	0	0	351

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



**GLWA FY 2020-2024 CIP
Park-Merriman Water Transmission Main Construction**

122011 CIP#

Phase Construction

Contract CON-268

Status Active

Title Park-Merriman Water Main-Final Phase

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$900			
Construction	FY20	\$4,600			
Construction	FY21	\$2,100			

Task	Start Date	End Date	Duration
Scope Development	11/30/2017	8/26/2018	269
Procurement	8/27/2018	1/14/2019	140
Project Execution	1/15/2019	1/15/2021	731
Project Closeout	1/16/2021	4/16/2021	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	900	4,600	2,100	0	0	0	0	7,600

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



**GLWA FY 2020-2024 CIP
Park-Merriman Water Transmission Main Construction**

122011 CIP#

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$156			FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
156								156

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



**GLWA FY 2020-2024 CIP
Park-Merriman Water Transmission Main Construction**

122011 CIP#

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$21	8	1	
GLWA Salaries CIP2020	FY20	\$21	8	1	
GLWA Salaries CIP2020	FY21	\$21	8	1	
GLWA Salaries CIP2020	FY22	\$4	2	0	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	30	30	30	6	0	0	0	96

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018			1,800	2,200					0	0	4,000
2019	0		23	955	3,676	1,549	6			0	6,209
2020	0	0	156	1,067	4,737	2,237	6	0	0	0	8,203

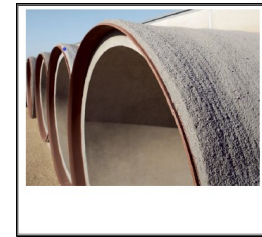
- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Pending Closeout

Water main ready to install

CIP Type Project

Project New To CIP



Project Engineer/Manager Khader Hamad

Manager 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

Project Significance	Excessive joint leaks warrant replacement; new water line to be placed in greenbelt
Scope of Work	This project includes installation of approximately 10,530 feet of 36-inch dia. water main in Telegraph Road from Cherry Hill to Warren Ave.
Challenges	N/A - Active
Related Project	WS-684
Lookup Driver	1 - Condition
Explanation	N/A - Active

**PM Weighted
Score**

55

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

**RC Weighted
Score**

45.6

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



GLWA FY 2020-2024 CIP
36-inch Water Main in Telegraph Road

122012 CIP#

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$1,087			FY18
Engineering Services	FY18-	\$160			FY18
Unknown	FY18-	\$7,545			FY17
Unknown	FY18-	\$581			FY16
GLWA Salaries CIP2020	FY18-	\$32	13		FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
9,418								9,418

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



GLWA FY 2020-2024 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	\$127			2020CIP

Task	Start Date	End Date	Duration
Scope Development	7/20/2015	10/18/2015	90
Scope Development			
Procurement	10/19/2015	4/24/2016	188
Project Execution	4/25/2016	1/31/2018	646
Project Closeout	2/1/2018	12/31/2019	698

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	127	0	0	0	0	0	0	127

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



GLWA FY 2020-2024 CIP
36-inch Water Main in Telegraph Road

122012 CIP#

Phase Design & Construction Assistance

Contract NA

Status Pending Close-out

Title 36-inch Water Main in Telegraph Road

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$10			2020CIP
Other	FY19	\$15			2020CIP

Task	Start Date	End Date	Duration
Scope Development	7/21/2013	10/19/2013	90
Procurement	10/20/2013	10/20/2014	365
Project Execution	10/21/2014	1/31/2018	1198
Project Closeout	2/1/2018	12/31/2019	698

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	25	0	0	0	0	0	0	25

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

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

CIP Type Project

Project New To CIP

Project Engineer/Manager Timothy Kuhns

Manager 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

Project Significance	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	Install approximately 6 Miles of 48-inch transmission main from 8 Mile Road to 14 Mile Road along Haggerty Road. 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.
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.
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.
Related Project	CIP 1336 West Service Center Division Valve Upgrades and Newburgh Active Bypass System
Lookup Driver	2 - Performance

14 Mile Transmission Main Loop

Other Important Info	GLWA should consider discussing additional connections with the City of Novi as they may desire an additional meter connection along Napier Road.
Explanation	Additional purchase volume (new customers) defrays fixed costs of operating and maintaining the system ensuring the long-term financial viability of the system.

PM Weighted Score
60.6

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

RC Weighted Score
58.4

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



**GLWA FY 2020-2024 CIP
14 Mile Transmission Main Loop**

122013 CIP#

Phase Design & Construction Assistance

Contract NA

Status Future Planned Start

Title 14 Mile Transmission Main Loop

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="5"/>	Cost Est. Class
<input type="text"/>	Cost Est. Date
<input type="text"/>	Cost Est. Source
<input type="text"/>	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	\$690			
Engineering Services	FY21	\$1,254			
Engineering Services	FY22	\$1,446			
Engineering Services	FY23	\$1,000			
Engineering Services	FY24	\$300			

Task	Start Date	End Date	Duration
Scope Development	6/2/2018	8/31/2018	90
Procurement	9/1/2018	9/1/2019	365
Project Execution	9/2/2019	2/27/2026	2370
Project Closeout	2/28/2026	5/29/2026	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	690	1,254	1,446	1,000	300	0	4,690

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



GLWA FY 2020-2024 CIP
14 Mile Transmission Main Loop

122013 CIP#

Phase Construction

Contract NA

Status Future Planned Start

Title 14 Mile Transmission Main Loop

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY21	\$0			2020CIP
Construction	FY22	\$0			
Construction	FY23	\$12,359			
Construction	FY24	\$11,518			
Construction	FY25+	\$25,433			2020CIP

Task	Start Date	End Date	Duration
Scope Development	5/31/2021	8/29/2021	90
Procurement	8/30/2021	3/6/2022	188
Project Execution	3/7/2022	2/27/2026	1453
Project Closeout	2/28/2026	5/29/2026	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	12,359	11,518	25,433	49,310

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



GLWA FY 2020-2024 CIP
14 Mile Transmission Main Loop

122013 CIP#

Phase GLWA Employees Project management

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY20	\$42	17	2	
GLWA Salaries CIP2020	FY21	\$42	17	2	
GLWA Salaries CIP2020	FY22	\$42	17	2	
GLWA Salaries CIP2020	FY23	\$42	17	2	
GLWA Salaries CIP2020	FY24	\$126	50	6	

Task	Start Date	End Date	Duration
Project Execution			

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	61	61	61	61	182	0	426

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		1,300	10,500	12,000	6,000				0	0	29,800
2019	0				751	1,315	1,507	13,420	37,433	0	54,426



GLWA FY 2020-2024 CIP

122013 CIP#

14 Mile Transmission Main Loop

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total		
2020	0	0		0	751	1,315	1,507	13,420	12,000	25,433	54,426		

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Closed

Pipe ready to install



CIP Type Project

Project New To CIP

Project Engineer/Manager Khader Hamad

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Field Services

Date Original Business Case Prepared 8/18/2016

Class Lvl 3 Transmission System

Year Project Added to CIP 2015

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882411

Project Significance Placement of a parallel water main to minimize service disruptions to customer communities

Scope of Work The City of Romulus notified DWSD of a significant retail development opening in Autumn 2016 at the southeast corner of Vining and Wick Roads. Romulus was also aware that DWSD has a project pending to place a 48" water main along Wick Road. Placement of the new 48" water main would be disruptive to the retail development traffic entrances/exits facing Wick road. Thus, Romulus asked if the 48" water main project could be expedited so it could be in place at the time of the retail development construction in Spring/Summer 2016. The 48" water main will be placed by Romulus as a part of the pavement upgrade work being pursued by Romulus early in 2016.

Challenges N/A - Active

Lookup Driver N/A - Active

Explanation N/A - Active



GLWA FY 2020-2024 CIP
Romulus 48-inch Water Main Installation

122014 CIP#

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$110			FY18
Engineering Services	FY18-	\$61			FY18
Unknown	FY18-	\$3,404			FY17
Unknown	FY18-	\$436			FY16

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
4,011								4,011

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



GLWA FY 2020-2024 CIP
Romulus 48-inch Water Main Installation

122014 CIP#

Phase Construction

Contract MOU-4848

Status Closed Out

Title MOU-4848 Romulus 48-inch Water Main Installation

City of Romulus - Projects Capitalized/Expensed @FY18 \$4,011K

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**

10/30/2017 **Cost Est. Date**

Engineering **Cost Est. Source**

Biren Saparia **Cost Est. Prepared By**

Program/Allowance Task Information

Project Manager

CIP Number

Description

Task	Start Date	End Date	Duration
Project Execution	1/1/2017	6/30/2018	545
Project Closeout	7/1/2018	9/29/2018	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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

30" Water main Replacement - Water main Replacement Under Jefferson & Rouge River

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Closed

Water main



CIP Type Project

Project New To CIP

Project Engineer/Manager Khader Hamad

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Field Services

Date Original Business Case Prepared 10/21/2016

Class Lvl 3 Transmission System

Year Project Added to CIP

Location City of Detroit

Fund and Cost Center Water - 5519-882111

Project Significance This project was completed to replace a critical water main that suffered a break and that serves the GLWA WRRF.

Project History Project is completed.



30" Water main Replacement - Water main Replacement Under Jefferson & Rouge River

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$116			FY18
Unknown	FY18-	\$2,345			FY17

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
2,461								2,461

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



30" Water main Replacement - Water main Replacement Under Jefferson & Rouge River

Phase Construction

Contract CON-105

Status Closed Out

Title CON-105 30" Water main Replacement - Water main Replacement Under Jefferson & Rouge River

Projects Capitalized/Expensed @FY18 \$2,461K

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

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

Task	Start Date	End Date	Duration
Project Execution	1/1/2017	6/30/2017	180
Project Closeout	7/1/2017	9/29/2017	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

CIP Type Project

Project New To CIP

Example transmission main



Project Engineer/Manager Timothy Kuhns

Manager Grant Gartrell

Managing Dept Water Eng

Date Original Business Case Prepared 10/12/2017

Year Project Added to CIP 2017

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 Significance The Downriver Transmission Main that currently serves Brownstown, Riverview, Woodhaven, Trenton, Flat Rock, Gibraltar, Rockwood, South Rockwood, and Berlin Township 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 Downriver system to increase redundancy on this branch of the system.

Scope of Work Install approximately 6 Miles of 16-inch transmission main and 3 Miles of 24-inch transmission main from along the Electric Avenue corridor to parallel the existing transmission system in this branch of the system.

Challenges Assuming ownership of the 24-inch transmission main through the City of Trenton may require condition assessment of this portion of pipeline.

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 and September 19, 2017 Analytical Work Group Meetings and based on the discussion at these meetings, the Electric Avenue Transmission loop option described in the scope of work appears to be the preferred alternative.

Related Project None

Lookup Driver 2 - Performance

**PM Weighted
Score**

57.4

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

**RC Weighted
Score**

58.4

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



**GLWA FY 2020-2024 CIP
Downriver Transmission Main Loop**

122016 CIP#

Phase Design & Construction Assistance

Contract NA

Status Future Planned Start

Title Downriver Transmission Main Loop

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY20	\$276			
Engineering Services	FY21	\$934			
Engineering Services	FY22	\$801			
Engineering Services	FY23	\$931			
Engineering Services	FY24	\$1,058			

Task	Start Date	End Date	Duration
Scope Development	10/1/2018	12/30/2018	90
Procurement	12/31/2018	12/31/2019	365
Project Execution	1/1/2020	4/1/2024	1552
Project Closeout	4/1/2024	6/30/2024	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	276	934	801	931	1,058	0	4,000

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



Downriver Transmission Main Loop

Phase Construction

Contract NA

Status Future Planned Start

Title Downriver Transmission Main Loop

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY21	\$0			2020CIP
Construction	FY22	\$2,220			
Construction	FY23	\$9,802			
Construction	FY24	\$20,979			

Task	Start Date	End Date	Duration
Scope Development	2/17/2021	5/18/2021	90
Procurement	5/19/2021	11/23/2021	188
Project Execution	11/24/2021	4/1/2024	859
Project Closeout	4/1/2024	6/30/2024	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	2,220	9,802	20,979	0	33,001

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



GLWA FY 2020-2024 CIP
Downriver Transmission Main Loop

122016 CIP#

Phase GLWA Employees Project management

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY20	\$14	6	1	
GLWA Salaries CIP2020	FY21	\$21	8	1	
GLWA Salaries CIP2020	FY22	\$21	8	1	
GLWA Salaries CIP2020	FY23	\$21	8	1	
GLWA Salaries CIP2020	FY24	\$59	23	3	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	21	30	30	30	85	0	196

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2019	0				297	964	3,051	10,763	22,122	0	37,197
2020	0	0		0	297	964	3,051	10,763	22,122	0	37,197



7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

CIP Type Project

Project New To CIP

Project Engineer/Manager Timothy Kuhns

Manager Grant Gartrell

Managing Dept Water Eng

Date Original Business Case Prepared 9/21/2018

Year Project Added to CIP 2020

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 Significance 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. 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. A new flow control station is needed at the intersection of Carrie and Nevada 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.

Scope of Work Project includes inspection and rehab of the 7 Mile/Nevada Transmission Main and construction of a new flow control station at Carrie/Nevada.

Challenges Work will be required within crowded right-of-way within the Nevada/Carrie Intersection

Project History The 2015 Water Master Plan proposed decommissioning of treatment at the Northeast WTP. 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 132025 Northwest Booster Station Yard Piping Improvements.

Lookup Driver 8 - Efficiency



7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station

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.

Explanation

This project provides for efficiencies in facilitating the decommissioning of treatment at the Northeast WTP.

