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Lynn Aibejeris, Chairman
Taylor Coastal Water and Sewer District
18820 Beach Road
Perry, FL 32348
tcwsd@fairpoint.net

Re: Draft Water Asset Management & Fiscal Sustainability Plan– Taylor Coastal Water and Sewer District, Taylor County, Permit PWS2624165

Mrs. Aibejeris,

The Florida Rural Water Association is pleased to submit the following Water System Asset Management and Fiscal Sustainability (AMFS) plan to Taylor Coastal Water & Sewer District. FRWA prepared this Plan in partnership with the FDEP Drinking Water State Revolving Fund (DWSRF) Program to identify your water system's most urgent and critical needs.

The District's water and wastewater systems represent critical infrastructure designed to protect the public health and the environment. This report assesses the current conditions of your water fixed capital assets (water treatment plant, distribution system, etc), and more importantly provides recommendations, procedures and tools to assist with long range asset protection and water utility reinvestment. FRWA will be available to support AMFS plan recommendations and implementation.

The following report is considered a living document with tools for your use which must be updated at least annually (recommended quarterly updates) by District utility management. We provide electronic copies for your use and future modification. FRWA will remain available to assist in updating and revising the District's AMFS plan.

As a valued FRWA member, it is our goal to help make the most effective and efficient use of your limited resources. This tool is an unbiased, impartial, independent review and is solely intended for achievement of water system fiscal sustainability and maintaining your valuable water utility assets. Florida Rural Water Association has enjoyed serving you and wishes your water system the best.

Sincerely,

George Glover
George Glover
FRWA Utility Asset Management

Copy
Lynette Senter, Office Manager, Taylor Coastal Water & Sewer District
Shannon Speas-Frost, FDEP, DW State Revolving Fund
Gary Williams, Florida Rural Water Association, Executive Director

TAYLOR COASTAL WATER SEWER DISTRICT



Drinking Water System Asset Management and Fiscal Sustainability Plan

Date: June 23, 2020

Prepared for:
Taylor Coastal Water and Sewer District
18820 Beach Road
Perry, FL 32348
PWS2624165

Prepared by:
FLORIDA RURAL WATER ASSOCIATION
Asset Management Program
In partnership with
Florida Department of Environmental Protection
&
Drinking Water State Revolving Fund Program



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Executive Summary:

Asset Management Plan Defined

Asset Management Plan (AMP) The International Infrastructure Management Manual defines an asset management plan as; "a plan developed for the management of one or more infrastructure assets that combines multi-disciplinary management techniques (including technical and financial) over the life cycle of the asset in the most cost effective manner to provide a specific level of service." Lowest life cycle cost refers to the best appropriate cost for rehabilitating, repairing, or replacing an asset. Asset management is implemented through an asset management program and includes a written asset management plan.

Benefits of an AMP

Implementing and maintaining an active Asset Management Plan: Will provide numerous benefits to the Utility and its Customers:

- Prolonging asset life and aiding in rehabilitation/repair/replacement decisions through informed, efficient and focused operations and maintenance.
- Increased operational efficiencies
- Informed operational and management decisions
- Increased knowledge of asset criticality; thus improving the response to emergencies
- Meeting consumer demands with a focus on system sustainability and improved communication
- Setting rates based on sound operational and financial planning
- Budgeting by focusing on activities critical to sustained performance
- Meeting system service expectations and regulatory requirements
- Reducing overall costs for both operations and capital expenditures
- Improving security and safety of assets
- Capital improvement projects that meet the true needs of the system and community

State Revolving Fund Requirement

An active Asset Management Plan (AMP) is a requirement for participation in the State Revolving Fund Program (SRF). Asset Management and Fiscal Sustainability (AMFS) program details are identified in the Florida Administrative Code (FAC) 62-503.700(7).

AMP Development Stakeholders

The development of this AMFS plan involved the collective efforts of the District's Management and Staff, Florida Department of Environmental Protection State Revolving Fund (FDEP-SRF), and Florida Rural Water Association (FRWA). FRWA resources include: Engineers, Certified Operators and Rate Sufficiency Analysts.

Table of Critical Asset, Process, CAPEX, and OPEX Needs:

The following tables contains a listing of Critical Assets and Processes needing Capital and/or Operational funding to operate as designed and within Regulatory Compliance. A five (5) year estimated cost is provided for consideration. Also provided is the associated rate sufficiency, per customer per year, for the proposed activity. Please see the Rev Plan for this information.

Taylor Coastal Water and Sewer District	
Asset Statistics	
Total Replacement Cost of System	
Drinking Water	\$465,709.39
Wastewater	\$2,176,780.17
Percent of Assets in Need of Replacement	
Drinking Water	7.51%
Wastewater	0.83%
Cost of Replacing All Assets Needing Replacement	
Drinking Water	\$34,991.99
Wastewater	\$18,035.76
Annual Replacement Cost of Entire System	
Drinking Water	\$16,994.45
Wastewater	\$90,464.79

Taylor Coastal Water and Sewer District Critical Assets DWS

Layer	Name	Instal	Design	Condition	COF	EOL	POF	COF	Risk
wValveControl	RPZ Lift Station #1	2007	1	Poor	Moderate	2020	10	6	60
wValveControl	RPZ Lift Station #2	2007	1	Poor	Moderate	2020	10	6	60
wValve_System	Main South Valve	2000	25	Poor	Moderate	2028	6.8	10	68
wValve_System	Main North Valve	2000	25	Poor	Moderate	2028	6.8	10	68
wValve_System	Valve 361 South Main	2007	25	Poor	Moderate	2031	6.9	8	55
wValve_System	Supply valve for GST	2007	25	Poor	Moderate	2031	6.9	8	55
wValve_System	Dekle Beach Main Valve	2000	25	Poor	Moderate	2028	6.8	8	54
wValve_System	Dekle Beach Blvd. main Valve	2008	25	Poor	Moderate	2028	6.8	8	54
wValve_System	Mexico Rd. South Valve	2010	25	Poor	Moderate	2028	6.8	8	54
wValve_System	Mexico Rd. North Valve	2015	25	Poor	Moderate	2028	6.8	8	54
wValve_System	JL Gibson Rd. Main Valve	2000	25	Poor	Moderate	2031	6.9	8	55
wValve_System	Ezell Beach Rd Main Valve	2006	25	Poor	Moderate	2031	6.9	8	55
wValve_System	Valve In Line Ezell Beach Rd	2005	25	Poor	Moderate	2031	6.9	8	55
wValve_System	Keaton Beach Rd Loop Valve	2000	25	Poor	Moderate	2031	6.9	8	55
wValve_System	Valve Keaton Beach Dr.	2010	25	Poor	Moderate	2031	6.9	8	55
wValve_System	Valve Beach Rd South	2010	25	Poor	Moderate	2031	6.9	8	55
wValve_System	Ponce De Leon Rd Main	2010	25	Poor	Moderate	2031	6.9	8	55
wValve_System	Marina Rd Main	2010	25	Poor	Moderate	2028	6.8	8	54
wValve_System	North End of line Valve	2000	25	Poor	Moderate	2028	6.8	8	54
wFlushHydrant	Klumbis Rd Flush Hydrant	2005	40	Very Poor	Minor	2023	8.8	6	53
wFlushHydrant	Dr. Island Flush Hydrant	2000	40	Very Poor	Minor	2025	9	6	54
wValve_System	Loop Valve under the Bridge	2000	10	Very Poor	Moderate	2021	9	6	54

Taylor Coastal Water and Sewer District

Fiscal Year: 2020

Water Revenue Requirements

	2020	2021	2022	2023	2024
Revenue Requirements:					
Operating Expenses	\$160,400	\$165,200	\$170,200	\$175,300	\$180,600
Debt Service	\$26,000	\$26,000	\$26,000	\$22,400	\$21,300
Other Expenses/Transfers	\$18,000	\$18,600	\$19,100	\$19,700	\$20,300
Capital Expenditures	\$0	\$35,000	\$17,000	\$17,000	\$17,000
Gross Revenue Requirements	\$204,400	\$244,800	\$232,300	\$234,400	\$239,200
Less: Miscellaneous Revenue	\$16,200	\$16,200	\$16,200	\$16,200	\$16,200
Net Revenue Requirements	\$188,200	\$228,600	\$216,100	\$218,200	\$223,000
Existing Rate Sufficiency:					
Revenue from Existing Rates	\$193,600	\$193,600	\$193,600	\$193,600	\$193,600
Revenue Surplus/(Deficiency)	\$5,400	-\$35,000	-\$22,500	-\$24,600	-\$29,400
Proposed Rate Sufficiency:					
Revenue from Proposed Rates	\$199,400	\$205,300	\$211,500	\$217,900	\$224,400
Increase in Revenue	\$5,800	\$11,800	\$17,900	\$24,300	\$30,800
Cumulative %	3.00%	6.09%	9.27%	12.55%	15.93%
Current Year %	3.00%	3.00%	3.00%	3.00%	3.00%
Revenue Surplus/(Deficiency)	\$11,200	-\$23,200	-\$4,600	-\$400	\$1,400

A 3% annually increase in Drinking Water Rates is recommended.

Fiscal Strategy and AMP Process Recommendations:

Based on this asset management and fiscal sustainability study, specific recommended action items related to Capital Expenditures (CAPEX) and Operating Expenditures (OPEX) and over the next five years are as follows:

- Adopt this Asset Management and Fiscal Sustainability (AMFS) study in the form of a Resolution (see *Appendix A* for an example AMFS Resolution at the end of this document)
 - Continue to engage with a Florida Registered Engineer to support the Utility in review, funding, planning, design, permitting, and construction of critical CAPEX and OPEX as recommended in this AMFS study.
 - Make funding applications to the following programs/agencies in support of Utility System Upgrades/Improvements as recommended by this AMFS study (a synopsis of water utility funding programs can be found here <http://www.frwa.net/funding.html> and <http://efcnetwork.org/wp-content/uploads/2017/05/FL-Water-Water-Funds-2017.pdf>.
 - FDEP-State Revolving Fund (SRF)
 - Water Management District
 - Community Development Block Grant (CDBG)
 - Community Budget Issues Request
 - FDEO Rural Infrastructure Fund Grant (RIF)
2. Evaluate and Adopt a Utility rate structure that will ensure rate sufficiency as necessary to implement capital improvements.
 3. Begin using Diamond Maps for Asset Management Planning (AMP), and Computerized Maintenance Management System (CMMS), or an equivalent software program.
 4. Continue to build your asset management program by:
 - Collecting critical field data and assessments on any remaining assets
 - Improving on processes which provide cost savings and improved service
 - Implementing a checklist of routine maintenance measures
 - Benchmarking critical processes, annually
 - Develop policies that will support funding improvements
 - Develop manuals and guidelines for critical processes
 - Identify responsible persons or groups to implement critical assets and processes
 - Attend Asset Management training; annually.

Introduction:

In accordance with FDEP Rule 62-503.700(7), F.A.C., State Revolving Fund (SRF) recipients are encouraged to implement an asset management plan to promote utility system long-term

sustainability. To be accepted for the financing rate adjustment and to be eligible for principal forgiveness/reimbursement, an asset management plan must:

1. Be adopted by ordinance or resolution.
2. Have written procedures in place to implement the plan.
3. Be implemented in a timely manner.

The plan must include each of the following:

1. Identification of all assets within the project sponsor's (utility) system.
2. An evaluation of utility system assets' current age, condition and anticipated useful life of each asset.
3. Current value of utility system assets.
4. Operation and maintenance cost of all utility system assets.
5. A Capital Improvement Program Plan (CIPP) based on a survey of industry standards, life expectancy, life cycle analysis and remaining useful life.
6. An analysis of funding needs.
7. The establishment of an adequate funding rate structure.
8. An asset preservation plan to include renewal, replacement, repair as necessary and a risk assessment to identify risks and consequences of failure as it pertains to replacement.
9. An analysis of population growth and water treatment demand projections for the utility's planning area and an impact fee model, if applicable, for commercial, industrial and residential rate structures.
10. A threshold rate set to ensure proper water system operation and maintenance; **if the potential exists for the project sponsor to transfer any of the system proceeds to other funds, rates must be set higher than the threshold rate to facilitate the transfer and maintain proper operation of the system.**

Fiscal Sustainability represents the accounting and financial planning process needed for proper management of DWS assets. It assists in determining such things as:

1. Asset maintenance, repair, or replacement cost
2. Accurate and timely capital improvement project budgeting
3. Forecasting near and long-term capital improvement needs
4. Whether the DWS is equipped for projected growth
5. Adequate reserves exist to address emergency operations.

