

RESOLUTION NO. 2025- 002

A RESOLUTION OF THE AMERICAN BEACH WATER AND SEWER DISTRICT, APPROVING THE WATER SYSTEM ASSET MANAGEMENT AND FISCAL SUSTAINABILITY PLAN; AUTHORIZING THE DISTRICT 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 and public systems to finance construction of utility system improvements; and

WHEREAS, the Florida Department of Environmental Protection State Revolving Fund {SRF} has designated the American Beach Water and Sewer District water system improvements, identified in the Asset Management and Fiscal Sustainability Plan, as potentially eligible for available funding; and

WHEREAS, as a condition of obtaining funding from the SRF, the system is required to implement an Asset Management and Fiscal Sustainability Plan for the System's Water System Improvements; and

WHEREAS, the Board for the American Beach Water and Sewer District has determined that approval of the attached Asset Management and Fiscal Sustainability Plan for the proposed improvements, in order to obtain necessary funding in accordance with SRF guidelines, is in the best interest of the System.

NOW, THEREFORE, BE IT RESOLVED BY THE AMERICAN BEACH WATER AND SEWER DISTRICT BOARD the following:

Section 1. That the American Beach Water and Sewer District Board hereby approves the American Beach Water and Sewer District Asset Management and Fiscal Sustainability Plan, attached hereto and incorporated by reference as a part of this Resolution.

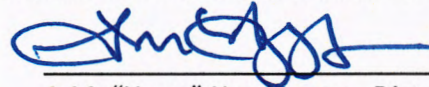
Section 2. That the District Manager is authorized to take all actions necessary to effectuate the intent of this Resolution and to implement the American Beach Water and Sewer District Asset Management and Fiscal Sustainability Plan in accordance with applicable Florida law and Board direction in order to obtain funding from the SRF.

Section 3. That the American Beach Water and Sewer District will annually evaluate existing rates to determine the need for any increase and will increase rates in accordance with the financial recommendations found in the American Beach Water and Sewer District Asset Management and Fiscal Sustainability Plan or in proportion to the System's needs as determined by the Board in its discretion.

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

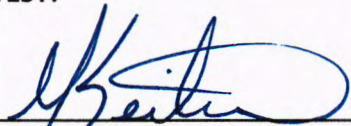
PASSED AND ADOPTED on this 13th day of January, 2025.

AMERICAN BEACH WATER AND SEWER DISTRICT



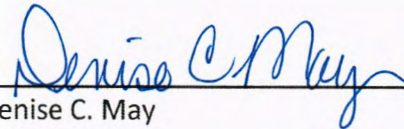
A.M. "Hupp" Huppmann, District Chair,
Board of County Commissioners

ATTEST:



Mitch L. Keiter, District Clerk

APPROVED AS TO FORM:



Denise C. May
American Beach Water and Sewer District
Attorney

FLORIDA RURAL WATER ASSOCIATION

2970 WELLINGTON CIRCLE • TALLAHASSEE, FL 32309-7813

(850) 668-2746

December 2, 2024

John F. Martin, District Chair
American Beach Water and Sewer District
96135 Nassau Place
Yulee, FL 32097

Dear Manager Pope:

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

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 (e.g., water production facilities, distribution system, hydrants, and valves), 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 American Beach's Water and Sewer District 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 (quarterly updates are recommended) by the system's utility management. FRWA will provide electronic copies for your use and future modification and will remain available to assist in updating and revising the system'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 drinking water system fiscal sustainability and maintaining your valuable utility assets. Florida Rural Water Association has enjoyed serving you and wishes your system the best in all its future endeavors.

Sincerely,

Matthew Bouchard
FRWA Utility Asset Management Team

Copy: Eric Myers, DWSRF State Revolving Fund
Gary Williams, Florida Rural Water Association, Executive Director

