CAPITAL IMPROVEMENT PLAN 2021 - 2025

CIP

Updated December 11, 2019 - Approved February 26, 2020 Appendix C - Centralized Services Projects



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GLWA FY 2021-2025 CIP 331001 CIP# Roofing Systems Replacement at Water Plants and Booster Pump Stations

 Innovation Conceptual WW I 	CIP Iype Project	Roof in need of repo	air
 Water MP Right Siz Reliability/Redund NEWTP Repurposir 	ancy Project New To CIP		
		Budget	Water
	nager Paula Anderson	Class Lvl 1	Centralized Services
Dir	ector Paula Anderson	Class Lvl 2	Facilities
Managing	Dept Fleet and Facilities	Class LvI 3	General Purpose
Date Original Busines	s Case Prepared 6/26/2014	Location	Multiple Counties
Year Proje	ect Added to CIP 2014	Fund and Cost Center	
	This CIP provides funds to replace roofing s repair. Sound roofing systems are importan This project encompasses the evaluation c	t to protect the process infrastru	ucture inside GLWA's buildings.
•	determine their current condition and to p of roof, built-up roofing material, flashing, r envelope. The findings of the roof survey o projects for design and construction.	rioritize their repair or replacem oof drains/conductors and seal	ent. The project will evaluate the type ling materials that comprise the building
Other Important Info	*Innovation note: use cool roofs.		
	Project History: Majority of GLWA Water Plc referred as "tar and gravel" roofs. Majority older up to 30 years old. In many instances	of the more than 70 roofs, are c	over 15 years old and few are even
	Challenges: Weather dependent and sea simultaneously to complete the work. The testing for hazardous materials, thermal sc	project should include but, not b	
Related Project	none		
Primary Driver	1 - Condition		

Driver Explanation Not provided.



Roofing Systems Replacement at Water Plants and Booster Pump Stations

PM Weighted Score		
71.4		
Criteria	Score	Comment
Regulatory (Environmental/Legal)	4	
Public Benefit	2	
Efficiency and Innovation	2	
Financial	4	
Operations and Maintenance	5	
Performance (Service Level/Reliability)	3	
Condition	5	
Public Health and Safety	3	
RC Weighted Score 61		
Score 61 Criteria	Score	Comment
Score 61 Criteria Condition	Score 5	Comment
Score 61 Criteria Condition Public Benefit	5	Comment
Score 61 Criteria Condition Public Benefit Public Health and Safety	5 1 2	Comment
Score61CriteriaConditionPublic BenefitPublic Health and SafetyOperations and Maintenance	5 1 2 5	Comment
Score 61 Criteria Condition Public Benefit Public Health and Safety Operations and Maintenance Regulatory (Environmental/Legal)	5 1 2	Comment
Score 61 Criteria Condition Public Benefit Public Health and Safety Operations and Maintenance Regulatory (Environmental/Legal) Financial	5 1 2 5 3 1 1	Comment
Score 61 Criteria Condition Public Benefit Public Health and Safety Operations and Maintenance Regulatory (Environmental/Legal)	5 1 2 5	Comment



Roofing Systems Replacement at Water Plants and Booster Pump Stations

331001 CIP#

e GLWA Salari	, ,	ect management	Contract NA		Cancelled
Phase Budget W	Vater		Cost Alloco	ation CTA	
Phase Status C	Cancelled		Funding Sou	urce Bond Pr	oceeds
Start Date			F	und Constru	ction Bond Fund
End Date			Useful Life >20	Yrs? No	
Cos	st Estimation	Information	Tot. Federal Loan Am	ount	\$0
	5	Cost Est. Class	Program/Allowa	ince Task Info	ormation
		Cost Est. Date	Project Manager		
		Cost Est. Source	CIP Number		
		Cost Est. Prepared By	Description		

Great Lakes Water Authority Roofing Systems Replacement at Water Plants and Booster Pump Stations									
hase Construction				ict NA		Status Co	ancelled		
itle Roofing Systems Replacement at Water Plants and Booster Pump Stations									
Phase Budget Water				Cost A	Allocation	CTA			
Phase Status Cancelled				Fundir	ng Source	Bond Proce	eds		
Start Date					Fund	Constructio	n Bond Fund		
End Date				Useful Lif	e >20Yrs?	Yes			
Cost Estimatio	on Information		Tot. Federal Loan Amount						
5	Cost Est. Cla	SS	Program/Allowance Task Information						
	Cost Est. Dat	e	Project Manager						
	Cost Est. Sou	rce	CIP Number						
	Cost Est. Pre	oared By	Description						
	Phase	Total Expense	es By FY (All	figures are i	n \$1,000's	5)			
Prior Yr Actual FY20	FY21 FY22	E FY23	FY24	FY25	FY26+	Total	5-Yr Total		
0 0	0	0 0	0	0	C) 0	0		



Roofing Systems Replacement at Water Plants and Booster Pump Stations

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	0	0	0	0	0	0	0
2020	0	0		0	0	225	375	1,625	1,825	1,375	0	5,425	4,050
2019	0				128	169	809	1,243	4,844	0	0	7,193	2,349
2018		3,000	3,000	3,000	2,500				0	0	0	11,500	8,500

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

Description of CIP Project status changed to cancelled due to other projects within Water Eng group.

Changes



Roofing Systems Replacement at GLWA WRRF, CSO Retention Treatment Basins (RTB) and

331002 CIP#

 Innovation Conceptual WW MP Water MP Right Sizing Reliability/Redundar NEWTP Repurposing 	Draigat Naw To CIP	Photo of Complex – I Dewatering Roof at the WRRF.
		Budget Wastewater
Project Engineer/Manag	jer Beena Chackunkal	Class Lvl 1 Centralized Services
Direc	for Dan Alford	Class Lvl 2 Facilities
Managing De	pt WW Design Eng	Class Lvl 3 General Purpose
Date Original Business C	ase Prepared 8/8/2016	Location Multiple Counties
Year Project	Added to CIP 2017	Fund and Cost Center
	me of the roofs at GLWA WRRF facilities uipment by preventing rain water ente	are near its end of useful life. The roofs help to protect the expensive ring through roofs into the facilities.
Project Alternatives bu dro sys Do suc no co	Idings. Document the roofing systems in awings, sketches, and inspection notes tems and their drainage facilities. Reco cument the roof for each building insp ch as, 1) Roofs that require complete re action within the next 10 years. Develo sts tied to the schedule for roofing syste	assess drainage conditions on all the GLWA wastewater related facility hspections by taking and submitting high-quality photographs, scaled to adequately describe the conditions and deficiencies of the roofing mmend the extent of the roofing repairs and replacements required. ected on the project. Classify the roofs into three (3) main categories, placement, 2) Roofs that only require repair, and 3) Roofs that require p a recommended implementation/planning schedule with budgetary m repairs and replacements that GLWA should plan for over the next 10 ons for the GLWA's roofing systems evaluated under this contract.

Provide any OSHA compliance suggestions that may be applicable for the GLWA's roofing systems evaluated under this contract.

Other Important Info *Innovation note: Use cool roofs.

Complex – II Incinerator (\$1.8M) and Complex – II Dewatering (\$1.0 M) replacement are under consideration to be part of fire remediation project.

Challenges: Roof material testing for asbestos before demolition and flashing will be challenge to manage as low levels of asbestos are very common in the GLWA's old roof type systems.





PM Weighted Score		
54.6		
	Criteria	Sc

Criteria	Score	Comment
Condition	4	Asset has <25% of its design service life remain
Performance (Service Level/Reliability)	4	Significant positive impact on system reliability
Regulatory (Environmental/Legal)	4	Risk of non compliance in near term
Operations and Maintenance	2	Low impact on O&M
Public Health and Safety	2	Moderate positive impact
Public Benefit	1	Low impact on Public
Financial	2	Project will likely result in avoidance of fines
Efficiency and Innovation	1	low impact on energy use & conservation

RC Weighted

Score

43.8

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

GLW Great Lakes Water A	uthority R	oofing	Systen	ns Replo		WA FY 20 ent at GLV				ention Tre	atment Basir	331002 CI ns (RTB) and
Phase Construct	ion					Contro	act NA	4		Status Future Planned Start		
Title Roofing Systems Replacement at GLWA W Disinfection Facilities (SDF)					ewater 1	freatment P	lant CS	O Reter	ntion Trea	tment Basi	ns (RTB) and Scre	ening
Phase Budget Wastewater								Cost A	llocation	CTA		
Phase Status Future Planned Start								Fundin	g Source	Bond Proc	eeds	
Start Date			7/3/	2020					Fund	Constructi	on Bond Fund	
End Date	End Date 6/23/2022			2022			U	seful Life	e >20Yrs?	Yes		
Co	Cost Estimation Information					То	t. Fede	ral Loan	Amount			
	4 Cost Est. Class						Prog	gram/Al	lowance	Task Inform	nation	
10	0/2/2017	C	ost Est. De	ate		Project Man	ager					
		C	ost Est. Sc	ource		CIP Number	r					
Ali Khraizat		C	ost Est. Pr	epared B	у	Description						
Cost Typ	be	Fisco	al Year	Expe	nse	Fringe Ben	efilNor	nPerson	ne	Comm	ent	
Construction		FY19-			\$795				2021 CI	Р		
Construction		FY20			\$321				2021CI	P		
			Phas	e Total E	xpense	s By FY (All	figure	es are ir	s \$1,000's)		
Prior Yr Actua	FY20	FY21	FY	22 F	-Y23	FY24	FY	25	FY26+	Total	5-Yr Total	
795	321		0	0	0	0		0	С	1,11	6 0	
Phase Task Dat	es											
Phase Task Nam	ne Start	Date	End Dat	e Durc	ation							
Procurement	1/	1/2019	3/31/20	019	89							
Project Execution		1/2019	7/2/20		92							
Project Closeout	7/	3/2019	9/30/20)19	89							

)#

GLW Great Lakes Water.	Authority R	oofing Sy	stems Repl		WA FY 202 ent at GLW) Rete	ention Trea	ıtment Basin	331002 ci s (RTB) and
Phase Study and	d Design a	ind Constru	iction Assistanc	e	Contract NA Status Active						
Title Roofing Sy Disinfectio			at GLWA Waste	ewater T	reatment Pla	ant CSC) Retenti	on Trea	tment Basins	(RTB) and Scre	ening
Phase Budget	Wastewa	ter				(Cost Allo	cation	CTA		
Phase Status	Active					I	Funding	Source	Bond Proce	əds	
Start Date			11/8/2018					Fund	Constructior	n Bond Fund	
End Date			6/23/2022			Use	eful Life >	20Yrs?	Yes		
Co	ost Estimat	ion Informo	ition		Tot.	Federo	al Loan A	mount			
	3	Cost	Est. Class			Progr	am/Allo	wance	Task Informa	ition	
1	0/1/2017	Cost	Est. Date		Project Manc	ager					
		Cost	Est. Source	(CIP Number						
		Cost	Est. Prepared B	y	Description						
Cost Ty	ре	Fiscal Ye	ear Expe	ense	se Fringe BenefilNonPersonne Comment						
Engineering Serv		FY19-		\$2	\$2 20210		2021 CI	21CIP			
Engineering Serv		FY21		\$91				2021CI			
Engineering Serv		FY22		\$121				2021CI			
Engineering Serv		FY23		\$100				2021 CI			
Engineering Serv Engineering Serv		FY24 FY25		\$79 \$78				2021 CI 2021 CI			
Engineering Serv		FY26+		\$32				2021CI			
			Phase Total E		s By FY (All f	figures]			
Prior Yr Actual	FY20	FY21		-Y23	FY24		FY25 FY26+ Total 5-Yr Total				
2	0	91	121	100	79		78	32	503	469	
Phase Task Dat Phase Task Nan App C - Pa	ne Start I	Date En	d Date Dur	ation							