Fiscal sustainability analysis requires a thorough understanding of the District's DWS's assets' current condition and needs. Therefore, fiscal sustainability follows asset management and is improved by sound management procedures and a sound process of communication between the two areas. Therefore, asset management requires a healthy fiscal outlook, considering the costs are high to properly operate and maintain the assets of a water system. Timely expenditures for proper servicing and care of current assets are relatively small when compared to emergency repair and replacement expenditures when a component failure due to neglect.

Having this solid AMFS in place will also benefit the District in determining which assets are to be insured and for what amount. Additionally, the State Revolving Fund (SRF) requires a DWS to adopt and implement an AMFS to qualify for loan interest rate reduction. An AMFS helps a system more effectively and efficiently identify its capital improvement needs and solutions.

While creating the AMFS's the intended approach by FRWA to assist the District with conducting a basic inventory and condition assessment of its current assets. It is expected that TCWSD will periodically re-evaluate the condition of its assets (suggested at least annually) to determine asset remaining useful life. A reminder/tickler can be established to remind staff that a given component is nearing time for servicing, repair, or replacement. This will give TCWSD the necessary tool to track and record how the system function allowing for an aggressive approach to addressing problem areas.

Furthermore, major capital improvement needs can be reassessed periodically as they are met or resolved. In short, this plan is not designed to be set in stone, but is intended to be a living, dynamic, evolving document. It is prudent for annual review and revise as necessary, resulting in a practical and useful tool for the District.

Asset Management Plan:

Asset Management

Asset Management can be defined in a variety of ways, but at its core it is a business plan for the services that a city, county, state, district and federal organizations provide to their communities at a desired level of service. In other words, we need to know what we've got, how much it costs to repair, maintain and operate it, at the desired level of service and how to do so in a cost-effective manner as we move forward. Asset Management provides the methodologies and tools to answer these questions.

Components of Asset Management

Three main components of basic asset management include:

- Building and assessing an inventory of the utility's assets.
- Developing and implementing a program that schedules and tracks all maintenance tasks, generally through work orders.
- Developing a set of financial controls that will help manage budgeted and actual annual expenses and revenue

Asset Management is made up of five core questions:

- What is the current status and condition of the utility's assets?
- What is the desired Level of Service? (LOS)
- What assets are considered critical to meeting the required LOS?

- What are the utility’s Capital Improvement Program Plan (CIPP), Operations and maintenance plan (O&M), and asset’s Minimum Life Cycle Cost strategies?
- What is the utility’s long term financial strategy?

Implementation:

In developing this plan, FRWA has collected information on most all of the District’s water system assets. The information has been entered into Diamond Maps, a cloud based geographical information system (GIS) this is the preferred method of FRWA. The FRWA, in partnership with FDEP has contracted with Diamond Maps to develop Asset Management software specifically for small systems at an affordable cost. Continuing with Diamond Maps will cost \$19 per month for a single license, or as many licenses as necessary at the rates listed in the following table. The software is easy to use, as it is set up for small communities and for water/water systems. It is not required for the District to obtain and use this particular system. However it is highly recommended by FRWA due to before mentioned details.

Meter Count	Unlimited-Use Subscription
250	\$15/month
500	\$20/month
1,000	\$30/month
2,000	\$45/month
3,000	\$60/month
4,000	\$75/month
5,000	\$90/month
10,000	\$165/month

TCWSD currently uses RVS, a computerized billing system with printable work order capabilities. Being able to keep Data current is critical for a utility as they move forward as they plan for different funding opportunities to rehabilitate and or replace assets throughout the system. In daily operations issuing work orders for maintenance or new repairs and assigning the tasks to staff along with then recording it into the system is a timely often overlooked burden. By upgrading the District will become more cost effective and have complete records at the tips of your fingers.

In addition to the CMMS tool, Diamond Maps, The Florida Rural Water Association (FRWA) has partnered with the Florida Department of Environmental Protection (FDEP) State Revolving Loan (SRF) program and Raftelis Financial Consultants to create an online financial tracking and revenue sufficiency modeling tool, RevPlan.

RevPlan is designed to enhance asset and financial management for small/medium Florida water and wastewater utilities. It provides a free-to-member online tool to achieve financial resiliency, and to maintain utility assets for long-term sustainability. Additionally, RevPlan is

programmed to populate asset information directly from Diamond Maps. By inputting your accurate budgetary, O&M, CIP, existing asset and funding information, this tool assists the user in identifying any rate adjustments and/or external funding necessary to meet the utility finance requirements, and the impact rate increases/borrowing may have on customers.

There are a few important elements of a successful RevPlan outcome

- The tool is only as accurate as the information used.
- One person should be assigned the task of annual RevPlan updates.
- Updating asset information in Diamond Maps is essential.

Level of Service (LOS)

The required level of service is a set of features that describe the utility's short-and long-term performance standards, as well as the customer's expectations. Quality, quantity, reliability, environmental, health and cost associated with delivering the product at those standards are elements that can define level of service and associated system performance goals.

Why should a utility need to determine LOS?

It helps the utility...

- Concentrate (focus) efforts and resources
- On agreed on service levels
- Less service-level-defined-by-notion
- Communicate service expectations and choices
- Increased services equal increased costs
- Discussion of trade-offs and risks
- Negotiate (regulators and council/commission/board)
- Costs and budgets
- Rate impacts
- Reinvestments for renewal
- Level of risk

As a Provider of Water and or Wastewater service, a Utility must decide what level of service is required for its customers.

Questions to ask in determining Level of Service:

- What requirements are set by State and/or Federal Regulatory agencies?
- What are the utility's performance goals?
- What level of service do the utility's stakeholders and customers demand or expect?

- What are the physical capabilities of the utility's assets in relation to the Level of Service?

Knowing your utility's required level of service and what your systems are capable of producing will help implement your asset management plan. Communicate to stakeholders what is being done and where your Goals are set. Information about customer demand and data from utility commissions or boards, and information from other stakeholders can be used to develop the statement.

To achieve the desired Goals, targets should be set, by assessing individual parameters and metrics that when put in place will help the utility direct their efforts and resources towards a previously agreed on goal. These goals are set in an agreement between the utility and its customers.

Analyze customer demand and satisfaction, use this to develop **S.M.A.R.T.** goals.

Think **S.M.A.R.T.** when developing level of service goals.

Set targets and goals for your system, by being **S.M.A.R.T.** you will not only be setting Goals; you will be achieving them as well.

Guidelines for setting these goals include:

- Make the goals **Specific** and well defined. It should be clear to anyone with even a basic knowledge of the utility.
- Make the goals **Measurable**. You have to know if you are successful or not and must be able to see where completion lies ahead. You must also be able to determine when success is achieved.
- The goals must be **Attainable**. Setting a goal to have no water outages whatsoever is great but unrealistic. A better choice would be to set a goal that no outage would exceed six hours, for example.
- The goals must be **Realistic**. The staff and resources of the utility must be considered when setting goals. Available personnel, equipment, materials, funds, and time play a huge part in setting realistic targets.
- The goals must be **Time based**. There must be a deadline for reaching the goal. Adequate time must be included to meet the target. However, too much time can lead to apathy and negatively affect the utility's performance.

The goals that are established should take into account costs, budgets, rates, service levels, and level of risk.

The LOS items for the District must be specific to the District's water system and would be discussed and agreed upon by management and staff. Ideally, these goals would be conveyed to the utility's customers via a 'Level of Service Agreement'. This document demonstrates the

utility's accountability in meeting the customer's needs and its commitment to do so. The table below demonstrates what a LOS could represent.

Taylor Coastal Water & Sewer District Level of Service Goals			
Service Area	Goals	Performance Target	Reporting
Service Quality and Cost	Reduce the amount of unaccounted for water	7% or lower	Office Manager
Fiscal Sustainability	Assure that the utility is financially self-sustaining	Perform an annual utilities rate analysis and make any needed rate adjustments every three to five years.	Board of Commissioners
Asset Preservation and Condition	Improve system wide preventive maintenance (PM)	Develop a comprehensive Preventive Maintenance weekly schedule for equipment and water system components (including valve exercising) and complete all preventative maintenance tasks as scheduled.	Office Manager
Health, Safety and Security	Reduce "down time" for water outages and reduce the number and duration of Boil Water Notices by 20%	Provide employees with training necessary to be proactive in water system maintenance and to rapidly and efficiently make emergency water system repairs	Bi-annually Board of Commissioners

This is a draft only at this time and it should be edited and modified to better fit Taylor Coastal Water & Sewer District

System Description:

Taylor Coastal Water and Sewer District provides water and wastewater services to coastal communities in Taylor County. The District includes the unincorporated communities of Keaton Beach, Cedar Island, Dekle Beach, Dark Island and Ezell Beach in Taylor County. Formed in October 2000 by Ordinance 2000-10 by the Taylor County Board of County Commissioners for the purpose of providing safe drinking water and wastewater services to the residents and visitors of the southern coastal region of Taylor County. The population of TCWSD is 1305 and represents 5.78% of 22570 the overall population of Taylor County. TCWSD owns and operates water and wastewater treatment plants along with the collection and distribution systems associated with each. With this they are tasked with providing a quality of service to the residents and visitors of the District, while ensuring the fragile coastal ecosystem is not adversely effected. This Asset Management and Fiscal Sustainability Plan will be focusing on the drinking water system.

Government

Taylor Coastal Water and Sewer District is a Commission-Manager form of Government. The Board of Commissioners is comprised of a Chairman, Vice-Chairman and five Commissioners who are elected to a four year term by the residents of the District. The Commission is the legislative body of the District with the power to adopt ordinances (including the annual budget), policies, resolutions and regulations. The Chairman and Vice-Chairman are appointed by the Commission each October and serve one year terms.

TAYLOR COASTAL WATER AND SEWER DISTRICT	
BOARD OF COMMISSIONERS	
Chairman	Lynn Aibejeris
Vice-Chairman	Steve Brown
Commissioner	Steve Spradley
Commissioner	Willi Huxford
Commissioner	Diane Carlton
Commissioner	Vacant

Management

Daily operations of the District is overseen by the Office Manager that is hired by the Board of Commissioners. The Office Manager runs the daily general operations of the District in accordance with local ordinances, laws and policies that were put into place by the Board of Commissioners. The Office Manager serves at the pleasure of the Board of Commissioners as the administrative head of the District. The Office Manager will manage and administer this AMFS plan.

Staff

Taylor Coastal Water and Sewer District's Water and Sewer Department consists of two Part-time employees who share duties related to Drinking Water and Wastewater. Taylor Coastal Water and Sewer District's Water/Wastewater Department staff work together to perform day-to-day functions while ensuring the plants are operating at or above standards set by State and Federal regulations. Please see the staff chart below.