7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station
**PM Weighted
Score**
53

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

**RC Weighted
Score**
44

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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY20	\$49	19	2	2020CIP
GLWA Salaries CIP2020	FY21	\$49	19	2	2020CIP
GLWA Salaries CIP2020	FY22	\$49	19	2	2020CIP
GLWA Salaries CIP2020	FY23	\$49	19	2	2020CIP
GLWA Salaries CIP2020	FY24	\$49	19	2	2020CIP

Task	Start Date	End Date	Duration
Scope Development	7/1/2019	10/1/2019	92
Project Execution	10/2/2019	4/1/2024	1643
Project Closeout	4/1/2024	6/30/2024	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
		70	70	70	70	70		350

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



7 Mile/Nevada Transmission Main Rehab and Carrie/Nevada Flow Control Station

Phase Design and Build

Contract TBD

Status Future Planned Start

Title 7 Mile/Nevada Transmission Main Rehab

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY20	\$970			2020CIP
Design-Build	FY21	\$5,980			2020CIP
Design-Build	FY22	\$6,840			2020CIP
Design-Build	FY23	\$3,680			2020CIP
Design-Build	FY24	\$2,680			2020CIP

Task	Start Date	End Date	Duration
Scope Development	7/1/2019	10/1/2019	92
Procurement	10/1/2019	10/1/2020	366
Project Execution	10/1/2020	4/1/2024	1278
Project Closeout	4/1/2024	6/30/2024	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
		970	5,980	6,840	3,680	2,680		20,150

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



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	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total	
2020	0	0			1,040	6,050	6,910	3,750	2,750		20,500	

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Pending Closeout

Wick Road Station



CIP Type Project

Project New To CIP

Project Engineer/Manager Eric Kramp

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 SCC

Date Original Business Case Prepared 8/8/2016

Class Lvl 3 Pump Station/Reservoir

Year Project Added to CIP 2004

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882111

Project Significance Provides improved control on the far-western portion of the transmission system.

Scope of Work Rehab 3 pumps and added VFDs and related controls system upgrades

Challenges Complicated control programming of VFDs and HVAC system.

Lookup Driver 2 - Performance

Explanation N/A - Pending Closeout

**PM Weighted
Score**

54.4

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

**RC Weighted
Score**

0

Criteria	Score	Comment
Condition		
Efficiency and Innovation		
Financial		
O&M		
Performance (Service Level/Reliability)		
Public Benefit		
Public Health & Safety		
Regulatory (Environmental/Legal)		



**GLWA FY 2020-2024 CIP
Wick Road Booster Pumping Station Rehabilitation**

132001 CIP#

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="1"/>	Cost Est. Class
<input type="text" value="1/1/2015"/>	Cost Est. Date
<input type="text" value="CDM Smith"/>	Cost Est. Source
<input type="text" value="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	FY18-	\$130			FY18-DWS-858

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
130								130

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



**GLWA FY 2020-2024 CIP
Wick Road Booster Pumping Station Rehabilitation**

132001 CIP#

Phase Design and Build

Contract DWS-858

Status Pending Close-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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="1"/>	Cost Est. Class
<input type="text" value="1/1/2015"/>	Cost Est. Date
<input type="text" value="CDM Smith"/>	Cost Est. Source
<input type="text" value="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	\$35			2020CIP

Task	Start Date	End Date	Duration
Scope Development			
Procurement			
Project Execution	1/1/2017	1/2/2017	1
Project Closeout	1/2/2017	12/31/2018	728

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	35	0	0	0	0	0	0	35

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

West Service Center Pumping Station, Isolation Gate Valves for Line Pumps

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

Isolation gate valves



CIP Type Project

Project New To CIP

Project Engineer/Manager Timothy Kuhns

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 SCC

Date Original Business Case Prepared 6/26/2014

Class Lvl 3 Pump Station/Reservoir

Year Project Added to CIP 2014

Location Oakland County

Fund and Cost Center Water - 5519-882111

Project Significance	Project needed to provide isolation of the existing pumping units from the distribution and transmission system during pumping unit and discharge flow control valve maintenance. Existing conditions require three pumping units to be taken out of service to
Scope of Work	Currently there is no means to isolate individual pumping units at the West Service Center. Maintenance on individual units require taking out entire high or intermediate pumping systems without isolation valves.
Challenges	Sequence of construction and meeting system demands will need to be coordinated with operations and on-going work to repurpose the Northeast WTP.
Project History	n/a
Related Project	West Service Center Division Valve Replacement, Needs Assessment Study for all Water Booster Stations
Lookup Driver	2 - Performance
Other Important Info	n/a
Explanation	Not provided.

West Service Center Pumping Station, Isolation Gate Valves for Line Pumps

PM Weighted Score

76.2

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

RC Weighted Score

70.8

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



West Service Center Pumping Station, Isolation Gate Valves for Line Pumps

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

Title Isolation Gate Valves for Line Pumps for West Service Center Pumping Station

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$1,056			
Construction	FY20	\$392			

Task	Start Date	End Date	Duration
Scope Development	11/28/2017	2/26/2018	90
Procurement	2/27/2018	10/7/2018	222
Project Execution	10/7/2018	7/13/2019	279
Project Closeout	7/13/2019	10/11/2019	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	1,056	392	0	0	0	0	0	1,448

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



West Service Center Pumping Station, Isolation Gate Valves for Line Pumps

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$71			FY18
Unknown	FY18-	\$66			FY17
GLWA Salaries CIP2020	FY18-	\$1	0	0	FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
138								138

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



West Service Center Pumping Station, Isolation Gate Valves for Line Pumps

Phase Design & Construction Assistance

Contract NA

Status Active

Title Isolation Gate Valves for Line Pumps for West Service Center Pumping Station

HRC - CS-062

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

<input type="text" value="1"/>	Cost Est. Class
<input type="text"/>	Cost Est. Date
<input type="text"/>	Cost Est. Source
<input type="text"/>	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	\$100			
Engineering Services	FY20	\$80			

Task	Start Date	End Date	Duration
Scope Development	7/24/2016	10/22/2016	90
Procurement	10/23/2016	10/23/2017	365
Project Execution	10/24/2017	7/12/2019	626
Project Closeout	7/12/2019	10/10/2019	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	100	80	0	0	0	0	0	180

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



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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$21	8	1	
GLWA Salaries CIP2020	FY20	\$12	5	1	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	30	18	0	0	0	0	0	48

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018			521	1,000					0	0	1,521
2019	0	66	147	1,229	96					0	1,538
2020	0	0	138	1,186	490	0	0	0	0	0	1,814

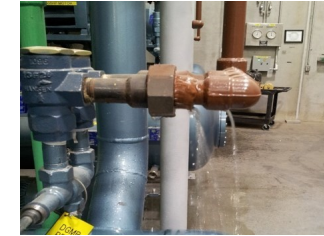
- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Pending Closeout

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

Manager 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 SCC

Class Lvl 3 Pump Station/Reservoir

Location Oakland County

Fund and Cost Center Water - 5519-882111

Project Significance	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	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.
Challenges	Coordination with operations and customers necessary to complete the work.
Project History	n/a
Related Project	none
Lookup Driver	6 - Public Benefit
Other Important Info	n/a
Explanation	N/A - Under Procurement

**PM Weighted
Score**

37.2

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

**RC Weighted
Score**

28.2

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



North Service Center Pumping Station - Hydraulic Surge Control

Phase GLWA Employees Project management

Contract NA

Status Pending Close-out

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2015"/>	Cost Est. Date
<input type="text" value="CDM Smith"/>	Cost Est. Source
<input type="text" value="CDM Smith"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



North Service Center Pumping Station - Hydraulic Surge Control

Phase Design & Construction Assistance

Contract NA

Status Pending Close-out

Title Hydraulic Surge Control for North Service Center Pumping Station

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

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

Task	Start Date	End Date	Duration
Scope Development			
Procurement			
Project Execution			
Project Closeout			

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



GLWA FY 2020-2024 CIP
North Service Center Pumping Station - Hydraulic Surge Control

132004 CIP#

Phase Study

Contract SCP-CS-054

Status Pending Close-out

Title SCP-CS-054 Hydraulic Surge Control for North Service Center Pumping Station

Brown & Caldwell

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

Cost Estimation Information

<input type="text" value="1"/>	Cost Est. Class
<input type="text"/>	Cost Est. Date
<input type="text"/>	Cost Est. Source
<input type="text"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Task	Start Date	End Date	Duration
Project Execution	12/19/2016	4/15/2018	482
Project Closeout	4/16/2018	7/15/2018	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



GLWA FY 2020-2024 CIP
North Service Center Pumping Station - Hydraulic Surge Control

132004 CIP#

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$130			FY18
Unknown	FY18-	\$75			FY17
GLWA Salaries CIP2020	FY18-	\$7	3	0	FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
215								215

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

- Innovation
- 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 Timothy Kuhns

Manager 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 SCC

Class Lvl 3 Pump Station/Reservoir

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882111

Project Significance	Design of pressure and flow control equipment for efficient delivery of consistent pressures to wholesale customers at Ford Road water booster pumping station
Scope of Work	The work involves designing variable speed pumping equipment and controls on line and reservoir pumping units to better match water demands to efficiently provide consistent pressures and flows to wholesale customers in the service area.
Challenges	N/A - Under Procurement
Project History	n/a
Related Project	none
Lookup Driver	7 - Financial
Other Important Info	n/a
Explanation	N/A - Under Procurement

**PM Weighted
Score**

47.4

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

**RC Weighted
Score**

43.4

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



Ford Road Pumping Station, Pressure and Control Improvements

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$146			FY18
Unknown	FY18-	\$8			FY17
GLWA Salaries CIP2020	FY18-	\$5	2	0	FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
161								161

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



Ford Road Pumping Station, Pressure and Control Improvements

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$17	7	1	
GLWA Salaries CIP2020	FY20	\$17	7	1	
GLWA Salaries CIP2020	FY21	\$12	5	1	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	25	25	18	0	0	0	0	68

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



Ford Road Pumping Station, Pressure and Control Improvements

Phase Design & Construction Assistance

Contract CS-1749

Status Active

Title CS-1749 Pressure and Control Improvements at the Electric, Ford Road, Michigan, and West Chicago Water Booster Pumping Stations

Bennesch

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

<input type="text" value="1"/>	Cost Est. Class
<input type="text"/>	Cost Est. Date
<input type="text"/>	Cost Est. Source
<input type="text"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager	<input type="text"/>
CIP Number	<input type="text"/>
Description	<input type="text"/>

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19	\$150			
Engineering Services	FY20	\$150			
Engineering Services	FY21	\$0			

Task	Start Date	End Date	Duration
Scope Development	6/6/2016	9/4/2016	90
Procurement	9/5/2018	9/5/2019	365
Project Execution	9/6/2017	7/28/2020	1056
Project Closeout	7/29/2020	10/27/2020	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	150	150	0	0	0	0	0	300

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



Ford Road Pumping Station, Pressure and Control Improvements

Phase Construction

Contract NA

Status Active

Title Pressure and Control Improvements at the Electric, Ford Road, Michigan, and West Chicago Water Booster Pumping Stations

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$60			
Construction	FY20	\$2,340			

Task	Start Date	End Date	Duration
Scope Development	6/6/2018	9/4/2018	90
Procurement	9/5/2018	5/23/2019	260
Project Execution	5/24/2019	10/8/2020	503
Project Closeout	10/9/2020	1/7/2021	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	60	2,340	0	0	0	0	0	2,400

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018			200	2,800					0	0	3,000
2019	0	8	106	245	1,805	445				0	2,609



Ford Road Pumping Station, Pressure and Control Improvements

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total		
2020	0	0	161	235	2,515	18	0	0	0	0	2,929		

Imlay Pumping Station - Energy Management: Freeze Protection Pump Installation

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

Imlay Pump Station



CIP Type Project

Project New To CIP

Project Engineer/Manager Eric Kramp

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 SCC

Date Original Business Case Prepared 6/26/2014

Class Lvl 3 Pump Station/Reservoir

Year Project Added to CIP 2014

Location Lapeer County

Fund and Cost Center Water - 5519-882111

Project Significance Project driven by eliminating the application of using existing large pumping units to recirculate and maintain water quality in the existing reservoir during low demand season. Project reduces operating costs, maintains water quality and reduces operating costs, maintains water quality and reduce operating complexity.

Scope of Work The purpose of this project is to minimize the electrical peak demand power charges associated with cycling water in the reservoir during low-demand periods. Rather than running a 6,000 HP motor-driven pump for a few minutes daily, a 150 HP motor-driven pump can run for a few hours to do the same work much less expensively.

Challenges None.

Project History n/a

Related Project none

Lookup Driver 8 - Efficiency

Other Important Info n/a

Explanation Not provided.