GLWA Great Lakes Water Author	ity Roofing	g Systems I		LWA FY 2021-2025 CIP 331002 CIP# ent at GLWA WRRF, CSO Retention Treatment Basins (RTB) and
Phase Task Name	Start Date	End Date	Duration	
Procurement	10/31/2018	3/31/2019	151	
Project Execution	7/1/2020	7/29/2026	2219	

GLWA Great Lakes Water Authority

Roofing Systems Replacement at GLWA WRRF, CSO Retention Treatment Basins (RTB) and

331002 CIP#

Phase Construc	tion					Contro	act TBD		Status Fut	ture Planned S	itart
Title new const	ruction pl	nase									
Phase Budget	Wastewa	iter					Cost	Allocation	CTA		
Phase Status	Future Pla	anned St	art				Fundi	ng Source	Bond Proce	eds	
Start Date								Fund	Constructio	n Bond Fund	
End Date							Useful Li	ie >20Yrs?	No		
Co	ost Estima	tion Info	mation		1	То	t. Federal Loa	n Amount			\$0
		C	ost Est. C	Class			Program/A	llowance	Task Informo	ation	
		C	ost Est. D	ate	1	Project Man	ager				
		С	ost Est. S	ource	(CIP Number					
		C	ost Est. P	repared By		Description					
Cost Ty	ре		al Year	Exper		Fringe Ben	efilNonPersor		Comme	ent	
Construction		FY22			\$1,624			2021CIF			
Construction		FY23			\$1,624			2021CIF			
Construction		FY24			\$1,629			2021 CIF			
Construction		FY25			\$1,624			2021 CIF			
Construction		FY26+			\$1,620			2021 CIF			
			Pha	se Total Ex	pense	s By FY (All	figures are i	n \$1,000's))		
Prior Yr Actual	FY20	FY21	F١	′22 F`	(23	FY24	FY25	FY26+	Total	5-Yr Total	
0	0		0	1,624	1,624	1,629	1,624	1,620	8,121	6,501	
Phase Task Da	tes										
Phase Task Nan	ne Start	Date	End Da	te Dura	ion						
Project Executio	on 7/	1/2021	6/29/2	2026	1824						
Project Closeou	† 6/3	0/2026	7/29/2	2026	29						

GLWA Great Lakes Water Authority	oofing Systen	ns Replac		A FY 202 t at GLW				ention Trea	itment Basir	331002 CIP ns (RTB) and
Phase GLWA Employees Pr	roject manager	nent		Contra	ct NA			Status Ac	tive	
Title GLWA Salaries										
Phase Budget Wastewat	er					Cost A	llocation	CTA		
Phase Status Active					I	Fundin	g Source	Bond Procee	eds	
Start Date							Fund	Constructior	n Bond Fund	
End Date					Use	eful Life	e >20Yrs?	No		
Cost Estimati	ion Information			Tot	. Federo	al Loar	n Amount			\$0
5	Cost Est. C	lass			Progr	am/A	llowance	Task Informa	tion	
	Cost Est. D	ate	Pro	ject Mana	ager					
	Cost Est. So	ource	CIP	Number						
	Cost Est. Pr	epared By	De	scription						
Cost Type	Fiscal Year	Expens	e Fr	inge Bene	efilNonF	Person	ne	Comme	nt	
GLWA Salaries CIP2021	FY19-		\$5				2021 CI	Р		
	Phas	e Total Exp	enses B	by FY (All	figures	are ir	ר\$1 <i>,</i> 000's)		
Prior Yr Actual FY20	FY21 FY	22 FY2	23	FY24	FY2	5	FY26+	Total	5-Yr Total	
5 0	0	0	0	0		0	С) 5	0	
Phase Task Dates										



Roofing Systems Replacement at GLWA WRRF, CSO Retention Treatment Basins (RTB) and

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	802	321	91	1,745	1,724	1,708	1,702	1,652	9,745	6,970
2020	0	0		278	1,092	4,142	4,114	41	42	0	0	9,709	9,431
2019	0			286	709	5,575	5,114			0	0	11,684	11,684
2018			2,200	2,060	1,060	1,050	540	2,140	0	0	0	9,050	6,910

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



Innovation	Project Status Active		
Conceptual WW MP	CIP Type Project		
Water MP Right Sizing			
□ Reliability/Redundancy	Project New To CIP		
NEWTP Repurposing			
		Budget	Water
Project Engineer/Manager	Michael Lewis	Class Lvl 1	Centralized Services
Director	W. Barnett Jones	Class Lvl 2	Security
Managing Dept	Security and Integrity	Class Lvl 3	General Purpose
Date Original Business Case	Prepared 8/28/2019	Location	Multiple Counties
Year Project Ad	ded to CIP 2019	Fund and Cost Center	Water - 5519-882111

destruction. GLWA staff is engag.ed in a continual process of threat and vulnerability assessment to our facilities, operations, and staff. Using several assessment tools including, OHS Site Assessments, incorporating AWWA security recommendations, and utilizing GLWA's historical assessment data, we have the basis for initiating a strategic plan for security infrastructure improvements. The resulting data from these assessments formulate recommendations for mitigating vulnerabilities. The implementation of these recommendations requires an efficient and effective design, procurement, and construction process.

Scope of Work / Project Alternatives Water Works Park: Additional coverage where boats dock and by the screening house. Video assessment wherever there are alarm points. Primary Building needs to be secured. Need video coverage. Switchgear room needs to be secured. Exterior video coverage of oxygen tanks and entrance lo chlorine room. Secure transformer enclosures -Raw water Booster Station. Interior intrusion detection devices need to be installed at high lift building- glass break, motion sensors, etc. Install Card readers to interior of the new plant where critical assets are located. Enhanced perimeter fencing and gates. Enhanced perimeter detection system Replacement of analog cameras

Northeast Water Plant: Chemical building needs access control intrusion devices. Video assessment wherever there are alarm points. Flocculate building needs intrusion devices. Interior intrusion devices for uncovered areas. Enhanced perimeter fencing and gates Replacement of analog cameras. Enhanced perimeter detection system.



Security Infrastructure Improvements on Water Facilities

	Springwells Water Plant: Enhanced access control system Chemical Building, basins and tunnel not secured. Video assessment wherever there are alarm points Enhanced perimeter detection system. Enhanced perimeter fencing and gates Replacement of analog cameras
	Lake Huron Water Treatment Plant: Cameras at the Clear Well, Main Transformer Station and the Emergency Generators. Enhanced perimeter fencing and gates. Replacement of analog cameras. Enhanced perimeter detection system.
	Southwest Water Plant: Video assessment wherever there are alarm points. Replace door closures to chlorine room so the doors swing shut and lock automatically. Install card readers to chlorine room and chlorine evaporation room. Enhanced perimeter fencing and gates. Replacement of analog cameras. Enhanced perimeter detection system.
	Southwest Water Treatment Intake: Provide security for the intake platform. Enhanced perimeter fencing and gates. Replacement of analog cameras
	Belle Isle Intake: Enhanced Access Control. Perimeter fencing and gates. Intrusion detection. Video assessment and surveillance.
	Chlorine Storage Areas at all Plants: Enhanced Access Control. Intrusion detection. Video assessment and surveillance.
Other Important Info	GLWA has a responsibility in the layered approach to critical infrastructure security; partnering with Federal, State, and Local law enforcement entities to minimize and respond to threats. This partnership required GLWA to maintain a minimum security posture equating to the Critical Infrastructure designation. Implementation of the security protocols were none existent, and improving the GLWA security foot print can reduce our vulnerabilities and enhance our response to known threats.
Primary Driver	5 - Public Health & Safety



Security Infrastructure Improvements on Water Facilities

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Phase GLWA Er Iitle Salaries-W		Project mar	nagement		Contr	act NA		Status A	ctive	
Phase Budge]		Cos	t Allocatio	n CTA		
Phase Status						Fund	ding Sourc	e Revenue F	inanced Capit	al
Start Date	2						Fun	d Improveme	ent & Extension	Fun
End Date	\$					Useful	Life >20Yrs	? Yes		
C	Cost Estimat	ion Inform	ation		Тс	ot. Federal La	an Amour	nt		\$0
		Cost	Est. Class			Program	/Allowanc	e Task Inform	ation	
		Cost	Est. Date		Project Mai	nager				
		Cost	Est. Source	e	CIP Numbe	r				
		Cost	Est. Prepa	red By	Description					
Cost Ty	уре	Fiscal Y	ear	Expense	Fringe Ber	nefitNonPers	onne	Comm	ent	
GLWA Salaries	CIP2021	FY20		\$11	l		20210	CIP		
GLWA Salaries	CIP2021	FY21		\$110)		20210	CIP		
GLWA Salaries	CIP2021	FY22		\$98	3		20210	CIP		
			Phase To	otal Expens	es By FY (Al	l figures are	e in \$1,000	's)		
	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total	
Prior Yr Actua							0	0 319	208	1

GLW Great Lakes Water Au	A			Secur		WA FY 20 frastructur				nts or	n Water F	acilities	341001 CIP
Phase Design and	d Build					Contro	act so	DQ-13	5A		Status Ad	ctive	
Title DB-Wtr													
Phase Budget V	Vater							Cost	Alloc	ation	CTA		
Phase Status /	Active							Fund	ing Sc	ource	Revenue Fi	nanced Capita	I
Start Date										Fund	Improveme	ent & Extension I	-un
End Date							U	seful L	ife >2	OYrs?	Yes		
Co	st Estimat	ion Infor	mation			То	t. Fede	eral Loo	an Am	nount			\$0
	1	Сс	ost Est. Clo	155			Prog	gram/	Allow	ance	Task Inform	ation	
		Co	ost Est. Da	te		Project Man							
			ost Est. Sou			CIP Number	r						
			ost Est. Pre		,	Description							
				p al c a 2)		_							
Cost Typ	е	Fisco	al Year	Exper	nse	Fringe Ber	efitNo	nPerso	nne		Comme	ent	
Design-Build		FY20			\$3,918				20	021CIF	2		
Design-Build		FY21			\$3,908					021CIF			
Design-Build		FY22			\$2,505				20	021CIF	2		
			Phase	• Total Ex	pense	es By FY (Al	figure	es are	in \$1,	, 000's])		
Prior Yr Actual	FY20	FY21	FY2	2 F	Y23	FY24	FY	25	FY	'26+	Total	5-Yr Total	
0	3,918	3,90	08 2,	505	0	0		0		0	10,331	6,413	
Phase Task Date	S												
Phase Task Name	e Start I	Date	End Date	Dura	tion								
Pre-Procurement	6/	1/2017	8/29/20	17	89								
Procurement	8/30	0/2017	2/21/20	18	175								
Project Execution	2/20	6/2018	2/19/20	22	1454								
Project Closeout	2/20	0/2022	5/20/20	22	89								



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Security Infrastructure Improvements on Water Facilities

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	4,029	4,018	2,603	0	0	0	0	10,650	6,621

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



Security Infrastructure Improvements for Wastewater Facilities

Great Lakes Water Authority			
Innovation	Project Status Active		
□ Conceptual WW MP	CIP Type Project		
Water MP Right Sizing			
□ Reliability/Redundancy	Project New To CIP		
NEWTP Repurposing			
		Budget	Wastewater
Project Engineer/Manager	Michael Lewis	Class Lvl 1	Centralized Services
Director	W. Barnett Jones	Class Lvl 2	Security
Managing Dept	Security and Integrity	Class Lvl 3	General Purpose
Date Original Business Case	Prepared 8/28/2019	Location	Multiple Counties
Year Project Ad	ded to CIP 2019	Fund and Cost Center	Wastewater - 5421-892211

Problem Statement GLWA facilities have been designated as "Critical Infrastructure" by the United States Department of Homeland Security (OHS). Critical Infrastructure is under constant threat by malicious people intent on disruption and destruction. GLWA staff is engag.ed in a continual process of threat and vulnerability assessment to our facilities, operations, and staff. Using several assessment tools including, OHS Site Assessments, incorporating AWWA security recommendations, and utilizing GLWA's historical assessment data, we have the basis for initiating a strategic plan for security infrastructure improvements. The resulting data from these assessments formulate recommendations for mitigating vulnerabilities. The implementation of these recommendations requires an efficient and effective design, procurement, and construction process.