TAYLOR COASTAL WATER AND SEWER DISTRICT	
EMPLOYEE LIST	
Lynette Senter	Office Manager/Board Secretary
Kristi Hathcock	Billing Clerk
Ronald Bennett	Water Operator/Field Supervisor
David Morgan	Wastewater Operator

Mission Statement

The Mission of the Taylor Coastal Water and Sewer District is:

- To provide safe, clean, and adequate water at a cost effective rate to the residents within the Taylor Coastal Water and Sewer District.
- To preserve, enhance and restore, if needed, the quality of Taylor County's coastal water resources.
- To ensure the proper allocation and efficient use of our coastal water resources for the benefit of present and future generations by promoting water conservation and water source protection through environmental awareness education and conservation usage pricing.
- To maintain good public relations and treat our customers with respect.
- To provide good, safe working conditions for our employees

To eliminate all wastewater sources from the fragile coastal marshland and surface waters by adopting the following:

- Plan for current and future development and monitor and control all new developments to insure they are in compliance with State and Federal Regulations and meet or exceed TCW&SD's Mission Statement and Standards of Construction.
- Protect the fragile coastal environment and its freshwater and saltwater estuaries by removing and transferring all wastewater discharge to a safe processing site outside the Coastal High Hazard Zone and flood area.
- Promote the development and maintenance of a wastewater treatment system that will provide an environmentally sound and cost effective processing of wastewater.

System Overview:

Taylor Coastal Water and Sewer District provides drinking water to residents and visitors of southern coastal communities of Taylor County. The staff at TCWSD are dedicated to producing the very best product to its customer, and that is evident from the results of past Consumer

Confidence Reports. The WTP is a FDEP permitted .345 gpd water treatment plant PWS ID 2624165 and is operated by Ronald Bennett, WTP Operator/Field Supervisor. The WTP provides water for 522 water connections within the District.

System Components

Water Treatment Plant

- 1 (8) inch Well, 1 (6) inch Well for normal operations and 1 (4) inch well for emergency backup.
- 1 Franklin 15hp submersible pump, 1 Berkeley 10hp submersible pump and 1 Red Jacket 5hp submersible pump.
- Hypo-Chlorination System
- Corrosion Control System
- 10,000 gallon Hydro-pneumatic Tank
- 25kw Backup Power Diesel Generator with auto switch over
- Security Fence

Booster Pump Station

- 5,000 gallon Ground Storage Tank
- 5,000 gallon Hydro-pneumatic Tank
- 2 Sta-Rite 5hp DHU-1700M Jet High Service Pumps
- Security Fence

Distribution System

- 90 shut off valves
- 40 Flush Hydrants
- 5 Fire Hydrants
- 522 customer service meters
- 20.75 miles of water main lines

Current Asset Condition:

FRWA Staff while working together with the Staff from TCWSD collected all of the Drinking Water System assets and entered the information into Diamond Maps. The intent of the survey is to inspect all of the Districts assets to determine overall condition and to identify capital improvement needs as well as operations & maintenance needs. While assessing the assets

some of the things that were taken into consideration were age, performance, probability of failure and the consequences of the failure.

Water Treatment Plant

All assets at the WTP were found to be in working order. Some electrical components are somewhat older, however appear to have been properly maintained. The electrical control room and office were clean, neat and orderly. The cement slabs at the wells were painted edged around and clean of any debris. Having only one part-time Operator on staff it is worth noting how everything on site is maintained. FRWA would like to commend the Operator and TCWSD for their determination in providing a quality drinking water to the residents and visitors of the District. This is evident from the Consumer Confidence Report that can be reviewed at the Districts Office. While assessing the assets the following was noted;

- Valve to Hydro-Tank: Paint is wearing thin consider painting.
- Valve for Well 2 and 3: Packing is leaking and should consider replacing the packing.

Booster Pump Station

- Booster Pumps- pumps are weathered with rust and corrosion present on the housings of both pumps. When running they are having a difficult time pumping water past the inline check valves and will not hold a prime. Consider replacing the pumps with a more energy efficient models.
- Piping: The piping from the Booster pumps are not painted. Consider painting the pipes.

Both Booster pumps and the control panel are installed on top of a wood platform. The platform is very unstable and has a green layer of organic matter growing on it, thus making the surface slippery and unsafe. Consider rebuilding the platform.

Distribution System

FRWA collected close to or all of the assets associated with the Distribution System. The Distribution system is in overall Average condition. The distribution System is by far the largest component of a Drinking Water System most often making up 2/3rds of the total assets. This area is often overlooked as it is buried and not in plain sight. It is not the intention of staff to neglect these assets it occurs more often than not. The issues noted below are a common issue with in small systems with limited staffing.

Valves:

There is a total of 90 valves in the Distribution System. Some would need replacing others would need exercising to loosen up. It would be recommended to start a valve exercising program to identify what valves can be left in service and the ones that would require replacing. The FSAMP will show the cost of replacing all valves that are rated at poor and below.

- 2 Inch Valves
 - 25 Average
 - 8 Poor
 - 1 Very Poor
 - 1 Failed
- 3 Inch Valves
 - 3 Average
 - 1 Poor
- 4 Inch Valves
 - 5 Average
 - 8 Poor
- 6 Inch Valves
 - 5 Good
 - 16 Average
 - 17 Poor

VALVE CONDITION				
Good	Average	Poor	Very Poor	Failed
5.56%	54.44%	37.78%	1.11%	1.11%
<i>60% is Average or above while 40% is Poor or below</i>				

The Fire Hydrants were all in Average or above condition, the only recommendation would be consider painting them in the future.

Flush Hydrants:

A total of 40 Flush Hydrants have been collected and assessed with the following results.

Flush Hydrants:

- 40 total
- 37 of 40 in Average condition or 92.5%
- 2 of the 40 in Very Poor condition or 5%
- 1 of the 40 in Failed Condition or 2.5%

Consider replacing the three Flush Hydrants listed above.

Best Management Practices: (BMP)

Utility owners, managers, and operators are expected to be good stewards of the system. Every decision must be based on sound judgment. Using Best Management Practices (BMP) is an excellent tool and philosophy to implement. BMP can be described as utilizing methods or techniques found to be the most effective and practical means in achieving an objective while making optimum use of the utility's resources.

The purpose of an Asset Management Plan (AMP) is to help the utility operate and maintain their system in the most effective and financially sound manner. An AMP is a living document and is not intended to sit on a shelf. It must be maintained, updated, and modified as conditions and situations change. Experience will help the utility fine tune the plan through the years.

Operations and Maintenance Strategies (O&M):

O&M consists of preventive and emergency / reactive maintenance. The strategy for O&M varies by the asset, criticality, condition, and operating history.

All assets have a certain risk associated with their failure. This risk must be used as the basis for establishing a maintenance program to make sure that the utility addresses the highest risk assets. In addition, the maintenance program should address the level of service performance objectives to ensure that the utility is running at a level acceptable to the customer.

Unexpected incidents could require changing the maintenance schedule for some assets. This is because corrective action must be taken in response to unexpected incidents, including those found during routine inspections and O&M activities. Utility staff will record condition assessments when maintenance is performed, at established intervals, or during scheduled inspections. As an asset is repaired or replaced, its condition will improve and therefore it can reduce the overall risk of the asset failing. The maintenance strategy will be revisited annually.

Two important considerations in planning O&M strategies are:

- Unplanned repairs should be held at 30% or less of annual maintenance activities
- Unplanned maintenance in excess of 30% indicates a need to evaluate causes and adjust strategies

Staff Training:

Utility maintenance is quite unique. It can involve one or a combination of water and sewer main repairs, customer service issues, lift station troubleshooting and repair, blower and motor repairs, and even tank repairs and other technical work. This skill set is not common. Training staff, whether they are new or long-term employees, is very important. It can be said it is better to have trained an employee and have them leave than to never have trained them and have them retire. It is recommended that the District initiate a training program for its employees. In addition to technical training, safety training is also necessary. Treatment plants and distribution/collection systems can be dangerous places to work. Electrical safety, troubleshooting panel boxes, trenching and shoring, confined space entry, etc. are just a few of the topics that could benefit the District and its staff.

FRWA personnel can provide some of the training needed by District staff members. Some of the training services that we offer to members include online training, onsite training, Focus on Change and the Apprenticeship Program. For a full list of the training opportunities offered by FRWA please visit our website <http://www.frwa.net/> under the Training Tab.

Failing to prepare is preparing for failure, there is no such thing as too much training. The more your staff knows, the more capable, safe, and professional they become. This enhanced sense of professionalism will improve the quality of overall service and accountability to the community.

Preventive Maintenance:

Preventive maintenance is performing the day-to-day work necessary to keep assets operating properly, which includes the following:

- Regular and ongoing annual tasks necessary to keep the assets at their required service level
- Day-to-day and general upkeep designed to keep the assets operating at the required levels of service
- Tasks that provide for the normal care and attention of the asset including repairs and minor replacements
- The base level of preventative maintenance as defined in equipment owner's manuals

These preventative maintenance guidelines are supplemented by industry accepted best management practices (BMPs). Equipment must be maintained according to manufacturer's

recommendations to achieve maximum return on investment. By simply following the manufacturer's suggested preventive maintenance the useful life of equipment can be increased 2 to 3 times when compared to "run till failure" mode of operation. Deferred maintenance tasks that have not historically been performed due to inadequate funding or staffing must be programmed into future operating budgets. Proper funding provides staffing and supplies to achieve life expectancy projected by the manufacturer and engineer.

The Table below is a sample O&M Program for this system and is based on BMPs, manufacturers' recommended service intervals, staff experience, and other sources. This schedule is only an example. The true schedule must be created by District staff based on their historical knowledge and information gleaned from the plant O&M Manuals.

Task name	Frequency	Task name	Frequency
Inspect Plant (visually check plant and equipment)	Per Visit	Respond to any complaints	As they occur
Ensure proper operation of equipment (note any issues)	Per Visit	Exercise Generator	Monthly
Calibrate all meters and necessary equipment	Per Visit	Inspect gas CL2 system and alarms	Every six months
Check plant as per DEP requirements	Per Visit	Perform P/M on pumps and motors	Manufacturer recommendation
Complete all log work	Per Visit	Perform P/M on plant and safety equip.	Manufacturer recommendation
Collect all samples	As required by Permit	Inspect storage tanks	Annually
Perform general housekeeping on grounds and building.	Weekly	Calibrate meter and backflows	Annually
Confirm submittal of monthly reports	Monthly	Update FSAMP	Annually

Proactive vs Reactive Maintenance:

Reactive maintenance is often carried out because of customer requests or sudden asset failures. The required service and maintenance to fix the customers issue(s) or asset failure is identified by staff inspection and corrective action is then taken.

Proactive maintenance consists of preventive and predictive maintenance. Assets are monitored frequently and routine maintenance is performed to increase asset longevity and prevent failure.

Upon adoption of this Asset Management Plan or any DEP-approved DW AMP, FRWA Utility Asset Management (UAM) intends to upload the District's asset data definition file into "Diamond Maps", described earlier in this DWAMP, and populate with field data. The appropriate District personnel will be trained on Diamond Maps functionality and can immediately begin using it for scheduling and tracking DWS asset routine and preventive maintenance.

Capital Improvement Plan:

Capital improvement projects generally create a new asset that previously did not exist or upgrades or improvements to an existing component's capacity. These projects are the consequence of growth, environmental needs, or regulatory requirements. Included in a CIP are typically:

- Any expenditure that purchases or creates a new asset or in any way improves an asset beyond its original design capacity.
- Any upgrades that increase asset capacity.
- Any construction designed to produce an improvement in an asset's standard operation beyond its present ability.

Capital improvement projects, such as the Ground Water Storage Tank being installed, will populate this list. Renewal expenditures do not increase the asset's design capacity, but restores an existing asset to its original capacity, such as:

- Any activities that do not increase the capacity of the asset. (i.e., activities that do not upgrade and enhance the asset but merely restore them to their original size, condition and capacity, for example, rebuilding an existing pump).
- Any rehabilitation involving improvements and realignment or anything that restores the assets to a new or fresh condition (for example, distribution main repair or hydrant replacement)

In making renewal decisions, the utility considers several categories other than the normally recognized physical failure or breakage. Such renewal decisions include the following:

- Structural
- Capacity
- Level of service failures
- Outdated functionality
- Cost or economic impact

The utility staff and management typically know of potential assets that need to be repaired or rehabilitated. Reminders in the Diamond Maps task calendar let the staff members know when the condition of an asset begins to decline according to the manufacturer's life cycle recommendations. The utility staff members can take these reminders and recommendations into account.

