



Infrastructure Success Stories – Water and Wastewater



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About Us

- The City of Waycross is the county seat and only incorporated city in Ware County.
- 1.96 square miles
- Population: 13,942
- Median Household Income: \$31,151
- Commission-manager form of government led by a 5-member city commission and mayor elected at large.



Aging Infrastructure

- Majority of water and sewer system was constructed in 1960's... more than **60 years old!!**
- The City recognized the need to address infrastructure in 2019 and hired ESGE to develop a 10 YR Masterplan/Capital Improvement Plan for water and wastewater systems



Planning Matters!

From the 2021 Joint Comp Plan (Update) for Ware County and the City of Waycross and the Regional Water Plan

Planning Concepts

“Improve and/or Replace infrastructure, including sewer, water, street and drainage improvements as listed in the adopted Capital Improvement Program”

- “Assess Sewer and Water Systems in the city to address system deteriorations and to program capital upgrades”
- Community Facilities Goal- Ensure that adequate community facilities such as water and sewer are provided in effective, env. Friendly sound system consistent with present and future demands

Proposed Projects

Extend water, sewer, and other utilizes to the Industrial Park and other areas suited to economic development

Improve and/or replace infrastructure including sewer, water as listed in CIP

Assess Sewer and Water systems in the city to address system deteriorations and to program capital upgrades

Extend and upgrade water and sewer to the Industrial Park and other areas suited for economic development

FIGURE 5.1 CAPITAL IMPROVEMENT PLAN WITH RECOMMENDED REHABILITATION AND REGULATORY BUDGETS

CAPITAL PROJECTS - ESTIMATED COST BY YEAR													
Project Identifier	Preceding Study/Project	Project Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Estimated Project Cost
DW-S-1		Source Redundancy - Water Supply Study	\$45,000										\$45,000
DW-P-2	DW-S-1	Source Redundancy- Water Supply	\$1,000,000	\$1,000,000									\$1,000,000
DW-P-3		Replace Transite Water Mains						\$300,000					
DW-P-4		Tank Site SCADA Replacement			\$25,000								
DW-P-6		EST Altitude Valve Replacement	\$20,000		\$20,000								
CS-S-1		Smoke Testing/Inflow Study and Corrections	\$150,000	\$50,000				\$75,000					
CS-S-2		Flow Monitoring/ Infiltration Study	\$75,000										
CS-P-4		SCADA connect for all Lift Stations		\$40,000									
CS-P-5		Glenmore PS Rehab and Building Demolition	\$25,000										
CS-S-6		Jasmine Circle and US 1 Capacity Study			\$15,000								
CS-P-7		Kettle Creek Rehab - Phase 1,2,3		\$30,000			\$50,000		\$200,000				
CS-P-8		Garlington Circle Rehab					\$20,000						
CS-P-9		Oak & Crawford Rehab						\$20,000					
CS-P-10		Overton & Delaware Rehab					\$20,000						
CS-P-11		Pierce County LS and FM Rehab			\$25,000								
CS-P-12	CS-S-6	US 1 Lift Station Upgrades						\$200,000					
CS-P-13	CS-S-6	Jasmine Circle Lift Station Upgrades				\$400,000							
CS-P-14		Install By-pass Pump connections					\$20,000	\$20,000					
CS-P-15		Purchase Diesel Back-up pumps					\$55,000	\$55,000					
WW-S-1		Instantaneous Plant Flow Study	\$10,000										
WW-S-3		Electrical Condition Assessment	\$50,000										
WW-P-4	WW-S-3	Electrical Condition Assessment Implementation		\$300,000									
WW-P-5		Influent Screen Replacement	\$680,000										
WW-P-6		Influent Pump Station Modifications		\$275,000	\$275,000								
WW-P-7		Effluent Pump Replacement	\$65,000	\$65,000			\$65,000						
WW-P-8		Activated Sludge Carousel Parts Replacement			\$100,000								
WW-P-10		Recycle Pump Replacement					\$50,000						
WW-P-11		Plant SCADA Upgrades		\$75,000	\$75,000								
WW-P-12		Automatic Composite Sampler Replacement	\$12,500	\$12,500									
WW-P-13		Trickling Filter Rehabilitation			\$715,000	\$715,000							
WW-P-14		Generator Replacement				\$500,000							
WW-P-15		Intermediate Pump Station VFD Addition					\$30,000						
WW-P-16		Septage Receiving Station											\$50,000
WW-P-17		Reuse Water System											
WW-P-18	WW-P-22	Sludge Digester Modifications							\$300,000				\$300,000
WW-P-19		Primary Sludge Pump Replacement	\$150,000										
WW-P-20		Primary Sludge Drain Pipe Replacement	\$50,000										
WW-P-21		WAS Pump Replacement							\$50,000				
WW-P-22		Sludge Digester Interim Modifications			\$500,000								
WW-P-23		WAS Pump Containment							\$10,000				
WW-P-24		Lighting Upgrades				\$75,000							
WW-P-25		Window and Door Replacement				\$75,000							
WW-P-26		Plant Site Demolition										\$50,000	\$50,000
WATER TOTAL BY YEAR			\$1,065,000	\$1,000,000	\$45,000	\$0	\$0	\$300,000	\$0	\$0	\$0	\$0	\$2,410,000
SEWER TOTAL BY YEAR			\$1,267,500	\$847,500	\$1,705,000	\$1,765,000	\$310,000	\$370,000	\$560,000	\$800,000	\$400,000	\$400,000	\$8,425,000
Total Cost by Year			\$2,332,500	\$1,847,500	\$1,750,000	\$1,765,000	\$310,000	\$670,000	\$560,000	\$800,000	\$400,000	\$400,000	\$10,835,000