Imlay Pumping Station - Energy Management: Freeze Protection Pump Installation

PM Weighted Score

44.2

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

RC Weighted Score

37.6

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



Imlay Pumping Station - Energy Management: Freeze Protection Pump Installation

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY18-	\$7	2	0	FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
9								9

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



Imlay Pumping Station - Energy Management: Freeze Protection Pump Installation

Phase Design and Build

Contract NA

Status Future Planned Start

Title Energy Management: Freeze Protection Pump Installation at Imlay Pumping Station

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY20	\$520			2020CIP
Design-Build	FY21	\$1,250			
Design-Build	FY22	\$230			2020CIP

Task	Start Date	End Date	Duration
Scope Development	1/27/2018	4/27/2018	90
Procurement	4/28/2018	4/28/2019	365
Project Execution	4/29/2019	9/11/2020	501
Project Closeout	9/12/2020	12/11/2020	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	520	1,250	230	0	0	0	2,000

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



Imlay Pumping Station - Energy Management: Freeze Protection Pump Installation

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$10	4	0	
GLWA Salaries CIP2020	FY20	\$50	20	2	
GLWA Salaries CIP2020	FY21	\$45	18	2	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	14	72	65	0	0	0	0	151

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018			200	500	300				0	0	1,000
2019	0			38	385	134				0	557
2020	0	0	9	14	592	1,315	230	0	0	0	2,160

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

CIP Type Project

Project New To CIP

Example of a large pipe and valve installation



Project Engineer/Manager Erich Klun

Manager 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 SCC

Class Lvl 3 Pump Station/Reservoir

Location Multiple Counties

Fund and Cost Center Water - 5519-882111

Project Significance	The work includes a comprehensive needs assessment and hydraulic modeling to determine future station capacities for the nineteen (19) water booster pumping station facilities. Study will include assessment of existing condition and providing list of improvements, upgrading the following items: Facility HVAC and Lighting, Pumping System, Electrical Switch Gear, Instrumentation, Control and Ovation, Fire Protection and Alarms, etc.
Scope of Work	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.
Challenges	Shutdown, operation and manpower required to cover the condition assessment inspections to complete the work.
Project History	n/a
Related Project	none
Lookup Driver	1 - Condition
Other Important Info	n/a
Explanation	N/A - Under Procurement

**PM Weighted
Score**
46.4

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

**RC Weighted
Score**
51.2

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



**GLWA FY 2020-2024 CIP
Various Pumping Stations - Needs Assessment Study**

132008 CIP#

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2016"/>	Cost Est. Date
<input type="text" value="GLWA"/>	Cost Est. Source
<input type="text" value="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	FY18-	\$858			FY18
Unknown	FY18-	\$33			FY17
GLWA Salaries CIP2020	FY18-	\$20	2		FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
913								913

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



**GLWA FY 2020-2024 CIP
Various Pumping Stations - Needs Assessment Study**

132008 CIP#

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$10	4	0	2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	14	0	0	0	0	0	0	14

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



**GLWA FY 2020-2024 CIP
Various Pumping Stations - Needs Assessment Study**

132008 CIP#

Phase Study

Contract SCP-CS-052

Status Active

Title SCP-CS-052 Needs Assessment Study for all Water Booster Pumping Stations

Tetra Tech

Phase Budget Water

Cost Allocation CTA

Phase Status Active

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	\$750			

Task	Start Date	End Date	Duration
Scope Development	3/1/2017	6/29/2017	120
Procurement	6/29/2017	8/1/2017	33
Project Execution	8/3/2017	10/31/2018	454
Project Closeout	11/1/2018	2/1/2019	92

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	750	0	0	0	0	0	0	750

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		500	1,200						0	0	1,700
2019	0	33	722	1,178						0	1,933



GLWA FY 2020-2024 CIP
Various Pumping Stations - Needs Assessment Study

132008 CIP#

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total		
2020	0	0	913	764	0	0	0	0	0	0	1,677		



West Service Center Pumping Station - Reservoir, Reservoir Pumping, and Division Valve

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

CIP Type Project

Project New To CIP

Project Engineer/Manager Timothy Kuhns

Manager 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 SCC

Class Lvl 3 Pump Station/Reservoir

Location Oakland County

Fund and Cost Center Water - 5519-882111

Project Significance	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	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.
Challenges	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.
Project History	n/a
Related Project	Springwells WTP Reservoir Fill Line
Lookup Driver	2 - Performance
Other Important Info	n/a
Explanation	Not provided.

West Service Center Pumping Station - Reservoir, Reservoir Pumping, and Division Valve
**PM Weighted
Score**
52.6

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

**RC Weighted
Score**
54

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



West Service Center Pumping Station - Reservoir, Reservoir Pumping, and Division Valve

Phase Design and Build

Contract NA

Status Future Planned Start

Title West Service Center PS - Reservoir, Reservoir Pumping, and Division Valve Upgrades

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY20	\$2,590			
Design-Build	FY21	\$7,400			
Design-Build	FY22	\$15,540			
Design-Build	FY23	\$8,880			
Design-Build	FY24	\$2,590			

Task	Start Date	End Date	Duration
Scope Development	6/9/2018	9/7/2018	90
Procurement	9/8/2018	9/8/2019	365
Project Execution	9/9/2019	9/1/2023	1453
Project Closeout	9/2/2023	12/1/2023	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	2,590	7,400	15,540	8,880	2,590	0	37,000

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



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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY20	\$21	8	1	
GLWA Salaries CIP2020	FY21	\$21	8	1	
GLWA Salaries CIP2020	FY22	\$21	8	1	
GLWA Salaries CIP2020	FY23	\$21	8	1	
GLWA Salaries CIP2020	FY24	\$11	4	1	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	30	30	30	30	16	0	136

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018			7,600	4,200					0	0	11,800
2019	0				2,620	7,430	15,570	8,910	2,606	0	37,136
2020	0	0		0	2,620	7,430	15,570	8,910	2,606	0	37,136

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

Ypsilanti Pump Station



CIP Type Project

Project New To CIP

Project Engineer/Manager Jorge Nicolas

Manager 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 SCC

Class Lvl 3 Pump Station/Reservoir

Location Wayne County - Outside Detroit

Fund and Cost Center Water - 5519-882111

Project Significance Ypsilanti does not have a generator and needs one in the event of a power outage in order to help maintain pressures. The pumps, motors and electrical system are original to the facility and are past their useful service life. The electrical system requires substantial maintenance to keep it in service. Replacement of the motors and electrical system will improve the reliability of the station. In addition, the station does not have a sewer discharge, which is required in order to enable any underground construction due to dewatering discharges.

Scope of Work Replace pumps, motors, drive, switchgear with new. Install a new discharge sewer, backup generator and bypass for the station.

Challenges Contaminated groundwater at the site. No existing sanitary, storm or combined sewer at the site. A NPDES permit will be required to discharge treated groundwater to a surface water of the state for all construction dewatering operations.

Related Project DWS-858 and SCP-DWS-018.

Lookup Driver 1 - Condition

**PM Weighted
Score**

72

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

**RC Weighted
Score**

61.2

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



**GLWA FY 2020-2024 CIP
Ypsilanti Booster Pumping Station Improvements**

132012 CIP#

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2015"/>	Cost Est. Date
<input type="text" value="CDM Smith"/>	Cost Est. Source
<input type="text" value="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 CIP2020	FY18-	\$3	1	0	FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
4								4

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



**GLWA FY 2020-2024 CIP
Ypsilanti Booster Pumping Station Improvements**

132012 CIP#

Phase Construction

Contract NA

Status Future Planned Start

Title Ypsilanti PS Improvements

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2015"/>	Cost Est. Date
<input type="text" value="CDM Smith"/>	Cost Est. Source
<input type="text" value="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	\$300			
Construction	FY22	\$2,290			
Construction	FY23	\$3,640			
Construction	FY24	\$770			

Task	Start Date	End Date	Duration
Scope Development	7/1/2020	9/11/2020	72
Procurement	9/14/2020	3/19/2021	186
Project Execution	3/22/2021	9/1/2023	893
Project Closeout	9/2/2023	12/1/2023	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	300	2,290	3,640	770	0	7,000

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



GLWA FY 2020-2024 CIP Ypsilanti Booster Pumping Station Improvements

132012 CIP#

Phase Study and Design and Construction Assistance

Contract NA

Status Active

Title Ypsilanti PS Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$15			
Engineering Services	FY20	\$555			
Engineering Services	FY21	\$535			
Engineering Services	FY22	\$535			
Engineering Services	FY23	\$535			
Engineering Services	FY24	\$535			

Task	Start Date	End Date	Duration
Scope Development	1/27/2018	4/27/2018	90
Procurement	4/28/2018	4/28/2019	365
Project Execution	4/29/2019	9/1/2023	1586
Project Closeout	9/2/2023	12/1/2023	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	15	555	535	535	535	535	0	2,710

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



**GLWA FY 2020-2024 CIP
Ypsilanti Booster Pumping Station Improvements**

132012 CIP#

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$9	4	0	
GLWA Salaries CIP2020	FY20	\$21	8	1	
GLWA Salaries CIP2020	FY21	\$21	8	1	
GLWA Salaries CIP2020	FY22	\$21	8	1	
GLWA Salaries CIP2020	FY23	\$21	8	1	
GLWA Salaries CIP2020	FY24	\$10	4	0	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	13	30	30	30	30	14	0	147

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2019	0			93	606	820	2,594	4,134	900	0	9,147
2020	0	0	4	28	585	865	2,855	4,205	1,319	0	9,861



Adams Road Pumping Booster VFD & Gate Valves to Optimize Service Delivery

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Cancelled

CIP Type Project

Project New To CIP

Project Engineer/Manager Timothy Kuhns

Manager Grant Gartrell

Managing Dept Water Eng

Date Original Business Case Prepared

Year Project Added to CIP 2017

Budget Water

Class Lvl 1 Water

Class Lvl 2 SCC

Class Lvl 3 Pump Station/Reservoir

Location Oakland County

Fund and Cost Center

Project Significance Provide new VFDs to meet variable system demands with respect to pressure (improve customer service) and replace gate valves with new more reliable valves.

Scope of Work Install new VFDs and replace existing gate valves.



Adams Road Pumping Booster VFD & Gate Valves to Optimize Service Delivery

Phase GLWA Employees Project management

Contract TBD

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
							0	0

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



Adams Road Pumping Booster VFD & Gate Valves to Optimize Service Delivery

Phase Design and Build

Contract TBD

Status Future Planned Start

Title Adams Road Pumping Booster Electrical VFD Design/Construction Replace VFD (LP #1) & add one VFD Optimize Service Delivery

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
							0	0

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2019	0				148	531	531	348		0	1,558
2020	0	0								0	0



GLWA FY 2020-2024 CIP
Adams Road Booster Pumping Station Improvements

132014 CIP#

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

CIP Type Project

Project New To CIP

Project Engineer/Manager Timothy Kuhns

Manager 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 SCC

Class Lvl 3 Pump Station/Reservoir

Location Oakland County

Fund and Cost Center

Project Significance Existing pumps, motors and electrical gear for station power are beyond their useful service life and require replacement to maintain station reliability.

Scope of Work Provide new pumps, high-efficiency electric motors and electrical gear for entire station.

**PM Weighted
Score**

64

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

**RC Weighted
Score**

56.6

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



**GLWA FY 2020-2024 CIP
Adams Road Booster Pumping Station Improvements**

132014 CIP#

Phase GLWA Employees Project management

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY22	\$14	6	1	
GLWA Salaries CIP2020	FY23	\$84	33	4	
GLWA Salaries CIP2020	FY24	\$184	73	9	
GLWA Salaries CIP2020	FY25+	\$184	73	9	2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	21	121	266	266	674

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2019	0						21	1,030	4,625	0	5,676
2020	0	0		0	0	0	21	1,029	2,312	2,312	5,674



GLWA FY 2020-2024 CIP
Newburgh Road Booster Pumping Station Improvements

132015 CIP#

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

CIP Type Project

Project New To CIP

Project Engineer/Manager TBD

Manager 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 SCC

Class Lvl 3 Pump Station/Reservoir

Location Wayne County - Outside Detroit

Fund and Cost Center

Project Significance Existing pumps, motors and electrical gear are beyond useful service life. Replacement will provide new equipment that is more reliable, energy efficient and optimally sized for system demands. Other improvements involve building mechanical equipment replacement again because of surpassing useful life.

Scope of Work Replace all existing pumps, motors, VFDs, electrical gear and building mechanical equipment with new.

PM Weighted Score

57.2

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

RC Weighted Score

56.6

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



**GLWA FY 2020-2024 CIP
Newburgh Road Booster Pumping Station Improvements**

132015 CIP#

Phase GLWA Employees Project management

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2015"/>	Cost Est. Date
<input type="text" value="CDM Smith"/>	Cost Est. Source
<input type="text" value="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 CIP2020	FY20	\$11	4	1	
GLWA Salaries CIP2020	FY21	\$21	8	1	
GLWA Salaries CIP2020	FY22	\$21	8	1	
GLWA Salaries CIP2020	FY23	\$21	8	1	
GLWA Salaries CIP2020	FY24	\$44	17	2	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	16	30	30	30	63	0	169

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



**GLWA FY 2020-2024 CIP
Newburgh Road Booster Pumping Station Improvements**

132015 CIP#

Phase Design and Build

Contract NA

Status Future Planned Start

Title NewburghPumpingBoosterPumpsVariousDesign/Construction

Replace all pumps and Install additional unit of pump and motor with the same capacity as that for existing pump units (12 MGD with a TDH of 200 feet).Transmission and Reservoir Renewal and Reliability - & BUILDING ADDITION

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY20	\$0			
Design-Build	FY21	\$591			
Design-Build	FY22	\$2,366			
Design-Build	FY23	\$2,366			
Design-Build	FY24	\$2,366			
Design-Build	FY25+	\$4,311			2020CIP

Task	Start Date	End Date	Duration
Scope Development	12/23/2018	3/23/2019	90
Procurement	3/24/2019	3/23/2020	365
Project Execution	3/24/2020	3/24/2025	1826
Project Closeout	3/25/2025	6/23/2025	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	591	2,366	2,366	2,366	4,311	12,000



GLWA FY 2020-2024 CIP
Newburgh Road Booster Pumping Station Improvements

132015 CIP#

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2019	0				607	2,396	2,396	2,396	4,375	0	12,170
2020	0	0		0	16	621	2,396	2,396	2,429	4,311	12,169



GLWA FY 2020-2024 CIP
North Service Center Pumping Station Improvements

132016 CIP#

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

CIP Type Project

Project New To CIP

Project Engineer/Manager TBD

Manager 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 SCC

Class Lvl 3 Pump Station/Reservoir

Location Oakland County

Fund and Cost Center

Project Significance Recondition line pumps L-2 through L-6, add VFD, replace existing valves and electrical gear with new due to equipment being past useful service life in order to provide more reliable equipment.

Scope of Work Rehabilitate line pumps L-2 through L-6, replace motors and electrical gear with new. Work involves process mechanical and electrical upgrades.