Because the anticipated needs of the utility will change each year, the CIP is updated annually to reflect those changes.

Financial:

Sufficiency

Taylor Coastal District FY 2019 revenue of exponders of showing a gain of Rates were 2.5%. Increasing annually will sustainability of

Reserves

An important for a water utility should be funded percentage of the

more specifically as 7.5% of annual operating expenses for Major Capital Improvement Program Reserves and 5% of annual operating expenses for Contingency/Emergency Reserves. Increasing the annual reserve funding to at least meet the recommended amount would help to build adequate reserves moving forward. We have included a line item for the recommended annual reserve funding in the REV Plan portion of this Plan.

Rates

A 'rule of thumb' we subscribe to regarding rates as that base charges that pay for operational expenses. With usage charges fund the Capital Improvement Plan, Renewal & Replacement, Preventive Maintenance, Operation, Maintenance, and Reserves. Usage fluctuates and does not always provide a reliable funding source for operations.

A threshold rate should be set to ensure proper water system operation and maintenance revenue. A rate study was conducted by Southeast Rural Community Assistance Project in 2014. This study being six years old, we would suggest a new rate study or evaluation. FRWA can assist with a rate study if the District wishes to do so.

The Districts has a single rate structure for Water provided to customers system wide. The rate information is as follows.

Taylor Coastal Water & Sewer District	
Water Rates	
Base Rate	
0 - 2999 Gallons	\$28.97
Rate increase Per 1000 Gallon	
3000 - 5999	\$1.93
6000 - 8999	\$2.26
9000 - 14999	\$2.86
15000 - 20999	\$3.41
21000 - 26999	\$4.13
27000 - 32999	\$4.96
33000 - 38999	\$5.79
39000 - 44999	\$6.62
45000 - 50999	\$7.45
51000 - +	\$8.28

Budget/Financial

Water and Sewer budget had a total \$657,569.16 with \$514,448.71 thus \$44,185.93. The adjusted in 2018 at the rates at a 4% ensure your System.

funding line item is reserves, which annually as a operating budget,

Energy Conservation:

Energy Conservation and Cost Savings

The District should ensure all assets, not just those connected to a power source, are evaluated for energy efficiency. The following are common energy management initiatives the District should implement going forward:

- Load management
- Replace weather-stripping and insulation on buildings.
- On-demand water heaters
- Variable frequency driven pumps and electrical equipment
- Energy efficient infrastructure
- Meg electric motors
- MCC electrical lug thermal investigation
- Flag underperforming assets for rehabilitation or replacement

The above 8 energy saving initiatives are just a start and most can be accomplished in-house. The primary goal is reducing power consumption and cost through physical or operational changes.

Energy Audit

In December 2018 FRWA conducted an energy audit at the Water Treatment Plant and recommended changing the 20 florescent lights to LED. The lighting has since been updated to LED, this being the only recommendation from the energy audit.

*****See Appendix D for the complete Energy Audit*****

With the cost of electricity rising, the reduction of energy use should be a priority for the District. As the assets age and or conditions change opportunities to reduce energy use or cost changes and opportunities within the power provider's rate schedules. Energy audits will attempt to pinpoint wasted or unneeded facility energy consumption, and provide recommendations to lower consumption. It would be recommended to have an energy audit done at minimum every 2 years.

General Conclusions:

Our conclusions are based on our observations during the data collection procedure, discussions with Taylor Coastal Water and Sewer District staff, reports from the Districts engineer, regulatory inspection data, and our experience related to similar assets.

The overall condition of the DWS is in average condition. However the following should be addressed.

- The poor to very poor system valves should be replaced. And a valve exercising program should be implemented.
- Any Flush Hydrants listed as poor to failed condition should be addressed.
- An AM and CMMS program must be implemented to maintain assets efficiently and effectively.
- Staff training on maintenance, safety, and use of the AM/CMMS tool must be completed.
- Rates must be monitored to ensure adequate funding for operations and system improvements.
- A rate increase of 4% per year is recommended to fund the needed repairs to the system and meet the reserve funding over the next five years.
- Continue Energy Management is recommended as well. Even small changes in energy use can result in large savings.
- *The Asset Management Plan must be adopted by resolution or ordinance.* This demonstrates the utility's commitment to the plan. After adoption, implementation of the AMP must occur.

Implementing this Asset Management and Fiscal Sustainability Plan:

Implementing an Asset Management and Fiscal Sustainability Plan requires several items:

Assign specific personnel to oversee and perform the tasks of Asset Management.

Develop and use a CMMS program (Computerized Maintenance Management System). The information provided in this AMFS plan will give the utility a good starting point to begin this. Properly maintaining assets will ensure their useful life is extended and will ultimately save money. Asset maintenance tasks are scheduled and tracked, new assets are captured, and assets removed from service are retired properly using CMMS. Transitioning from reactive to preventive and predictive maintenance philosophies will net potentially large savings for the utility. Diamond Maps is one example among many options that are available. FRWA can help with selection, set up, and implementation.

Develop specific Level of Service items. Create a LOS Agreement and inform customers of the Utility's commitment to providing the stated LOS. Successes can be shared with customers.

This can dramatically improve customer relations. This also gives utility employees goals to strive for and can positively impact morale. We have included a DRAFT LOS list

Develop specific Change Out/ Repair/ Replacement Programs. The District does budget for R&R and should continue to evaluate the system to adjust the annual budgeted amount accordingly. An example includes budgeting for a certain number of stepped system refurbishments each year.

Explore financial assistance options. The District has already done this, so you understand the benefits of applying for available funding. Financial assistance is especially useful in the beginning stages of Asset Management since budget shortfalls likely exist and high cost items may be needed quickly. See below.

Revisit the AMFS plan annually. An Asset Management Plan is a living document. It can be revised at any time but must be revisited and evaluated at least once each year. Updates may be needed such as changes to your asset management team, asset inventory, updating condition and criticality ranking charts, asset condition and criticality assessment procedures may need to be revisited, evolving O&M activities may warrant changes, financial strategies and long-term funding plan may need to change, etc. The annual review should begin by asking yourself:

“What changes have we made since our last AMFS plan update?”

Funding Sources for Water Systems:

Below is a table of common funding sources, including web links and contact information. All municipal systems should be making the effort to secure funding, which can be in the form of low or no interest loans or grants or a combination.

Agency/Program	Website	Contact
FDEP Drinking Water State Revolving Fund Program (DWSRF)	https://floridadep.gov/wra/srf/content/dw-srf-program	Shanin Speas-Frost shanin.speasfrost@dep.state.fl.us 850-245-2991
FDEP Clean Water State Revolving Fund Loan Program (CWSRF)	https://floridadep.gov/wra/srf/content/cw-srf-program	Tim Banks Timothy.Banks@dep.state.fl.us 850-245-2969
USDA Rural Development- Water and Water Direct Loans and Grants	https://www.rd.usda.gov/programs-services/rural-economic-development-loan-grant-program https://www.rd.usda.gov/programs-services/water-waste-disposal-loan-grant-program	Michael Langston michael.langston@fl.usda.gov 352-338-3440
Economic Development Administration- Public Works and Economic Adjustment Assistance Programs	https://www.eda.gov/resources/economic-development-directory/states/fl.htm https://www.grants.gov/web/grants/view-opportunity.html?oppld=294771	Greg Vaday gvaday@eda.gov 404-730-3009
National Rural Water Association- Revolving Loan Fund	https://nrwa.org/initiatives/revolving-loan-fund/	Gary Williams Gary.Williams@frwa.net 850-668-2746
Florida Department of Economic Opportunity- Florida Small Cities Community Development Block Grant Program	http://www.floridajobs.org/community-planning-and-development/assistance-for-governments-and-organizations/florida-small-cities-community-development-block-grant-program	Roger Doherty roger.doherty@deo.myflorida.com 850-717-8417
Northwest Florida Water Management City- Cooperative Funding Initiative (CFI)	https://www.nwfwater.com/Water-Resources/Funding-Programs	Christina Coger Christina.Coger@nwfwater.com 850-539-5999

Closing

This Asset Management and Fiscal Sustainability plan is presented to Taylor Coastal Water and Sewer District for adoption. Its creation would not have been possible without the cooperation from the District staff, and the Florida Department of Environmental Protection State Revolving Fund (FDEP-SRF). If needed FRWA will assist Taylor Coastal Water and Sewer District in creating “a plan of action” to ensure your Asset Management Plan is a success. Taylor water and Sewer District is a small utility system with critical infrastructure issues that appear to be in need of prompt strategic action. A Proactive Maintenance Plan would greatly benefit the rate payer over time. The District should seek Alternative Funding as pledged revenue in support of CIP and R&R program improvements. Continual rate analysis and collection of rates is paramount for rate stability

Appendix A:

Example Resolution:

EXAMPLE RESOLUTION NO. 2020-_____

A RESOLUTION OF TAYLOR COASTAL WATER AND SEWER DISTRICT (“THE DISTRICT”) OF TAYLOR COUNTY FLORIDA, APPROVING UTILITY ASSET MANAGEMENT AND FISCAL SUSTAINABILITY PLAN (“AMFS PLAN”); AUTHORIZING THE OFFICE MANAGER TO TAKE ALL ACTIONS NECESSARY TO EFFECTUATE THE INTENT OF THIS RESOLUTION; PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Florida Statutes provide for financial assistance to local government agencies to finance construction of the utility system improvements and

WHEREAS, the Florida Department of Environmental Protection State Revolving Fund (SRF) has designated the Taylor Coastal Water and Sewer Districts Utility System Improvements, listed under Project Number 2020-_____, as eligible for available funding; and

WHEREAS, as a condition of obtaining funding from the SRF, the District is required to implement an AMFS Plan for the District’s Utility System Improvements; and

WHEREAS, the Board of Commissioners of Taylor Coastal Water and Sewer District has determined that approval of the attached AMFS Plan for the proposed improvements, in order to obtain necessary funding in accordance with SRF guidelines, is in the best interest of the District.

NOW, THEREFORE, THE BOARD OF COMMISSIONERS OF TAYLOR COASTAL WATER AND SEWER DISTRICT, TAYLOR COUNTY FLORIDA HEREBY RESOLVES:

Section 1. That the Utility Asset Management & Fiscal Sustainability Plan (“AMFS Plan”), attached hereto as Exhibit A, is hereby approved and incorporated herein by this reference.

Section 2. That the Office Manager is authorized to take all actions necessary to effectuate the intent of this resolution and to implement the AMFS Plan in accordance with applicable Florida law and Board direction in order to obtain funding from the SRF.

Section 3. That the District will implement an automatic annual rate increase equal to the Consumer Price Index or 2%, whichever is greater.

Section 4. That this resolution shall become effective immediately upon its adoption.

PASSED AND ADOPTED on this _____ day of _____, 2020.

