FIVE-YEAR CAPITAL IMPROVEMENT PLAN

2023



THE MISSION OF THE GREEN BAY WATER UTILITY IS TO PROVIDE A RELIABLE, HIGH-QUALITY DRINKING WATER SUPPLY WITH EXCEPTIONAL CUSTOMER SERVICE AND VALUE.

GREEN BAY WATER UTILITY CAPITAL IMPROVEMENT PLAN PROGRAM DEVELOPMENT

It is the intent of the Green Bay Water Utility to maintain a Capital Improvement Plan both to provide physical facilities that are responsive to the needs and demands of the Utility and Utility customers and to be supportive of the long and short range economic, social and environmental development policies of the Utility.

Development of the Five-Year Capital Improvement Plan entails planning together by the various departments within the Utility and with the Business Manager and General Manager. Project requests are submitted by departments in preparation of their operating budget requests. Project and operating budget requests are reviewed by the General Manager in order to develop a capital program and to balance the operating impacts of projects and their funding sources. The Five-Year Capital Improvement Plan is updated each year as an essential component of budget development.

The Five-Year Capital Improvement Plan serves as a planning tool for future growth and development within the Utility. Funds are appropriated in the budget for the current year only, with subsequent years being separately authorized with that year's budget. Sound planning, project descriptions and accurate cost estimates aid in the formulation of a plan that is used as a valuable management tool in accomplishing needed capital improvements within the Utility's ability to pay.

Expenditures consist of a permanent addition to the Utility's assets of major importance and cost and according to Public Service Commission (PSC) definitions. The cost of land acquisition, construction, renovation and equipment are included. Capital Plan assets should have a multi-year useful life or extend the useful life of an existing asset. The Plan includes projects costing approximately \$10,000 or greater.

Funding is provided by user fees "rates" charged to the customers who receive services provided by the Utility. Funding can also be generated through the borrowing of funds (principal) at a cost (interest). Revenue bonds are the main instrument used.

Significant operating and maintenance expenses that are related to maintaining the Utility's capital assets are also included. These are non-frequent or one-time expenses that do not meet the PSC definitions of capital assets but that would have significant effects on our operating budget in a given year. Projects costing \$300,000 or above are included. These expenses would mostly likely be funded by borrowing of funds and/or recovered through user fees over a number of years.

GREEN BAY WATER UTILITY CAPITAL IMPROVEMENT PLAN 2022 PROJECT STATUS

		2022 Budget	2022 Projected o	r
Project	Dept.	Amount	Actual Cost	Project Status
Building Addition and Remodel (carried over from 2021)	Administrative	\$ 1,750,00	0 \$ 1,750,000) Complete
Fuel System	Administrative		- 72,564	Complete
GIS Server Upgrade and Storage Enhancements	Administrative	15,00	0	- N/A
Miscellaneous Network and PC Upgrades	Administrative	20,00	0 25,000) Complete
Phone System Upgrade	Administrative	65,00	0	 Carry forward to 2023
Server Optimization Upgrades with Hard Drive Racks	Administrative	100,00	0 58,000) Complete
Distribution Vehicles	Distribution	190,00	0 178,979	O Complete
Treatment Vehicle	Distribution	21,00	0 19,119	O Complete
Metering Vehicle (carried over from 2021)	Distribution	70,00	0 59,465	6 Complete
Small Equipment	Distribution	25,00	0 25,000) Complete
Small Safety Equipment	Distribution	10,00	0 10,000) Complete
Water Utility Installs of Services, Hydrants, Mains & Valves	Distribution	500,00	0 650,000) Complete
Cityworks Upgrades and Implementations	Engineering	80,00	0 50,000) Complete
ESRI Upgrade	Engineering	20,00	0	- N/A
Water Main Relays	Engineering	4,480,00	0 3,000,000) Complete
Meter Reading Software Upgrade	Metering & Cross Connection	125,00	0 110,000) Complete
Meter Replacement	Metering & Cross Connection	406,08	5 416,000) Complete
Generator Addition at Lake Station	Pumping	200,00	0	 Carry forward to 2023
Raw Water Meters for 54" and 42" Mains	Pumping	130,00	0 130,000) Complete
Vault Replacement - Hwy 54/57	Pumping	60,00	0	 Carry forward to 2023
Insertion Mag Meters Project	Treatment	50,00	0	 Carry forward to 2023
Instrumentation	Treatment	8,00	0 12,300) Complete
Lab Equipment	Treatment	40,00	0 35,000) Complete
Turbidity Meters	Treatment	125,00	0 105,000) Complete