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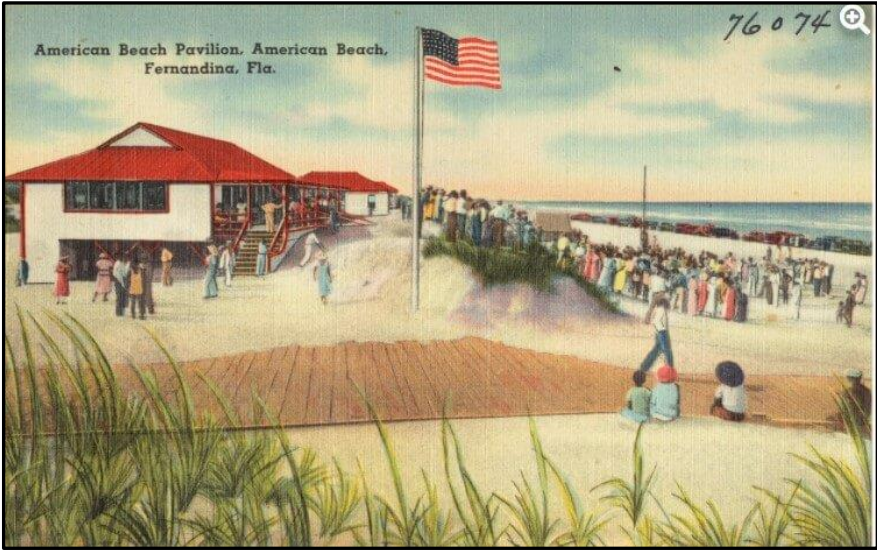
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**American Beach Water and Sewer District
Asset Management
and Fiscal Sustainability Plan**



Prepared for:

**American Beach Water and Sewer District
DW450511**

Prepared by:

**FLORIDA RURAL WATER ASSOCIATION
Asset Management Program
In partnership with
Florida Department of Environmental Protection
and
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 most appropriate cost for rehabilitating, repairing, or replacing an asset. While the level of service is determined by the utility consisting of its staff, customers, board members and regulators. 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, such as:

- Prolonging asset life and aiding in rehabilitation/repair/replacement decisions.
- Increased operational efficiencies.
- Informed operational and management decisions.
- Increased knowledge of asset criticality.
- 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.
- Improving responses to emergencies.
- Improving security and safety of assets.
- Capital improvement projects that meet the true needs of the system and community.
- Provides an impartial unbiased report to help explain rate sufficiency to the 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 Rulemaking Authority FS. Law Implemented 403.8532 (FS. History–New 4-7-98, Amended 8-10-98, 7-17-17) and in Florida Administrative Code (FAC) 62-503.700(7). To be accepted for the interest rate adjustment and to be eligible for reimbursement, an asset

management plan must be adopted by ordinance or resolution and written procedures must be in place to not only implement the plan, but to do so in a timely manner.

The plan must include each of the following:

- (a) Identification of all assets within the system.
- (b) An evaluation of the current age, condition, and anticipated useful life of each asset.
- (c) The current value of the assets.
- (d) The cost of operating and maintaining all assets.
- (e) A capital improvement plan based on a survey of industry standards, life expectancy, life cycle analysis, and remaining useful life.
- (f) An analysis of funding needs.
- (g) An analysis of population growth and drinking water use projections, as applicable, for the planning area, and an impact fee model, if applicable, for commercial, industrial, and residential rate structures.
- (h) The establishment of an adequate funding rate structure.
- (i) A threshold rate set to ensure the proper operation of the utility. If the system transfers any of the utility proceeds to other funds, the rates must be set higher than the threshold rate to facilitate the transfer and proper operation of the utility.
- (j) A plan to preserve the assets including renewal, replacement, and repair of the assets, as necessary and a risk-benefit analysis to determine the optimum renewal or replacement time.

AMP Development Stakeholders

The development of this AMFS plan involved the collective efforts of system Management and Staff, the Florida Department of Environmental Protection State Revolving Fund (FDEP-SRF), and the Florida Rural Water Association (FRWA). Resources included Engineers (technical and financial), Certified Operators (operation and maintenance), Rate Sufficiency Analysts and utility staff with first-hand experience with the system.

Critical Assets and Priority Action List

There are no Critical Assets and Processes that must be dealt with in a timely manner. This is because the system is newly installed, and all found to be in good condition. Please see [Section 4](#) for a detailed description of the asset improvements listed below.

Based on Operational funding and the State requirements for participation in the State Revolving Fund Program (SRF), a Priority Action List was developed to help American Beach prioritize action items and establish target dates for timely completion. The Priority Action List is found on the following page.