Chairman, Taylor Coastal Water and Sewer District

Secretary, Taylor Coastal Water and Sewer District

(Municipal Seal)

Appendix B:

Preliminary Action List

Action Items	Responsible Parties	Target Date	Completion Date
Pass Resolution supporting AMFS Plan	Commission	Within 60 days receipt of final AMFS Plan	
Decide on AMFS Tools (Diamond Maps or other) for AM & CMMS	Office Manager, Commission and Operators	Within 60 days receipt of final AMFS Plan	
Train District Staff in AM/CMMS	FRWA (if Diamond Maps is used)	Within 30 days of selecting Diamond Maps	
Determine LOS goals, targets, and metrics and prepare LOS Agreement	Public, Office Manager, Commission and Operators	Within 120 days	
Prepare Capital Improvement Program Plan	Office Manager	Within 120 Days	
Conduct Rate Sufficiency Study & Adjust as Needed	Office Manager, Consultant, and Commission	Within 180 Days	
Develop O&M Program using selected AM/CMMS software	Operators	Within 120 Days	
Continue efforts to lower water loss	Office Manager, Operators	On Going	
Update Water System mapping		On going	
Collect data on new components installed in WT distribution system	Office Manager, Operators,	On going	
Develop Valve exercising Program	Operators	On going	

Appendix C:

Master Asset List

TAYLOR COASTAL WATER & SEWER DISTRICT DWS MASTER ASSET LIST						
Asset Name	Install Year	Design Life	REPL Cost	Condition	COF	Condition EOL
WTP Office	2000	50	78750	Good	Major	2055
Asset Name	Install Year	Design Life	REPL Cost	Condition	COF	Condition EOL
Pressure Switch Well 1	2015	15	100	Average	Major	2028
Soft Start	2009	20	5000	Average	Major	2030
Pressure Switch Well 2	2015	15	100	Average	Moderate	2028
Pressure switch Air Compressor Hydro Tank	2015	15	100	Average	Moderate	2028
Auto Dialer	2019	10	500	Excellent	Major	2029
Asset Name	Install Year	Design Life	REPL Cost	Condition	COF	Condition EOL
Transfer Switch	1995	25	5000	Average	Major	2033
Well Pumps Control Panel	1995	25	5000	Average	Catastrophic	2033
Generator for Water Plant	2011	30	15000	Good	Catastrophic	2041
Booster Pump Control Panel	2007	20	2500	Average	Major	2030
Main Panel Box	1990	25	2500	Average	Moderate	2033
Asset Name	Install Year	Design Life	REPL Cost	Condition	COF	Condition EOL
Hydro Tank #1	1985	30	50000	Average	Catastrophic	2033
Hydro Tank #2	2007	30	25000	Average	Major	2033
Ground Storage Tank	2007	30	25000	Average	Major	2035
Asset Name	Install Year	Design Life	REPL Cost	Condition	COF	Condition EOL
Primary Well.well AAC2141	1990	50	13200	Average	Major	2045
Well #2	1995	50	12000	Average	Major	2045
Well #3 (Emergency)	1984	50	4300	Average	Moderate	2045

Asset Name	Install Year	Design Life	REPL Cost	Condition	COF	Condition EOL
Chlorine Stenner Pump for Well AAC2140	2015	10	350	Good	Major	2027
Chlorine Injection Point	2015	15	2500	Average	Major	2028
Chlorine Stenner Pump for Well AAC2131	2015	10	350	Average	Major	2025
Aquagold injection site	2015	10	250	Average	Moderate	2025
AquGold Injection Point	2015	10	250	Average	Moderate	2025
Stenner pumps Aqua Gold	2018	10	350	Average	Moderate	2025
Asset Name	Install Year	Design Life	REPL Cost	Condition	COF	Condition EOL
Sample Point Primary Well	2005	20	25	Average	Moderate	2030
Well #2 sampling point	1995	25	100	Good	Moderate	2038
Asset Name	Install Year	Design Life	REPL Cost	Condition	COF	Condition EOL
Well 2,3 Meter	1995	25	1000	Average	Moderate	2033
Well Meter	2005	25	1000	Average	Major	2033
Asset Name	Install Year	Design Life	REPL Cost	Condition	COF	Condition EOL
Booster Pump	2007	20	1800	Poor	Moderate	2026
Booster Pump	2007	20	1800	Poor	Moderate	2026
Asset Name	Install Year	Design Life	Replace Cost	Condition	COF	Condition EOL
Meter and RPV Boat Ramp	2017	25	2000	AVERAGE	Moderate	2042
Water Meter and RPV Parking Area	2017	25	2000	AVERAGE	Moderate	2042
Asset Name	Install Year	Design Life	REPL Cost	Condition	COF	Condition EOL
Booster Pump Fence	2007	25	7500	Good	Moderate	2038
Water Plant Fence	2000	50	10000	Average	Moderate	2045
Asset Name	Install Year	Design Life	Repl Cost	Condition	COF	Condition EOL
RPZ WWTP	2007	1	200	Average	Major	2021
Air Release Valve	2018	25	5700	Good	Major	2038
Air release valve	2018	25	5700	Good	Major	2038
Air Release Valve	2018	25	5700	Good	Major	2038
Air Release Valve	2018	25	5700	Good	Moderate	2038
Air Release Valve	2018	25	5700	Good	Major	2038
Air Release Valve	2018	25	5700	Good	Major	2038
RPZ Lift Station #1	2007	1	200	Poor	Moderate	2020
RPZ Lift Station #2	2007	1	200	Poor	Moderate	2020
RPZ Boat Ramp Meter	2010	1	200	Good	Moderate	2021
RPZ Boat Ramp Parking	2010	1	200	Good	Moderate	2021

Asset Name	Install Year	Design Life	REPL Cost	Condition	COF	Condition EOL
HWY 361 at Cedar Island Rd	1995	50	3500	Average	Major	2045
Dark Island Fire Hydrant	2006	50	3500	Average	Major	2045
HWY 361/Ezell Beach Rd	2006	50	3500	Average	Major	2045
Dekle Bch. Rd./Beach Rd.	2009	50	3500	Average	Major	2045
Dekle Bch. Rd./Dekle Bch. Blvd.	2009	50	3500	Average	Major	2045
Asset Name	Install Year	Design Life	REPL Cost	Condition	COF	Condition EOL
Jug Island Flush Hydrant	2010	40	800	Average	Minor	2033
Dekle Beach Rd. Flush Hydrant	2010	40	800	Average	Minor	2033
Good Times Dr. North Flush Hydrant End of 6" Line	2019	40	800	Average	Minor	2033
Good Times Dr. South Flush Hydrant	2015	40	800	Average	Minor	2033
Mexico Rd. South Flush Hydrant	2010	40	800	Average	Minor	2040
Mexico Rd. North Flush Hydrant	2010	40	800	Average	Minor	2033
Palmetto Rd Flush Hydrant	2015	40	800	Average	Minor	2033
JL Gibson Rd. Flush Hydrant	2000	40	800	Average	Minor	2033
Dr. Morgan's Rd Flush Hydrant	2005	40	800	Average	Minor	2033
Ezell Bch Road Flush Hydrant End of 6" Line	2020	40	800	Average	Minor	2033
Klumbis Rd Flush Hydrant	2005	40	800	Very Poor	Minor	2023
In ground blow off	2000	40	800	Average	Minor	2038
Keaton Beach Bridge	2000	40	800	Average	Minor	2033
West Flush Hydrant	2000	40	800	Average	Minor	2033
Keaton beach Bridge East Flush Hydrant	2000	40	800	Average	Minor	2033
RV Park Flush Hydrant	2000	40	800	Average	Minor	2033
Ponce De Leon Rd Flush Hydrant	2000	40	800	Average	Minor	2045

Dr. Island Flush Hydrant	2000	40	800	Very Poor	Minor	2025
Marina Rd Flush Hydrant	2000	40	800	Average	Minor	2045
Sandhill Rd Flush hydrant EOL	2010	40	800	Average	Minor	2045
Fair Point Flush	2007	40	800	Average	Minor	2033
Jody Morgan Flush Hydrant	2005	40	800	Average	Minor	2033
Sawgrass Flush	2010	40	800	Average	Minor	2033
Pelican Flush	2007	40	800	Average	Minor	2033
Osprey Flush	2007	40	800	Average	Minor	2040
Ibis Rd Flush	2010	40	800	Average	Minor	2040
Heron Flush	2010	40	800	Average	Minor	2040
Sandpiper S Flush	2010	40	800	Average	Minor	2040
Widgeon Flush	2010	40	800	Average	Minor	2040
Cormorant Flush	2008	40	800	Average	Minor	2040
Ibis In	2008	40	800	Average	Minor	2040
Cedar Island Loop Flush	2010	40	800	Average	Minor	2040
Cedar Island Loop Flush 2	2010	40	800	Average	Minor	2040
Kingfisher Flush	2010	40	800	Failed	Minor	
Egret In flush	2007	40	800	Average	Minor	2040
Sandpiper S. Flush hydrant	2007	40	800	Average	Minor	2040
Gulfview Rd S.	2010	40	800	Average	Minor	2033
Gulfview Rd. N	2010	40	800	Average	Minor	2040
Lindsey Island S Flush Hydrant	2010	40	800	Average	Minor	2045
Fish Creek Road Flush Hydrant	2007	40	800	Average	Minor	2040

Asset Name	Install Year	Design Life	REPL Cost	Condition	COF	Condition EOL
Valve for wells 2 and 3	1995	25	600	Poor	Moderate	2031
Valve Hydro Tank	1995	25	800	Average	Moderate	2038
Primary ByPass Valve	2000	25	800	Average	Moderate	2033
Valve Hydro. Bleed Off	2000	25	400	Average	Moderate	2033
Fill Valve for Hydro.	2000	25	800	Average	Moderate	2038
Hydro Tank By Pass	2000	25	800	Average	Moderate	2038
main val syst	2000	25	800	Average	Moderate	2038
Main South Valve	2000	25	800	Poor	Moderate	2028
Main North Valve	2000	25	800	Poor	Moderate	2028
Valve 361 South Main	2007	25	800	Poor	Moderate	2031
Check Valve	2007	25	3500	Average	Moderate	2038
Valve Supply to Ground Storage Tank	2007	25	800	Poor	Moderate	2031
Dekle Beach Main Line Valve	2000	25	800	Poor	Moderate	2028
Valve Dekle Beach Blvd. main	2008	25	800	Poor	Moderate	2028
Mexico Rd. South Valve	2010	25	800	Poor	Moderate	2028
Mexico Rd. North Valve	2015	25	400	Poor	Moderate	2028
Dekle Beach Road Main Valve	2000	25	600	Poor	Moderate	2028
JL Gibson Rd. Main Valve	2000	25	600	Poor	Moderate	2031
Valve Fantasy Island Main	2002	25	400	Poor	Moderate	2028
Ezell Beach Rd Main Valve	2006	25	800	Poor	Moderate	2031
Valve In Line Ezell Beach Rd	2005	25	800	Poor	Moderate	2031
Valve Klumbis Rd Flush Hydrant	2005	25	400	Poor	Moderate	2028
Keaton Beach Loop	2010	25	400	Average	Moderate	2038

Loop Valve under the Bridge	2000	10	100	Very Poor	Moderate	2021
Valve Keaton Beach Rd Loop Valve	2000	25	600	Poor	Moderate	2031
Valve RV Park Main	2000	25	400	Average	Moderate	2038
Valve Keaton Beach Dr.	2010	25	800	Poor	Moderate	2031
Valve Beach Rd South	2010	25	800	Poor	Moderate	2031
Ponce De Leon Rd Main	2010	25	600	Poor	Moderate	2031
Marina Rd Main	2010	25	800	Poor	Moderate	2028
North End of line Valve	2000	25	800	Poor	Moderate	2028
Hydro Tank to System Valve	2007	25	600	Average	Moderate	2033
Check Valve from Storage to Hydro	2007	25	500	Average	Moderate	2038
Valve Ezell Beach Cir. Loop	2005	25	400	Average	Moderate	2038
Valve Ezell Beach Dr	2010	25	400	Average	Moderate	2033
Valve Stub Off	2010	25	400	Average	Moderate	2033
Valve Ezell Beach Circle loop	2005	25	400	Average	Moderate	2038
Valve to blow off	2007	25	400	Average	Moderate	2038
Valve Beach Rd	2005	25	400	Average	Moderate	2038
Valve Jody Morgan Rd	2007	25	800	Average	Moderate	2038
Flush Hydrant Valve	2007	25	400	Average	Moderate	2038
Valve Sawgrass Bay Estates	2010	25	400	Average	Moderate	2038
Valve in line	2010	25	400	Average	Moderate	2038
Valve sawgrass	2010	25	400	Average	Moderate	2038
Beach Road In Line Valve	2005	25	800	Average	Moderate	2038
Beach Road Valve	2018	25	800	Good	Moderate	2045
Beach Road In Line Valve	2018	25	800	Good	Moderate	2045
Beach Rd In Line Valve	2018	25	800	Good	Moderate	2045
Beach Road In Line Valve	2018	25	800	Good	Moderate	2045
Fish Creek Valve	2010	25	400	Poor	Moderate	2028
Valve Sandhill Rd	2010	25	400	Average	Moderate	2038
Valve pelican pl flush	2007	25	400	Average	Moderate	2038
Valve loop osspray fiddlers	2010	25	500	Poor	Moderate	2028
Valve Cedar Island	2010	25	800	Average	Moderate	2038
Valve in line Main	2007	25	800	Average	Moderate	2038
Valve Ospray Rd	2007	25	400	Average	Moderate	2038
Valve Herndon Rd Flush Hydrant	2007	25	400	Average	Moderate	2038
Heron Valve	2010	25	400	Average	Moderate	2033
Sandpiper Road S Valve	2010	25	400	Average	Moderate	2033