\$ 8,490,085 \$ 6,706,427

GREEN BAY WATER UTILITY CAPITAL IMPROVEMENT PLAN 2023-2027

Page	Project	Dept.	2	2023		2024	2	2025		2026		2027		Total
4	Firewall Upgrade	Administrative	\$	15,000	\$	-	\$	-	\$	-	\$	-	\$	15,000
5	Miscellaneous Computer Upgrades	Administrative		20,000		20,000		20,000		20,000		20,000		100,000
6	Phone System Upgrade	Administrative		65,000		-		-		-		-		65,000
7	Server Optimization Upgrades and Storage Enhancements	Administrative		30,000		30,000		30,000		30,000		30,000		150,000
8	Billing System Customer Portal Upgrade	Administrative		-		205,000		-		-		-		205,000
9	Village of Pulaski Water Main	Administrative		-		1,230,000		-		-		-		1,230,000
10	Village of Luxemburg Water Main	Administrative		-		-	1	,230,000		-		-		1,230,000
11	Vehicle/Equipment Replacement Program Summary	Distribution		85,000		755,000		510,000		565,000		555,000	:	2,470,000
12-16	Distribution Vehicles													
17-18	Metering & Cross Connection Vehicles													
19-20	Pumping Vehicles													
21	Small Equipment	Distribution		45,000		25,000		25,000		25,000		25,000		145,000
22	Small Safety Equipment	Distribution		10,000		10,000		10,000		10,000		10,000		50,000
23	Water Utility Installs of Services, Hydrants, Valves & Mains	Distribution		700,000		700,000		700,000		700,000		700,000	:	3,500,000
24	36-Inch Transmission Main Segment Replacements	Engineering		-		500,000		-		-		-		500,000
25	Cityworks Upgrades and Implementations	Engineering		50,000		20,000		20,000		20,000		20,000		130,000
26	GIS (ESRI) Upgrade and Implementations	Engineering		10,000		110,000		10,000		10,000		10,000		150,000
27-31	Water Main Relays	Engineering	4,9	960,000		5,540,000	5	,840,000		6,440,000	ŗ	5,450,000	2	8,230,000
32	Meter Replacement	Metering & Cross Connection	3	370,225		353,025		447,000		487,000		531,000		2,188,250
33	Generator Addition at Lake Station	Pumping	2	200,000		2,000,000		-		-		-		2,200,000
34	PLC Replacement	Pumping		80,000		-		-		-		-		80,000
35	Vault Replacement - Hwy 54/57	Pumping		80,000		-		-		-		-		80,000
36	Radio Replacement	Pumping		-		100,000		-		-		-		100,000
37	Water Tower - Bader Zone	Pumping		-		300,000	2	,700,000		-		-	:	3,000,000
38	Calibration Instrumentation	Treatment		9,500		-		-		-		-		9,500
39	Insertion Mag Meters Project	Treatment	4	400,000		-		-		-		-		400,000
40	SCADA Software Upgrade	Treatment		-		225,000		-		-		-		225,000
41	Corrosion Control Upgrade	Treatment		40,000		500,000		-		-		-		540,000
42	LED Lighting Project	Treatment		-		24,000		-		-		-		24,000
43	Lab Equipment	Treatment		40,000		40,000		40,000		40,000		40,000		200,000
44	Lab Addition	Treatment		-		-		550,000		-		-		550,000
45	Filter Media	Treatment		-		-		300,000		-		-		300,000
46	Diesel Generator Replacement	Treatment		-		-		· -		375,000		-		375,000
47	Residuals Management Project	Treatment		-		-		-		-	6	6,000,000		6,000,000
	Total Project Costs		\$ 7,2	209,725	\$ 1	2,687,025	\$ 12	,432,000	\$	8,722,000	\$ 13	3,391,000	\$ 5·	4,441,750
	Funding Sources:													
	Water User Fees	-	\$ 7.2	209,725	Ś	8,657,025	Ś 8	,502,000	Ś	8,722,000	\$ 7	7,391,000	\$ 4	0,481,750
	Revenue Bonds/Safe Drinking Water Loan		÷ .,.	-		4,030,000		,930,000	τ.	-,,000		6,000,000		3,960,000
	Total Funding Sources		\$7,2	209,725	\$ 1	2,687,025	\$ 12	,432,000	\$	8,722,000	\$ 13	3,391,000	\$ 5	4,441,750

See pages 48-53 for Significant Operating and Maintenance Expenses

Project Title: Firewall Upgrade

Department: Administrative

Project Description & Justification:

Firewall upgrade will be needed for hardware to stay current with cybersecurity standards.

			Estir	COST A	YSIS Summary			
2023	2024		2	025	2026	2027		Total
\$ 15,000	\$	-	\$	-	\$ -	\$	-	\$ 15,000

Project Title: Miscellaneous Computer Upgrades

Department: Administrative

Project Description & Justification:

Yearly hardware and software updates on desktop computers, laptops, printers, etc.

		E	COST Al stimated Ca			
2023	2024		2025	2026	2027	Total
\$ 20,000	\$ 20,000	\$	20,000	\$ 20,000	\$ 20,000	\$ 100,000

Project Title: Phone System Upgrade

Department: Administrative

Project Description & Justification:

In 2022, this project was started by analyzing the needs of the Utility. The phone system upgrade is needed for hardware to stay current with hardware and software technology standards. Additional features and capacity will be needed to meet the demands of our billing customers, citizens and staff. The project will be completed during 2023.

Impact on On-going Operating Costs/Personnel Requirements
N/A

		COST Al Estimated Ca			
2023	2024	2025	2026	2027	Total
\$ 65,000	\$ -	 \$-	\$ -	\$ -	\$ 65,000

Project Title: Server Optimization Upgrades and Storage Enhancements

Department: Administrative

Project Description & Justification:

Miscellaneous upgrades to hardware and software associated with data storage system and servers including GIS servers. Continue to upgrade servers to current Microsoft Operating System. Upgrade and add to the hardware at the main office and filter plant based on additional building and operational needs.

Impact on On-going Operating Costs/Personnel Requirements
N/A

		E	COST Al stimated Ca			
2023	2024		2025	2026	2027	Total
\$ 30,000	\$ 30,000	\$	30,000	\$ 30,000	\$ 30,000	\$ 150,000

Project Title: Billing System Customer Portal Upgrade

Department: Administration

Project Description & Justification:

Our current customer portal included in our billing software (NorthStar) is eCare. This upgrade is mandatory due to security and the old system will not be supported. The new customer portal is SilverBlaze. This customer portal enhances mobile customer experiences and provides more user-friendly access to their utility account information.

Impact on On-going Operating Costs/Personnel Requirements:

The annual license subscription will increase approximately \$55,000. This will cover all 5 utilities that we bill for.