Scope of Work / Project Alternatives Water Works Park: Additional coverage where boats dock and by the screening house. Video assessment wherever there are alarm points. Primary Building needs to be secured. Need video coverage. Switchgear room needs to be secured. Exterior video coverage of oxygen tanks and entrance lo chlorine room. Secure transformer enclosures -Raw water Booster Station. Interior intrusion detection devices need to be installed at high lift building- glass break, motion sensors, etc. Install Card readers to interior of the new plant where critical assets are located. Enhanced perimeter fencing and gates. Enhanced perimeter detection system Replacement of analog cameras

Northeast Water Plant: Chemical building needs access control intrusion devices. Video assessment wherever there are alarm points. Flocculate building needs intrusion devices. Interior intrusion devices for uncovered areas. Enhanced perimeter fencing and gates Replacement of analog cameras. Enhanced perimeter detection system.



Security Infrastructure Improvements for Wastewater Facilities

	Springwells Water Plant: Enhanced access control system Chemical Building, basins and tunnel not secured. Video assessment wherever there are alarm points Enhanced perimeter detection system. Enhanced perimeter fencing and gates Replacement of analog cameras
	Lake Huron Water Treatment Plant: Cameras at the Clear Well, Main Transformer Station and the Emergency Generators. Enhanced perimeter fencing and gates. Replacement of analog cameras. Enhanced perimeter detection system.
	Southwest Water Plant: Video assessment wherever there are alarm points. Replace door closures to chlorine room so the doors swing shut and lock automatically. Install card readers to chlorine room and chlorine evaporation room. Enhanced perimeter fencing and gates. Replacement of analog cameras. Enhanced perimeter detection system.
	Southwest Water Treatment Intake: Provide security for the intake platform. Enhanced perimeter fencing and gates. Replacement of analog cameras
	Belle Isle Intake: Enhanced Access Control. Perimeter fencing and gates. Intrusion detection. Video assessment and surveillance.
	Chlorine Storage Areas at all Plants: Enhanced Access Control. Intrusion detection. Video assessment and surveillance.
	GLWA has a responsibility in the layered approach to critical infrastructure security; partnering with Federal, State, and Local law enforcement entities to minimize and respond to threats. This partnership required GLWA to maintain a minimum security posture equating to the Critical Infrastructure designation. Implementation of the security protocols were none existent, and improving the GLWA security foot print can reduce our vulnerabilities and enhance our response to known threats.
Primary Driver	5 - Public Health & Safety



341002 CIP#

Security Infrastructure Improvements for Wastewater Facilities

Phase GLWA Er		Project mar	nagemen	t	Contr	act NA	A		Status Ac	tive	
itle Salaries-W	/W										
Phase Budget	Wastewa	ter					Cost A	llocation C	CTA		
Phase Status	Active						Fundin	ig Source R	levenue Fir	anced Capit	al
Start Date								Fund Ir	mprovemei	nt & Extension	Fun
End Date	•					U	seful Lif	e >20Yrs? Y	'es		
С	ost Estima	tion Informo	ation		Тс	ot. Fede	ral Loai	n Amount			\$0
		Cost	Est. Class			Prog	gram/A	llowance To	ask Informo	ition	
		Cost	Est. Date		Project Ma	nager					
		Cost	Est. Sourc	е	CIP Numbe	er.					
		Cost	Est. Prepo	ired By	Description	1					
Cost Ty	/pe	Fiscal Y	ear	Expense	Fringe Be	nefitNor	Person	ne	Comme	nt	
GLWA Salaries (-	FY20		\$1	_			2021CIP			
GLWA Salaries (CIP2021	FY21		\$1	50			2021 CIP			
			Phase T	otal Exper	nses By FY (A	ll figure	s are iı	n \$1, <mark>000's)</mark>			
Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY:	25	FY26+	Total	5-Yr Total	
0	169	150		0	0 0		0	0	319	150	

GLW/ Great Lakes Water Auth	Q ority		Secu		LWA FY 20 structure li				/astewat	er Facilities	341002 CIP		
Phase Design and	Build				Contro	act sc	DQ-135	A	Status A	ctive			
Title DB-WW					Cost Allocation CTA								
Phase Budget W	/astewater												
Phase Status A	ctive						Fundi	ng Source	Revenue F	inanced Capito	الا		
Start Date								Fund	Improvem	ent & Extension	Fun		
End Date						U	seful Lif	ie >20Yrs?	Yes				
	L Coline ation			_	To	t Fede	ralloa	n Amount			\$0		
Cosi	restimation	Informatio			10						40		
	1	Cost Est			D		gram/A	llowance	Task Inform	nation			
		Cost Est. Date			Project Manager								
		Cost Est. Source			CIP Number								
		Cost Est	. Prepar	ed By	Description								
Cost Type)	Fiscal Yea	r	Expense	Fringe Ber	efilNor	nPersor	nne	Comm	ent			
Design-Build	F	Y20		\$1,410)			2021 CI	Р				
Design-Build	F	Y21		\$901				2021 CI	Р				
		Pł	nase To	tal Expens	es By FY (Al	figure	es are i	n \$1,000's)				
Prior Yr Actual F	Y20	FY21	FY22	FY23	FY24	FY	25	FY26+	Total	5-Yr Total			
0	1,410	901	0	C	0		0	С	2,31	1 901			
Phase Task Dates	S												
Phase Task Name	Start Da	te End E	Date	Duration									
Pre-Procurement	6/1/2	017 8/29	2017	89									
Procurement	8/30/2	017 2/21	/2018	175									
Project Execution	2/26/2		2021	1089									
Project Closeout	2/20/2	021 5/20)/2021	89									



341002 CIP#

Security Infrastructure Improvements for Wastewater Facilities

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	1,579	1,051	0	0	0	0	0	2,630	1,051

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



GLWA FY 2021-2025 CIP LED Lighting and Lighting Control Improvements 351001 CIP#

 Innovation Conceptual WW I Water MP Right Siz 	CIP lype Program	Example LED light fixture					
 Reliability/Redunct NEWTP Repurposir 	ancy Project New To CIP						
Project Engineer/Mar		Budget Split					
	ector John Norton	Class Lvl 1 Centralized Services					
	Dept Energy Management	Class Lvl 2 Energy Management					
	s Case Prepared 8/4/2016	Class Lvl 3 General Purpose					
-	ect Added to CIP 2017	Location Multiple Counties					
rearrojo		Fund and Cost Center					
Problem Statement	<i>o, o</i>	ed visibility, safety, operational efficiency and worker productivity. educing scope to 4 Booster stations only under this CIP.MFG 7/25/2019					
Scope of Work / Project Alternatives	Remove identified old fixtures and replace	with new LED lamps and advanced control systems.					
Other Important Info	Challenges: Some outfalls are below the riv	er elevation; installation may be challenging.					
	Project History: An audit was completed in 2010/2011 but little action was taken. Advancement in lighting technology since this audit has rendered it obsolete as to recent innovations, technology and cost. Across the system, equipment is in poor condition and exceeds its end of life. Some existing fixtures are antiques and compared to today's lighting, cannot meet minimum lighting standards. A well detailed audit is to be carried out to determine the best suitable replacement lamps based on a set performance criteria, lighting controls to be incorporated and in cases where delamping might be an option,						
Related Project	Re lamp of Conner Creek and part of North	level is to be maintained per task/space requirements					
Primary Driver							
•							
•	Technology of LED lamps and associated fixtures will reduce electrical operating expenses and improve worker safety.						



PM Weighted Score 58				
Criteria	Sc	ore		Comment
Condition		4		
Performance (Service Level/Reliability)		3		
Regulatory (Environmental/Legal)		3		
Operations and Maintenance		1		
Public Health and Safety		3		
Public Benefit		3		
Financial		3		
Efficiency and Innovation		3		
RC Weighted Score 60.8				
Criteria Condition	Score	2	Comment	
	3			
Performance (Service Level/Reliability)				
Regulatory (Environmental/Legal)				
Operations and Maintenance Public Health and Safety	2			
Public Realin and Salery Public Benefit)		
Financial	3	2		
Efficiency and Innovation				
	2	F		



LED Lighting and Lighting Control Improvements

351001 CIP#

Phase GLWA En Title GLWA Sala		Project man	agement		Contro	ict NA			Status Ac	tive		
Phase Budget	Water					(Cost A	llocation C	TA			
Phase Status	Active				Funding Source Bond Proceeds							
Start Date								Fund C	construction	n Bond Fund		
End Date						Use	ful Life	e >20Yrs? N	0			
C	ost Estima	tion Informa	tion		To	. Federo	ıl Loar	n Amount			\$0	
	5	Cost I		Program/Allowance Task Information								
	Cost Est. Date				Project Manager							
		Cost I	Est. Source		CIP Number							
		Cost I	Est. Prepare	ed By	d By Description							
Cost Ty	pe	Fiscal Ye	ear E	xpense	Fringe Ben	efitNonF	erson	ne	Comme	nt		
GLWA Salaries C	CIP2021	FY19-		\$6	5			2021 CIP				
			Phase Tot	al Expens	es By FY (All	figures	are in	n \$1,000's)				
Prior Yr Actual	Yr Actual FY20 FY21 FY22 F				FY24	FY25	5	FY26+	Total	5-Yr Total		
6	0	0	0	C) 0		0	0	6	0		
Phase Task Da	tes											

			Combrand All	Charles of the l		
ase not appli			Contract NA	Status Closed Out		
e Prior Year	Actual Expense	25				
Phase Budget	Water		Cost Allocation	СТА		
Phase Status	Closed Out		Funding Source	Bond Proceeds		
Start Date			Fund	Construction Bond Fund		
End Date			Useful Life >20Yrs?	No		
C	ost Estimation lı	nformation	Tot. Federal Loan Amount	\$	60	
	1	Cost Est. Class	Program/Allowance	Task Information		
		Cost Est. Date	Project Manager			
		Cost Est. Source	CIP Number			
		Cost Est. Prepared By	Description			

				••••
se Design ar	nd Build		Contract TBD	Status Future Planned Sta
DB-WW Lig	phting Impro	vements		
hase Budget	Wastewate	ſ	Cost Allocation	СТА
Phase Status	Future Plann	ned Start	Funding Source	Revenue Financed Capital
Start Date			Fund	Improvement & Extension Fu
End Date			Useful Life >20Yrs?	No
Co	ost Estimatio	n Information	Tot. Federal Loan Amount	\$(
	5	Cost Est. Class	Program/Allowance	Task Information
		Cost Est. Date	Project Manager	
		Cost Est. Source	CIP Number	
		Cost Est. Prepared By	Description	

GLW Great Lakes Water Aut	A thority					WA FY 20 hting and				nprove	mei	nts	351001 CIP
Phase Design and		_				Contro	act TB	BD		Status	Act	ive	
Title Water Facil	ity Lightir	ng Renc	ovations										
Phase Budget	Vater						Cost Allocation CTA						
Phase Status	Active							Fundi	ng Source	Revenu	e Fin	anced Capital	
Start Date			5/24	/2016					Fund	Improve	men	nt & Extension F	Un
End Date							U	seful Li	fe >20Yrs?	No			
Co	st Estima	tion Info	on Information			То	t. Fede	eral Loa	ın Amount	+			
	2		Cost Est. (Class			Pro	aram/A	Allowance	Task Info	orma	tion	
	2					Project Mar		g, <i>,</i>					
			Cost Est. Date			CIP Number							
			Cost Est. S										
		C	Cost Est. F	repar	ed By	Description							
Cost Typ	е	Fisc	al Year		Expense	ense Fringe BenefilNonPersonne Comment						nt	
Design-Build		FY22			\$248	3		2021 CIP					
Design-Build		FY23			\$252				2021C	IP			
			Pha	se Tot	tal Expense	es By FY (Al	l figure	es are i	in \$1,000'	s)			
Prior Yr Actual	FY20	FY21	F	(22	FY23	FY24	FY	25	FY26+	Toto	al 🛛	5-Yr Total	
0	0		0	248	252	0		0		0	500	500	
Phase Task Date	es												
Phase Task Nam	e Start	Date	End Da	te	Duration								
Pre-Procurement	3/3	31/2021	6/30/2	2021	91								
Procurement	7/	/1/2021	12/28/2	2021	180								
Project Execution		29/2021	10/6/2		281								
Project Closeout	10/	/7/2022	1/4/2	2023	89								