Valve Egret	2010	25	800	Average	Moderate	2033
Widgeon Rd Valve	2010	25	400	Average	Moderate	2033
Cormorant Rd Valve	2010	25	400	Poor	Moderate	2028
Valve Cedar Island Main	2005	25	800	Poor	Moderate	2028
Abandoned Valve	2000	25	0	Failed	Moderate	
Valve Sandpiper N	2010	25	800	Average	Moderate	2033
Cedar Loop Valve	2010	25	400	Average	Moderate	2033
Cedar Island loop	2010	25	400	Average	Moderate	2033
King Fisher Rd E	2005	25	400	Average	Moderate	2033
King Fisher Rd W	2005	25	400	Average	Moderate	2033
Sandpiper Rd Flush Hydrant Valve	2005	25	400	Poor	Moderate	2028
Steinhatchee Rd Valve	2005	25	800	Poor	Moderate	2028
Dark Island Rd Main	2010	25	800	Average	Moderate	2033
Lindsey Island Rd valve	2010	25	800	Average	Moderate	2033
Lindsey Island S	2005	25	400	Poor	Moderate	2028
Lindsey Island N	2005	25	400	Poor	Moderate	2028
Beach Rd Main	2018	25	800	Good	Moderate	2038
Beach Road Main	2018	25	800	Good	Moderate	2038
east shut off	2010	25	600	Poor	Moderate	2028
Fiddler Ln	2007	25	600	Average	Moderate	2038
Osprey Cir	2007	25	600	Average	Moderate	2038
Osprey Circle main	2007	25	600	Average	Moderate	2038
Egret Ln	2007	25	600	Average	Moderate	2038
Egret Ln/Tern Rd	2010	25	600	Average	Moderate	2033
Loop Tie in	2005	25	500	Average	Moderate	2033
Sea Hawk Ln Valve	2005	25	400	Poor	Moderate	2028
Tern Rd/Sandpiper Rd Valve	2005	25	400	Poor	Moderate	2028
Ibis	2010	25	400	Average	Moderate	2038
Osprey	2010	25	500	Poor	Moderate	2028
Gulfview Rd S	2005	25	800	Average	Moderate	2033
Gulfview Rd N	2010	25	800	Average	Moderate	2033
Fish Creek	2005	25	800	Poor	Moderate	2028

Appendix D:

Energy Audit

Taylor Coastal Water & Sewer District Water Treatment Plant Energy Efficiency Assessment

This assessment is prepared by Mark Hallett, Energy Efficiency Circuit Rider.

Thank you for being a member of our rural water association!



Committed to the future of rural communities.



Executive Summary

Florida Rural Water Association (FRWA) strives to help its members in every possible way. Thanks to funding received from the United States Department of Agriculture (USDA), FRWA now provides free energy assessments to its members. Energy use is often the largest part of a water system's total operating cost. Thus this program will benefit water utilities by identifying equipment and strategies to improve energy efficiency. As energy efficiency improves, the cost of energy purchasing will decrease resulting in lower costs for utilities. These lower costs can maximize profits, create capital for improvements, and allow utilities to save customers money. FRWA is committed to helping systems improve their energy efficiency through training, engineering services, and help in securing funding.

This report was prepared for Taylor Coastal Water & Sewer District Water Treatment Plant following the on-site visit on December 14, 2018.

Section 1: At-a-Glance Findings and Scope

1.1 At-a-Glance Findings

Project Item	Energy Conservation Measure Description	Annual Energy Savings (kWh)	Annual Cost Savings (\$)	Estimated Cost of Improvement (\$)	Rebate Total (\$)	Payback (Years)	Reference Pages
LED Lighting Upgrade	Install LED bulbs instead of fluorescent bulbs.	2920	\$282.07	\$191.68		0.68	3
		2920	\$282.07	\$191.68	\$0.00		

1.2 Scope

This assessment will detail information concerning Taylor Coastal Water & Sewer District Water Treatment Plant and how it can improve. To begin, the report will introduce a baseline energy usage. This data is collected from electrical bills, name plate information on motors, and through an on-site survey. Operators are asked essential questions about operation and maintenance. After this, suggestions are made on how the system can improve efficiency. Each suggestion will also be broken down to show how quickly your savings could pay back investing in that option. This report will also highlight aspects where the system does well in already conserving energy.

There is a small HVAC system that is rarely used and will not be considered as part of this assessment. This report is fair and impartial. Any products named are solely named as examples of potential investments for the system to use. This report is not advertising any product.

Section 2: Initial Findings and Baseline

2.1 Electric Bills

The bills for the system show that the system is not charged for demand. This is excellent as demand often makes up 30% of a system's monthly electric bill and can cost thousands of dollars annually. The other thing the bills reveal about the system is that the overall energy use is low. Even though the average monthly consumption is 2,168 kWh, it is still lower than other plants of a comparable size. It should be noted that the system purchases power at a wholesale price. While this tends to reduce the cost per kWh individually, it does not affect the other parts of the bill such as facility charges and tax.

2.2 Operations and Facility

The facility is well maintained and simplistic in its design. There are multiple wells and well pumps of various sizes that help meet demand based on level of water in the ground storage tank. This system is simplistic yet very efficient at meeting the demands of the system. The smallest well pump is hardly used. The chlorination and other chemical additions are handled by small and low wattage pumps. They will not be considered during this assessment.

2.3 Baseline

The average amount of energy consumed by the plant over the last year is 2,168 kWh with an average monthly bill of \$351.89. The average cost per kWh is \$0.16 after including all additional charges such as tax and facility charges; this is higher than the state average of \$0.11. When the wholesale

pricing is taken into account, the actual charge per kWh is \$0.11. These figures will be used to develop the estimates in the following section.

Section 3: Suggested Improvements and Potential Savings

3.1 LED Lighting Retrofit

Lighting technology has changed a lot over the past few centuries. From fire to torches to incandescent light bulbs, we arrive at the current lighting source of choice: fluorescent bulbs. Fluorescent bulbs are amazing efficient when compared to incandescent bulbs. However, new technology has made an even better light bulb: the LED bulb. LED bulbs do not need a ballast to operate; this makes them more efficient than fluorescent bulbs. This rewiring can be done by any electrician. The estimate below is for parts **only** and **does not** include the cost of hiring an electrician to rewire the lighting fixtures.

During the on-site visit, a total of 20 fluorescent bulbs were observed. These bulbs were used about 4 hours a day according to staff. To replace the fluorescent bulbs with LED bulbs would cost an estimated \$191.68 and create an estimated annual cost savings of \$282.07. This yields an estimated simple payback of 8 months.

Section 4: Financing Options

4.1 USDA Rural Development Loan

The USDA Rural Development Loan program loans rural communities the funds to finance installations of and improvements to water, sanitary sewerage, solid waste, and storm water facilities. Taylor Coastal Water & Sewer District is eligible to apply. FRWA can help your system apply to the program. Contact your circuit rider for more information. You can also contact the State Rural Development Office with the information below:

LAKE CITY AREA OFFICE
971 W Duval St, Suite 190
Lake City, Florida 32055-3736
Telephone: (386) 719-5590
Fax: (855) 474-6983



4.2 State Revolving Fund

Taylor Coastal Water & Sewer District can apply for a loan from the State Revolving Fund (SRF) managed by the Department of Environmental Protection (DEP). This program helps communities and municipalities install and improve their water systems. FRWA can help your system apply to the program. Contact your circuit rider for more information.

Appendix E:

REVPLAN

Taylor Coastal WSD					
Fiscal Year: 2020					
Water Revenue Requirements					
	2020	2021	2022	2023	2024
Revenue Requirements:					
Operating Expenses	\$160,400	\$165,200	\$170,200	\$175,300	\$180,600
Debt Service	\$26,000	\$26,000	\$26,000	\$22,400	\$21,300
Other Expenses/Transfers	\$18,000	\$18,600	\$19,100	\$19,700	\$20,300
Capital Expenditures	\$0	\$35,000	\$17,000	\$17,000	\$17,000
Gross Revenue Requirements	\$204,400	\$244,800	\$232,300	\$234,400	\$239,200
Less: Miscellaneous Revenue	\$16,200	\$16,200	\$16,200	\$16,200	\$16,200
Net Revenue Requirements	\$188,200	\$228,600	\$216,100	\$218,200	\$223,000
Existing Rate Sufficiency:					
Revenue from Existing Rates	\$193,600	\$193,600	\$193,600	\$193,600	\$193,600
Revenue Surplus/(Deficiency)	\$5,400	-\$35,000	-\$22,500	-\$24,600	-\$29,400
Proposed Rate Sufficiency:					
Revenue from Proposed Rates	\$199,400	\$205,300	\$211,500	\$217,900	\$224,400
Increase in Revenue	\$5,800	\$11,800	\$17,900	\$24,300	\$30,800
Cumulative %	3.00%	6.09%	9.27%	12.55%	15.93%
Current Year %	3.00%	3.00%	3.00%	3.00%	3.00%
Revenue Surplus/(Deficiency)	\$11,200	-\$23,200	-\$4,600	-\$400	\$1,400

Taylor Coastal WSD					
Fiscal Year: 2020					
Wastewater Revenue Requirements					
	2020	2021	2022	2023	2024
Revenue Requirements:					
Operating Expenses	\$252,200	\$259,700	\$267,500	\$275,600	\$283,800
Debt Service	\$57,700	\$57,700	\$57,700	\$57,700	\$57,700
Other Expenses/Transfers	\$28,300	\$29,100	\$30,000	\$30,900	\$31,800
Capital Expenditures	\$0	\$19,000	\$30,000	\$60,000	\$90,500
Gross Revenue Requirements	\$338,200	\$365,600	\$385,300	\$424,200	\$463,800
Less: Miscellaneous Revenue	\$146,100	\$146,100	\$146,100	\$146,100	\$146,100
Net Revenue Requirements	\$192,100	\$219,500	\$239,200	\$278,100	\$317,800
Existing Rate Sufficiency:					
Revenue from Existing Rates	\$264,100	\$264,100	\$264,100	\$264,100	\$264,100
Revenue Surplus/(Deficiency)	\$72,000	\$44,600	\$24,900	-\$14,000	-\$53,700
Proposed Rate Sufficiency:					
Revenue from Proposed Rates	\$274,700	\$285,700	\$297,100	\$309,000	\$321,400
Increase in Revenue	\$10,600	\$21,600	\$33,000	\$44,900	\$57,200
Cumulative %	4.00%	8.16%	12.49%	16.99%	21.67%
Current Year %	4.00%	4.00%	4.00%	4.00%	4.00%
Revenue Surplus/(Deficiency)	\$82,600	\$66,200	\$57,900	\$30,900	\$3,600