			E	COST Al stimated Ca				
2023		2024		2025	2026	2027		Total
\$	-	\$ 205,000	\$	-	\$ -	\$	-	\$ 205,000

Project Title: Village of Pulaski Water Main

Department: Administrative

Project Description & Justification:

Contribution to construction based on Pulaski guaranteeing 0.325 MGD usage.

		E	COST AI stimated Ca				
2023	2024		2025	2026	2027		Total
\$ -	\$ 1,230,000	\$	_	\$ -	\$	-	\$ 1,230,000

Project Title: Village of Luxemburg Water Main

Department: Administrative

Project Description & Justification:

Contribution to construction based on Luxemburg guaranteeing 0.325 MGD usage.

		COST AI Estimated Ca				
2023	2024	2025	2026	2027		Total
\$ -	\$ -	\$ 1,230,000	\$ -	\$	_	\$ 1,230,000

GREEN BAY WATER UTILITY CAPITAL IMPROVEMENT PLAN VEHICLE/EQUPMENT REPLACEMENT PROGRAM SUMMARY 2023 - 2027

2023

ID	Year	Make	Model	Department	Description	Condition	Anticipated miles/hours	Recommended Replacement	Est. Replacement Cost	Disposition
14	2018	Chev	Silverado 3500	Distribution	Crew truck*	7	45,898	55,000 miles	\$85,000	Keep - Misc. Fleet
								TOTAL	\$85,000	

2024 Est. Anticipated Recommended Replacement Disposition ID Make Department Condition miles/hours Year Model Description Replacement Cost 16 2019 Chev Silverado 3500 Distribution Crew truck* 8 54,602 55,000 miles \$85,000 Keep - Misc. Fleet \$185,000 Sell 98 2009 Intl Dump Truck 4 91,363 100,000 miles Distribution Front line daily usage 61 2010 John Deere Backhoe Distribution Limited usage breaker 5 6,543 hours 7,500 hours \$165,000 Sell 2015 Chev Silverado 2500 Distribution UDF/service truck 5 109,072 125,000 miles \$75,000 Keep - Misc. Fleet 2015 Chev Silverado 2500 Distribution Locate/service truck 6 110,162 125,000 miles \$75,000 Keep - Misc. Fleet 111 2008 Chev 2500 Van Metering Service van 2 111,734 125,000 miles \$50,000 Sell or keep Pumping 100,075 125,000 miles \$60,000 Sell or keep 307 2017 Chev Colorado Electrician work truck 6 \$60,000 Sell or keep 308 2017 Chev Colorado Pumping Electrician work truck 6 110,218 125,000 miles TOTAL \$755,000

					2	2025				
ID	Year	Make	Model	Department	Description	Condition	Anticipated miles/hours	Recommended Replacement	Est. Replacement Cost	Disposition
8	2015	Cat	Backhoe	Distribution	Backhoe	5	7,881 hours	7,500 hours	\$165,000	Sell
86	2005	Intl	Dump Truck	Distribution	Front line daily usage	4	126,336	100,000 miles	\$185,000	Sell
95	2009	Ford	F250	Distribution	Valve turner/service truck	6	66,949	125,000 miles	\$75,000	Keep - Misc. Fleet
210	2009	Pont	G6	Distribution	IT daily usage	5	120,669	125,000 miles	\$35,000	Sell
114	2013	Ford	E250 Van	Metering	Service van	6	63,907	125,000 miles	\$50,000	Sell or keep
								TOTAL	\$510,000	

2026
2020

									Est.	
							Anticipated	Recommended	Replacement	
ID	Year	Make	Model	Department	Description	Condition	miles/hours	Replacement	Cost	Disposition
19	2019	Ford	F350	Distribution	Crew truck*	9	53,600	55,000 miles	\$85,000	Keep - Misc. Fleet
3	2016	Mack	Dump Truck	Distribution	Front line daily usage	7	78,539	100,000 miles	\$185,000	Sell
18	2019	Chev	Silverado 2500	Distribution	Locate/service truck	7	117,515	125,000 miles	\$70,000	Keep - Misc. Fleet
212	2015	Chev	Colorado	Distribution	Foreman truck	7	109,604	125,000 miles	\$55,000	Keep - Misc. Fleet
					Limited use vacuum					
429	2013	Vermeer	LP555SDT	Distribution	excavator	6	2,162 hours	2,000 hours	\$90,000	Sell
309	2018	Ford	F250	Pumping	Electrician work truck	8	94,762	125,000 miles	\$80,000	Sell or keep
								TOTAL	\$565,000	

2027

ID	Year	Make	Model	Department	Description	Condition	Anticipated miles/hours	Recommended Replacement	Est. Replacement Cost	Disposition
213	2016	Chev	Colorado	Distribution	Foreman truck	7	114,916	125,000 miles	\$55,000	Keep - Misc. Fleet
83	2000	GMC	Sierra 2500	Distribution	Mechanic service truck	4	93,555	125,000 miles	\$80,000	Sell
11	2017	Mack	Dump Truck	Distribution	Front line daily usage	9	76,985	100,000 miles	\$185,000	Keep - Misc. Fleet
64	1991	John Deere	Loader	Distribution	Yard loader	6	6,457 hours	8,000 hours	\$235,000	Sell
								TOTAL	\$555,000	Sell

Condition 1-10 - (1 = poor, 10 = excellent)

5 4

*Crew trucks get replaced every three to five years due to essential reliability. Retired Crew trucks become miscellaneous fleet vehicles used for Distribution maintenance.

Project Title: Distribution Vehicles - 2023

Department: Distribution

Project Description & Justification:

\$85,000 - Front line daily use crew truck will be purchased through State of Wisconsin contract.