GLW Great Lakes Water	Authority	L	GLWA FY 2021-2025 CIP ED Lighting and Lighting Control Ir	nprovements	351001 CIP#
Phase Study			Contract TBD	Status Active	
Title Study-WW					
Phase Budget	Wastewater		Cost Allocation	СТА	
Phase Status	Active		Funding Source	Revenue Financed Capital	
Start Date			Fund	Improvement & Extension F	JN
End Date			Useful Life >20Yrs?	No	
C	ost Estimation	Information	Tot. Federal Loan Amount		60
	5	Cost Est. Class	Program/Allowance	Task Information	
		Cost Est. Date	Project Manager		
		Cost Est. Source	CIP Number		
		Cost Est. Prepared B	By Description		
		Phase Total E	xpenses By FY (All figures are in \$1,000's	S)	

GLW/ Great Lakes Water Auth	A <i>vority</i>			LED		WA FY 20 nting and				nprovem	nen	nts	351001 CI
Phase Study						Contro	act TB	D		Status /	Acti	ive	
Title Study-Wtr													
Phase Budget W	/ater				Cost Allocation CTA								
Phase Status A	ctive							Fund	ing Source	Revenue I	Finc	anced Capita	I
Start Date									Fund	Improvem	nen	t & Extension F	un
End Date							U	seful L	ife >20Yrs?	No			
Cod	l Ectimati	on Inform	ation			То	t. Fede	ral Loc	an Amount				\$0
	5		t Est. Class		Program/Allowance Task Information								
	Cost Est. Date				Project Manager								
	Cost Est. Source				(CIP Numbe	r						
		Cos	t Est. Prepo	ared By	I	Description							
Cost Type	ć	Fiscal	Year	Expense	<u>,</u>	Fringe Ber	efilNor	Perso	nne	Comm	nen	1	
Engineering Servic		FY21			\$50 2021CIP								
			Phase T	otal Expe	nso	s By FY (Al	lfigure	s are	in \$1,000's)			
Prior Yr Actual F	Y20	FY21	FY22	FY2		FY24	FY:			-			
	0	50		0	3 0	0	FT.	25 0	FY26+	Total	50	5-Yr Total 50	
0	0	50		0	0	0		0				50	
Phase Task Dates	S												
Phase Task Name	e Start D	Date E	nd Date	Duratio	n								
Pre-Procurement	7/1	/2019	9/28/2019		89								
Procurement	9/29	/2019	6/30/2020	,	275								
Project Execution	7/1	/2020	3/30/2021	,	272								
Project Closeout	3/31	/2021	6/28/2021		89								



LED Lighting and Lighting Control Improvements

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	6	0	50	248	252	0	0	0	556	550
2020	0	0		250	250	0	0	0	0	0	0	500	250
2019	0		2	1,172	1,600					0	0	2,774	2,772
2018			933	933	933				0	0	0	2,799	2,799

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

Description of CIP Budget was cut down to \$500,000.00 We plan on doing 4 Booster Stations only with this CIP. MFG 7/25/2019

Changes



As-needed CIP Implementation Assistance and Related Services

 Innovation Conceptual WW M Water MP Right Sizir Reliability/Redundor 	ng Incy Project New To CIP	Make a Plan
Dire Managing I Date Original Business	ager Gaylor Johnson / Dan Edwards ctor Dan Alford Dept WW Design Eng	BudgetSplitClass Lvl 1Centralized ServicesClass Lvl 2ProgramsClass Lvl 3ProgramsLocationMultiple CountiesFund and Cost CenterWastewater - 5421-892111
Scope of Work / T Project Alternatives ir n c e c	rder basis to support the GLWA. his project provides for multi-discipline Enginee ewer Systems. The purpose of this proposed co ervices on a task order basis to support the GL a capital projects definition and planning, desi nonitoring; third party contract administration/ and resolution; technical training; value engine ngineering study reports; identify minimum rec riteria, minimum standards of quality, and pre	vide implementation assistance and related services on a task ering services on an "as-needed basis" to support GLWA's Water & ontract is to provide implementation assistance and related WA. The services provided under this contract include assistance ign and construction phase procurement assistance and (oversight assistance/scheduling services; claims/changes analysis eering (VE) services on selected design projects; develop quirements, scope of work, basis of process design, performance liminary design and oversight services for design/build contracts; asic analysis, and additional program support services.
•	Challenges: N/A - Active	
Related Project	CS-1433, CS-166, CS-189	
Driver Explanation		



As-needed CIP Implementation Assistance and Related Services

Phase Study and Design and Construction Assistance Contract CS-166

Status Cancelled

Title CS-166 WW - Capital Improvement Program (CIP) Implementation Assistance and Related Services

Services on proposed GLWA Contract No. CS 166 will be provided on a task order basis, over a three (3) year period. A task order contract is a contract for services that does not procure or specify a firm quantity of services (other than a minimum or maximum quantity) and that provides for the issuance of orders for the performance of tasks during the period of the contract. The services provided under this contract support GLWA in consistently honoring the commitments it makes to regulatory agencies, customers, and others. The services provided by the consultant will supplement existing GLWA staff or consultant activities, which are focused on procuring and administering contracts for individual capital projects. The consultant secured for this contract will act as an Agent for GLWA. For that reason, the consultant is precluded from bidding/proposing as a prime or sub-contractor on any GLWA projects that the consultant participates in the scope development for the duration of this contract. GLWA Contract No. CS-166 will replace CS-1433, As-Needed Capital Improvement Program (CIP) Implementation Assistance and Related Services, which expired on July 24, 2017. Contract No. CS-189, Job Order Contracting – Project Delivery Assistance, scheduled to expire July 24, 2018, was executed as a short term solution to assure tasks under CS-1433 were completed seamlessly, allowing time to competitively bid the request for services. GLWA required these consulting services contract, to provide specialized expertise in rapid and flexible project delivery methods such as design/build, program management, and job order contracting.

Phase Budget	nase Budget Wastewater		Cost Allocation		СТА
Phase Status Cancelled		Funding Source		Revenue Financed Capital	
Start Date				Fund	Improvement & Extension Fun
End Date	End Date		Useful Life >20Yrs?		No
Cost Estimation Information			Tot. Federal Loan Amount		
1 Cost Est. Class Cost Est. Date		Program/Allowance Task Information			
		Cost Est. Date	Project Manager	Ali Khraizat	
		Cost Est. Source	CIP Number	380402	
		Cost Est. Prepared By	Description	The purpose of this proposed contract is to provide implementation assistance and related services on a task order basis to support the GLWA. The services provided under this contract include assistance in capital projects definition and planning, design and construction phase procurement assistance	

GLWA Great Lakes Water Authority	GLWA FY 2021-2025 CIP 380400 CIP As-needed CIP Implementation Assistance and Related Services
	and monitoring; third party contract administration/oversight assistance/scheduling services; claims/changes analysis and resolution; technical training; value engineering (VE) services on selected design projects; develop engineering study reports; identify minimum requirements, scope of work, basis of process design, performance criteria, minimum standards of quality, and preliminary design and oversight services for design/build contracts; proposal analysis assistance; engineering forensic analysis, and additional program support services. Projected Expenses based upon historical percentage of use for CIP projects split 50/50 for water & Wastewater.
	Phase Total Expenses By FY (All figures are in \$1,000's)

GLWA Great Lakes Water Authority	As-needed	GLWA FY 2021-2025 CIP CIP Implementation Assistance	and Related Services	380400 CIP
Phase GLWA Employees Project Title GLWA Salaries Wtr	management	Contract NA	Status Cancelled	
Phase Budget Water Phase Status Cancelled Start Date End Date		-	Revenue Financed Capital Improvement & Extension Fu	Jn
	ormation Cost Est. Class Cost Est. Date Cost Est. Source Cost Est. Prepared By	Tot. Federal Loan Amount Program/Allowance Project Manager CIP Number Description	T	.0
	Phase Total Exp	enses By FY (All figures are in \$1,000's	;)	

GLWA Great Lakes Water Authority	GLWA FY 2021-2025 CIP eded CIP Implementation Assistance	380400 CIP# and Related Services
Phase not applicable	Contract NA	Status Closed Out
Title Prior Year Actual Expenses-Wtr		
As needed contract. Accumulated task exper	nditures reclassed to projects or O&M - \$(-105K)	
Phase Budget Water	Cost Allocation	СТА
Phase Status Closed Out	Funding Source	
Start Date	Fund	
End Date	Useful Life >20Yrs?	No
Cost Estimation Information	Tot. Federal Loan Amount	
1 Cost Est. Class	Program/Allowance	Task Information
Cost Est. Date	Project Manager	
Cost Est. Source	CIP Number	
Cost Est. Prepar		
Phase To	al Expenses By FY (All figures are in \$1.000's)

GLW Great Lakes Water	Authority	As-need	-	SLWA FY 2021-202 P Implementation		and Re	elated Services	380400 CIP#
Phase not appli	cable			Contract NA		Status	Closed Out	
Title Prior Year	Actual Expense	es-WW						
As needed con	ntract. Accum	ulated task expendi	itures rea	classed to projects or	- 0&M - \$(-105K)			
Phase Budget	Wastewater				Cost Allocation	CTA		
Phase Status	Closed Out				Funding Source			
Start Date				Fund				
End Date				Us	eful Life >20Yrs?	No		
C	ost Estimation I	nformation		Tot. Feder	al Loan Amount			
	1	Cost Est. Class		Prog	ram/Allowance	Task Info	ormation	
		Cost Est. Date		Project Manager				
		Cost Est. Source		CIP Number				
		Cost Est. Prepared	d By	Description				
		Phase Total		ses By FY (All figures	s are in \$1 000's)		

GLWA FY 2021-2025 CIP	380400 CIP
d CIP Implementation Assistance	and Related Services
ment Contract CS-1433	Status Closed Out
ance and Related Services	
Cost Allocation	CTA
Funding Source	Revenue Financed Capital
Fund	Improvement & Extension Fun
Useful Life >20Yrs?	No
Tot. Federal Loan Amount	
Program/Allowance	Task Information
Project Manager	
CIP Number 380401	
/ Description	
penses By FY (All figures are in \$1,000's	;)
r c	ed CIP Implementation Assistance ment Contract CS-1433 ance and Related Services Cost Allocation Funding Source Fund Useful Life >20Yrs? Tot. Federal Loan Amount Program/Allowance Project Manager CIP Number 380401



380400 CIP#

As-needed CIP Implementation Assistance and Related Services

Phase Study and Design and Construction Assistance

Contract CS-166

Status Cancelled

and monitoring; third party contract

Title CS-166 Wtr - Capital Improvement Program (CIP) Implementation Assistance and Related Services

Services on proposed GLWA Contract No. CS 166 will be provided on a task order basis, over a three (3) year period. A task order contract is a contract for services that does not procure or specify a firm quantity of services (other than a minimum or maximum quantity) and that provides for the issuance of orders for the performance of tasks during the period of the contract. The services provided under this contract support GLWA in consistently honoring the commitments it makes to regulatory agencies, customers, and others. The services provided by the consultant will supplement existing GLWA staff or consultant activities, which are focused on procuring and administering contracts for individual capital projects. The consultant secured for this contract will act as an Agent for GLWA. For that reason, the consultant is precluded from bidding/proposing as a prime or sub-contractor on any GLWA projects that the consultant participates in the scope development for the duration of this contract. GLWA Contract No. CS-166 will replace CS-1433, As-Needed Capital Improvement Program (CIP) Implementation Assistance and Related Services, which expired on July 24, 2017. Contract No. CS-189, Job Order Contracting – Project Delivery Assistance, scheduled to expire July 24, 2018, was executed as a short term solution to assure tasks under CS-1433 were completed seamlessly, allowing time to competitively bid the request for services. GLWA required these consulting services contract, to provide specialized expertise in rapid and flexible project delivery methods such as design/build, program management, and job order contracting.