Taylor Coastal WSD
Fiscal Year: 2020
Debt Service Coverage

	2020	2021	2022	2023	2024
Revenue:					
Revenue from Proposed Drinking Water Rates	\$199,400	\$205,300	\$211,500	\$217,900	\$224,400
Revenue from Proposed Wastewater Rates	\$274,700	\$285,700	\$297,100	\$309,000	\$321,400
Subtotal - Rate Revenue	\$474,100	\$491,000	\$508,600	\$526,900	\$545,700
Miscellaneous Revenue - Drinking Water	\$16,200	\$16,200	\$16,200	\$16,200	\$16,200
Miscellaneous Revenue - Wastewater	\$146,100	\$146,100	\$146,100	\$146,100	\$146,100
Total Revenue	\$636,300	\$653,300	\$670,900	\$689,100	\$708,000
Operating Expenses:					
Drinking Water	\$160,400	\$165,200	\$170,200	\$175,300	\$180,600
Wastewater	\$252,200	\$259,700	\$267,500	\$275,600	\$283,800
Total Operating Expenses	\$412,600	\$425,000	\$437,700	\$450,800	\$464,400
Net Revenue	\$223,800	\$228,300	\$233,200	\$238,300	\$243,700
Debt Service:					
Drinking Water	\$26,000	\$26,000	\$26,000	\$22,400	\$21,300
Wastewater	\$57,700	\$57,700	\$57,700	\$57,700	\$57,700
Total Debt Service	\$83,700	\$83,700	\$83,700	\$80,100	\$79,000
Debt Service Coverage	2.67	2.73	2.79	2.97	3.08
Net Revenue Less Debt Service	\$140,100	\$144,700	\$149,500	\$158,100	\$164,600
Other Expenses/Transfers:					
Drinking Water	\$18,000	\$18,600	\$19,100	\$19,700	\$20,300
Wastewater	\$28,300	\$29,100	\$30,000	\$30,900	\$31,800
Total Other Expenses/Transfers	\$46,300	\$47,700	\$49,200	\$50,600	\$52,200
Revenue Surplus/(Deficiency)	\$93,700	\$96,900	\$100,400	\$107,500	\$112,500

Taylor Coastal WSD						
Fiscal Year: 2020						
CIP Schedule						
Description	Funding Source	2020	2021	2022	2023	2024
Water Distribution	Water Revenues	\$0	\$35,000	\$17,000	\$17,000	\$17,000
Wastewater Collection	Wastewater Revenues	\$0	\$19,000	\$30,000	\$60,000	\$90,500
	Funding Source	2020	2021	2022	2023	2024
	Water Revenues	\$0	\$35,000	\$17,000	\$17,000	\$17,000
	Wastewater Revenues	\$0	\$19,000	\$30,000	\$60,000	\$90,500
	Total	\$0	\$54,000	\$47,000	\$77,000	\$107,500

Taylor Coastal WSD					
Fiscal Year: 2020					
Unrestricted Fund Balance					
	2020	2021	2022	2023	2024
Utility Reserve Funds:					
Beginning of Year Balance	\$1,371,300	\$1,465,000	\$1,508,000	\$1,561,300	\$1,591,900
Addition to Current Year	\$93,700	\$42,900	\$53,400	\$30,500	\$5,000
End of Year Balance	\$1,465,000	\$1,508,000	\$1,561,300	\$1,591,900	\$1,596,900

Taylor Coastal WSD								
Fiscal Year: 2020								
Debt Service Schedule								
Debt	2020	2021	2022	2023	2024	2025	2026	2027
Existing Debts:								
Ford F-150 Pickup	\$4,600	\$4,600	\$4,600	\$1,100	\$0	\$0	\$0	\$0
USDA 91-03	\$21,300	\$21,300	\$21,300	\$21,300	\$21,300	\$21,300	\$21,300	\$21,300
USDA 92-01	\$35,900	\$35,900	\$35,900	\$35,900	\$35,900	\$35,900	\$35,900	\$35,900
USDA 92-05	\$21,800	\$21,800	\$21,800	\$21,800	\$21,800	\$21,800	\$21,800	\$21,800
Anticipated Debts:								
Total	\$83,700	\$83,700	\$83,700	\$80,100	\$79,000	\$79,000	\$79,000	\$79,000
Drinking Water	\$26,000	\$26,000	\$26,000	\$22,400	\$21,300	\$21,300	\$21,300	\$21,300
Wastewater	\$57,700	\$57,700	\$57,700	\$57,700	\$57,700	\$57,700	\$57,700	\$57,700

Taylor Coastal WSD
Fiscal Year: 2020
Operating Expense Projection

Fund Name	Type of Expense	Cost Allocation	Description	Historical 2019	Budget 2020	2021	2022	2023	2024
Water	O&M	100% Water	Water Chemicals	\$2,100	\$3,000	\$3,100	\$3,200	\$3,300	\$3,400
Sewer	O&M	100% Wastewater	Sewer Chemicals	\$2,700	\$3,000	\$3,100	\$3,200	\$3,300	\$3,400
Water	Other	100% Water	Water Education	\$20	\$600	\$600	\$600	\$700	\$700
Sewer	Other	100% Wastewater	Sewer Education	\$100	\$600	\$600	\$600	\$700	\$700
Water	Other	100% Water	Water Freight	\$70	\$300	\$300	\$300	\$300	\$300
Sewer	Other	100% Wastewater	Sewer Freight	\$300	\$600	\$600	\$600	\$700	\$700
Water	O&M	100% Water	Water Ford F-150 Payments	\$4,700	\$4,600	\$4,800	\$4,900	\$5,100	\$5,200
Water	O&M	100% Water	Water Gas/Oil/Diesel	\$2,600	\$1,800	\$1,900	\$1,900	\$2,000	\$2,000
Sewer	O&M	100% Wastewater	Sewer Gas/Oil/Diesel	\$1,600	\$2,200	\$2,300	\$2,300	\$2,400	\$2,500
Sewer	O&M	100% Wastewater	Sewer Grinder Pump Installations	\$40,400	\$17,800	\$18,300	\$18,900	\$19,400	\$20,000
Sewer	O&M	100% Wastewater	Grinder Pump Repairs	\$3,000	\$10,000	\$10,300	\$10,600	\$10,900	\$11,300
Sewer	O&M	100% Wastewater	Groundwater Monitoring WWTP	\$4,500	\$5,000	\$5,200	\$5,300	\$5,500	\$5,600
Water	Other	100% Water	Water Insurance-Auto	\$0	\$400	\$400	\$400	\$400	\$500
Sewer	Other	100% Wastewater	Sewer Insurance-Auto	\$0	\$2,600	\$2,700	\$2,800	\$2,900	\$3,000
Water	Other	100% Water	Water Insurance-Bonds	\$0	\$1,300	\$1,300	\$1,400	\$1,400	\$1,500
Sewer	Other	100% Wastewater	Sewer Insurance-Bond	\$0	\$1,300	\$1,300	\$1,400	\$1,400	\$1,500
Water	Other	100% Water	Water Insurance-Inland Marine	\$0	\$80	\$80	\$80	\$80	\$90
Sewer	Other	100% Wastewater	Sewer Insurance-Inland Marine	\$0	\$80	\$80	\$80	\$80	\$90
Water	Other	100% Water	Insurance-General Liability	\$0	\$800	\$900	\$900	\$900	\$1,000
Sewer	Other	100% Wastewater	Sewer Insurance-General Liability	\$0	\$800	\$900	\$900	\$900	\$1,000
Sewer	Other	100% Wastewater	Sewer Insurance-Pollution	\$0	\$900	\$900	\$1,000	\$1,000	\$1,000
Water	Other	100% Water	Water Insurance-Property	\$0	\$800	\$800	\$800	\$800	\$800
Sewer	Other	100% Wastewater	Sewer Insurance-Property	\$0	\$800	\$800	\$800	\$800	\$800
Water	Other	100% Water	Water Insurance-Workers Comp	\$0	\$2,200	\$2,200	\$2,300	\$2,400	\$2,400
Sewer	Other	100% Wastewater	Sewer Insurance-Workers Comp	\$0	\$2,200	\$2,200	\$2,300	\$2,400	\$2,400
Water	O&M	100% Water	Water Lab testing/Supplies	\$2,200	\$4,000	\$4,100	\$4,200	\$4,400	\$4,500
Sewer	O&M	100% Wastewater	Sewer lab testing/Supplies	\$2,400	\$3,000	\$3,100	\$3,200	\$3,300	\$3,400
Water	Professional Services	100% Water	Water Legal/Professional Fees	\$40	\$1,000	\$1,000	\$1,100	\$1,100	\$1,100
Sewer	Professional Services	100% Wastewater	Sewer Legal/Professional Fees	\$0	\$1,000	\$1,000	\$1,100	\$1,100	\$1,100
Water	Other	100% Water	Water License and Permits	\$1,200	\$1,500	\$1,500	\$1,600	\$1,600	\$1,700
Sewer	Other	100% Wastewater	Sewer lienses & Permits	\$300	\$7,500	\$7,700	\$8,000	\$8,200	\$8,400
Water	Other	100% Water	Water Mowing	\$800	\$1,200	\$1,200	\$1,300	\$1,300	\$1,400
Sewer	Other	100% Wastewater	Sewer Mowing	\$1,600	\$1,200	\$1,200	\$1,300	\$1,300	\$1,400
Sewer	O&M	100% Wastewater	Sewer New Pump Purchase District	\$46,200	\$44,500	\$45,900	\$47,300	\$48,700	\$50,100
Water	Other	100% Water	Water Postage	\$0	\$1,000	\$1,000	\$1,100	\$1,100	\$1,100
Sewer	Other	100% Wastewater	Sewer Postage	\$0	\$1,000	\$1,000	\$1,100	\$1,100	\$1,100
Water	Maintenance	100% Water	Water Repairs/Maintenance	\$14,300	\$17,000	\$17,500	\$18,000	\$18,600	\$19,100
Sewer	Maintenance	100% Wastewater	Sewer Repairs/Maintenance	\$10,800	\$47,000	\$48,400	\$49,900	\$51,400	\$52,900
Water	Maintenance	100% Water	Water Replacement Parts	\$7,400	\$8,000	\$8,200	\$8,500	\$8,700	\$9,000
Sewer	Maintenance	100% Wastewater	Sewer Replacement Parts	\$7,500	\$10,000	\$10,300	\$10,600	\$10,900	\$11,300
Water	Personnel	100% Water	Water Retirement Contribution-FRS	\$4,100	\$4,300	\$4,400	\$4,500	\$4,600	\$4,800
Sewer	Personnel	100% Wastewater	Sewer Retirement Contribution-FRS	\$2,300	\$2,300	\$2,400	\$2,400	\$2,500	\$2,600
Water	O&M	100% Water	Water Safety Equipment	\$20	\$200	\$200	\$200	\$200	\$200
Sewer	O&M	100% Wastewater	Sewer Equipment	\$2,400	\$1,200	\$1,200	\$1,300	\$1,300	\$1,400
Water	Personnel	100% Water	Water Salaries and Wages	\$49,100	\$50,200	\$51,700	\$53,300	\$54,800	\$56,500