#14, a 2018 Chev Silverado 3500 crew truck will remain in the fleet until it reaches its maximum service life and then be retired.

Impact on On-going Operating Costs/Personnel Requirements:

				Est	COST A							
2023 2024 2025 2026 2027 Total												
\$ 85,000	\$		-	\$	-	\$	-	\$		-	\$	85,000

Project Title: Distribution Vehicles - 2024

Department: Distribution

Project Description & Justification:

\$85,000 - Front line daily use crew truck. #16, a 2019 Chev Silverado 3500 crew truck will remain in the fleet until it reaches its maximum service life and then be retired.

\$185,000 - Front line daily use dump truck. #98, a 2009 International dump truck will be sold.

\$165,000 - Front line daily use backhoe. #61, a 2007 Cat backhoe will be sold.

\$75,000 - Front line daily use UDF/service truck.

#5, a 2015 Chev Silverado 2500 UDF/service truck will remain in the fleet until it reaches its maximum service life and then be retired.

\$75,000 - Front line daily use locate/service truck.

#4, a 2015 Chev Silverado 2500 locate/service truck will remain in the fleet until it reaches its maximum service life and then be retired.

Impact on On-going Operating Costs/Personnel Requirements:

			E	COST Al stimated Ca				
2023		2024		2025	2026	2027		Total
\$	-	\$ 585,000	\$	-	\$ -	\$	-	\$ 585,000

Project Title: Distribution Vehicles - 2025

Department: Distribution

Project Description & Justification:

\$165,000 - Front line daily use backhoe. #8, a 2015 Cat backhoe will be sold.

\$185,000 - Front line daily use dump truck. #86, a 2005 International dump truck will be sold.

\$75,000 - Front line daily use valve turner mounted/service truck. #95, a 2009 Ford F250 valve turner mounted/service truck will remain in the fleet until it reaches its maximum service life and then be retired.

\$35,000 - Front line daily use miscellaneous transportation vehicle. Electric powered vehicle options will be considered. #210, a 2009 Pontiac G6 will be sold.

Impact on On-going Operating Costs/Personnel Requirements:

			Es	COST A				
2023	2024			2025	2026	2027		Total
\$ -	\$	-	\$	460,000	\$ -	\$	-	\$ 460,000

Project Title: Distribution Vehicles - 2026

Department: Distribution

Project Description & Justification:

\$85,000 - Front line daily use crew truck. #19, a 2019 Ford F350 crew truck will remain in the fleet until it reaches its maximum service life and then be retired.

\$185,000 - Front line daily use dump truck. #3, a 2016 Mack dump truck will be sold.

\$70,000 - Front line daily use locate/service truck. #18, a 2019 Chev Silverado 2500 locate/service truck will remain in the fleet until it reaches its maximum service life and then be retired.

\$55,000 - Daily use foreman transportation vehicle. #212, a 2015 Chev Colorado foreman truck will remain in the fleet until it reaches its maximum service life and then be retired.

.....

\$90,000 - Limited use vacuum excavator. #429, a 2013 Vermeer vacuum excavator will be sold.

Impact on On-going Operating Costs/Personnel Requirements:

		Es	COST A				
2023	2024		2025	2026	2027		Total
\$ -	\$ -	\$	-	\$ 485,000	\$	-	\$ 485,000

Project Title: Distribution Vehicles - 2027

Department: Distribution

Project Description & Justification:

\$55,000 - Daily use foreman transportation vehicle. #213, a 2016 Chev Colorado foreman truck will remain in the fleet until it reaches its maximum service life and then be retired.

\$80,000 - Limited use mechanic service truck. #83, a 2000 GMC Sierra 2500 mechanic service truck will be sold.

\$185,000 - Front line daily use dump truck.

#11, a 2017 Mack dump truck will remain in the fleet until it reaches its maximum service life and then be retired.

\$235,000 - Limited use yard loader. #64, a 1991 John Deere loader will be sold.

Impact on On-going Operating Costs/Personnel Requirements:

		COS Estimate				
2023	2024	2025		2026	2027	Total
\$ -	\$ -	\$	-	\$ -	\$ 555,000	\$ 555,000

Project Title: Metering & Cross Connection Vehicles - 2024

Department: Distribution

Project Description & Justification:

\$50,000 - Front line daily use service van. #111, a 2008 Chev 2500 service van will be sold or remain in the fleet until it reaches its maximum service life and then be retired.

Impact on On-going Operating Costs/Personnel Requirements:

			E	COST A stimated Ca				
2023		2024		2025	2026	2027		Total
\$	-	\$ 50,000	\$	-	\$ -	\$	-	\$ 50,000

Project Title: Metering & Cross Connection Vehicles - 2025

Department: Distribution

Project Description & Justification:

\$50,000 - Front line daily use service van. #114, a 2013 Ford E250 service van will be sold or remain in the fleet until it reaches its maximum service life and then be retired.

Impact on On-going Operating Costs/Personnel Requirements:

		E	COST A			
2023	2024		2025	2026	2027	Total
\$ -	\$ -	\$	50,000	\$ -	\$ -	\$ 50,000

Project Title: Pumping Vehicles - 2024

Department: Distribution

Project Description & Justification:

\$120,000 - (2) Front line daily use electrician work trucks. #307 and #308, 2017 Chev Colorado electrician work trucks will be sold or remain in the fleet until they reach their maximum service life and then be retired.