**PM Weighted
Score**

54.2

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

**RC Weighted
Score**

58.2

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



**GLWA FY 2020-2024 CIP
North Service Center Pumping Station Improvements**

132016 CIP#

Phase Design and Build

Contract NA

Status Future Planned Start

Title North Service Center BPS Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	\$0			
Design-Build	FY23	\$0			2020CIP
Design-Build	FY24	\$0			
Design-Build	FY24	\$6,296			2020CIP
Design-Build	FY25+	\$18,560			2020CIP

Task	Start Date	End Date	Duration
Scope Development	3/31/2021	6/29/2021	90
Procurement	6/30/2021	6/30/2022	365
Project Execution	7/1/2022	6/24/2027	1819
Project Closeout	6/25/2027	9/23/2027	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	6,296	18,560	24,856

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



**GLWA FY 2020-2024 CIP
North Service Center Pumping Station Improvements**

132016 CIP#

Phase GLWA Employees Project management

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY22	\$0	0	0	2020CIP
GLWA Salaries CIP2020	FY22	\$0	0	0	
GLWA Salaries CIP2020	FY23	\$4	2	0	2020CIP
GLWA Salaries CIP2020	FY23	\$0	0	0	
GLWA Salaries CIP2020	FY24	\$20	8	1	
GLWA Salaries CIP2020	FY25+	\$20	8	1	2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	6	29	29	64

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2019	0						6	4,520	20,394	0	24,920
2020	0	0		0	0	0	0	6	6,325	18,589	24,920



North Service Center Booster Pump Station - On-Site & Off-Site Yard Piping & Valve

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

CIP Type Project

Project New To CIP

Project Engineer/Manager TBD

Manager 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 SCC

Class Lvl 3 Pump Station/Reservoir

Location Oakland County

Fund and Cost Center

Project Significance 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 Replace existing yard valves and yard piping with new.

Challenges Maintenance of facility operations during construction.

North Service Center Booster Pump Station - On-Site & Off-Site Yard Piping & Valve

PM Weighted Score

55.8

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

RC Weighted Score

57.8

Criteria	Score	Comment
Condition	4	
Efficiency and Innovation	1	
Financial	2	
O&M	4	
Performance (Service Level/Reliability)	5	
Public Benefit	3	
Public Health & Safety	3	
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 Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY20	\$4	2	0	
GLWA Salaries CIP2020	FY21	\$21	8	1	
GLWA Salaries CIP2020	FY22	\$21	8	1	
GLWA Salaries CIP2020	FY23	\$7	3	0	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	6	30	30	10	0	0	76

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



North Service Center Booster Pump Station - On-Site & Off-Site Yard Piping & Valve

Phase Design and Build

Contract NA

Status Future Planned Start

Title North Service Center Site Yard Piping Valves Piping Design/Construction Replace yard valves (BFVs) including those outside fence. Repurpose Northeast Plant

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$0			2020CIP
Design-Build	FY20	\$0			2020CIP
Design-Build	FY21	\$2,270			
Design-Build	FY22	\$2,476			
Design-Build	FY23	\$254			

Task	Start Date	End Date	Duration
Scope Development	7/1/2019	6/30/2020	365
Procurement	4/1/2019	6/30/2019	90
Project Execution	7/1/2020	6/28/2022	727
Project Closeout	6/29/2022	9/27/2022	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	2,270	2,476	254	0	0	5,000

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



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	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2019	0				6	2,300	2,506	264		0	5,076
2020	0	0		0	6	2,300	2,506	264	0	0	5,076



GLWA FY 2020-2024 CIP
Schoolcraft Booster Pumping Station Improvements

132018 CIP#

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

CIP Type Project

Project New To CIP

Project Engineer/Manager TBD

Manager 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 SCC

Class Lvl 3 Pump Station/Reservoir

Location Wayne County - Outside Detroit

Fund and Cost Center

Project Significance The existing pumps, yard piping and station valves are past their useful service life and require replacement to maintain reliable station operations. Existing belt drain underdrain system protects reservoir from floating when empty so underdrain system must perform to prevent catastrophic damage to reservoirs.

Scope of Work Replace existing station pumps, yard valves, select yard piping, and rehabilitate reservoir underdrain system.

Challenges Maintenance of facility operations during construction.

**PM Weighted
Score**

52.4

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

**RC Weighted
Score**

56.6

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



**GLWA FY 2020-2024 CIP
Schoolcraft Booster Pumping Station Improvements**

132018 CIP#

Phase Design and Build

Contract NA

Status Future Planned Start

Title Schoolcraft BPS Pumps, Yard Piping, Valves, Reservoir Pumps, & Underdrain System

Sump Pumps Design/Construction Replace Reservoir Fill valves and vaults, replace cone valves, and control panels. Inspect belt drain system; replace duplex sump pumps. Transmission and Reservoir Renewal and Reliability

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

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
Other	FY25+	\$3,500			2020CIP
Design-Build	FY22	\$1,900			
Design-Build	FY23	\$1,990			
Design-Build	FY24	\$2,990			
Design-Build	FY25+	\$0			2020CIP

Task	Start Date	End Date	Duration
Scope Development	3/31/2020	6/29/2020	90
Procurement	6/30/2020	6/30/2021	365
Project Execution	7/1/2021	6/24/2026	1819
Project Closeout	6/25/2026	9/23/2026	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	1,900	1,990	2,990	3,500	10,380



**GLWA FY 2020-2024 CIP
Schoolcraft Booster Pumping Station Improvements**

132018 CIP#

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

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

Phase Budget	<input type="text" value="Water"/>	Cost Allocation	<input type="text" value="CTA"/>
Phase Status	<input type="text" value="Future Planned Start"/>	Funding Source	<input type="text" value="Bond Proceeds"/>
Start Date	<input type="text"/>	Fund	<input type="text" value="Construction Bond Fund"/>
End Date	<input type="text"/>	Useful Life >20Yrs?	<input type="text" value="No"/>

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2015"/>	Cost Est. Date
<input type="text" value="CDM Smith"/>	Cost Est. Source
<input type="text" value="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 CIP2020	FY21	\$7	3	0	
GLWA Salaries CIP2020	FY22	\$40	16	2	
GLWA Salaries CIP2020	FY23	\$40	16	2	
GLWA Salaries CIP2020	FY24	\$40	16	2	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	10	58	58	58	0	184

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2019	0					10	1,916	2,085	6,553	0	10,564
2020	0	0		0	0	10	1,958	2,048	3,048	3,500	10,564



Wick Road Booster Pumping Station - Switchgear, Control Valves and Hydropneumatic Tank

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

CIP Type Project

Project New To CIP

Project Engineer/Manager TBD

Manager 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 SCC

Class Lvl 3 Pump Station/Reservoir

Location Wayne County - Outside Detroit

Fund and Cost Center

Project Significance Existing switchgear, control valves and hydropneumatic tank at station is beyond useful service life and requires replacement to maintain station reliability

Scope of Work Replace station electrical switchgear, L-1 control valve and related controls, hydropneumatic tank and related controls for operation of all station control valves

Challenges Maintenance of station operations during construction.

Project History n/a

Related Project n/a

Other Important Info n/a

PM Weighted Score

55

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

RC Weighted Score

56.6

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



Wick Road Booster Pumping Station - Switchgear, Control Valves and Hydropneumatic Tank

Phase Design and Build

Contract NA

Status Future Planned Start

Title Wick Rd BPS Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	\$979			
Design-Build	FY24	\$4,421			

Task	Start Date	End Date	Duration
Scope Development	3/31/2021	6/29/2021	90
Procurement	6/30/2021	6/30/2022	365
Project Execution	7/1/2022	6/24/2027	1819
Project Closeout	6/25/2027	9/23/2027	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	979	4,421	0	5,400

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



Wick Road Booster Pumping Station - Switchgear, Control Valves and Hydropneumatic Tank

Phase Design and Build

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY22	\$4	2	0	
GLWA Salaries CIP2020	FY23	\$21	8	1	
GLWA Salaries CIP2020	FY24	\$92	36	5	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	6	30	133	0	169

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



Wick Road Booster Pumping Station - Switchgear, Control Valves and Hydropneumatic Tank

Phase Design and Build **Contract** NA **Status** Future Planned Start
Title PowerUtility SupplySwitchgearStudy/Design/ ConstructionReplace switchgearTransmission and Reservoir Renewal and Reliability

Phase Budget	<input type="text" value="Water"/>	Cost Allocation	<input type="text" value="CTA"/>
Phase Status	<input type="text" value="Future Planned Start"/>	Funding Source	<input type="text" value="Bond Proceeds"/>
Start Date	<input type="text" value="3/31/2021"/>	Fund	<input type="text" value="Construction Bond Fund"/>
End Date	<input type="text" value="9/23/2027"/>	Useful Life >20Yrs?	<input type="text" value="Yes"/>

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="12/27/2017"/>	Cost Est. Date
<input type="text" value="2015 Water Master Plan Upd"/>	Cost Est. Source
<input type="text" value="CDM"/>	Cost Est. Prepared By

Program/Allowance Task Information	
Project Manager	<input type="text"/>
CIP Number	<input type="text"/>
Description	<input type="text"/>

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Design-Build	FY23	\$0			
Design-Build	FY24	\$0			

Task	Start Date	End Date	Duration
Scope Development	3/31/2021	6/29/2021	90
Procurement	6/30/2021	6/30/2022	365
Project Execution	7/1/2022	6/24/2027	1819
Project Closeout	6/25/2027	9/23/2027	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2019	0						6	1,009	4,555	0	5,570
2020	0	0		0	0	0	6	1,009	4,554	0	5,569



Franklin Booster Pumping Station - Isolation Gate Valves & Electrical Actuator Improvements

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

CIP Type Project

Project New To CIP

Project Engineer/Manager TBD

Manager 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 SCC

Class Lvl 3 Pump Station/Reservoir

Location Oakland County

Fund and Cost Center

Project Significance Existing gate valves, pumps, motors, and valve operators are beyond useful service life and require replacement to maintain reliable station.

Scope of Work Replace existing station pumps, motors, valves, valve operators, and electrical

Challenges Maintenance of station operation during construction.

**PM Weighted
Score**
57

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

**RC Weighted
Score**
56.6

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



Franklin Booster Pumping Station - Isolation Gate Valves & Electrical Actuator Improvements

Phase GLWA Employees Project management

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY22	\$0	0	0	
GLWA Salaries CIP2020	FY23	\$0	0	0	
GLWA Salaries CIP2020	FY24	\$0	0	0	
GLWA Salaries CIP2020	FY25+	\$75	30	4	2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	109	109

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



Franklin Booster Pumping Station - Isolation Gate Valves & Electrical Actuator Improvements

Phase Design and Build

Contract NA

Status Future Planned Start

Title Franklin BPS - Isolation Gate Valves & Electrical Actuator Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY25+	\$10,000			2020CIP

Task	Start Date	End Date	Duration
Scope Development	10/4/2024	1/2/2025	90
Procurement	1/3/2025	1/3/2026	365
Project Execution	1/4/2026	12/28/2028	1089
Project Closeout	12/29/2028	3/29/2029	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	10,000	10,000

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2019	0						846	2,009	7,315	0	10,170
2020	0	0		0	0	0	0	0	0	10,109	10,109



Imlay Booster Pumping Station - Replace Pumps, Motors, VFDs, and HVAC System

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

CIP Type Project

Project New To CIP

Project Engineer/Manager TBD

Manager 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 SCC

Class Lvl 3 Pump Station/Reservoir

Location Lapeer County

Fund and Cost Center

Project Significance Existing pumps, motors, VFDs and HVAC system need replacement in order to maintain reliability in the station's operation.

Scope of Work Replace existing VFDs with new, chiller system VFD cooling, and replace existing station HVAC system.

Challenges VFD size is unusual in the marketplace and cooling systems are complex for the VFDs.

Imlay Booster Pumping Station - Replace Pumps, Motors, VFDs, and HVAC System

PM Weighted Score

41.8

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

RC Weighted Score

58.2

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



Imlay Booster Pumping Station - Replace Pumps, Motors, VFDs, and HVAC System

Phase Design and Build

Contract NA

Status Future Planned Start

Title Imlay BPS - Replace VFDs, Pumps, Motors and HVAC

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY24	\$2,000			
Design-Build	FY25+	\$10,000			2020CIP

Task	Start Date	End Date	Duration
Scope Development	4/2/2022	7/1/2022	90
Procurement	7/2/2023	7/1/2024	365
Project Execution	7/2/2024	6/26/2027	1089
Project Closeout	6/27/2027	9/25/2027	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	2,000	10,000	12,000

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



Imlay Booster Pumping Station - Replace Pumps, Motors, VFDs, and HVAC System

Phase GLWA Employees Project management

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY23	\$4	2	0	
GLWA Salaries CIP2020	FY24	\$71	28	4	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	6	103	0	109

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2019	0							6	12,103	0	12,109
2020	0	0		0	0	0	0	6	2,103	10,000	12,109



Joy Road Booster Pumping Station, Reservoir Pumping System Improvements

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

CIP Type Project

Project New To CIP

Project Engineer/Manager Eric Kramp

Manager 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 SCC

Class Lvl 3 Pump Station/Reservoir

Location Wayne County - Outside Detroit

Fund and Cost Center

Project Significance Existing reservoir pumps, motors and associated valves are past their useful service life and require replacement to maintain station reliability. In addition, the existing header is heavily corroded and as a result also needs replacement.

Scope of Work Replace the station's reservoirs pumps, motors, valves, valve operators, and header with new.

Challenges Maintaining station operations during construction.

Joy Road Booster Pumping Station, Reservoir Pumping System Improvements
**PM Weighted
Score**
54.4

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

**RC Weighted
Score**
56.6

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



Joy Road Booster Pumping Station, Reservoir Pumping System Improvements

Phase Design and Build

Contract NA

Status Future Planned Start

Title Joy Road BPS - Replace Reservoir Pumps, Motors and Isolation Valves

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY24	\$6,000			construction

Task	Start Date	End Date	Duration
Scope Development	4/1/2022	7/1/2022	91
Procurement	7/1/2022	7/1/2023	365
Project Execution	7/1/1023	4/1/2023	365152
Project Closeout	4/1/2024	6/30/2024	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	6,000	0	6,000

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



Joy Road Booster Pumping Station, Reservoir Pumping System Improvements

Phase GLWA Employees Project management

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY23	\$4	2	0	
GLWA Salaries CIP2020	FY24	\$71	28	4	

Task	Start Date	End Date	Duration
Scope Development	4/1/2022	7/1/2022	91
Project Execution	7/1/2022	4/1/2024	640
Project Closeout	4/1/2024	6/30/2024	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	6	103	0	109

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2019	0							6	6,103	0	6,109
2020	0	0		0	0	0	0	6	6,103	0	6,109



Reservoir Inspection, Design & Rehabilitation @ WWP and NEWTP; and Wick, Schoolcraft,

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Reclassified

CIP Type Program

Project New To CIP

Project Engineer/Manager TBD

Manager 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 SCC

Class Lvl 3 Pump Station/Reservoir

Location Multiple Counties

Fund and Cost Center

Project Significance This project is combined into a new overall Reservoir Rehabilitation Project.