Sewer	Personnel	100% Wastewater	Sewer Salaries & Wages	\$27,700	\$27,200	\$28,000	\$28,800	\$29,700	\$30,600
Sewer	O&M	100% Wastewater	Sewer Sludge Hauling	\$0	\$3,500	\$3,600	\$3,700	\$3,800	\$3,900
Water	Other	100% Water	Water Small Tools	\$1,500	\$3,000	\$3,100	\$3,200	\$3,300	\$3,400
Sewer	Other	100% Wastewater	Sewer Small Tools	\$1,000	\$3,000	\$3,100	\$3,200	\$3,300	\$3,400
Water	O&M	100% Water	Water System/Property Upgrades	\$10,800	\$4,000	\$4,100	\$4,200	\$4,400	\$4,500
Sewer	O&M	100% Wastewater	Sewer System/Property Upgrades	\$0	\$2,000	\$2,100	\$2,100	\$2,200	\$2,300
Water	Personnel	100% Water	Water Taxes-Payroll	\$3,800	\$3,800	\$4,000	\$4,100	\$4,200	\$4,300
Sewer	O&M	100% Wastewater	Sewer Taxes-Payroll	\$2,100	\$2,100	\$2,100	\$2,200	\$2,300	\$2,300
Water	Other	100% Water	Water Telephone	\$1,300	\$1,600	\$1,600	\$1,700	\$1,700	\$1,800
Sewer	Other	100% Wastewater	Sewer Telephone	\$700	\$1,600	\$1,600	\$1,700	\$1,700	\$1,800
Water	Maintenance	100% Water	Water Tractor Maintenance	\$0	\$800	\$800	\$800	\$800	\$800
Sewer	Maintenance	100% Wastewater	Sewer Tractor maintenance	\$0	\$800	\$800	\$800	\$800	\$900
Water	Other	100% Water	Water Travel/Mileage	\$0	\$600	\$600	\$600	\$700	\$700
Sewer	Other	100% Wastewater	Sewer Travel/Mileage	\$0	\$600	\$600	\$600	\$700	\$700
Water	O&M	100% Water	Water Utilities (Electrical Service)	\$4,300	\$5,500	\$5,700	\$5,800	\$6,000	\$6,200
Sewer	O&M	100% Wastewater	Sewer Utilities (Electrical Service)	\$17,600	\$24,000	\$24,700	\$25,500	\$26,200	\$27,000
Water	Maintenance	100% Water	Water Vehicle Maintenance	\$30	\$1,500	\$1,500	\$1,600	\$1,600	\$1,700
Sewer	Maintenance	100% Wastewater	Sewer Vehicle Maintenance	\$3,700	\$3,000	\$3,100	\$3,200	\$3,300	\$3,400
Water	Maintenance	100% Water	Water Warranty & Maintenance	\$0	\$2,900	\$3,000	\$3,100	\$3,200	\$3,300
Sewer	Maintenance	100% Wastewater	Sewer Warranty & Maintenance	\$0	\$700	\$700	\$800	\$800	\$800
Water	Maintenance	100% Water	Water Tank Maintenance	\$6,200	\$7,100	\$7,400	\$7,600	\$7,800	\$8,000
Sewer	Other	100% Wastewater	WW Department Other	\$1	\$0	\$0	\$0	\$0	\$0
District	Personnel	Water 50% Wastev	Retirement Contribution	\$1,400	\$0	\$0	\$0	\$0	\$0
Unclss	Other	100% Water	Uncategorized Expenses	\$200	\$0	\$0	\$0	\$0	\$0
District	Other	Water 50% Wastev	Reconciliation Discrepancies	\$30	\$0	\$0	\$0	\$0	\$0
District	Professional	Water 50% Wastev	Accounting	\$8,200	\$2,800	\$2,900	\$3,000	\$3,100	\$3,200
District	Professional	Water 50% Wastev	Advertising	\$600	\$400	\$400	\$400	\$400	\$500
District	Other	Water 50% Wastev	Bank Charges/Ser	\$600	\$400	\$400	\$400	\$400	\$500
Unclss	Other	Water 50% Wastev	Bank/Service Charges	\$80	\$0	\$0	\$0	\$0	\$0
District	Other	Water 50% Wastev	Computer Software	\$7,000	\$4,000	\$4,100	\$4,200	\$4,400	\$4,500
District	Other	Water 50% Wastev	Dues/Subscriptions	\$90	\$700	\$700	\$700	\$800	\$800
District	O&M	Water 50% Wastev	Freight	\$300	\$100	\$100	\$100	\$100	\$100
District	O&M	Water 50% Wastev	Inland Marine Insurance	\$200	\$80	\$80	\$80	\$80	\$90
District	O&M	Water 50% Wastev	Auto insurance	\$2,600	\$0	\$0	\$0	\$0	\$0
District	O&M	Water 50% Wastev	Bonds Liability Insurance	\$1,900	\$1,300	\$1,300	\$1,400	\$1,400	\$1,500
District	O&M	Water 50% Wastev	General Liability Insurance	\$5,000	\$800	\$900	\$900	\$900	\$1,000
District	O&M	Water 50% Wastev	Pollution (WWTP Diesel Tank)	\$700	\$0	\$0	\$0	\$0	\$0
District	O&M	Water 50% Wastev	Property Insurance	\$1,900	\$800	\$800	\$800	\$800	\$900
District	Professional	Water 50% Wastev	Legal/Professional	\$300	\$1,000	\$1,000	\$1,100	\$1,100	\$1,100
District	O&M	Water 50% Wastev	Licenses/Permits	\$200	\$0	\$0	\$0	\$0	\$0
District	Other	Water 50% Wastev	Miscellaneous Expense	\$200	\$0	\$0	\$0	\$0	\$0
District	O&M	Water 50% Wastev	Mowing	\$200	\$1,200	\$1,200	\$1,300	\$1,300	\$1,400
District	O&M	Water 50% Wastev	Office Expense/Supplies	\$3,500	\$4,500	\$4,600	\$4,800	\$4,900	\$5,100
District	Personnel	Water 50% Wastev	Retirement Contribution-FRS	\$3,800	\$4,000	\$4,100	\$4,300	\$4,400	\$4,500
District	Personnel	Water 50% Wastev	Salaries & Wages Admin	\$46,100	\$47,400	\$48,800	\$50,300	\$51,800	\$53,300
District	Personnel	Water 50% Wastev	Taxes-Payroll	\$3,500	\$3,600	\$3,700	\$3,800	\$4,000	\$4,100
District	Personnel	Water 50% Wastev	Workers Comp	\$3,200	\$2,200	\$2,200	\$2,300	\$2,400	\$2,400
District	O&M	Water 50% Wastev	Postage	\$2,500	\$1,000	\$1,000	\$1,100	\$1,100	\$1,100
District	O&M	Water 50% Wastev	Property/Equip Upgrades	\$4,500	\$3,000	\$3,100	\$3,200	\$3,300	\$3,400
District	Maintenance	Water 50% Wastev	Repair/Main District Office	\$400	\$2,000	\$2,100	\$2,100	\$2,200	\$2,300

District	O&M	Water 50% Wastev	SuppliesCleaning & Mis.	\$30	\$0	\$0	\$0	\$0	\$0
District	Other	Water 50% Wastev	Taxes-Other	\$200	\$0	\$0	\$0	\$0	\$0
District	O&M	Water 50% Wastev	Telephone	\$1,100	\$1,600	\$1,600	\$1,700	\$1,700	\$1,800
District	O&M	Water 50% Wastev	Utilities (Electrical Servic)	\$1,900	\$2,100	\$2,200	\$2,200	\$2,300	\$2,400
Unclass	O&M	Water 50% Wastev	Freight	\$10	\$0	\$0	\$0	\$0	\$0
Unclass	O&M	Water 50% Wastev	Office Exp.	\$100	\$0	\$0	\$0	\$0	\$0
Unclass	Other	Water 50% Wastev	Workers Comp	\$300	\$0	\$0	\$0	\$0	\$0
District	Professional	Water 50% Wastev	Engineering Services	\$0	\$1,500	\$1,500	\$1,600	\$1,600	\$1,700
District	Other	Water 50% Wastev	Landscaping	\$0	\$700	\$700	\$700	\$800	\$800
District	Other	Water 50% Wastev	Safety Equipment	\$0	\$100	\$100	\$100	\$100	\$100
District	Other	Water 50% Wastev	Travel/Mileage	\$0	\$300	\$300	\$300	\$300	\$300
Water	Professional	100% Water	AskMyAccountant	\$9,500	\$0	\$0	\$0	\$0	\$0
Sewer	O&M	100% Wastewater	Sewer Safety Equipment	\$20	\$1,200	\$1,200	\$1,300	\$1,300	\$1,400
Water	Other	100% Water	Dues & Subscriptions	\$200	\$0	\$0	\$0	\$0	\$0
Sewer	Other	100% Wastewater	Dues & Subscriptions	\$200	\$0	\$0	\$0	\$0	\$0
Sewer	Maintenance	100% Wastewater	Customer Repairs	\$500	\$0	\$0	\$0	\$0	\$0
Sewer	Other	100% Wastewater	Sewer Adjustmets RVS Billing	\$700	\$0	\$0	\$0	\$0	\$0
Water	Other	100% Water	Water Adjustmets RVS Billing	\$12,600	\$0	\$0	\$0	\$0	\$0
Total				\$421,900	\$458,900	\$472,700	\$486,900	\$501,500	\$516,500

Taylor Coastal WSD					
Fiscal Year: 2020					
Typical Monthly Bill, Residential Rates Inside City, 5,000 Gallons					
	2020	2021	2022	2023	2024
Drinking Water					
Base Charge	\$31.83	\$32.78	\$33.77	\$34.78	\$35.82
Usage Charge, 5,000 Gallons	\$3.98	\$4.10	\$4.22	\$4.34	\$4.47
Subtotal	\$35.80	\$36.88	\$37.98	\$39.12	\$40.30
Wastewater					
Base Charge	\$45.51	\$47.33	\$49.22	\$51.19	\$53.24
Usage Charge, 5,000 Gallons	\$14.89	\$15.49	\$16.11	\$16.75	\$17.42
Subtotal	\$60.40	\$62.82	\$65.33	\$67.95	\$70.66
Combined Bill	\$96.21	\$99.70	\$103.32	\$107.07	\$110.96

**Taylor Coastal WSD
Fiscal Year: 2020
Rate Schedule**

	2020	2021	2022	2023	2024
Drinking Water Residential Rates					
Base Charges Inside City					
5/8-inch	\$31.83	\$32.78	\$33.77	\$34.78	\$35.82
Usage Charges Inside City					
3,001 to 6,000 gallons	\$1.99	\$2.05	\$2.11	\$2.17	\$2.24
6,001 to 9,000 gallons	\$2.33	\$2.40	\$2.47	\$2.54	\$2.62
9,001 to 15,000 gallons	\$2.95	\$3.03	\$3.13	\$3.22	\$3.32
15,001 to 21,000 gallons	\$3.51	\$3.62	\$3.73	\$3.84	\$3.95
21,001 to 27,000 gallons	\$4.25	\$4.38	\$4.51	\$4.65	\$4.79
27,001 to 33,000 gallons	\$5.11	\$5.26	\$5.42	\$5.58	\$5.75
33,001 to 39,000 gallons	\$5.96	\$6.14	\$6.33	\$6.52	\$6.71
39,001 to 45,000 gallons	\$6.82	\$7.02	\$7.23	\$7.45	\$7.67
45,001 to 51,000 gallons	\$7.67	\$7.90	\$8.14	\$8.39	\$8.64
51,001 gallons or more	\$8.53	\$8.78	\$9.05	\$9.32	\$9.60
Wastewater Residential Rates					
Base Charges Inside City					
5/8-inch	\$45.51	\$47.33	\$49.22	\$51.19	\$53.24
Usage Charges Inside City					
3,001 gallons or more	\$7.45	\$7.74	\$8.05	\$8.38	\$8.71

Taylor Coastal WSD

Fiscal Year: 2020

Rate Revenue

Base Charge Revenues	Meter Sizes	Base Charge	Number of Connections	Annual Revenue
Drinking Water Residential Rates				
Base Charges Inside City	5/8-inch	\$30.90	522	\$193,557.60
Subtotal				\$193,557.60
Wastewater Residential Rates				
Base Charges Inside City	5/8-inch	\$43.76	503	\$264,135.36
Subtotal				\$264,135.36
Total				\$457,692.96
Usage Charge Revenues	Average Monthly Usage per Customer (kgal)	Usage Charge for Average Monthly Usage	Number of Connections	Annual Revenue
Drinking Water				
Residential Rates				
Usage Charges Inside City	2.03	\$0.00	522	\$0.00
Subtotal				\$0.00
Wastewater Residential Rates				
Usage Charges Inside City	2.10	\$0.00	503	\$0.00
Subtotal				\$0.00
Total				\$0.00
Combined Revenues				Annual Revenue
Drinking Water				
		Base Charge Revenue		\$193,557.60
		Usage Charge Revenue		\$0.00
		Other Revenue		\$16,220.00
Subtotal				\$209,777.60
Wastewater				
		Base Charge Revenue		\$264,135.36
		Usage Charge Revenue		\$0.00
		Other Revenue		\$146,060.00
Subtotal				\$410,195.36
Total				\$619,972.96