Impact on On-going Operating Costs/Personnel Requirements:

			E	COST A stimated C					
2023		2024		2025	2026		2027		Total
\$	-	\$ 120,000	\$	-	\$	-	\$	-	\$ 120,000

Project Title: Pumping Vehicles - 2026

Department: Distribution

Project Description & Justification:

\$80,000 - Front line daily use pumping electrician work truck. #309, a 2018 Ford F250 electrician work truck will be sold or remain in the fleet until it reaches its maximum service life and then be retired.

Impact on On-going Operating Costs/Personnel Requirements:

				COST A ated Ca		YSIS Summary						
2023 2024 2025 2026 2027 Total												
\$ -	\$	-	\$	-	\$	80,000	\$		-	\$	80,000	

Project Title: Small Equipment

Department: Distribution

Project Description & Justification:

This request is for the purchase of equipment for new vehicle set up and new or replacement equipment ranging in price from \$500 - \$10,000. Examples include generators, pipe saws, gas and electric pumps, valve operators, trench compactors, inspection cameras, pipe tapping machines, pipe tapping motors, welders, electronic leak detection equipment, GPS locating equipment and torch kits.

There is a increase in the 2023 budget to reflect the purchase of a handheld GPS locator(\$15,000) and an electronic leak noise amplification system(\$5,000).

The major factor for these equipment replacements is maintenance and reliability (daily front line use).

Impact on On-going Operating Costs/Personn	el Requirements:
--	------------------

N/A

			Es	COST Al timated Ca							
2023 2024 2025 2026 2027 Total											
\$ 45,000	\$	25,000	\$	25,000	\$	25,000	\$	25,000	\$	145,000	

Project Title: Small Safety Equipment

Department: Distribution

Project Description & Justification:

This request is for the replacement of safety equipment ranging in price from \$500 -\$10,000. Examples would be trench shields, air shores, fin form trench wall plates, large steel shoring plates, davit systems for confined space entry/exit, oxygen monitors and ventilators. The major factor for these equipment replacements is maintenance and reliability (daily front line use).

Impact on	On-going	Operating	Costs/Personnel	Requirements:

N/A

			Es	COST Al stimated Ca							
2023 2024 2025 2026 2027 Total											
\$ 10,000	\$	10,000	\$	10,000	\$	10,000	\$	10,000	\$	50,000	

Project Title: Water Utility Installs of Services, Hydrants, Valves & Mains

Department: Distribution

Project Description & Justification:

Water Utility stand alone installations of services, hydrants & valves along with replacement of mains due to repairs.

			E	COST Al stimated Ca								
2023 2024 2025 2026 2027 Total												
\$ 700,000	\$	700,000	\$	700,000	\$	700,000	\$	700,000	\$	3,500,000		

Project Title: 36-Inch Transmission Main Segment Replacements

Department: Engineering

Project Description & Justification:

Replace the pipe segments on the 36" Transmission Mains that were identified with wire breaks from the PipeDiver analysis. Replace the 9 pipe segments with broken wires along Finger Road and the 2 pipe segments along Grandview Road in 2024.

			E	COST Al stimated Ca				
2023		2024		2025	2026	2027		Total
\$	_	\$ 500,000	\$	-	\$ -	\$	-	\$ 500,000

Project Title: Cityworks Upgrades and Implementations

Department: Engineering

Project Description & Justification:

Cityworks upgrades, pumping section implementation, filter plant implementation & general assistance through Power Engineers.

			E	COST Al stimated Ca							
2023 2024 2025 2026 2027 Total											
\$ 50,000	\$	20,000	\$	20,000	\$	20,000	\$	20,000	\$	130,000	

Project Title: GIS (ESRI) Upgrade and Implementations

Department: Engineering

Project Description & Justification:

Upgrade is needed for 2024 because ESRI software is moving to a different platform and our GIS would not be supported any longer. This also includes consultant costs for GIS yearly updates.

			E	COST Al stimated Ca							
2023 2024 2025 2026 2027 Total											
\$ 10,000	\$	110,000	\$	10,000	\$	10,000	\$	10,000	\$	150,000	

Project Title: Water Main Relays - 2023

Department: Engineering

Project Description & Justification:

Relays on Resurfacing Streets: Brosig Street - \$270,000 Dennis Place - \$230,000 Edison Street - \$140,000 Eliza Street - \$180,000 Heyrman Street - \$160,000 Hickory Hill Drive - \$110,000 Hudson Street - \$340,000 Irene Street - \$90,000 Mason Way - \$140,000 Newtols Street - \$160,000 Redwood Drive - \$320,000 Suydam Street - \$110,000

Total Footage = 20,700 Feet / 3.92 Miles

Relays on Reconstructed Streets: Arndt Street - \$0 (TIF) Berner Street - \$530,000 Finger Road - \$290,000 Howard Street - \$160,000 Irwin Street - \$80,000 Oakland Avenue - \$210,000 School Place - \$270,000 School Place - \$290,000 Maple Avenue - \$110,000 Spring Street - \$80,000 VanBuren Street - \$400,000

Water Utility Stand Alone Relays: Hazelwood Lane - \$290,000

		Es	COST AI					
2023	2024		2025	2026		2027		Total
\$ 4,960,000	\$ -	\$	-	\$	-	\$	-	\$ 4,960,000

Project Title: Water Main Relays - 2024

Department: Engineering

Project Description & Justification:

Relays on Resurfacing Streets: 8th Street - \$270,000 Bader Street - \$320,000 Baird Street - \$110,000 Crooks Street - \$180,000 Deckner Avenue - \$160,000 Eastman Avenue - \$180,000 Ethel Avenue - \$290,000 Foeller Drive - \$200,000 Grognet Street - \$110,000 Henry Street - \$290,000 Klee Street - \$290,000 Langlade Avenue - \$160,000 Lincoln Street - \$140,000 Reber Street - \$160,000R Roscoe Street - \$340,000