Phase Budget	Water			Cost Allocation	CTA
Phase Status	Cancelle	ed		Funding Source	Revenue Financed Capital
Start Date				Fund	Improvement & Extension Fun
End Date			ι	Jseful Life >20Yrs?	No
Co	ost Estimo	ation Information	Tot. Fede	eral Loan Amount	
	1	Cost Est. Class	Pro	gram/Allowance	Task Information
		Cost Est. Date	Project Manager	Grant Gartrell	
		Cost Est. Source	CIP Number	380402	
		Cost Est. Prepared By	Description	provide implem	his proposed contract is to entation assistance and
				the GLWA. The s contract include definition and p	on a task order basis to support services provided under this e assistance in capital projects lanning, design and ase procurement assistance



administration/oversight assistance/scheduling services; claims/changes analysis and resolution; technical training; value engineering (VE) services on selected design projects; develop engineering study reports; identify minimum requirements, scope of work, basis of process design, performance criteria, minimum standards of quality, and preliminary design and oversight services for design/build contracts; proposal analysis assistance; engineering forensic analysis, and additional program support services. Projected Expenses based upon historical percentage of use for CIP projects split 50/50 for water & Wastewater.

380400 CIP#

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



As-needed CIP Implementation Assistance and Related Services

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2020	0	0	0	0	0	0	0	0	0	0	0	0	0
2019	0	210	500	1,606	1,606	1,606				0	0	5,528	4,818
2018	4770	1,400	100						0	0	0	6,270	100

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

Description of CIP Not being used by WRRF Design for PMA services instead the PMA services are being properly allocated to their **Changes** assigned CIP's. For non CIP related work the WRRF design engineering group is using O&M budget.



Wastewater General Engineering Services on an As-needed Basis

380500 CIP#

 Innovation Conceptual WW I Water MP Right Siz Reliability/Redunction NEWTP Repurposir 	zing dancy Project New To CIP	Example of pipe being laid
		Budget Split
	nager Beena Chackunkal	Class Lvl 1 Centralized Services
Dir	ector Dan Alford	Class Lvl 2 Programs
Managing	Dept WW Design Eng	Class Lvl 3 Programs
Date Original Busines	s Case Prepared	Location Multiple Counties
Year Proje	ect Added to CIP 2004	Fund and Cost Center
Problem Statement	Various engineering as needed services fo	or design and replacement of aging water and sewer lines.
Project Alternatives	water mains and sewers throughout the sy	and lateral sewer replacement projects for aging and dysfunctional stem and several projects at the WRRF under different tasks on an as- structural, architectural, hydraulics, mechanical, electrical, surveying, s.
Primary Driver	N/A - Active	
Driver Explanation	N/A - Active	



Wastewater General Engineering Services on an As-needed Basis

PM Weighted Score					
20					
	Criteria	Sco	ore		Comment
Performance (Serv	ice Level/Reliability)		1		
Regulatory (Enviror	nmental/Legal)		1		
Public Benefit			1		
Efficiency and Inno	ovation		1		
Financial			1		
Operations and Mo	aintenance		1		
Public Health and S	Safety		1		
Condition			1		
RC Weighted Score	Criteria	Score		Comment	
				Comment	
Performance (Service Level/Reliability)					
Efficiency and Innovation					
Public Benefit					
Operations and Maintenance					
Regulatory (Enviror					
Public Health and S	Safety				
Financial					

Condition



Wastewater General Engineering Services on an As-needed Basis

380500 CIP#

Phase GLWA En Title GLWA Sala		roject man	agement		Contro	ict NA		:	Status Clo	osed Out	
Phase Budget	Water					Co	st Allo	ocation C	TA		
Phase Status	Closed O	ut				Fur	nding	Source Re	evenue Fir	anced Capito	al
Start Date								Fund In	nproveme	nt & Extension	Fun
End Date						Usefu	Life >	>20Yrs? N	0		
Cost Estimation Information Tot. Federal Loan Amount \$0							\$0				
	3 Cost Est. Class					Progran	n/Allo	wance Ta	ısk Informo	ition	
	Cost Est. Date					ager					
		Cost	Est. Source	(CIP Number	,					
		Cost	Est. Prepare	ed By	Description						
Cost Ty	ре	Fiscal Ye	ear E	xpense	Fringe Ben	efilNonPer	sonne	Э	Comme	nt	
GLWA Salaries C	CIP2021	FY19-		\$148				2021 CIP			
	Phase Total Expenses By FY (All figures are in \$1,000's)										
Prior Yr Actua	FY20	FY21	FY22	FY23	FY24	FY25		FY26+	Total	5-Yr Total	
148	0	0	0	0	0		0	0	148	0	

GLW Great Lakes Water J	Authority	Wastewat	GLWA FY 2021-2025 CIP er General Engineering Service	s on an As-needed Basi	380500 CIP
Phase not applie	cable		Contract NA	Status Closed Out	
Title Prior Year /	Actual Exp	oenses-Wtr			
As needed con	tract. Ac	cumulated task expenditu	ures reclassed to projects or O&M - \$(-13	32K)	
Phase Budget	Water		Cost Allocat	tion CTA	
Phase Status	Closed C	Dut	Funding Sou	rce	
Start Date			Fu	und	
End Date			Useful Life >20Y	(rs?	
Co	ost Estima	tion Information	Tot. Federal Loan Amo	ount	
	1	Cost Est. Class	Program/Allowar	nce Task Information	
		Cost Est. Date	Project Manager		
		Cost Est. Source	CIP Number		
		Cost Est. Prepared E	By Description		
		Phase Total F	expenses By FY (All figures are in \$1.0)	00's)	

Phase not applicable Contract NA Status Closed Out Title Prior Year Actual Expenses-WW \$148K FY18 (380501) Backed out due to reclassification to O&M Phase Budget Wastewater Phase Budget Cost Allocation Closed Out Funding Source Start Date Fund End Date Useful Life >20Yrs? Cost Estimation Information Tot. Federal Loan Amount I Cost Est. Class Project Manager CIP Number Cost Est. Prepared By Description	GLW Great Lakes Water	Authority	Wastewater	GLWA FY 2021-2025 CIP General Engineering Services o	on an As-needed Ba	380500 CIP# sis
\$148K FY18 (380501) Backed out due to reclassification to O&M Phase Budget Wastewater Phase Status Closed Out Start Date Funding Source Start Date Useful Life >20Yrs? Cost Estimation Information Tot. Federal Loan Amount 1 Cost Est. Class Project Manager ClP Number	Phase not applie	cable		Contract NA	Status Closed Out	
Phase Budget Wastewater Cost Allocation CTA Phase Status Closed Out Funding Source Image: Cost Allocation Image: Cost Allocation Start Date Fund Image: Cost Allocation Image: Cost Allocation Image: Cost Allocation End Date Image: Cost Estimation Information Image: Cost Est. Class Image: Cost Est. Class Program/Allowance Task Information Image: Cost Est. Date Project Manager Image: Clip Number Image: Clip Number Image: Cost Est. Source Image: Clip Number Image: Clip Number Image: Clip Number	Title Prior Year /	Actual Expense	es-WW			1
Phase Status Closed Out Funding Source Start Date Fund End Date Useful Life >20Yrs? Cost Estimation Information Tot. Federal Loan Amount 1 Cost Est. Class Program/Allowance Task Information Cost Est. Date Project Manager Cost Est. Source CIP Number	\$148K FY18 (380	501) Backed o	ut due to reclassificatior	n to O&M		
Start Date End Date Fund Useful Life >20Yrs? Cost Estimation Information 1 Cost Est. Class Program/Allowance Task Information Project Manager CiP Number	Phase Budget	Wastewater		Cost Allocation	CTA	
End Date Useful Life >20Yrs? Cost Estimation Information Tot. Federal Loan Amount 1 Cost Est. Class Cost Est. Date Program/Allowance Task Information Cost Est. Date CIP Number Cost Est. Source Denois it	Phase Status	Closed Out		Funding Source	۱ ۱	
Cost Estimation Information Tot. Federal Loan Amount 1 Cost Est. Class Program/Allowance Task Information Cost Est. Date Project Manager Cost Est. Source CIP Number	Start Date			Fund		
I Cost Est. Class Program/Allowance Task Information Cost Est. Date Project Manager Cost Est. Source CIP Number	End Date			Useful Life >20Yrs?		
Cost Est. Date Project Manager Cost Est. Source CIP Number	Co	ost Estimation Ir	nformation	Tot. Federal Loan Amount		
		1	Cost Est. Date Cost Est. Source	Project Manager CIP Number	Task Information	

Great Lakes Water	Authority	Wastewater	GLWA FY 2021-20 General Engineer		n an As-needed Basis	380500 CIP
,	0	Construction Assistance neral Engineering Service	Contract C es on an As-needed Bc		Status Closed Out	
380501 - Curren	tly most of the	tasks are for Wastewate	r projects.			
Phase Budget	Wastewater			Cost Allocation	CTA	
Phase Status	Closed Out			Funding Source	Revenue Financed Capital	
Start Date		5/12/2010		Fund	Improvement & Extension Fu	In
End Date		6/2/2018	U	lseful Life >20Yrs?	No	
Co	ost Estimation li	nformation	Tot. Fede	eral Loan Amount		
	2	Cost Est. Class	Pro	gram/Allowance	Task Information	
		Cost Est. Date	Project Manager	Ali Khraizat		
Contract		Cost Est. Source	CIP Number	380501		
		Cost Est. Prepared By	Description			
		Phase Total Exp	enses By FY (All figure	es are in \$1,000's)	

GLW Great Lakes Water	Authority	W	astewa		WA FY 202 neral Engi				n an As-n	eeded Basis	380500 CIP
Phase Design					Contro	ict NA			Status Cla	osed Out	
Title Departme	nt-wide Gen	eral Engineer	ing Servic	ces on ar	n As-needec	d Basis					
Phase Budget	Water						Cost A	llocation	СТА		
Phase Status	Closed Out						Funding	g Source	Revenue Fir	nanced Capita	I
Start Date		5/12	/2010					Fund	Improveme	nt & Extension I	Fun
End Date		6/2	/2018			Use	eful Life	e >20Yrs?	No		
Co	ost Estimation	n Information			To	l. Federo	al Loan	Amount			\$0
	1	Cost Est. (Class			Prog	ram/Al	lowance 1	ask Informa	ation	
		Cost Est. [ate		Project Man	ager					
		Cost Est. S	ource		CIP Number	,					
		Cost Est. F	repared	Ву	Description						
		Pha	se Total	Expense	es By FY (All	figures	are in	\$1,000's)		
Prior Yr Actua	FY20	FY21 F	(22	FY23	FY24	FY2	5	FY26+	Total	5-Yr Total	
-148	0	0	0	0	0		0	0	-148	0	
Phase Task Dat	es										



Wastewater General Engineering Services on an As-needed Basis

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0	0	0	0
2019	0	282	114	114	91					0	0	601	205
2018	10064	228	228						0	0	0	10,520	228

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

Description of CIP CS-1499 has been closed remaining tasks to be complete under CS-292.