Scope of Work Conduct inspections and execute any necessary rehabilitation of the reservoirs that results from the inspection work as directed and approved by GLWA.

Other Important Info This project has been reclassified into Project 170801 within the Reservoir Inspection , Design and Rehabilitation Program 170800.

**PM Weighted
Score**

65.4

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

**RC Weighted
Score**

47

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



Reservoir Inspection, Design & Rehabilitation @ WWP and NEWTP; and Wick, Schoolcraft,

Phase Construction **Contract** NA **Status** Future Planned Start
Title Reservoir Inspection, Design & Rehabilitation @ Water Works Park and Northeast Water Treatment Plants; and Wick, Schoolcraft, Northwest, North Service Center, and Michigan Avenue Pumping Stations

Phase Budget	<input type="text" value="Water"/>	Cost Allocation	<input type="text" value="CTA"/>
Phase Status	<input type="text" value="Future Planned Start"/>	Funding Source	<input type="text" value="Bond Proceeds"/>
Start Date	<input type="text" value="9/26/2020"/>	Fund	<input type="text" value="Construction Bond Fund"/>
End Date	<input type="text" value="9/25/2026"/>	Useful Life >20Yrs?	<input type="text" value="Yes"/>

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="12/13/2017"/>	Cost Est. Date
<input type="text" value="GLWA Engineering"/>	Cost Est. Source
<input type="text" value="Group"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Task	Start Date	End Date	Duration
Scope Development	9/26/2022	12/25/2022	90
Procurement	12/26/2022	7/2/2023	188
Project Execution	7/3/2023	6/26/2026	1089
Project Closeout	6/27/2026	9/25/2026	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



Reservoir Inspection, Design & Rehabilitation @ WWP and NEWTP; and Wick, Schoolcraft,

Phase GLWA Employees Project management

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY23	\$0	0	0	
GLWA Salaries CIP2020	FY24	\$0	0	0	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Reclassified

CIP Type Program

Project New To CIP

Project Engineer/Manager TBD

Manager 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 SCC

Class Lvl 3 Pump Station/Reservoir

Location Multiple Counties

Fund and Cost Center

Project Significance Existing reservoirs need to be inspected and any necessary rehabilitation conducted every 5 years according to MDEQ guidelines; and in order to assure that reservoirs are protective of drinking water quality.

Scope of Work Conduct inspections and execute any necessary rehabilitation of the reservoirs that results from the inspection work as directed and approved by GLWA.

Other Important Info This project has been reclassified into Project 170801 within the Reservoir Inspection , Design and Rehabilitation Program 170800.

**PM Weighted
Score**

65.4

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

**RC Weighted
Score**

47

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



Phase GLWA Employees Project management

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY23	\$0	0	0	
GLWA Salaries CIP2020	FY24	\$0	0	0	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



Reservoir Inspection, Design and Rehabilitation @ Adams, East-side, Farmington, Ford Road,

Phase Construction

Contract NA

Status Future Planned Start

Title Reservoir Inspection, Design and Rehabilitation @ Adams, East-side, Farmington, Ford Road, Franklin, Haggerty and Joy Road

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY24	\$0			

Task	Start Date	End Date	Duration
Scope Development	9/26/2022	12/25/2022	90
Procurement	12/26/2022	7/2/2023	188
Project Execution	7/3/2023	6/26/2026	1089
Project Closeout	6/27/2026	9/25/2026	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



Reservoir Inspection, Design and Rehabilitation @ Adams, East-side, Farmington, Ford Road,

Phase Design & Construction Assistance

Contract NA

Status Future Planned Start

Title Reservoir Inspection, Design and Rehabilitation @ Adams, East-side, Farmington, Ford Road, Franklin, Haggerty and Joy Road

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY22	\$0			
Engineering Services	FY23	\$0			
Engineering Services	FY24	\$0			

Task	Start Date	End Date	Duration
Scope Development	9/26/2020	12/25/2020	90
Procurement	12/26/2020	12/26/2021	365
Project Execution	12/27/2020	6/26/2025	1642
Project Closeout	6/27/2025	9/25/2025	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2019	0						449	554	18,106	0	19,109

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

CIP Type Project

Project New To CIP

Project Engineer/Manager Eric Kramp

Manager Grant Gartrell

Managing Dept Water Eng

Date Original Business Case Prepared 9/21/2018

Year Project Added to CIP 2020

Budget Water

Class Lvl 1 Water

Class Lvl 2 SCC

Class Lvl 3 Pump Station/Reservoir

Location City of Detroit

Fund and Cost Center Water - 5519-882411

Project Significance 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 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.

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

Lookup Driver 8 - Efficiency

Other Important Info This project highlights the need to reinforce the transmission system in order to reliably provide service after



GLWA FY 2020-2024 CIP
Northwest Booster Station Yard Piping Improvements

132025 CIP#

treatment is decommissioned at the Northeast WTP.

Explanation

This project provides for efficiencies in facilitating the decommissioning of treatment at the Northeast WTP.

**PM Weighted
Score**
54.6

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

**RC Weighted
Score**
63.6

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



**GLWA FY 2020-2024 CIP
Northwest Booster Station Yard Piping Improvements**

132025 CIP#

Phase Design & Construction Assistance

Contract TBD

Status Future Planned Start

Title Northwest Booster Station Yard Piping Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2015"/>	Cost Est. Date
<input type="text" value="CDM Smith"/>	Cost Est. Source
<input type="text" value="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	FY21	\$50			2020CIP
Engineering Services	FY22	\$200			2020CIP
Engineering Services	FY23	\$250			2020CIP

Task	Start Date	End Date	Duration
Scope Development	10/1/2019	5/1/2020	213
Procurement	5/1/2020	5/1/2021	365
Project Execution	5/1/2021	4/1/2023	700
Project Closeout	4/1/2023	6/30/2023	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
			50	200	250			500

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



**GLWA FY 2020-2024 CIP
Northwest Booster Station Yard Piping Improvements**

132025 CIP#

Phase GLWA Employees Project management

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2015"/>	Cost Est. Date
<input type="text" value="CDM Smith"/>	Cost Est. Source
<input type="text" value="CDM Smith"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Task	Start Date	End Date	Duration
Scope Development	10/1/2019	5/1/2020	213
Procurement			
Project Execution	5/1/2020	4/1/2023	1065
Project Closeout	4/1/2023	6/30/2023	90

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



**GLWA FY 2020-2024 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	<input type="text" value="Water"/>	Cost Allocation	<input type="text" value="CTA"/>
Phase Status	<input type="text" value="Future Planned Start"/>	Funding Source	<input type="text" value="Bond Proceeds"/>
Start Date	<input type="text"/>	Fund	<input type="text" value="Construction Bond Fund"/>
End Date	<input type="text"/>	Useful Life >20Yrs?	<input type="text" value="Yes"/>

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2015"/>	Cost Est. Date
<input type="text" value="CDM Smith"/>	Cost Est. Source
<input type="text" value="CDM Smith"/>	Cost Est. Prepared By

Program/Allowance Task Information	
Project Manager	<input type="text"/>
CIP Number	<input type="text"/>
Description	<input type="text"/>

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY22	\$1,500			2020CIP
Construction	FY23	\$3,500			2020CIP

Task	Start Date	End Date	Duration
Scope Development	5/1/2021	11/1/2021	184
Procurement	11/1/2021	5/1/2022	181
Project Execution	5/1/2022	4/1/2023	335
Project Closeout	4/1/2023	6/30/2023	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
				1,500	3,500			5,000

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2020	0	0				50	1,700	3,750			5,500

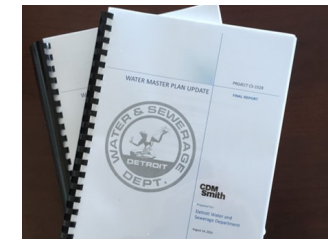
- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Closed

Previous Water Master Plan

CIP Type Project

Project New To CIP



Project Engineer/Manager Grant Gartrell

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 General Purpose

Date Original Business Case Prepared 6/18/2010

Class Lvl 3 General Purpose

Year Project Added to CIP 2010

Location Multiple Counties

Fund and Cost Center Water - 5519-882111

Project Significance Road map to maintain and improve the overall system performance on a cost-efficient basis

Scope of Work This project consists of the update of the 2004 Water Master Plan including a review of current and ongoing studies, regulatory mandates under the Clean Water Act and State of Michigan, contractual obligations to the customers and Department policies.

Challenges N/A - Active

Lookup Driver N/A - Active

Explanation N/A - Active



GLWA FY 2020-2024 CIP
Water Master Plan Update

161001 CIP#

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

\$330 FY18 Backed out to reconcile LTD

Phase Budget Water

Cost Allocation CTA

Phase Status Closed Out

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

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
Unknown	FY18-	\$222			FY16
Unknown	FY18-	\$108			FY17

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
0								0

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



GLWA FY 2020-2024 CIP
Water Master Plan Update

161001 CIP#

Phase Study

Contract NA

Status Closed Out

Title Water Master Plan Update

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

<input type="text" value="5"/>	Cost Est. Class
<input type="text"/>	Cost Est. Date
<input type="text"/>	Cost Est. Source
<input type="text"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY24	\$0			
Engineering Services	FY24	\$0			
Materials	FY24	\$0			
Other	FY24	\$0			

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

GLWA Water Service Area



CIP Type Allowance

Project New To CIP

Project Engineer/Manager Grant Gartrell
Manager Grant Gartrell

Budget Water

Managing Dept Water Eng

Class Lvl 1 Water

Date Original Business Case Prepared 10/11/2016

Class Lvl 2 Programs

Year Project Added to CIP 2012

Class Lvl 3 Programs

Location Multiple Counties

Fund and Cost Center Water - 5519-882111

Project Significance	This allowance is reserved for unplanned, emergency and critical project needs that need to be addressed quickly.
Scope of Work	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.
Challenges	Close coordination with operations and ability to jump on needs.
Project History	n/a
Related Project	none
Lookup Driver	Varies
Other Important Info	n/a
Explanation	Not provided.

**PM Weighted
Score**

68.2

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

**RC Weighted
Score**

64.4

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



**GLWA FY 2020-2024 CIP
Water Treatment Plant /Pump Station Allowance**

170100 CIP#

Phase Construction

Contract CON-153

Status Active

Title CON-153: Water Works Park WTP Raw Water Sampling Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 This project will involve the replacement of the entire raw water sampling system, including chlorine and fluoride analyzers, that are used to sample and analyze the raw water that is conveyed to the Northeast and Springwells water treatment plants. The existing system is cumbersome to operate, maintain and calibrate for accuracy due to its design and location. Additionally, the existing system does not have a sample faucet in the laboratory. This project adds this feature so that the chemists can more readily collect and analyze samples in the lab to verify the on-line chlorine and fluoride analyzer results.

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19	\$0			2020CIP
Construction	FY20	\$0			2020CIP
Construction	FY21	\$2,500			2020CIP
Construction	FY22	\$0			2020CIP
Construction	FY23	\$0			2020CIP



**GLWA FY 2020-2024 CIP
Water Treatment Plant /Pump Station Allowance**

170100 CIP#

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY24	\$0			2020CIP
Construction	FY25+	\$0			2020CIP

Task	Start Date	End Date	Duration
Project Execution	7/1/2020	4/30/2021	303
Project Closeout	5/1/2021	6/30/2021	60

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	2,500	0	0	0	0	2,500

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

Phase Construction

Contract SCP-SP-009

Status Closed Out

Title SP-009: Weiss: 1958 Sedimentation Basin

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

<input type="text" value="1"/>	Cost Est. Class
<input type="text"/>	Cost Est. Date
<input type="text"/>	Cost Est. Source
<input type="text"/>	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)



**GLWA FY 2020-2024 CIP
Water Treatment Plant /Pump Station Allowance**

170100 CIP#

Phase Design Build Assistance

Contract SCP-CS-1692

Status Active

Title SCP-CS-1692: OHM Advisors: Phosphoric Acid

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

<input type="text" value="5"/>	Cost Est. Class
<input type="text"/>	Cost Est. Date
<input type="text"/>	Cost Est. Source
<input type="text"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



**GLWA FY 2020-2024 CIP
Water Treatment Plant /Pump Station Allowance**

170100 CIP#

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

Task	Start Date	End Date	Duration
Project Execution	1/1/2017	1/2/2017	1
Project Closeout	1/3/2017	4/3/2017	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



**GLWA FY 2020-2024 CIP
Water Treatment Plant /Pump Station Allowance**

170100 CIP#

Phase Construction

Contract CON-225

Status Future Planned Start

Title CON-225 Orion Booster Station

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

<input type="text" value="1"/>	Cost Est. Class
<input type="text" value="11/1/2017"/>	Cost Est. Date
<input type="text" value="Consultant"/>	Cost Est. Source
<input type="text"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19	\$1,572			
Construction	FY20	\$116			
Construction	FY21	\$0			
Engineering Services	FY22	\$0			2020CIP

Task	Start Date	End Date	Duration
Project Execution	7/2/2018	7/26/2019	389
Project Closeout	7/27/2019	10/25/2019	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	1,572	116	0	0	0	0	0	1,688

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



GLWA FY 2020-2024 CIP
Water Treatment Plant /Pump Station Allowance

170100 CIP#

Phase Construction

Contract LH-398

Status Pending Close-out

Title SCP-LH-398: Phosphoric Acid Tank Fill Lines

Phase Budget Water

Cost Allocation CTA

Phase Status Pending Close-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)



**GLWA FY 2020-2024 CIP
Water Treatment Plant /Pump Station Allowance**

170100 CIP#

Phase Design & Construction Assistance

Contract CS-1656

Status Active

Title CS-1656: Applied Science: Flow Measurement

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$334			
Engineering Services	FY20	\$10			

Task	Start Date	End Date	Duration
Scope Development	7/19/2014	10/17/2014	90
Procurement	10/18/2014	10/18/2015	365
Project Execution	7/19/2014	7/31/2019	1838
Project Closeout	8/1/2019	10/30/2019	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	334	10	0	0	0	0	0	344

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



**GLWA FY 2020-2024 CIP
Water Treatment Plant /Pump Station Allowance**

170100 CIP#

Phase Design & Construction Assistance

Contract CS-1738

Status Active

Title CS-1738: Alfred Benesch: Orion & Newberg

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

<input type="text" value="1"/>	Cost Est. Class
<input type="text" value="11/1/2016"/>	Cost Est. Date
<input type="text" value="Consultant"/>	Cost Est. Source
<input type="text"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19	\$0			
Construction	FY20	\$0			
Construction	FY21	\$0			

Task	Start Date	End Date	Duration
Project Execution	11/16/2016	7/23/2018	614
Project Closeout	7/24/2018	10/1/2018	69

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



GLWA FY 2020-2024 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.