CIP focused on DW/WW to address rehabilitative needs and future regulatory concerns

10 YR DW CIP

Estimated Cost- \$2.6M*

10YR WW CIP

Estimated Cost- \$13.4M*

*Pre-COVID/Inflation- Assume 2x-3x for today

RECOMMENDED YEARLY REHABILITATION BUDGETS													
Project Identifier	Preceding Study/Project	Project Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Estimated Project Cost
DW-P-5		Hydrant and Valve Replacement, Yearly	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$200,000
CS-P-3	CS-S-2	Infiltration Reduction Projects, Yearly	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$2,500,000

RECOMMENDED REGULATORY BUDGETS													
Project Identifier	Preceding Study/Project	Project Description	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Estimated Project Cost
WW-P-2		Nitrogen and/or Phosphorus Reduction Systems								\$600,000			\$600,000
WW-P-9		Future Tertiary Filtration Upgrades						\$1,850,000					\$1,850,000

Key Projects- High Priority

Drinking Water

Interconnecting Pipeline between “City System” and “Industrial Park” System to provide source and delivery redundancy

Expand Source Water Capacity

SCADA Improvements

Replace Undersized and Leaky Mains- AC and Galvanized

Wastewater

Lift Station Evaluation and Pump Replacement Program

Headworks upgrade at WRF

Primary Clarification Rehab including pumps and mechanisms

Digester modification from anaerobic to aerobic

Structural Improvements on Carousel

Sewer Rehabilitation (Annual)

GEFA Loan	Total Loan Amount	Principal Forgiveness Amount	Project
CW2020	\$2,500,000	\$1,100,000	Influent Screens and Pumps, Generator, LS Pump Repl
DW2020	\$1,600,000	\$525,000	IP Interconnection Pipeline
CW2021	\$2,500,000	\$1,100,000	WWTP
CW2022	\$3,000,000	\$1,400,000	WWTP
DW2022	\$3,000,000	\$1,500,000	WTP, Well, Pipe Replacement
Total:	\$12,600,000	\$5,625,000	

Funding

ESGE and the city utilized a multiyear funding strategy to maximize GEFA grant \$ to minimize impact on customers
\$5.625M grant for \$12.6M in improvements

Addressed highest priority projects determined from Planning Process

ESGE completed a rate study to further fund more rehabilitative efforts moving forward