Changes



GLWA FY 2021-2025 CIP As-Needed General Engineering Services 380600 CIP#

 Innovation Conceptual WW N Water MP Right Siz Reliability/Redund NEWTP Repurposir 	ing ancy Project New To CIP		
		Budget	Split
Project Engineer/Mar	ager Grant Gartrell	Class Lvl 1	Centralized Services
Dir	ector Grant Gartrell	Class Lvl 2	Programs
Managing	Dept Water Eng	Class Lvl 3	Programs
Date Original Busines	s Case Prepared	Location	Multiple Counties
Year Proje	ct Added to CIP 2004	Fund and Cost Center	
Problem Statement	Allowance for the study and design of cr	itical projects throughout the sys	tem prior to bidding and construction.
Scope of Work / Project Alternatives	As-needed engineering services for wate	er and wastewater engineering.	
Other Important Info	Challenges: N/A - Active		
Primary Driver	N/A - Active		
Driver Explanation	N/A - Active		



PM Weighted Score

39.8

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

RC Weighted

Score

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



As-Needed General Engineering Services

380600 CIP#

Phase GLWA Em	nployees	Project mar	agement		Contro	act NA		Status Ac	ctive	
Title GLWA Sala	aries									
Phase Budget	Wastewa	ater				Cost	Allocation	CTA		
Phase Status	Active					Fund	Revenue Fir	nanced Capita		
Start Date							Fund	Improveme	ent & Extension F	un
End Date						Useful L	ife >20Yrs?	No		
Co	ost Estima	ition Informo	ition		То	t. Federal Loc	an Amount			\$0
	5	Cost	Est. Class			Program/	Allowance	ask Inform	ation	
		Cost	Est. Date		Project Mar	nager				
		Cost	Est. Source		CIP Numbe	r				
		Cost	Est. Prepare	d By	Description					
			Phase Toto	al Expens	ses By FY (Al	l figures are	in \$1,000's))		
Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	FY26+	Total	5-Yr Total	
-51	0	0	0		0 0	0	0	-51	0	

GLW Great Lakes Water.	Authority	GLWA FY 2021-2025 CIP As-Needed General Engineering	g Servic	ces	380600 CIP#
Phase not appli	cable	Contract NA	Status	Closed Out	
Title Prior Year	Actual Expenses-WW				
\$157K FY18 (380	601) Backed out to reconcile L	D			
Phase Budget	Wastewater	Cost Allocation	CTA		
Phase Status	Closed Out	Funding Source			
Start Date		Fund			
End Date		Useful Life >20Yrs?			
Co	ost Estimation Information	Tot. Federal Loan Amount			
	1 Cost Est. Class	Program/Allowance	Task Info	ormation	
	Cost Est. Date	Project Manager			
	Cost Est. Source	CIP Number			
	Cost Est. Prepar	ed By Description			

Great Lakes Water	VA Authority				VA FY 202 eeded Ge				g Serv	ices			380600 CIP
Phase Design					Contrac	t CS	S-1432A		Status	S Ac	tive		
	Water As-N	Needed Engine	ering Services	5									
380601													
Phase Budget	Water						Cost A	llocation	CTA				
Phase Status	Active						Funding	g Source	Reven	Je Fin	anced Ca	pital	
Start Date		1/23	/2008					Fund	Improv	remer	nt & Extensi	ion Fu	n
End Date		12/12	/2018			U	seful Life	e >20Yrs?	No				
C	ost Estimat	ion Information			Tot.	Fede	ral Loan	Amount					
	5	Cost Est. C	lass			Prog	gram/Al	lowance	Task In	forma	ıtion		
		Cost Est. D	ate	Р	roject Mana	ger	Beena	Chackur	ıkal				
		Cost Est. S	ource	C	CIP Number		380601						
		Cost Est. P	repared By	D	escription		Alfred E	Benesh					
Cost Ty	pe	Fiscal Year	Expense	Э	Fringe Bene	filNor	Person	ne	Со	mme	nt		
Engineering Ser	vices	FY19-		\$56				2021CI	Р				
		Pha	se Total Exp	enses	By FY (All f	igure	s are in	\$1,000's	;)				
Prior Yr Actual	FY20	FY21 FY	'22 FY2	23	FY24	FY	25	FY26+	Tot	al	5-Yr Tota	al	
56	0	0	0	0	0		0	()	56		0	
Phase Task Da	tes												

GLWA Great Lakes Water Authority	GLWA FY 2021-20 As-Needed Gener		g Services	380600 CIP#
Phase Design	Contract C	S-1432A	Status Active	
Title CS-1432A Wastewater As-Needed Engineering	g Services			
380601				
Phase Budget Wastewater		Cost Allocation	CTA	
Phase Status Active		Funding Source	Revenue Financed Cap	pital
Start Date 1/23/2008		Fund	Improvement & Extensic	on Fun
End Date 12/12/2018	U	seful Life >20Yrs?	No	
Cost Estimation Information	Tot. Fede	eral Loan Amount		
5 Cost Est. Class	Prog	gram/Allowance	Task Information	
Cost Est. Date	Project Manager	Beena Chackun	kal	
Cost Est. Source	CIP Number	380601		
Cost Est. Prepared B	y Description	Alfred Benesh		

GLW Great Lakes Water	Authority		GLWA FY 2021-2025 CIP As-Needed General Engineering	g Services	380600 CIP#
Phase not applie	cable		Contract NA	Status Closed Out	
Title Prior Year /	Actual Exper	nses-Wtr			
As needed con	tract. Accu	mulated task expenditures	reclassed to projects or O&M - \$(-157K)		
Phase Budget	Water		Cost Allocation	СТА	
Phase Status	Closed Out		Funding Source		
Start Date			Fund		
End Date			Useful Life >20Yrs?		
Co	ost Estimatio	n Information	Tot. Federal Loan Amount		
	1	Cost Est. Class	Program/Allowance	Task Information	
		Cost Est. Date	Project Manager		
		Cost Est. Source	CIP Number		
		Cost Est. Prepared By	Description		
		Phase Total Exp	enses By FY (All figures are in \$1,000's	;)	
Phase Task Dat	es				



As-Needed General Engineering Services

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	5	0	0	0	0	0	0	0	5	0
2020	0	0	2	94	0	0	0	0	0	0	0	96	0
2019	0	316	406	327	50					0	0	1,099	377
2018	14012	446	436	386					0	0	0	15,280	822

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



GLWA FY 2021-2025 CIP As-Needed Geotechnical and Related Engineering Services

380700 CIP#

 Innovation Conceptual WW MP Water MP Right Sizing Reliability/Redundancy NEWTP Repurposing 	Project Status Active CIP Type Allowance Project New To CIP	Example of testir being perform	
		Budget	Water
Project Engineer/Manager		Class Lvl 1	Centralized Services
Director	Grant Gartrell	Class Lvl 2	Programs
Managing Dept	Water Eng	Class LvI 3	Programs
Date Original Business Cas	e Prepared	Location	Multiple Counties
Year Project Ac	Ided to CIP 2006	Fund and Cost Center	
timel			n professional engineering services in a ed engineering problems that occur on a
Project Alternatives geot envir inspe servic 1.180 2.180	ngineering/technical services contract echnical investigations and related ge onmental media sampling and testing, ction, computer-aided design, and co ces, and resident project representation 02775 Park-Merriman 24-inch Water Mai 03621 Wick Road 48-inch Transmission M 04129 Schoolcraft Road 48-inch Transmi	otechnical engineering, cons soils sampling and testing, lar nstruction inspection. This cor n for the follow transmission m in Main	struction materials sampling and testing, nd surveying, corrosion testing and ntract includes design, construction
Primary Driver Varie	S		



As-Needed Geotechnical and Related Engineering Services

PM Weighted Score		
20		
Criteria	Score	Comment
Regulatory (Environmental/Legal)	1	
Performance (Service Level/Reliability)	1	
Condition	1	
Public Benefit	1	
Operations and Maintenance	1	
Efficiency and Innovation	1	
Public Health and Safety	1	
Financial	1	

GLWA Great Lakes Water Authority	As-Ne
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As-Needed Geotechnical and Related Engineering Services

380700 CIP#

hase not applie	cable		Contract NA	Status	Closed Out
itle Prior Year A	Actual Expens	es-Wtr			
As needed con	tract. Accum	ulated task expenditures	reclassed to projects or O&M (\$-115K)		
Phase Budget	Water		Cost Allocation	CTA	
Phase Status	Closed Out		Funding Source		
Start Date			Fund		
End Date			Useful Life >20Yrs?		
Co	ost Estimation	Information	Tot. Federal Loan Amount		
	1	Cost Est. Class	Program/Allowance	Task Info	ormation
		Cost Est. Date	Project Manager		
		Cost Est. Source	CIP Number		
		Cost Est. Prepared By	Description		
L'					

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



380700 CIP#

As-Needed Geotechnical and Related Engineering Services

Phase Design & Construction Assistance					Contrac	t C	8-259		Status	Active	
Title Design/Co											
Engineering Ser	vices Cont	tract CS-259	, Somat Engine	ering (active)						
Phase Budget	Water						Cost A	llocation	CTA		
Phase Status	Active						Fundin	g Source	Revenue	Financed Capit	al
Start Date			4/8/2009					Fund	Improven	nent & Extensior	n Fun
End Date			4/8/2021			U	seful Life	e >20Yrs?	No		
Co	ost Estimati	ion Informati	ion	1	Tot.	Fede	ral Loar	Amount			
	2	Cost E	st. Class			Prog	gram/A	llowance 1	Task Infor	mation	
	Cost Est. Date			P	Project Mana	ger	Grant (Gartrell			
Cost Est. Source			st. Source	C	CIP Number 380701						
Cost Est. Prepared By			. [Description Engineering Services, Concrete Testing and Soil Borings (CS-1488)				nd			
Cost Ty	pe	Fiscal Yee	ar Exper	nse	Fringe BenefilNonPersonne Comment						
Engineering Serv	vices	FY20		\$1,415				2021 CIF	C		
Engineering Serv	vices	FY21		\$715	715 2021CIP						
		F	hase Total Ex	penses	s By FY (All f	igure	es are ir	n \$1,000's))		
Prior Yr Actual	FY20	FY21	FY22 F	Y23	FY24	FY	25	FY26+	Total	5-Yr Total	
0	1,415	715	0	0	0		0	0	2,1	30 715	
Phase Task Dat	es										
Phase Task Nan	ne Start D	Date End	Date Dura	tion							
Project Executio	n 6/1	/2016 1,	/1/2021	1675							
Project Closeou	t 1/2	2/2021 4,	/2/2021	90							



380700 CIP#

As-Needed Geotechnical and Related Engineering Services

se Budget V	Wastewater	•		Cost Allocation	CTA
hase Status	Active			Funding Source	Revenue Financed Capital
Start Date				Fund	Improvement & Extension F
End Date			U	seful Life >20Yrs?	No
Co	st Estimatio	n Information	Tot. Fede	ral Loan Amount	5
	5	Cost Est. Class	Prog	gram/Allowance	Task Information
		Cost Est. Date	Project Manager		
		Cost Est. Source	CIP Number		
		Cost Est. Prepared By	Description		



As-Needed Geotechnical and Related Engineering Services

380700 CIP#

Phase not appli	cable	Contract NA	Status Closed Out
Title Prior Year /	Actual Expenses-WW		
Phase Budget	Wastewater	Cost Allo	ocation CTA
Phase Status	Closed Out	Funding	Source
Start Date			Fund
End Date		Useful Life >	>20Yrs?
Co	ost Estimation Information	Tot. Federal Loan A	mount
	1 Cost Est. Class	Program/Allo	wance Task Information
	Cost Est. Date	Project Manager	
	Cost Est. Source	CIP Number	
	Cost Est. Prepared By	Description	
	Phase Total Ex	cpenses By FY (All figures are in S	51,000's)
Phase Task Dat	es		



As-Needed Geotechnical and Related Engineering Services

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	1,415	715	0	0	0	0	0	2,130	715
2020	0	0	0	620	0	0	0	0	0	0	0	620	0
2019	0	230	238	477	477	477	238			0	0	2,137	1,669
2018		650	907	333	333	333			0	0	0	2,556	1,906

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

Description of CIP Updated this CIP to reflect the work being conducted under its associated engineering contract, CS-259 Changes (formerly CS-1488) PF 8/9/2019



GLWA FY 2021-2025 CIP Geotechnical and Related Services on an As-Needed Basis

 Innovation Conceptual WW MP Water MP Right Sizing Reliability/Redundancy NEWTP Repurposing 	Project Status Closed CIP Type Allowance Project New To CIP	
		Budget Split
Project Engineer/Manager	Grant Gartrell	Class Lvl 1 Centralized Services
Director	Grant Gartrell	Class Lvl 2 Programs
Managing Dept	Water Eng	Class Lvl 3 Programs
Date Original Business Case	Prepared	Location Multiple Counties
Year Project Ado	ded to CIP 2007	Fund and Cost Center
Problem Statement As Nee	eded geotechnical consulting servic	es.
•	ork includes consultant services for g onal engineering/ technical services	eotechnical work on as-needed basis. The work also provides for as requested.