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



**GLWA FY 2020-2024 CIP
Water Treatment Plant /Pump Station Allowance**

170100 CIP#

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.

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



GLWA FY 2020-2024 CIP
Water Treatment Plant /Pump Station Allowance

170100 CIP#

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)



**GLWA FY 2020-2024 CIP
Water Treatment Plant /Pump Station Allowance**

170100 CIP#

Phase Construction

Contract DWS-063

Status Active

Title DWS-063 Adams Road Water Isolation Gate

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2018"/>	Cost Est. Date
<input type="text" value="GLWA"/>	Cost Est. Source
<input type="text" value="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	\$0			

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



**GLWA FY 2020-2024 CIP
Water Treatment Plant /Pump Station Allowance**

170100 CIP#

Phase Construction

Contract SW-011

Status Pending Close-out

Title SW-011, Alfred Benesh: Heating Improvements

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

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

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



GLWA FY 2020-2024 CIP
Water Treatment Plant /Pump Station Allowance

170100 CIP#

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)



**GLWA FY 2020-2024 CIP
Water Treatment Plant /Pump Station Allowance**

170100 CIP#

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2018"/>	Cost Est. Date
<input type="text" value="GLWA"/>	Cost Est. Source
<input type="text" value="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 CIP2020	FY19	\$120	48	6	
GLWA Salaries CIP2020	FY19	\$0	0	0	DWS-063
GLWA Salaries CIP2020	FY19	\$0	0	0	
GLWA Salaries CIP2020	FY20	\$120	48	6	
GLWA Salaries CIP2020	FY20	\$0	0	0	
GLWA Salaries CIP2020	FY21	\$120	48	6	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	174	174	174					522

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



**GLWA FY 2020-2024 CIP
Water Treatment Plant /Pump Station Allowance**

170100 CIP#

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$259			170107 - SCP-DWS-059
Construction	FY18-	\$263			170103 - SCP-CON-094
Construction	FY18-	\$126			170104 - CS-1738
Engineering Services	FY18-	\$132			170109 - CS-187
Engineering Services	FY18-	\$45			170104 - CS-1738
Engineering Services	FY18-	\$15			170107 - SCP-DWS-059
Engineering Services	FY18-	\$64			170102 - CS-1656
Engineering Services	FY18-	\$16			170103 - SCP-CON-094
Engineering Services	FY18-	\$6			170105 - SCP-NE-017
Engineering Services	FY18-	\$27			170120 - SCP-CS-1692
Unknown	FY18-	\$1			170108 - Balance at Start of FY1
Unknown	FY18-	\$164			170104 - Balance at Start of FY1
Unknown	FY18-	\$87			170120 - Balance at Start of FY1
Unknown	FY18-	\$269			170102 - Balance at Start of FY1
Unknown	FY18-	\$6			170103 - Balance at Start of FY1



**GLWA FY 2020-2024 CIP
Water Treatment Plant /Pump Station Allowance**

170100 CIP#

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Unknown	FY18-	\$13			170107 - Balance at Start of FY1
Unknown	FY18-	\$1,950			170105 - Balance at Start of FY1
Unknown	FY18-	\$2,920			170109 - Balance at Start of FY1
Unknown	FY18-	\$226			170117 - Balance at Start of FY1
GLWA Salaries CIP2020	FY18-	\$22	7	0	170104 - CS-1738
GLWA Salaries CIP2020	FY18-	\$1	1	0	170109 - CS-187
GLWA Salaries CIP2020	FY18-	\$2	1	0	170110 - CON-153
GLWA Salaries CIP2020	FY18-	\$2	1	0	170105 - SPC-NE-017
GLWA Salaries CIP2020	FY18-	\$12	5	0	170120 - SCP-CS-1692
GLWA Salaries CIP2020	FY18-	\$1	1	0	170103 - SPC-CON-094
GLWA Salaries CIP2020	FY18-	\$1	1	0	170102 - CS-1656
GLWA Salaries CIP2020	FY18-	\$8	3	0	170107 - SPC-DWS-059

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
6,635								6,635

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



GLWA FY 2020-2024 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

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

<input type="text" value="5"/>	Cost Est. Class
<input type="text"/>	Cost Est. Date
<input type="text"/>	Cost Est. Source
<input type="text"/>	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	\$96			2020CIP

Task	Start Date	End Date	Duration
Project Execution	6/23/2017	12/12/2019	902
Project Closeout	12/13/2019	3/1/2020	79

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	96							96



GLWA FY 2020-2024 CIP
Water Treatment Plant /Pump Station Allowance

170100 CIP#

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

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)



**GLWA FY 2020-2024 CIP
Water Treatment Plant /Pump Station Allowance**

170100 CIP#

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.

Task	Start Date	End Date	Duration
Project Execution	7/19/2017	7/19/2018	365
Project Closeout	7/20/2018	10/11/2018	83

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		10,000	10,000	20,000	20,000	19,650	12,645		0	0	92,295
2019	0	6,777	1,597	4,296	3,058	3,144	3,000	3,000	15,000	0	39,872
2020	0	0	6,635	3,176	3,000	3,000	3,000	3,000	3,000	15,000	39,811

As Needed Construction Materials, Environmental Media and Special Testing Services,

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

Example of concrete testing



CIP Type Allowance

Project New To CIP

Project Engineer/Manager Peter Fromm

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Programs

Date Original Business Case Prepared 6/26/2014

Class Lvl 3 Programs

Year Project Added to CIP 2014

Location Multiple Counties

Fund and Cost Center Water - 5519-882111

Project Significance	Provides readily accessible, qualified testing and inspection services for unforeseen and minor projects
Scope of Work	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.
Challenges	N/A - Under Procurement
Project History	Given the size and age of the system, as-needed services are required to supplement GLWA staff to identify and define problems that arise and must be addressed prior to the next CIP cycle.
Related Project	TBD
Lookup Driver	N/A - Under Procurement
Other Important Info	n/a
Explanation	N/A - Under Procurement



As Needed Construction Materials, Environmental Media and Special Testing Services,

PM Weighted Score

20

Criteria	Score	Comment
Condition	1	
Efficiency and Innovation	1	
Financial	1	
O&M	1	
Performance (Service Level/Reliability)	1	
Public Benefit	1	
Public Health & Safety	1	
Regulatory (Environmental/Legal)	1	

RC Weighted Score

20

Criteria	Score	Comment
Condition	1	
Efficiency and Innovation	1	
Financial	1	
O&M	1	
Performance (Service Level/Reliability)	1	
Public Benefit	1	
Public Health & Safety	1	
Regulatory (Environmental/Legal)	1	



As Needed Construction Materials, Environmental Media and Special Testing Services,

Phase Study and Design and Construction Assistance

Contract CS-201

Status Under Procurement

Title CS-201 As Needed Construction Materials, Environmental Media and Special Testing Services, Construction Inspection, and Other Technical Services

Now CS-201

Phase Budget Water

Cost Allocation CTA

Phase Status Under Procurement

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
Engineering Services	FY19	\$400			
Engineering Services	FY20	\$500			
Engineering Services	FY21	\$500			

Task	Start Date	End Date	Duration
Scope Development	6/1/2017	9/29/2017	120
Procurement	9/29/2017	5/22/2018	235
Project Execution	5/23/2018	7/5/2021	1139
Project Closeout	7/6/2021	10/4/2021	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	400	500	500	0	0	0	0	1,400

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



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

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY18-	\$2		0170201	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
2								2

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



As Needed Construction Materials, Environmental Media and Special Testing Services,

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$50	20	2	
GLWA Salaries CIP2020	FY20	\$50	20	2	
GLWA Salaries CIP2020	FY21	\$50	20	2	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	72	72	72	0	0	0	0	216

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018			500	500	500				0	0	1,500
2019	0		172	472	572	572				0	1,788
2020	0	0	2	472	572	572	0	0	0	0	1,618

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

CIP Type Program

Project New To CIP



Project Engineer/Manager Jeffrey Dorsey

Manager 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

Project Significance 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 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.

Challenges 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

Lookup Driver

Other Important Info n/a



GLWA FY 2020-2024 CIP
Water Treatment Plant Automation Program

170300 CIP#

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.
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**GLWA FY 2020-2024 CIP
Water Treatment Plant Automation Program**

170300 CIP#

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2017"/>	Cost Est. Date
<input type="text" value="GLWA"/>	Cost Est. Source
<input type="text" value="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	FY18-	\$1,364			FY18
Unknown	FY18-	\$13			FY17

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
1,377								1,377

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



**GLWA FY 2020-2024 CIP
Water Treatment Plant Automation Program**

170300 CIP#

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$42	17	2	
GLWA Salaries CIP2020	FY20	\$42	17	2	
GLWA Salaries CIP2020	FY21	\$42	17	2	
GLWA Salaries CIP2020	FY22	\$42	17	2	
GLWA Salaries CIP2020	FY23	\$10	4	0	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	61	61	61	61	14	0	0	258

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



**GLWA FY 2020-2024 CIP
Water Treatment Plant Automation Program**

170300 CIP#

Phase Construction

Contract NA

Status Future Planned Start

Title Unallocated Water Treatment Plant Automation Program

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2017"/>	Cost Est. Date
<input type="text" value="GLWA"/>	Cost Est. Source
<input type="text" value="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	\$1,500			
Construction	FY21	\$1,500			
Construction	FY22	\$1,500			
Construction	FY23	\$1,500			
Construction	FY24	\$105			

Task	Start Date	End Date	Duration
Project Execution	5/31/2017	5/30/2022	1825
Project Closeout	5/31/2022	8/29/2022	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	1,500	1,500	1,500	1,500	105	0	6,105

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



**GLWA FY 2020-2024 CIP
Water Treatment Plant Automation Program**

170300 CIP#

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. Additionally, it will provide recommendations on the conductivity of each process area within those plants using the model of Ovation as supervisory monitoring and or control and PLC's for process control where applicable.

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018			1,500	1,500	1,500	1,500	1,500		0	0	7,500
2019	0	13	1,425	61	1,561	1,561	1,561	1,514	105	0	7,801
2020	0	0	1,377	61	1,561	1,561	1,561	1,514	105	0	7,740

- Innovation
- 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

Manager 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

Project Significance	Assessing, rehabilitating or replacing aging transmission mains in the water system
Scope of Work	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.
Challenges	May require shut down of large pumps, isolation or shutdown of large mains etc.
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.
Related Project	n/a
Lookup Driver	
Other Important Info	O&M manuals, GIS, Section Maps and Gate Books are available for reference

**PM Weighted
Score**

56.4

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

**RC Weighted
Score**

0

Criteria	Score	Comment
Condition		
Efficiency and Innovation		
Financial		
O&M		
Performance (Service Level/Reliability)		
Public Benefit		
Public Health & Safety		
Regulatory (Environmental/Legal)		



**GLWA FY 2020-2024 CIP
Water Transmission Improvement Program**

170400 CIP#

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

Title Unallocated Water Transmission Improvement Program

Phase Budget	<input type="text" value="Water"/>	Cost Allocation	<input type="text" value="CTA"/>
Phase Status	<input type="text" value="Future Planned Start"/>	Funding Source	<input type="text" value="Bond Proceeds"/>
Start Date	<input type="text"/>	Fund	<input type="text" value="Construction Bond Fund"/>
End Date	<input type="text"/>	Useful Life >20Yrs?	<input type="text" value="Yes"/>

Cost Estimation Information	
<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2015"/>	Cost Est. Date
<input type="text" value="CDM Smith"/>	Cost Est. Source
<input type="text" value="CDM Smith"/>	Cost Est. Prepared By

Tot. Federal Loan Amount

Program/Allowance Task Information	
Project Manager	<input type="text"/>
CIP Number	<input type="text"/>
Description	<input type="text"/>

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19	\$755			
Construction	FY20	\$1,205			
Construction	FY21	\$1,655			
Construction	FY22	\$1,655			
Construction	FY23	\$1,655			
Construction	FY24	\$1,655			
Construction	FY25+	\$100,000			2020CIP

Task	Start Date	End Date	Duration
Scope Development			
Procurement			
Project Execution			
Project Closeout			

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	755	1,205	1,655	1,655	1,655	1,655	100,000	108,580



**GLWA FY 2020-2024 CIP
Water Transmission Improvement Program**

170400 CIP#

Phase Design

Contract NA

Status Future Planned Start

Title Water Transmission Improvement Program

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$100			
Engineering Services	FY20	\$150			
Engineering Services	FY21	\$200			
Engineering Services	FY22	\$200			
Engineering Services	FY23	\$200			
Engineering Services	FY24	\$200			