Relays on Reconstructed Streets: 4th Street - \$190,000 Cass Street - \$80,000 Country Club Road - \$1,040,000 Maple Avenue - \$500,000 Oxford Avenue - \$160,000 Reed Street - \$80,000 Woodlawn Avenue - \$290,000

Total Footage = 23,000 Feet / 4.36 Miles

			E	COST Al stimated Ca					
2023		2024		2025	2026		2027		Total
\$	-	\$ 5,540,000	\$	-	\$	-	\$	-	\$ 5,540,000

Project Title: Water Main Relays - 2025

Department: Engineering

Project Description & Justification:

Relays on Resurfacing Streets: Amy Street - \$230,000 Berger Street - \$140,000 Biemeret Street - \$500,000 Briquelet Street - \$360,000 Cedar Street - \$230,000 Clayton Place - \$200,000 Deschane Place - \$250,000 Frank Street - \$70,000 Oak Grove Avenue - \$290,000 Park Street - \$520,000 Parkwood Court - \$70,000 Rutgers Street - \$90,000 Schoen Street - \$230,000 Servais Street - \$410,000 Steven Street - \$360,00 Wegner Street - \$70,000

Relays on Reconstructed Streets: Elmore Street - \$1,330,000 Hinkle Street - \$120,000 Maple Avenue - \$370,000

Total Footage = 24,500 Feet / 4.64 Miles

	COST ANALYSIS Estimated Cash Summary													
2023			2024	2025	2026		2027			Total				
\$	-	\$	-	\$ 5,840,000	\$	-	\$		-	\$	5,840,000			

Project Title: Water Main Relays - 2026

Department: Engineering

Project Description & Justification:

Relays on Resurfacing Streets: 14th Avenue - \$430,000 Alvina Street - \$200,000 Bond Street - \$130,000 Bretcoe Drive - \$200,000 Grouse Court - \$70,000 Hillside Lane - \$340,000 Irene Street - \$90,000 Minor Court - \$200,000 Morning Star Court - \$50,000 Neufeld Street - \$360,000 Raymond Street - \$320,000 Rosalie Lane - \$230,000 Rufffed Court - \$70,000 Skyline Boulevard - \$70,000 Skyline Boulevard(ES) - \$230,00 Skyline Boulevard(WS) - \$110,000 Spence Street - \$630,000 Woodruff Court - \$70,000

Relays on Reconstructed Streets: 13th Avenue - \$560,000 Division Street - \$240,000 Hinkle Street - \$390,000 Maple Avenue - \$190,000 Mather Street - \$1,260,000

Total Footage = 25,400 Feet / 4.81 Miles

Ν	Ι	A
---	---	---

	COST ANALYSIS Estimated Cash Summary												
2023 2		2024	2024 2025		2026		2027			Total			
\$	-	\$	-	\$	-	\$	6,440,000	\$		-	\$	6,440,000	

Project Title: Water Main Relays - 2027

Department: Engineering

Project Description & Justification:

Relays on Resurfacing Streets: Alpine Drive - \$180,000 Columbia Avenue - \$480,000 Eastview Drive - \$200,000 Lost Lane - \$200,000 Minahan Street - \$140,000 Park Street - \$110,000 Royal Boulevard - \$270,000 Royal Boulevard - \$110,000 Schwartz Street - \$200,000

Relays on Reconstructed Streets: 13th Avenue - \$850,000 Congress Street - \$110,000 Emilie Street - \$350,000

Water Utility Stand Alone Relays: Supply Lines: 10,000 Ft - \$2,250,000

Total Footage = 23,300 Feet / 4.41 Miles

COST ANALYSIS Estimated Cash Summary												
2023		2024	2025		2026	2027	Total					
\$ -	\$	-	\$ -	\$	-	\$ 5,450,000	\$ 5,450,000					

Project Title: Meter Replacement

Department: Metering & Cross Connection

Project Description & Justification:

Meters are replaced every year according to PSC guidelines. The following is a listing of the number of meters and MTUs that will be replaced each year (including labor):

2023: Meters - 1,278 MTUs - 1,700
2024: Meters - 1,447 MTUs - 1,450
2025: Meters - 1,555 MTUs - 1,600
2026: Meters - 1,544 MTUs - 1,600
2027: Meters - 1,713 MTUs - 1,600

COST ANALYSIS Estimated Cash Summary												
2023		2024		2025	2026		2027		Total			
\$ 370,225	\$	353,025	\$	447,000	\$	487,000	\$	531,000	\$	2,188,250		

Project Title: Generator Addition at Lake Station

Department: Pumping

Project Description & Justification:

Install an additional generator including switch gear and accommodating structure at the Lake Station.

Associated engineering work for preparation of plans and specifications to occur in 2023. The actual generator addition will take place in 2024.

Impact on On-going Operating Costs/Personnel Requirements:

Would allow us to run more pumps, improve efficiency and provide greater reliability.

COST ANALYSIS Estimated Cash Summary												
2023		2024		2025		2026		2027		Total		
\$ 200,000	\$	2,000,000	\$	-	\$	_	\$	-	\$	2,200,000		

Project Title: PLC Replacement - Lake Station and Adams Street Masters

Department: Pumping

Project Description & Justification:

Replace Allen Bradley 5/05 Programmable Logic Controller Systems (PLC's) with MicroLogix PLC's. The 5/05s are over 20 years old and no longer supported. Upgrade to the newer units is needed to ensure replacement parts will be available to repair the control system.