DISTRICT OF AMERICAN BEACH PRIORITY ACTION LIST				
Action Item	Target Date(s)	Cost Type	Cost	Responsible Party or Parties
1. Pass Resolution Adopting AMFS Plan	Within 60 to 90 Days from Receipt of Final Plan	Administrative	No Cost *	Board of County Commissioners - District Board
2. Determine Level of Service (LOS) Attributes, Goals, Targets, and Metrics and Prepare LOS Agreement	90 Days after Adoption	Planning	No Cost *	Board of County Commissioners - District Board, Nassau-Amelia Utilities, Staff and Public
3. Train Staff and Begin Using AMFS Tools (Diamond Maps or similar).	90 Days after Adoption	Administrative	Annual Cost - \$240 + local provider charge Training – No Cost *	Board of County Commissioners - District Board, Staff or Designee
4. Train Staff and Begin Using RevPlan.	90 Days after Adoption	Administrative	No Cost *	Designee
5. Develop Valve Exercising and Replacement Program	Within 6 Months after Adoption	Planning	No Cost *	Staff
6. Develop Hydrant Flushing, Flow Testing and Maintenance Program	Within 6 months after Adoption	Planning	No Cost *	Staff
7. Document Water Line Condition and Develop Replacement Strategy	On-going beginning FY 2025	Planning	No Cost	Staff
8. Develop Operation and Maintenance Program and Procedures	Within 1 Year after Adoption	Planning	No Cost *	Operator and Staff
9. Develop Change Out/Repair and Replacement Program for Critical Assets	Within 1 Year after Adoption	Planning	No Cost *	Operator and Staff
10. Develop Comprehensive Capital Improvement Plan for Water System	Within 1 Year after Adoption	Planning	No Cost *	Public, District Board, and Staff

Asset Management and Fiscal Sustainability Plan

11. Calculate exact number of connections being served by Drinking Water System after construction is complete	FY 2026	Administrative	No Cost *	Board and Staff
12. Update Water System Mapping	On-going	Administrative	No Cost	Staff
13. Provide Additional Staff Training Opportunities	On-going	Administrative	Cost May Vary *	Staff
14. Implement Annual Asset Replacement Program	Annually	Operational	Cost will Vary Based on Asset Replacement Program and Strategy	District Board and Staff
15. Conduct Rate Sufficiency Study and Adjust Rate Structure as Needed with RevPlan	Annually	Planning	No Cost *	Board of County Commissioners - District Board and Staff
16. Revise AMFS Plan and RevPlan Model	Annually	Administrative	No Cost *	Board of County Commissioners - District Board and Staff
17. Update Energy Audit	Every 2 to 3 Years	Administrative	No Cost *	Staff

* As a member of the Florida Rural Water Association, FRWA is able to assist American Beach with this Service.

Fiscal Strategy and AMP Process Recommendations.

Based on this asset management and fiscal sustainability study, **specific recommendations** related to capital expenditures and operating expenditures over the next five years found in the Priority Action List are as follows:

1. Adopt this Asset Management and Fiscal Sustainability Plan (AMFS) study in the form of a Resolution. Appendix A contains a sample Resolution for the District of American Beach.
2. Engage a Florida Registered Engineer to support the Utility in review, funding, planning, design, permitting, and construction of critical capital and operational action items as recommended in this AMFS study.
3. 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 at the following link:
<http://www.frwa.net/funding.html>.
 - a. FDEP-State Revolving Fund (SRF)
 - b. Regional Water Management District
 - c. Florida Department of Economic Opportunity Community Development Block Grant (CDBG)
 - d. USDA Rural Development Direct Loan/Grant (USDA RD)
 - e. FDEO Rural Infrastructure Fund Grant (RIF)
 - f. Local Funding Initiative Requests
4. Evaluate and Adopt a Utility rate structure that will ensure rate sufficiency as necessary to implement capital improvements.
5. Begin using Diamond Maps for Asset Management Planning (AMP) and Computerized Maintenance Management System (or another CMMS of your choice).
6. Continue to build your asset management program by:
 - a. Collecting critical field data and attributes on any new or remaining assets.
 - b. Improve processes which provide cost savings and improved service.
 - c. Implementing a checklist of routine maintenance measures.
 - d. Benchmarking critical processes annually.
 - e. Develop policies that will support funding improvements.
 - f. Develop manuals, SOPs, and guidelines for critical processes.
 - g. Identify responsible persons or groups to implement processes to protect critical assets.
 - h. Attend asset management training annually.