Task	Start Date	End Date	Duration
Scope Development			
Procurement			
Project Execution			
Project Closeout			

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	100	150	200	200	200	200	0	1,050

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



**GLWA FY 2020-2024 CIP
Water Transmission Improvement Program**

170400 CIP#

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

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



**GLWA FY 2020-2024 CIP
Water Transmission Improvement Program**

170400 CIP#

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$100	40	5	
GLWA Salaries CIP2020	FY20	\$100	40	5	
GLWA Salaries CIP2020	FY21	\$100	40	5	
GLWA Salaries CIP2020	FY22	\$100	40	5	
GLWA Salaries CIP2020	FY23	\$100	40	5	
GLWA Salaries CIP2020	FY24	\$100	40	5	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	145	145	145	145	145	145	0	870

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



GLWA FY 2020-2024 CIP
Water Transmission Improvement Program

170400 CIP#

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

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



**GLWA FY 2020-2024 CIP
Water Transmission Improvement Program**

170400 CIP#

Phase Construction

Contract NA

Status Pending Close-out

Title Internal Inspection of GLWA 84" Transmission Main in Troy

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2015"/>	Cost Est. Date
<input type="text" value="CDM Smith"/>	Cost Est. Source
<input type="text" value="CDM Smith"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Task	Start Date	End Date	Duration
Scope Development	11/13/2016	11/15/2016	2
Procurement	11/16/2016	11/21/2016	5
Project Execution	11/22/2016	8/30/2017	281
Project Closeout	9/1/2017	9/30/2017	29

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



**GLWA FY 2020-2024 CIP
Water Transmission Improvement Program**

170400 CIP#

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$573			170403 - DBW-070
Construction	FY18-	\$359			170401 - DWS-018
Engineering Services	FY18-	\$35			170402 - PO4292
Unknown	FY18-	\$121			170402 - Balance at start of FY1
Unknown	FY18-	\$580			170403 - Balance at start of FY1
Unknown	FY18-	\$374			170401 - Balance at start of FY1
GLWA Salaries CIP2020	FY18-	\$3	1		170401 - FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
156								156

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018			10,000	11,000	9,000	11,000	9,000		0	0	50,000
2019	0	1,075	229	1,000	1,500	2,000	2,000	2,000	2,000	0	11,804



GLWA FY 2020-2024 CIP
Water Transmission Improvement Program

170400 CIP#

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total		
2020	0	0	156	1,000	1,500	2,000	2,000	2,000	2,000	100,000	110,656		

Transmission System Valve Rehabilitation and Replacement Program

- Innovation
- 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

Manager 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

Project Significance	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	Evaluate the existing conditions, provide the necessary replacement/ rehabilitation option, design and implement them.
Challenges	May require shutdown of large transmission mains.
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.
Related Project	CON-181, Water Transmission Main Assessment Repair
Lookup Driver	1 - Condition
Other Important Info	GIS, Section Maps and Gate Books are available for reference
Explanation	Conditions of many of the gate valves are unknown and unreliable.

PM Weighted Score

69.4

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

RC Weighted Score

66.8

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



Transmission System Valve Rehabilitation and Replacement Program

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$3,429			170502 - CON-181
GLWA Salaries CIP2020	FY18-	\$1			170502 - CON-181

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
3,430								3,430

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



Transmission System Valve Rehabilitation and Replacement Program

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	\$4,000			
Construction	FY20	\$4,000			
Construction	FY21	\$3,274			
Construction	FY22	\$3,274			2020CIP

Task	Start Date	End Date	Duration
Scope Development	7/1/2018	9/30/2018	91
Procurement	9/30/2018	2/26/2021	880
Project Execution	2/26/2021	2/25/2026	1825
Project Closeout	2/25/2026	5/26/2026	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	4,000	4,000	3,274	3,274	0	0	0	14,548



Transmission System Valve Rehabilitation and Replacement Program

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

Phase Design and Build

Contract NA

Status Active

Title Unallocated Transmission System Valve Assessment and Rehabilitation/Replacement

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY22	\$726			
Design-Build	FY23	\$4,000			
Design-Build	FY24	\$4,000			
Design-Build	FY25+	\$10,000			2020CIP

Task	Start Date	End Date	Duration
Scope Development	7/1/2018	9/30/2018	91
Procurement	9/30/2018	2/26/2021	880
Project Execution	2/26/2021	2/25/2026	1825
Project Closeout	2/25/2026	5/26/2026	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	726	4,000	4,000	10,000	18,726

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



Transmission System Valve Rehabilitation and Replacement Program

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018			2,930	3,100	3,100	3,100	3,100		0	0	15,330
2019	0		2,000	4,000	4,000	3,274	726	4,000	4,000	0	22,000
2020	0	0	3,430	4,000	4,000	3,274	4,000	4,000	4,000	10,000	36,704

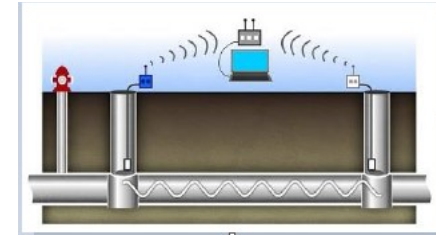
- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

CIP Type Program

Project New To CIP

Example of pressure main assessment technology



Project Engineer/Manager Todd King

Manager 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

Project Significance 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 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.

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

Lookup Driver 1 - Condition

Other Important Info *Innovation Note: Consider new techniques for water main assessment. GIS, Section Maps and Gate Books are available for reference



GLWA FY 2020-2024 CIP
Water Transmission Main Asset Assessment Program

170600 CIP#

Explanation

Conditions of many of the gate valves are unknown and unreliable.



**GLWA FY 2020-2024 CIP
Water Transmission Main Asset Assessment Program**

170600 CIP#

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$84	33	4	
GLWA Salaries CIP2020	FY20	\$84	33	4	
GLWA Salaries CIP2020	FY21	\$84	33	4	
GLWA Salaries CIP2020	FY22	\$84	33	4	
GLWA Salaries CIP2020	FY23	\$84	33	4	
GLWA Salaries CIP2020	FY24	\$84	33	4	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	121	121	121	121	121	121	0	726

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



**GLWA FY 2020-2024 CIP
Water Transmission Main Asset Assessment Program**

170600 CIP#

Phase Design and Build

Contract NA

Status Future Planned Start

Title Unallocated Water Transmission Main Asset Assessment Program

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$2,379			
Design-Build	FY20	\$2,879			
Design-Build	FY21	\$3,879			
Design-Build	FY22	\$3,879			
Design-Build	FY23	\$4,879			
Design-Build	FY24	\$4,879			
Design-Build	FY25+	\$25,000			2020CIP

Task	Start Date	End Date	Duration
Scope Development	7/1/2018	9/30/2018	91
Procurement	9/30/2018	2/26/2021	880
Project Execution	2/26/2021	2/25/2026	1825
Project Closeout	2/25/2026	5/26/2026	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	2,379	2,879	3,879	3,879	4,879	4,879	25,000	47,774



GLWA FY 2020-2024 CIP
Water Transmission Main Asset Assessment Program

170600 CIP#

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018			2,626	2,000	2,000	2,000	2,000		0	0	10,626
2019	0		2,627	2,501	3,001	4,001	4,001	5,001	5,001	0	26,133
2020	0	0		2,500	3,000	4,000	4,000	5,000	5,000	25,000	48,500

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Closed

A GLWA reservoir



CIP Type Program

Project New To CIP

Project Engineer/Manager Timothy Kuhns

Budget Water

Manager Grant Gartrell

Class Lvl 1 Water

Managing Dept Water Eng

Class Lvl 2 Programs

Date Original Business Case Prepared 4/23/2007

Class Lvl 3 Programs

Year Project Added to CIP 2007

Location Multiple Counties

Fund and Cost Center Water - 5519-882111

Project Significance	Identifying issues that may have a direct impact on water quality due to interior/exterior structural failure
Scope of Work	The work provides for all Pumping Stations, study, design, and construction contract documents for rehabilitation and upgrades, and management services related to construction including award of contract, inspection during construction, and furnishing all construction work through provisional allowance for sub agreements.
Challenges	N/A - Pending Closeout
Lookup Driver	N/A - Pending Closeout
Explanation	N/A - Pending Closeout



**GLWA FY 2020-2024 CIP
Reservoirs Inspection, Repair and Rehabilitation Program**

170700 CIP#

Phase Project Management

Contract DWS-874

Status Closed Out

Title DWS-874 Unallocated Booster Stations and Reservoirs Inspection, Rehabilitation and Inspection Repair Program

Projects Capitalized/Expensed @FY18 \$12,977K

Phase Budget Water

Cost Allocation CTA

Phase Status Closed Out

Funding Source Bond Proceeds

Start Date 7/3/2013

Fund Construction Bond Fund

End Date 10/30/2019

Useful Life >20Yrs? Yes

Tot. Federal Loan Amount

Cost Estimation Information

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

Program/Allowance Task Information

Project Manager
CIP Number 170701
Description

Task	Start Date	End Date	Duration
Project Execution	1/1/2017	1/2/2017	1
Project Closeout	1/3/2017	4/3/2017	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

CIP Type Program

Project New To CIP

Project Engineer/Manager Eric Kramp

Manager 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

Project Significance This project merges all CIPs associated with Reservoir Rehabilitation except 170800 into a single, Omnibus 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.

Scope of Work The contract will provide inspection and maintenance of the existing 23 of 33 potable water storage tanks in the system.

Challenges Considerable plant, transmission system, and Jurisdiction Haven Authority buy-in is required to perform this contract. Isolation of the Reservoir has been a challenge for GLWA and its predecessor agency.

Project History This project combines CS132023 and CIP 132024 into a single project.

Related Project CIP 170800 (CS-151A), and previous projects DWS-874 and DWS-823.

Lookup Driver 3 - Regulatory

Explanation MDEQ requires inspection of potable water storage tanks on a fixed schedule.



System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation

**PM Weighted
Score**

62.8

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



System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation

Phase Construction

Contract TBD

Status Future Planned Start

Title Construction

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY20	\$4,496			2020CIP
Construction	FY21	\$4,630			2020CIP
Construction	FY22	\$4,769			2020CIP
Construction	FY23	\$3,275			2020CIP
Construction	FY24	\$5,060			2020CIP
Construction	FY25+	\$30,130			2020CIP

Task	Start Date	End Date	Duration
Scope Development	11/1/2018	3/1/2019	120
Procurement	3/1/2019	8/28/2019	180
Project Execution	8/28/2019	4/1/2027	2773
Project Closeout	4/1/2027	6/30/2027	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	4,496	4,630	4,769	3,275	5,060	30,130	52,360

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



System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$7	3	0	2020CIP
GLWA Salaries CIP2020	FY20	\$34	13	2	2020CIP
GLWA Salaries CIP2020	FY21	\$35	14	2	2020CIP
GLWA Salaries CIP2020	FY22	\$34	13	2	2020CIP
GLWA Salaries CIP2020	FY23	\$35	14	2	2020CIP
GLWA Salaries CIP2020	FY24	\$34	13	2	2020CIP
GLWA Salaries CIP2020	FY25+	\$208	82	10	2020CIP

Task	Start Date	End Date	Duration
Scope Development	6/30/2016	11/1/2018	854
Project Execution	11/1/2018	4/30/2027	3102
Project Closeout	4/1/2027	6/30/2027	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	10	49	51	49	51	49	300	559

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



System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation

Phase Study and Design and Construction Assistance

Contract TBD

Status Active

Title Engineering

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$472			2020CIP
Engineering Services	FY20	\$583			2020CIP
Engineering Services	FY21	\$530			2020CIP
Engineering Services	FY22	\$364			2020CIP
Engineering Services	FY23	\$562			2020CIP
Engineering Services	FY24	\$386			2020CIP
Engineering Services	FY25+	\$3,348			2020CIP

Task	Start Date	End Date	Duration
Scope Development	6/30/2016	11/20/2017	508
Procurement	11/20/2017	11/20/2018	365
Project Execution	11/20/2018	4/1/2027	3054
Project Closeout	4/1/2027	6/30/2027	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	472	583	530	364	562	386	3,348	6,245



System-Wide Finished Water Reservoir Inspection, Design and Rehabilitation

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

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information

<input type="text" value="1"/>	Cost Est. Class
<input type="text"/>	Cost Est. Date
<input type="text"/>	Cost Est. Source
<input type="text"/>	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)

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		50	3,300	2,550	2,550	2,550			0	0	11,000
2019	0		39	472	753	4,510	4,340	4,340	4,645	0	19,099
2020	0	0		482	5,128	5,211	5,182	3,888	5,495	33,778	59,164

- Innovation
- 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

Manager 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

Project Significance	Improving meter data reliability, ensuring accurate billing, improving customer service and allow high quality analysis of the system
Scope of Work	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.
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



Suburban Water Meter Pit Rehabilitation and Meter Replacement

Lookup Driver	2 - Performance
Other Important Info	n/a
Explanation	Not provided.

**PM Weighted
Score**

20

Criteria	Score	Comment
Condition	1	
Efficiency and Innovation	1	
Financial	1	
O&M	1	
Performance (Service Level/Reliability)	1	
Public Benefit	1	
Public Health & Safety	1	
Regulatory (Environmental/Legal)	1	

**RC Weighted
Score**

20

Criteria	Score	Comment
Condition	1	
Efficiency and Innovation	1	
Financial	1	
O&M	1	
Performance (Service Level/Reliability)	1	
Public Benefit	1	
Public Health & Safety	1	
Regulatory (Environmental/Legal)	1	



Suburban Water Meter Pit Rehabilitation and Meter Replacement

Phase Construction

Contract NA

Status Future Planned Start

Title Unallocated Suburban Water Meter Pit Rehabilitation and Meter Replacement

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$1,113			
Construction	FY20	\$190			
Construction	FY21	\$190			
Construction	FY22	\$3,997			
Construction	FY23	\$4,100			
Construction	FY24	\$4,200			2020CIP
Construction	FY25+	\$20,500			2020CIP

Task	Start Date	End Date	Duration
Scope Development			
Procurement			
Project Execution	1/1/2018	12/1/2022	1795
Project Closeout	12/2/2022	3/2/2023	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	1,113	190	190	3,997	4,100	4,200	20,500	34,290



Suburban Water Meter Pit Rehabilitation and Meter Replacement

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

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Cost Allocation

Phase Status

Funding Source

Start Date

Fund

End Date

Useful Life >20Yrs?