	COST ANALYSIS Estimated Cash Summary												
2023			2024		2025		2026		2027			Total	
\$	80,000	\$		-	\$	-	\$	-	\$		-	\$	80,000

Project Title: Vault Replacement - Hwy 54/57

Department: Pumping

Project Description & Justification:

The recently abandoned in place Bay Highlands vault will be removed from its existing location, refurbished and relocated near the Hwy 54/57 well. This relocated vault will replace the existing Hwy 54/57 vault, which is outdated, too small to make upgrades or repairs and is a safety concern being located right off the edge of the highway.

Impact on On-going Operating Costs/Personnel Requirements:

The new vault will allow us to meter & track water entering the Bader Pressure Zone. We will also be able to perform maintenance with only one employee instead of the two we previously had to send out.

COST ANALYSIS Estimated Cash Summary											
2023		2024		2025		2026		2027		Total	
\$ 80,000	\$	-	\$	-	\$	-	\$	-	\$	80,000	

Project Title: Radio Replacement

Department: Pumping

Project Description & Justification:

Replace outdated data radios at all sites with new radios, antennas and cabling. Radios are obsolete and only one company will fix our existing ones.

				E	COST Al stimated Ca				
2023			2024		2025	2026	2027		Total
\$		_	\$ 100,000	\$	_	\$ -	\$	-	\$ 100,000

Project Title: Water Tower - Bader Zone

Department: Pumping

Project Description & Justification:

Install 1 million gallon water tower in Bader zone. Includes the purchase of land in 2024.

			COST A Estimated Ca				
2023 2024		2024	2025	2026	2027		Total
\$ -	\$	300,000	\$ 2,700,000	\$ -	\$	-	\$ 3,000,000

Project Title: Calibration Instrumentation

Department: Treatment

Project Description & Justification:

Fluke 754 Process Calibrator with HART communication. This a piece of equipment that will be used in the calibration of instrumentation at the filter plant, such as level transmitters, differential pressure meters, etc. This will replace old outdated equipment.

	COST ANALYSIS Estimated Cash Summary												
2023			2024		2025		2026		2027		Total		
\$	9,500	\$	-	\$	-	\$	-	\$	-	\$	9,500		

Project Title: Insertion Mag Meters Project

Department: Treatment

Project Description & Justification:

An evaluation of existing equipment, conditions and replacement options was performed in 2022. Engineering costs for installation of new insertion mag meters into finished water transmission lines will be incurred in 2023. The existing finished water vaults will not allow installation of new equipment. The existing vaults will either need to be renovated or possibly new can style vaults installed. Replace existing finished water venturi meters with insertion mag meters in 2023.

Impact on On-going Operating Costs/Personnel Requirements	;:
N/A	

				Est	COS ⁻ timated		/SIS Summary	y			
2023		2024			2025		2026		2027		Total
\$	400,000	\$	-	\$		_	\$	-	\$	-	\$ 400,000

Project Title: SCADA Upgrade

Department: Treatment

Project Description & Justification:

The filter plant and distribution system Supervisory Control and Data Acquisition (SCADA) will need to be upgraded with new hardware and software. The last upgrade was in 2014/15. This would include 11 computers, 19 monitors and 4 printers.

				E	COST Al stimated Ca				
2023			2024		2025	2026	2027		Total
\$		-	\$ 225,000	\$	-	\$ -	\$	-	\$ 225,000

Project Title: Corrosion Control Upgrade

Department: Treatment

Project Description & Justification:

Install new chemical feed system from the results of the pilot plant study. Anticipate this to include chemical day and bulk tanks, metering pumps, containment system, etc. Depending on size of equipment a small addition to the facility might be needed. Engineering for the project is planned for 2023 and installation in 2024.

Impact on On-going Operating Costs/Personnel Requirements:

There will be an on-going chemical cost and maintenance costs for pumps, tanks, etc.

COST ANALYSIS Estimated Cash Summary												
2023		2024		2025		2026		2027		Total		
\$ 40,000	\$	500,000	\$	-	\$	-	\$	-	\$	540,000		

Project Title: LED Lighting Project

Department: Treatment

Project Description & Justification:

Replace existing lights in slow mix area with new LED fixtures. This includes 60 fixtures & dooms and 26 wall packs.

				E	COST Al stimated Ca				
2023			2024		2025	2026	2027		Total
\$		-	\$ 24,000	\$	-	\$ -	\$	-	\$ 24,000

Project Title: Lab Equipment

Department: Treatment

Project Description & Justification:

As we continue to expand our lab capabilities we need to purchase new lab equipment.

Impact on On-going Operating Costs/Personnel Requirements:

No new personnel will be needed, but there will most likely be additional operating costs such as equipment maintenance, reagents, etc.

				E	COST Al stimated Ca			
2023			2024		2025	2026	2027	Total
\$	\$ 40,000 \$ 40,00		40,000	\$	40,000	\$ 40,000	\$ 40,000	\$ 200,000

Project Title: Lab Addition

Department: Treatment

Project Description & Justification:

The upgrade/expansion of the lab will allow for more in house testing of water quality parameters with the goal of achieving improved finished water quality.

Impact on On-going Operating Costs/Personnel Requirements:

There will be additional on-going operating costs for such things as lab equipment maintenance, lab supplies, etc.

			E	COST Al stimated Ca				
2023		2024		2025	2026	2027		Total
\$	_	\$ -	\$	550,000	\$ -	\$	-	\$ 550,000

Project Title: Filter Media

Department: Treatment

Project Description & Justification:

We will most likely need to add additional filter media in the form of anthracite to each filter. Over time, media is lost from each filter primarily during the filter back wash process.

Impact on On-going Operating Costs/Personnel Requirements:

I do not anticipate any additional costs.