Project Status

Drinking Water

Interconnecting Pipe/Pump- Design Complete- Bid Opening Q3 2025

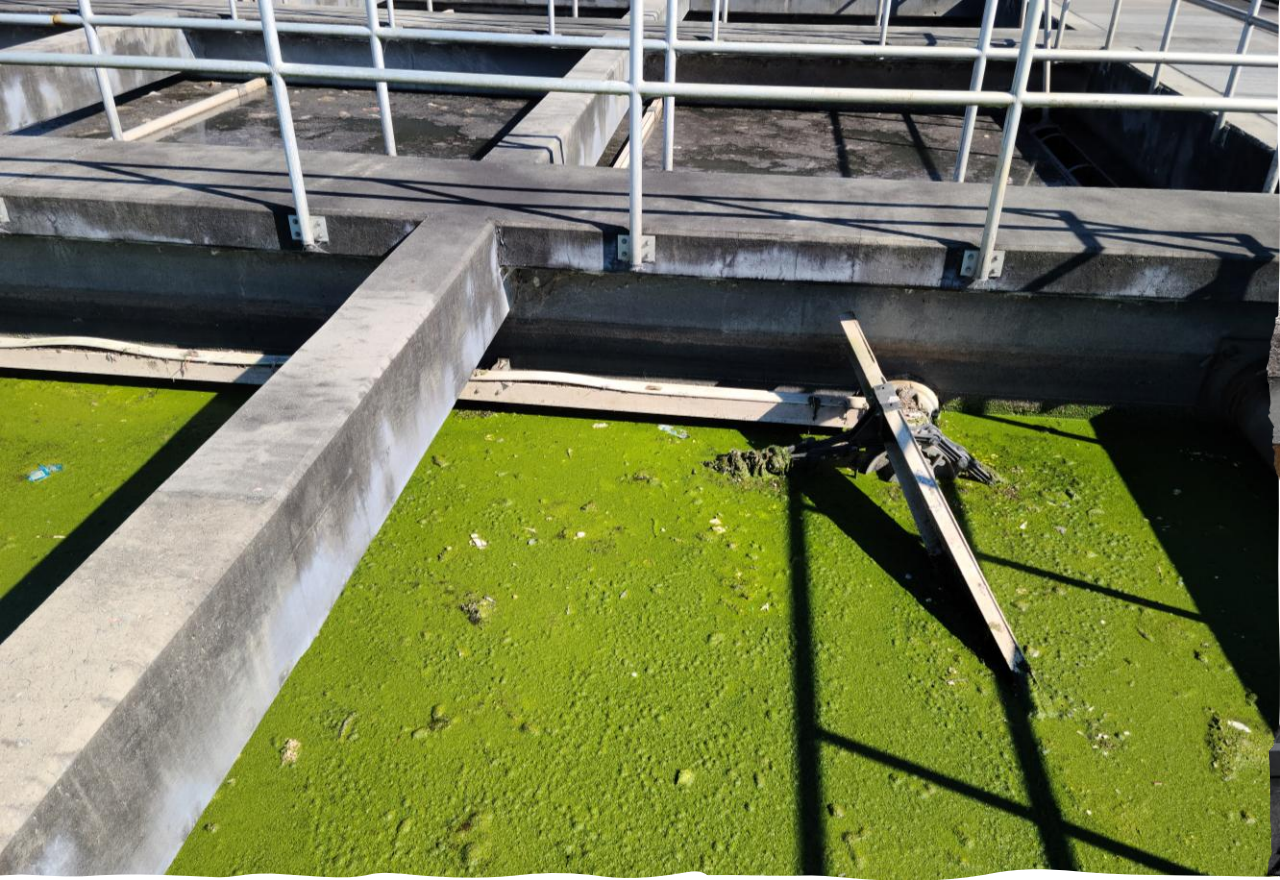
Well Field Expansion Study/WTP Rehab- Design starting soon

Wastewater

2 of 3 phases of WRF Improvements/Rehabilitation Complete

3rd phase- Design complete- EPD Review and then Bid

Lift Station Evaluation and Pump Replacements- Complete



Primary Clarifier – Before and After

“Non-
Operational”
to “Now
Operational”





New Generator, Transfer Switch, Conduit, Bar Screens and Digester Piping at the WRF

Challenges

COVID-19 Influenced Inflation
Caused WRF Project to Be
Significantly Over Budget and
low participation on Bid **Days**

Value Engineering Effort
Followed

Structuring of GEFA Loans with
Construction Timing



Overall Takeaway

Through the Comprehensive Planning process and with help from our Community Partners, the City of Waycross developed a plan and strategy to fund, design, and construct meaningful upgrades to aged water and wastewater systems and put the plan into ACTION!

The effort supported regional initiatives for growth and economic development by providing reliable collection, distribution, and treatment facilities and redundancy and work is planned to continue this established groundwork for years to come.



City Partners