Tot. Federal Loan Amount

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

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



Suburban Water Meter Pit Rehabilitation and Meter Replacement

Phase Construction

Contract CON-285

Status Under Procurement

Title Wholesale Water Meter Pit Rehabilitation and Meter Replacement

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$1,887			2020CIP
Construction	FY20	\$3,810			2020CIP
Construction	FY21	\$3,810			2020CIP

Task	Start Date	End Date	Duration
Procurement	3/26/2018	10/31/2018	219
Project Execution	11/1/2018	10/31/2021	1095
Project Closeout	11/1/2021	4/30/2022	180

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	1,887	3,810	3,810					9,507

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018		500	4,000	4,000	4,000	4,000	4,000		0	0	20,500
2019	0		410	4,613	3,690	3,690	3,997	4,100		0	20,500



GLWA FY 2020-2024 CIP

170900 CIP#

Suburban Water Meter Pit Rehabilitation and Meter Replacement

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total		
2020	0	0		3,000	4,000	4,000	3,997	4,100	4,200	20,500	43,797		

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Reclassified

CIP Type Program

Project New To CIP

Project Engineer/Manager Grant Gartrell

Manager 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 Programs

Class Lvl 3 Programs

Location Saint Clair County

Fund and Cost Center

Project Significance Address the sanitary survey needs that are identified by the MDEQ as part of its 3-year rotation of plant sanitary surveys where regulatory needs are identified.

Scope of Work Design and construct improvements or modifications to plant process facilities that may be identified by the MDEQ during its 3-year cycle of sanitary surveys.

Challenges Possible negotiations with MDEQ on items they identify in sanitary surveys that GLWA may take exception.

**PM Weighted
Score**

34

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

**RC Weighted
Score**

0

Criteria	Score	Comment
Condition		
Efficiency and Innovation		
Financial		
O&M		
Performance (Service Level/Reliability)		
Public Benefit		
Public Health & Safety		
Regulatory (Environmental/Legal)		



GLWA FY 2020-2024 CIP
LH - WTP Sanitary Survey Improvements

171000 CIP#

Phase GLWA Employees Project management

Contract NA

Status Cancelled

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Reclassified

CIP Type Program

Project New To CIP

Project Engineer/Manager Govind Patel

Manager 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 Programs

Class Lvl 3 Programs

Location City of Detroit

Fund and Cost Center

Project Significance Address the sanitary survey needs that are identified by the MDEQ as part of its 3-year rotation of plant sanitary surveys where regulatory needs are identified.

Scope of Work Design and construct improvements or modifications to plant process facilities that may be identified by the MDEQ during its 3-year cycle of sanitary surveys.

Challenges Possible negotiations with MDEQ on items they identify in sanitary surveys that GLWA may take exception.

**PM Weighted
 Score**
34

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

**RC Weighted
 Score**
0

Criteria	Score	Comment
Condition		
Efficiency and Innovation		
Financial		
O&M		
Performance (Service Level/Reliability)		
Public Benefit		
Public Health & Safety		
Regulatory (Environmental/Legal)		



GLWA FY 2020-2024 CIP
NE - WTP Sanitary Survey Improvements

171100 CIP#

Phase Design and Build

Contract NA

Status Cancelled

Title NE - WTP Sanitary Survey Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$0			
Design-Build	FY20	\$0			
Design-Build	FY21	\$0			
Design-Build	FY22	\$0			
Design-Build	FY23	\$0			
Design-Build	FY24	\$0			

Task	Start Date	End Date	Duration
Scope Development	4/1/2017	6/30/2017	90
Procurement	7/1/2017	7/1/2018	365
Project Execution	7/2/2018	6/16/2028	3637
Project Closeout	6/17/2028	9/15/2028	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Reclassified

CIP Type Program

Project New To CIP

Project Engineer/Manager Shakil Ahmed

Manager 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 Programs

Class Lvl 3 Programs

Location Wayne County - Outside Detroit

Fund and Cost Center

Project Significance Address the sanitary survey needs that are identified by the MDEQ as part of its 3-year rotation of plant sanitary surveys where regulatory needs are identified.

Scope of Work Design and construct improvements or modifications to plant process facilities that may be identified by the MDEQ during its 3-year cycle of sanitary surveys.

Challenges Possible negotiations with MDEQ on items they identify in sanitary surveys that GLWA may take exception.

**PM Weighted
 Score**
34

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

**RC Weighted
 Score**
0

Criteria	Score	Comment
Condition		
Efficiency and Innovation		
Financial		
O&M		
Performance (Service Level/Reliability)		
Public Benefit		
Public Health & Safety		
Regulatory (Environmental/Legal)		



GLWA FY 2020-2024 CIP
SW-WTP Sanitary Survey Improvements

171200 CIP#

Phase GLWA Employees Project management

Contract NA

Status Cancelled

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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 CIP2020	FY19	\$0	0	0	
GLWA Salaries CIP2020	FY20	\$0	0	0	
GLWA Salaries CIP2020	FY21	\$0	0	0	
GLWA Salaries CIP2020	FY22	\$0	0	0	
GLWA Salaries CIP2020	FY23	\$0	0	0	
GLWA Salaries CIP2020	FY24	\$0	0	0	

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Reclassified

CIP Type Program

Project New To CIP

Project Engineer/Manager TBD

Manager Terry Daniel

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 Programs

Class Lvl 3 Programs

Location City of Detroit

Fund and Cost Center

Project Significance Address the sanitary survey needs that are identified by the MDEQ as part of its 3-year rotation of plant sanitary surveys where regulatory needs are identified.

Scope of Work Design and construct improvements or modifications to plant process facilities that may be identified by the MDEQ during its 3-year cycle of sanitary surveys.

Challenges Possible negotiations with MDEQ on items they identify in sanitary surveys that GLWA may take exception.

**PM Weighted
Score**

34

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

**RC Weighted
Score**

0

Criteria	Score	Comment
Condition		
Efficiency and Innovation		
Financial		
O&M		
Performance (Service Level/Reliability)		
Public Benefit		
Public Health & Safety		
Regulatory (Environmental/Legal)		



**GLWA FY 2020-2024 CIP
WWP - WTP Sanitary Survey Improvements**

171300 CIP#

Phase Design and Build

Contract NA

Status Cancelled

Title WWP - WTP Sanitary Survey Improvements

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$0			
Design-Build	FY20	\$0			
Design-Build	FY21	\$0			
Design-Build	FY22	\$0			
Design-Build	FY23	\$0			
Design-Build	FY24	\$0			
Design-Build	FY25+	\$0			2020CIP

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



GLWA FY 2020-2024 CIP
Energy Management Program @ All Water Facilities

171400 CIP#

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Future Planned

CIP Type Program

Project New To CIP

Project Engineer/Manager TBD

Manager Grant Gartrell

Managing Dept Water Eng

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

Project Significance Existing lighting systems at most facilities are energy inefficient. Replacement with new, modern LED lighting type systems will reduce electrical usage and costs.

Scope of Work Replace existing lighting fixtures with new lighting fixtures at the water plants and water booster pumping stations.

**PM Weighted
Score**

34.4

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

**RC Weighted
Score**

0

Criteria	Score	Comment
Condition		
Efficiency and Innovation		
Financial		
O&M		
Performance (Service Level/Reliability)		
Public Benefit		
Public Health & Safety		
Regulatory (Environmental/Legal)		



**GLWA FY 2020-2024 CIP
Energy Management Program @ All Water Facilities**

171400 CIP#

Phase Design and Build

Contract NA

Status Future Planned Start

Title Energy Management Program @ All Water Facilities

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	\$693			2020CIP
Design-Build	FY24	\$693			2020CIP
Design-Build	FY25+	\$4,401			2020CIP

Task	Start Date	End Date	Duration
Scope Development	6/22/2019	7/1/2021	740
Procurement	7/1/2021	7/1/2022	365
Project Execution	7/1/2022	9/6/2030	2989
Project Closeout	9/7/2030	12/6/2030	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	693	693	4,401	5,787

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



**GLWA FY 2020-2024 CIP
Energy Management Program @ All Water Facilities**

171400 CIP#

Phase GLWA Employees Project management

Contract NA

Status Future Planned Start

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="5"/>	Cost Est. Class
<input type="text" value="1/1/2016"/>	Cost Est. Date
<input type="text" value="GLWA"/>	Cost Est. Source
<input type="text" value="GLWA"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Task	Start Date	End Date	Duration
Scope Development	6/22/2019	7/1/2021	740
Project Execution	7/1/2021	9/6/2030	3354
Project Closeout	9/7/2030	12/6/2030	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2019	0					520	693	693	5,094	0	7,000
2020	0	0		0	0	0	0	693	693	4,401	5,787

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

Project Status Active

CIP Type Program

Project New To CIP

Project Engineer/Manager TBD

Manager 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

Project Significance This CIP 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 due to their poor condition. Replacement is needed to protect building interiors and sensitive electrical equipment.

Scope of Work Replace existing roofs with new built-up roofing systems.

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

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.

**PM Weighted
 Score**

42

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

**RC Weighted
 Score**

0

Criteria	Score	Comment
Condition		
Efficiency and Innovation		
Financial		
O&M		
Performance (Service Level/Reliability)		
Public Benefit		
Public Health & Safety		
Regulatory (Environmental/Legal)		



**GLWA FY 2020-2024 CIP
Roof Replacement - Various Water Facilities**

171500 CIP#

Phase GLWA Employees Project management

Contract NA

Status Active

Title GLWA Salaries

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="4"/>	Cost Est. Class
<input type="text" value="1/1/2016"/>	Cost Est. Date
<input type="text" value="Testing Engineers & Consult"/>	Cost Est. Source
<input type="text" value="Testing Engineers & Consult"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



**GLWA FY 2020-2024 CIP
Roof Replacement - Various Water Facilities**

171500 CIP#

Phase Design and Build

Contract NA

Status Active

Title Phase 464631552 - Roof replacement at LH-WTP, NE-WTP, WWP-WTP, Ford Road, Northwest, EastSide, Newburgh, Rochester, Schoolcraft and Ypsilanti Booster Stations

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY24	\$2,000			
Design-Build	FY25+	\$2,000			2020CIP

Task	Start Date	End Date	Duration
Scope Development	4/2/2022	7/1/2022	90
Procurement	7/2/2022	7/2/2023	365
Project Execution	7/3/2023	6/25/2027	1453
Project Closeout	6/26/2027	9/24/2027	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	2,000	2,000	4,000

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



**GLWA FY 2020-2024 CIP
Roof Replacement - Various Water Facilities**

171500 CIP#

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY18-	\$50			FY18

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
50								50

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



**GLWA FY 2020-2024 CIP
Roof Replacement - Various Water Facilities**

171500 CIP#

Phase Design and Build

Contract NA

Status Active

Title Phase 758522114 - Roof replacement at LH-WTP, SW-WTP, WWP-WTP, Imlay and Franklin Booster Stations

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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	FY19	\$0			
Design-Build	FY20	\$2,657			

Task	Start Date	End Date	Duration
Scope Development	1/23/2018	4/23/2018	90
Procurement	4/24/2018	4/24/2019	365
Project Execution	4/25/2019	4/22/2020	363
Project Closeout	4/23/2020	7/22/2020	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	2,657	0	0	0	0	0	2,657

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



**GLWA FY 2020-2024 CIP
Roof Replacement - Various Water Facilities**

171500 CIP#

Phase Design and Build

Contract NA

Status Active

Title Phase 1218915073 - Roof replacement at LH-WTP, SW-WTP, WWP-WTP, Imlay Booster Station and Franklin Booster Station (1)

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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

Task	Start Date	End Date	Duration
Scope Development	3/31/2026	6/29/2026	90
Procurement	6/30/2026	6/30/2027	365
Project Execution	7/1/2027	6/25/2031	1455
Project Closeout	6/26/2030	9/24/2030	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



**GLWA FY 2020-2024 CIP
Roof Replacement - Various Water Facilities**

171500 CIP#

Phase Design and Build

Contract NA

Status Active

Title Phase 1252759899 - Roof replacement at LH-WTP, SW-WTP, Orion & North Service Center Booster Stations

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

Cost Estimation Information	
<input type="text" value="4"/>	Cost Est. Class
<input type="text" value="1/1/2016"/>	Cost Est. Date
<input type="text" value="Testing Engineers & Consult"/>	Cost Est. Source
<input type="text" value="Testing Engineers & Consult"/>	Cost Est. Prepared By

Program/Allowance Task Information

Project Manager

CIP Number

Description

Task	Start Date	End Date	Duration
Scope Development	3/31/2018	6/29/2018	90
Procurement	6/30/2018	6/30/2019	365
Project Execution	7/1/2019	6/23/2023	1453
Project Closeout	6/24/2023	9/22/2023	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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



**GLWA FY 2020-2024 CIP
Roof Replacement - Various Water Facilities**

171500 CIP#

Phase Design and Build

Contract NA

Status Active

Title Phase 1900377390 - Roof replacement at LH-WTP, SW-WTP, WWP-WTP, Imlay Booster Station and Franklin Booster Station (2)

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

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

Task	Start Date	End Date	Duration
Scope Development	3/31/2030	6/29/2030	90
Procurement	6/30/2030	6/30/2031	365
Project Execution	7/1/2031	6/25/2035	1455
Project Closeout	6/26/2035	9/24/2035	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	0	0	0	0	0	0	0

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

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

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2019	0			111	986	210	24	1,159	24,756	0	27,246
2020	0	0	50	0	2,657	0	0	0	2,000	2,000	6,707