1. 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 for all funded assets to promote the utility system's long-term sustainability. To be accepted for the ***financing rate adjustment and to be eligible for principal forgiveness/reimbursement***, an asset management plan must:

- A. Be adopted by Resolution or Ordinance.
- B. Have written procedures in place to implement the plan.
- C. Be implemented in a timely manner.

The plan must include each of the following:

1. Identification of all assets within the utility system.
2. An evaluation of the utility system assets' current:
 - a. Age
 - b. Condition
 - c. 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 that includes:
 - a. Renewal
 - b. Replacement
 - c. Repair
 - d. A risk-benefit analysis to determine optimum renewal or replacement timing.
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; and

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 system assets. It assists in determining such things as:

- a. Asset maintenance, repair, or replacement cost.
- b. Accurate and timely capital improvement project budgeting.
- c. Forecasting near and long-term capital improvement needs.
- d. Whether the system is equipped for projected growth.
- e. Whether adequate reserves exist to address emergency operations.

Fiscal sustainability analysis requires a thorough understanding of the system's assets' current condition and needs. Therefore, fiscal sustainability follows asset management and is improved by sound asset management. Conversely, asset management requires a healthy fiscal outlook since servicing and care of current assets is not free. Timely expenditures for proper servicing and care of current assets are relatively small when compared to repair and replacement expenditures that inevitably occur with component failure due to neglect.

Having a solid AMFS plan in place will benefit the American Beach Water and Sewer District, hereafter referred to as the District, in determining which assets are to be insured and for what amount, and to more effectively and efficiently identify its capital improvement needs and solutions. Additionally, the State Revolving Fund (SRF) requires a system to adopt and implement an AMFS plan to qualify for loan interest rate reduction if funding is sought. An AMFS helps a system more effectively and efficiently identify its capital improvement needs and solutions.

This AMFSP's intended approach is to assist the District with conducting a basic inventory and condition assessment of its current assets. It is expected that the System will periodically re-evaluate the condition of its assets, at least annually, to determine asset remaining useful life. A reminder can be established for staff that a given component is nearing time for servicing, repair, or replacement. 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 recommended that the System conduct at least an annual plan review and revise it as necessary throughout the year, resulting in a practical and useful tool for staff.

2. Asset Management Plan

Components of Asset Management

Asset Management can be described as ‘a process for maintaining a desired level of customer service at the best appropriate cost.’ Within that statement, ‘a desired level of service’ is simply what the utility wants their assets to provide. ‘Best appropriate cost’ is the lowest cost for an asset throughout its life. The goal is to provide safe, reliable service while at the same time being conscious of the costs involved both short and long term.

Asset Management includes building an inventory of the utility’s assets, developing, and implementing a program that schedules and tracks all maintenance tasks, generally through work orders, and developing a set of financial controls that will help manage budgeted and actual annual expenses and revenue. By performing these tasks, targeting the system’s future needs will be much easier.

Asset Management provides documentation that helps the utility understand the assets they have, how long these assets will last, and how much it will cost to maintain or replace these assets. The Plan also provides financial projections which show the utility whether rates and other revenue mechanisms are sufficient to supply the utility’s future needs, 5, 10, even 20 years ahead.

Asset Management is made up of five core questions:

1. What is the current status and condition of the utility’s assets?
2. What is Level of Service (LOS) required?
3. What assets are considered critical to meeting the required LOS?
4. What are the utility’s Capital Improvement Program Plan (CIPP), Operations and maintenance plan (O&M), and asset’s Minimum Life Cycle Cost strategies?
5. What is the utility’s long term financial strategy?

The purpose of an Asset Management and Fiscal Sustainability plan is to help the utility operate and maintain their system in the most effective and financially sound manner. An AMFS plan 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.

Implementation

In developing this plan, FRWA has collected information on most of the water system assets. The information has been entered into Diamond Maps; a cloud based geographical information system (GIS). 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 \$20 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/wastewater systems. Since American Beach has approximately 310 connections, as it stands right now, the cost would be between \$15 and \$20 per month for unlimited users.

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

Diamond Maps can be explored at <http://diamondmaps.com>. If the System decides to use Diamond Maps as their asset management tool, it will be easy to move the data collected by FRWA to the system's account.