Primary Driver

GLWA Great Lakes Water Authority	Geotechr	GLWA FY 2021-2025 CIP nical and Related Services on a	n As-Needed Basis	380800 CIP
Phase not applicable		Contract NA	Status Closed Out	
Title Prior Year Actual Exper	nses-Wfr			
As needed contract. Accu	mulated task expenditures	reclassed to projects or O&M - \$(-82K)		
Phase Budget Water		Cost Allocation	CTA	
Phase Status Closed Out		Funding Source		
Start Date		Fund		
End Date		Useful Life >20Yrs?	No	
Cost Estimation	n Information	Tot. Federal Loan Amount		
1	Cost Est. Class	Program/Allowance	Task Information	
	Cost Est. Date	Project Manager		
	Cost Est. Source	CIP Number		
	Cost Est. Prepared By	Description		

IA uthority	Geotechr				380800 CIP
TH Consultants:	: As-Needed Geotechni	_	S-1490	Status Closed Out	
Water Closed Out					
	1/14/2010 7/14/2016	Fund Improvement & Extension Fund Useful Life >20Yrs? No			
ost Estimation In	Estimation Information 5 Cost Est. Class		gram/Allowance		
	Cost Est. Date Cost Est. Source Cost Est. Prepared By	Project Manager CIP Number Description	380801	technical Services	
	IH Consultants: Water Closed Out	IH Consultants: As-Needed Geotechni Water Closed Out 1/14/2010 7/14/2016 St Estimation Information 5 Cost Est. Class Cost Est. Date Cost Est. Source	Contract C TH Consultants: As-Needed Geotechnical Services:Wtr Water Closed Out 1/14/2010 7/14/2016 St Estimation Information 5 Cost Est. Class 5 Cost Est. Class 6 Project Manager ClP Number	Geotechnical and Related Services on a Contract CS-1490 IH Consultants: As-Needed Geotechnical Services:Wtr Water Cost Allocation Closed Out Funding Source 1/14/2010 Fund 7/14/2016 Useful Life >20Yrs? st Estimation Information 5 Cost Est. Class Cost Est. Date Project Manager CIP Number 380801	Geotechnical and Related Services on an As-Needed Basis Contract CS-1490 Status Closed Out TH Consultants: As-Needed Geotechnical Services:Wtr Water Cost Allocation Closed Out Funding Source 1/14/2010 Fund 7/14/2016 Useful Life >20Yrs? st Estimation Information Tot. Federal Loan Amount 5 Cost Est. Class Cost Est. Date Project Manager Cost Est. Source Grant Gartrell ClP Number 380801

Geoted Great Lakes Water Authority	380800 CIP	
Phase Design	Contract CS-1490	Status Closed Out
Title CS-1490: NTH Consultants: As-Needed Geoted	chnical Services:WW	
Phase Budget Wastewater	Cost Allocation	СТА
Phase Status Closed Out	Funding Source	Revenue Financed Capital
Start Date 1/14/2010	Fund	Improvement & Extension Fun
End Date 7/14/2016	Useful Life >20Yrs?	No
Cost Estimation Information	Tot. Federal Loan Amount	
5 Cost Est. Class	Program/Allowance	Task Information
Cost Est. Date	Project Manager Grant Gartrell	
Cost Est. Source	CIP Number 380801	
Cost Est. Prepared B	By Description As-Needed Geo	otechnical Services

n ase GLWA E le GLWA Sa		TOJECT MOI	nugement		Conffe	act NA	Λ	Status Cla	usea OUT
Phase Budget Water				Cost Allocation CTA					
Phase Status Closed Out				Funding Source Revenue Financed Capito					
Start Date			Fund Improvement & Extension F						
End Date			Useful Life >20Yrs? No						
Cost Estimation Information					Tot. Federal Loan Amount			\$0	
5 Cost Est. Class Cost Est. Date Cost Est. Source				Program/Allowance Task Information					
				Project Manager CIP Number Description					
Cost Est. Prepared							ed By		
			Phase Tot	al Expen	ses By FY (Al	l figure	s are in \$1,000's	;)	
rior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY2	25 FY26+	Total	5-Yr Total
	0							0	0



GLWA FY 2021-2025 CIP

Geotechnical and Related Services on an As-Needed Basis

380800 CIP#

Phase not applicable		Contract NA	х	Status	Closed Out
Title Prior Year Actual Expenses-WW					
\$82K FY18 (380801) Backed out to reco	oncile LTD				
Phase Budget Wastewater			Cost Allocation	CTA	
Phase Status Closed Out			Funding Source		
Start Date			Fund		
End Date		Us	eful Life >20Yrs?	No	
Cost Estimation Information	on	Tot. Feder	al Loan Amount		
1 Cost Es	t. Class	-	ram/Allowance	Task Info	rmation
Cost Es	t. Date	Project Manager			
Cost Es	t. Source	CIP Number			
Cost Es	t. Prepared By	Description			
	hase Total Expen	ses By FY (All figure	s are in \$1,000's	•)	
			s die in \$1,000 s	·)	
Phase Task Dates					



Geotechnical and Related Services on an As-Needed Basis

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0		0							0	0
2020	0	0	0	0							0	0	0
2019	0	164								0	0	164	0
2018	2441	132							0	0	0	2,573	0

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

Description of CIP The contract (Contract CS-1490) associated with this CIP is closed out. GAG 8/8/2019

Changes



GLWA FY 2021-2025 CIP General Engineering Services

 Innovation Conceptual WW N Water MP Right Siz Reliability/Redund NEWTP Repurposir 	ting lancy Project New To CIP	Analytical Lab	
		Budget Wastewater	
	nager Beena Chackunkal	Class Lvl 1 Centralized Services	
Dir	ector Dan Alford	Class Lvl 2 Programs	
Managing	Dept WW Design Eng	Class Lvl 3 Programs	
Date Original Busines	s Case Prepared	Location Multiple Counties	
Year Proje	ect Added to CIP 2007	Fund and Cost Center	
Problem Statement	As needed multi-discipline engineering serv	ices for various small scale projects at WTP and WRRF.	
• •	This project provides for rapid design turn-ar disciplinary professional services including n	round for a variety of projects on an as-needed basis providing mult neter pit improvement services.	i-
Other Important Info	Challenges: N/A - Active		
Primary Driver	N/A - Active		
Driver Explanation	N/A - Active		

GLWA Great Lakes Water Authority		GLWA FY 2021-2025 CIP General Engineering Servi	ices	380900 CIP
Phase not applicable Title Prior Year Actual	Expenses-Wtr	Contract NA	Status Closed Out	
As needed contract. Phase Budget Water Phase Status Closed Start Date End Date	· · · · · · · · · · · · · · · · · · ·	ditures reclassed to projects or O&M - (\$-75K) Cost Allocation Funding Source Fund Useful Life >20Yrs?		
Cost Estin	mation Information 1 Cost Est. Class Cost Est. Date Cost Est. Source Cost Est. Prepare	Tot. Federal Loan Amount Program/Allowance Project Manager CIP Number Description		

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

GLW Great Lakes Water		GLWA FY 2021-2025 CIP General Engineering Servi	380900 CIP#
	d Design and Construction Assistance ngineering Services	Contract NA	Status Closed Out
Phase Budget Phase Status Start Date End Date	Closed Out 3/27/2008	_	Revenue Financed Capital Improvement & Extension Fun
C.	Dost Estimation Information	Tot. Federal Loan Amount Program/Allowance Project Manager	
	Cost Est. Date Cost Est. Source Cost Est. Prepared By	CIP Number Description	
	Phase Total Exp	penses By FY (All figures are in \$1,000's	\$)

GLWA Great Lakes Water Authority		GLWA FY 2021-2 General En	2025 CIP gineering Servi		380900 CIP	
Phase Study and Design and		Contract	CS-1481	Status	Closed Out	
Fitle CS-1481 Sigma Genera						
Currently most of the project	cts are for wastewater servi	ices.				
Phase Budget Wastewater	-		Cost Allocation	CTA		
Phase Status Closed Out			Funding Source	Revenu	e Financed Capital	
Start Date	3/27/2008		Fund	Improve	ement & Extension Fu	n
End Date	3/27/2018		Useful Life >20Yrs?	No		
Cost Estimation	n Information	Tot. Fee	leral Loan Amount			
2	Cost Est. Class	Pr	ogram/Allowance	Task Info	ormation	
	Cost Est. Date	Project Manage	Beena Chackun	ikal		
Contract	Cost Est. Source	CIP Number	380901			
	Cost Est. Prepared By	Description				

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

GLWA Great Lakes Water Authority	GLWA FY 2021-2025 CIP General Engineering Servi	ces	380900 CIP#
Phase not applicable	Contract NA	Status Closed Out	
Title Prior Year Actual Expenses-WW			
\$63K FY18 (380901) Backed out to reconcile LTD			
Phase Budget Wastewater	Cost Allocation	СТА	
Phase Status Closed Out	Funding Source		
Start Date	Fund		
End Date	Useful Life >20Yrs?		
Cost Estimation Information	Tot. Federal Loan Amount		
1 Cost Est. Class	Program/Allowance	Task Information	
Cost Est. Date	Project Manager		
Cost Est. Source	CIP Number		
Cost Est. Prepared By	Description		

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

GLWA Great Lakes Water Authorit	ty		(GLWA FY 20 Generc		25 CIP neering Sei	rvices			380900 CIP
Phase GLWA Employees Project management Title GLWA Salaries				Contract NA			Status	Clo	osed Out	
Title GLWA Salaries Phase Budget Wa	-					Cost Allocatio				
Thuse bouger wo						COSI Alloculio				
Phase Status Clo	osed Out					Funding Source	e Revenu	ve Fin	anced Capite	al
Start Date						Fur	nd Improve	emer	nt & Extension	Fun
End Date					Us	eful Life >20Yr	s? No			
Cost I	Estimation Ir	nformation		То	t. Fedeı	al Loan Amou	nt			\$O
	5	Cost Est. Class			Prog	jram/Allowanc	ce Task Inf	orma	tion	
		Cost Est. Date		Project Manager						
		Cost Est. Source		CIP Number	ſ					
		Cost Est. Prepare	ed By	Description						
		-								
		Phase Tot	al Exper	nses By FY (All	figure	s are in \$1,00	0's)			
Prior Yr Actual FY	20 FY	21 FY22	FY23	FY24	FY2	25 FY26-	+ Toto	al	5-Yr Total	
	0							0	0	
Phase Task Dates										



General Engineering Services

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0		0							0	0
2020	0	0	0	0	0	0	0	0	0	0	0	0	0
2019	0	138	572	916	425					0	0	2,051	1,341
2018	28	1,250	1,154						0	0	0	2,432	1,154

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

Description of CIP CS-1481 has been closed out and the remaining work was transferred to CS-301.