					Es	COST A		y			
2023			2024			2025	2026		2027		Total
\$		-	\$	-	\$	300,000	\$	-	\$	-	\$ 300,000

Project Title: Diesel Generator Replacement

Department: Treatment

Project Description & Justification:

The 650 KW diesel generator at the filter plant that provides backup to the ozone facility is approaching 21 years old and needs to be replaced.

Impact on On-going Operating Costs/Personnel Requirements:

I do not anticipate any impact on operating costs and no additional personnel required.

	COST ANALYSIS Estimated Cash Summary												
2023			2024	2025		2026		2027		Total			
\$	-	\$	-	\$-	\$	375,000	\$	-	\$	375,000			

Project Title: Residuals Management Project

Department: Treatment

Project Description & Justification:

Implement recommendations from the residuals management study that was performed in 2021. This may include the construction of a sanitary sewer, organic removal treatment process or other residuals treatment that will allow for disposal of any solids/sludge that are produced during the treatment process.

This new disposal method will help reduce the amount of concentrated organics that are currently being recycled to the head of the plant. This means a reduction in organics that need to be removed from the water and improved water quality.

Impact on On-going Operating Costs/Personnel Requirements:

There could be additional operating costs, specifically for sending this waste to NEW Water.

COST ANALYSIS Estimated Cash Summary														
2023		2024	2025		20	026	2027	Total						
\$ _	\$	-	\$	-	\$	-	\$ 6,000,000	\$ 6,000,000						

GREEN BAY WATER UTILITY CAPITAL IMPROVEMENT PLAN - SIGNIFICANT OPERATING AND MAINTENANCE EXPENSES 2023-2027

Page	Project	Dept.	2023		2024	2025	2026	2027	Total
49	Abandon Highway B Booster	Pumping	\$ -	\$	-	\$ -	\$ 300,000	\$ -	\$ 300,000
50	Sludge Lagoon Dredging #1	Treatment	535,000		-	-	-	-	535,000
51	Tank Painting - 150,000 Gallon	Treatment	-		500,000	-	-	-	500,000
52	Tank Painting - 500,000 Gallon	Treatment	-		550,000	-	-	-	550,000
53	Sludge Lagoon Dredging #2	Treatment	 -		-	-	-	500,000	500,000
	Total Project Costs		\$ 535,000	\$:	1,050,000	\$ 	\$ 300,000	\$ 500,000	\$ 2,385,000
	Funding Sources:								
	Water User Fees		\$ 535,000	\$ 1	1,050,000	\$ -	\$ 300,000	\$ 500,000	\$ 2,385,000
	Revenue Bonds/State Trust Fund Loans		 -		-	-	-	-	-
	Total Funding Sources		\$ 535,000	\$:	1,050,000	\$ -	\$ 300,000	\$ 500,000	\$ 2,385,000

Project Title: Abandon Highway B Booster

Department: Pumping

Project Description & Justification:

Abandon Highway B booster including the reservoir.

Impact on On-going Operating Costs/Personnel Requirements:

Lower maintenance costs and streamline pumping operations.

	COST ANALYSIS Estimated Cash Summary														
2023			20)24	2025			2026		2027			Total		
\$	-		\$	-	\$		-	\$	300,000	\$		-	\$	300,000	

Project Title: Sludge Lagoon #1 Dredging

Department: Treatment

Project Description & Justification:

Sludge lagoon #1 will be dredged and the solids land applied. Solids from the treatment process are drained from settling tanks to the lagoon every spring and fall. The solids accumulate in the lagoon and must be dredged so more solids can be added. This is a project that happens every 5 to 7 years per lagoon.

Impact on On-going Operating Costs/Personnel Requirements
N/A

COST ANALYSIS Estimated Cash Summary													
2023		2024		2025		2026		2027	Total				
\$ 535,000	\$		-	\$-	\$	-	\$	-	\$	535,000			

Project Title: Tank Painting - 150,000 Gallon

Department: Treatment

Project Description & Justification:

The 150,000 gallon elevated tank at the filter plant needs to sand blasted and painted. Costs for this project are expected to be higher than other tanks due to the style and accessibility of this tank.

The last painting was performed in 2005.

Impact on On-going Operating Costs/Personnel Requirements:

I do not anticipate any impact on operating costs and no additional personnel will be required.

	COST ANALYSIS Estimated Cash Summary														
2023				2024		2025		2026	2027			Total			
\$		-	\$	500,000	\$	-	\$	-	\$		-	\$	500,000		

Project Title: Tank Painting - 500,000 Gallon

Department: Treatment

Project Description & Justification:

The 500,000 gallon elevated tank at the filter plant will need to be sand blasted and painted. The tank was constructed in 2006 and has not been painted since.

Impact on On-going Operating Costs/Personnel Requirements:

I do not anticipate any impact on operating costs and no additional personnel are required.

	COST ANALYSIS Estimated Cash Summary															
2023				2024		2025		2026			2027			Total		
\$		-	\$	550,000	\$	-	\$		-	\$		-	\$	550,000		

Project Title: Dredging of Sludge Lagoon #2 (North Lagoon)

Department: Treatment

Project Description & Justification:

Sludge lagoon #2 will be dredged and the solids land applied. Solids from the treatment process are drained from settling tanks to the lagoon every spring and fall. The solids accumulate in the lagoon and it must be dredged so more solids can be added. This is a project that happens every 5 to 7 years per lagoon.

Impact on On-going Operating Costs/Personnel Requirements:
N/A

	COST ANALYSIS Estimated Cash Summary													
2023			2024	2025		2026		2027	Total					
\$	-	\$	-	\$	\$	-	\$	500,000	\$	500,000				