Changes



GLWA FY 2021-2025 CIP Power Quality: Electric Metering Improvement Program

Innovation	Project Status Future Planned	Example of an electr me	Schneider PowerLogic' 1018500
Conceptual WW MP	CIP Type Program	me	
 Water MP Right Sizing Reliability/Redundand NEWTP Repurposing 	Project New To CIP		
		Budget	Split
Project Engineer/Manag		Class Lvl 1	Centralized Services
	or John Norton	Class Lvl 2	Programs
	pt Energy Management	Class Lvl 3	Programs
-	ase Prepared 8/18/2016	Location	Multiple Counties
Year Project	Added to CIP 2016	Fund and Cost Center	
loa GL\ us r	vanced meters for measuring power usage d management practices, WA is experiencing a lot of power outages real wave form data to determine why we	at our facilities. The installat are having outages and the	on of the New Power Monitors will give
Scope of Work / Project Alternatives The out 07/	d management practices, WA is experiencing a lot of power outages real wave form data to determine why we tage which effects the integrity of our equi s program will increase the number of elec- tive demand management to reduce elec- inagement system for data archiving and u e installation of the New Power Monitors will rages and the time period of sagging or sw 25/2019	at our facilities. The installat are having outages and the pment. MFG 7/25/2019 tric meters at pumping static stricity rates. The meters car use. I give us real wave form dat relling voltage which effects	ion of the New Power Monitors will give e time period of sagging or swelling ons and treatment facilities to allow for a be tied to the existing data ra to determine why we are having the integrity of our equipment.MFG
Scope of Work / Project Alternatives This act ma The out 07/ Other Important Info	d management practices, WA is experiencing a lot of power outages real wave form data to determine why we tage which effects the integrity of our equi s program will increase the number of elect tive demand management to reduce elect inagement system for data archiving and us installation of the New Power Monitors will rages and the time period of sagging or sw	at our facilities. The installat are having outages and the pment. MFG 7/25/2019 tric meters at pumping static tricity rates. The meters car use. I give us real wave form dat relling voltage which effects high demand (kW) sites - a h build and move up on the er main breaks and boil wat	ion of the New Power Monitors will give e time period of sagging or swelling ons and treatment facilities to allow for a be tied to the existing data the to determine why we are having the integrity of our equipment.MFG II the water treatment plants (Phase 1) CIP. The outages we are having are the advisories, We need this to better
Scope of Work / Project Alternatives This act ma The out 07/ Other Important Info Proj We affe cor equ	d management practices, WA is experiencing a lot of power outages real wave form data to determine why we tage which effects the integrity of our equi s program will increase the number of elec- tive demand management to reduce elec- inagement system for data archiving and us installation of the New Power Monitors will rages and the time period of sagging or sw 25/2019 ject History: Project is in the works targeting would like to change the project to design ecting our preassuers that are causing wat mmunicate DTE problems that we are face	at our facilities. The installat are having outages and the pment. MFG 7/25/2019 tric meters at pumping static tricity rates. The meters car use. I give us real wave form dat relling voltage which effects high demand (kW) sites - a n build and move up on the er main breaks and boil wat d with and come up with so	ion of the New Power Monitors will give e time period of sagging or swelling ons and treatment facilities to allow for a be tied to the existing data to determine why we are having the integrity of our equipment.MFG II the water treatment plants (Phase 1) CIP. The outages we are having are the advisories, We need this to better



Power Quality: Electric Metering Improvement Program

advisories, We need this to better communicate DTE problems that we are faced with and come up with solutions to improve the process or equipment.



PM Weighted

Score

74.8

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

RC Weighted

Score

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



GLWA FY 2021-2025 CIP

Power Quality: Electric Metering Improvement Program

381000 CIP#

Phase Constructior	ו		Contract NA Status Future Planned Start							tart			
Title Energy Mana	gement: Wtr	- Electric M	etering Im	prove	ement Progre	am							
Phase Budget Wa	Phase Budget Water					Cost Allocation CTA							
Phase Status Fu	ture Planned S	Start		Funding Source Revenue Financed Capita							al		
Start Date								Fund Ir	nprovem	ent & Extension	Fun		
End Date						U	seful Life	e >20Yrs? N	lo				
Cast			To	Fede	ral Loa	n Amount							
Cost													
	1	Cost Est. Clo	288			Prog	gram/A	llowance To	ask Inform	nation			
	(Cost Est. Da	te	1	Project Man	ager							
	(Cost Est. So	urce	CIP Number									
	epared By	ed By Description											
			. ,										
Cost Type	Expens	xpense Fringe BenefilNonPersonne Comment						nent					
Construction	FY25			\$313									
Construction	FY26-	+	\$2	\$2,187 2021CIP									
		Phase	e Total Exp	ense	s By FY (All	figure	s are iı	n \$1,000's)					
Prior Yr Actual Fi	/20 FY2	I FY2	2 FY2	23	FY24	FY	25	FY26+	Total	5-Yr Total			
0	0	0	0	0	0		313	2,187	2,500	0 313			
Phase Task Dates													
Phase Task Name	Start Date	End Date	Duratio	on									
Pre-Procurement	nt 7/1/2023 12/31/2023		23	183									
Procurement	1/1/2024	7/31/202	24	212									
Project Execution	8/1/2024	4/29/20	27	1001									
Project Closeout	4/30/2027	7/29/20	27	90									

GLWA Great Lakes Water Author	ity			GLWA FY 20 Jality: Elec				vement Pı	rogram	381000 CI
Phase Construction	٦			Contr	act N	A		Status Fut	ure Planned St	art
Title Energy Mana	gement: WW	- Electric Me	tering Impr	ovement Prog	gram					1
Phase Budget Wo	astewater		Cost Allocation CTA							
Phase Status Fut	ture Planned S				Fundin	ng Source	Revenue Fir	anced Capita	l	
Start Date							Fund	Improvemei	nt & Extension I	un
End Date					U	Jseful Lif	e >20Yrs?	No		
Cost	Estimation Info	ormation		Тс	ot. Fede	eral Loai	n Amount			
	5	Cost Est. Class			Pro	gram/A	llowance	Task Informo	ition	
7/24	1/2019	Cost Est. Date		Project Ma						
Engineering		Cost Est. Sourc	e	CIP Number						
Michael Graham	3									
Michael Oranan										
Cost Type	Fisc	cal Year	Expense	Expense Fringe BenefitNonPersonne Comment						
Construction	FY21		\$3	13	2021C			Р		
Construction	FY22		\$1,1	95	20210			Р		
Construction	FY23		\$9	\$992 2021CIP						
		Phase T	otal Exper	ses By FY (A	ll figure	es are iı	n \$1,000's	;)		
Prior Yr Actual FY	'20 FY2	I FY22	FY23	FY24	FY	(25	FY26+	Total	5-Yr Total	
0	0	313 1,19	5 99	92 0		0	C	2,500	2,500	
Phase Task Dates										
Phase Task Name	Start Date	End Date	Duration							
Pre-Procurement	7/1/2019	12/31/2019	18	33						
Procurement	1/1/2020	7/31/2020	21	2						
Project Execution	8/1/2020	4/29/2023	100	1						
Project Closeout	4/30/2023	7/29/2023	9	0						

GLWA Great Lakes Water Authority		Power Q	GLWA FY 202 Quality: Elect			vement Pr	ogram	381000 CIP			
Phase GLWA Employees P Title GLWA Salaries-WW	roject managei	ment	Contro	ict NA		Status Fut	ure Planned St	art			
Phase Budget Wastewa	ter			Cost	Allocation	CTA					
Phase Status Future Pla	nned Start			Fundi	ng Source	Bond Procee	eds				
Start Date					Fund	Constructior	n Bond Fund				
End Date				Useful Li	fe >20Yrs?						
	ion Information		Tot	. Federal Loc				\$0			
5	Cost Est. C	lass	Program/Allowance Task Information								
	Cost Est. D	ate	Project Manager								
	Cost Est. S		CIP Number								
		repared By									
Cost Type	Fiscal Year	Expense	Fringe Ben	efilNonPerso	nne	Comme	nt				
GLWA Salaries CIP2021	FY20		\$86	20210							
GLWA Salaries CIP2021	FY21		133		2021 CII						
GLWA Salaries CIP2021	FY22	· · ·	345		2021CI						
GLWA Salaries CIP2021	FY23		345	2021 CI							
GLWA Salaries CIP2021	FY24		\$26		2021 CII	C					
	Pha	se Total Expe	enses By FY (All	figures are	in \$1,000's)					
Prior Yr Actua FY20	FY21 FY	22 FY23	3 FY24	FY25	FY26+	Total	5-Yr Total				
0 86	133	345	345 26	0	0	935	849				
Phase Task Dates											

GLWA Great Lakes Water Authority Power	Quality: Electric Metering Impro	vement Program
ase Design and Build	Contract TBD	Status Future Planned Start
Design Build 30% for RFP		
Phase Budget Water	Cost Allocation	CTA
Phase Status Future Planned Start	Funding Source	
Start Date	Fund	
End Date	Useful Life >20Yrs?	No
Cost Estimation Information	Tot. Federal Loan Amount	\$0
5 Cost Est. Class	Program/Allowance	Task Information
7/25/2019 Cost Est. Date	Project Manager	
Engineering Cost Est. Source	CIP Number	
Michael Graham Cost Est. Prepared By	Description	

GLWA FY 2021-2025 CIP 381000 Power Quality: Electric Metering Improvement Program											
Phase GLWA Emp Title GLWA Salar		roject man	agement		Contra	ct NA			Status Fut	ure Planned St	art
Phase Budget V	Vater					C	Cost A	llocation C	CTA		
Phase Status F	uture Pla	inned Start				F	undin	ig Source B	ond Procee	əds	
Start Date								Fund C	Constructior	n Bond Fund	
End Date						Use	ful Life	e >20Yrs? Ւ	lo		
Cos	st Estimat	ion Informa	tion		Tot	. Federa	l Loar	n Amount	\$0		
		Cost	Est. Class		Program/Allowance Task Information						
		Cost	Est. Date		Project Manager						
		Cost	Est. Source		CIP Number						
		Cost	Est. Prepar	ed By Description							
Cost Typ	е	Fiscal Ye	ear l	Expense	Fringe Bene	efilNonP	erson	ne	Comme	nt	
Design-Build		FY24		\$86				2021 CIP			
Design-Build		FY25		\$132				2021CIP			
Design-Build		FY26+		\$717				2021CIP			
			Phase To	tal Expense	es By FY (All	figures	are ir	n \$1,000's)			
Prior Yr Actual	FY20	FY21	FY22	FY23	FY24	FY25	5	FY26+	Total	5-Yr Total	
0	0	0	0	0	86		132	717	935	218	
Phase Task Date	es										



GLWA FY 2021-2025 CIP

381000 CIP#

Power Quality: Electric Metering Improvement Program

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

CIP Alias	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Total	5-Yr Total
2021	0	0	0	0	86	446	1,540	1,337	112	445	2,904	6,870	3,880
2020	0	0		0	0	0	0	0	0	5,000	0	5,000	0
2019	0				120	120	510	878	4,372	0	0	6,000	1,628
2018		1,000	1,000	1,000	1,000	1,000	1,000		0	0	0	6,000	5,000

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

Description of CIP Changes Changes Other initiatives are presenting themselves. Wastewater and water deferred this project to 2025. Standard installation of electric meters in WW CIP programs. Better understanding of Snyder electrical monitoring system and Aquasight projects. The need for this projecct has changed due to DTE power outages. The outages we are having are affecting our preassuers that are causing water main breaks and boil water advisories, We need this to better communicate DTE problems that we are faced with and come up with solutions to improve the process or equipment. MFG 7/25/2019