Having an asset management tool to keep data current is essential for tracking the utility's assets into the future, to assist with planning and funding for asset rehabilitation or replacement, to schedule and track asset maintenance by issuing work orders and assigning tasks to personnel who will perform the work and update in the system.

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, operation and maintenance costs, capital improvement plan costs, 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.

FRWA did not produce a preliminary rate model in RevPlan due to the system being so newly installed, but this program is introduced and described throughout this document so that American Beach is educated on its benefits. Once the system has a sufficient amount of financial information, it can be entered into RevPlan to create a model. Each year (or as projects come about) the system is encouraged to update RevPlan and use it to help understand the impacts of future projects and rate increases.

Level of Service (LOS)

As a provider of water services, a utility must decide what Level of Service (LOS) is required for its customers. When setting these goals, most importantly, the utility must decide the level of service it will provide. 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. There are four key elements regarding LOS:

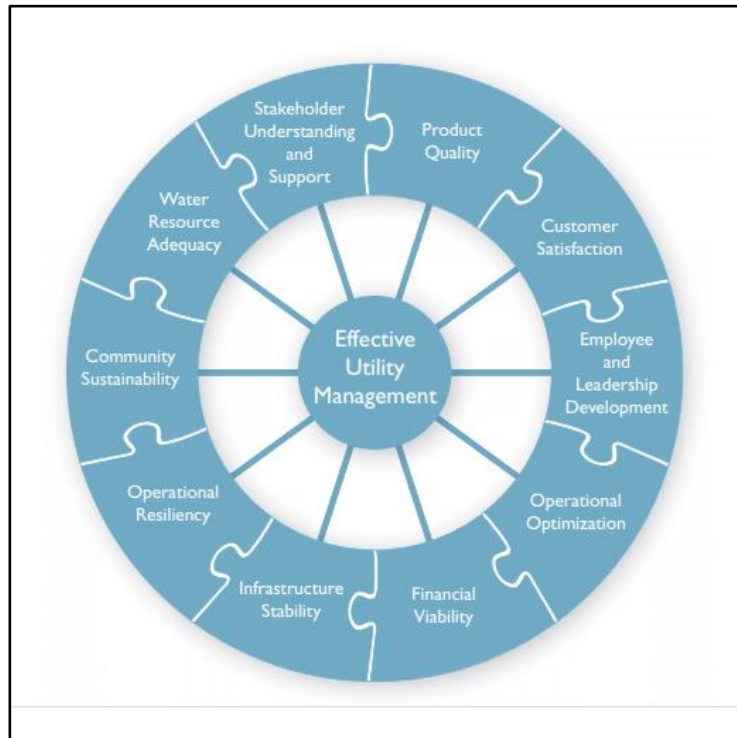
1. Provide safe and reliable water service while meeting regulatory requirements.
2. Budget improvement projects focused on assets critical to sustained performance based on sound operational and financial planning.
3. Maintain realistic rates and adjust as necessary to ensure adequate revenue reserves for targeted asset improvement.
4. Ensure long-term system resilience and sustainability.

Targets must be set for individual parameters. Metrics should be created to help the utility direct efforts and resources toward predetermined goals. The established goals must include consideration of costs, budgets, rates, service levels, and level of risk. These goals are set in an agreement between the utility and its customers.

In 2008, a unique coalition representing the "Collaborating Organizations," which include the U.S. Environmental Protection Agency and a growing number of major water sector associations supported an approach developed by water sector leaders for water utility management. The approach is based around the Ten Attributes of an Effectively Managed Utility and Five Keys to Management Success—known as Effective Utility Management (EUM). These Attributes provide a clear set of reference points and are intended to help utilities maintain a balanced focus on all important operational areas rather than reactively moving from one problem to the next or focusing on the "problem of the day."

The Ten Attributes of an Effectively Managed Utility provide useful and concise goals for water sector utility managers seeking to improve organization-wide performance. The Attributes describe desired outcomes that are applicable to all water and wastewater utilities. They comprise a comprehensive framework related to operations, infrastructure, customer satisfaction, community sustainability, natural resource stewardship, and financial performance.

Water and wastewater utilities can use the Attributes to select priorities for improvement, based on each organization's strategic objectives and the needs of the community it serves. The Attributes are not presented in a particular order, but rather can be viewed as a set of opportunities for improving utility management and operations.



To begin, the utility will assess current conditions by ranking the importance of each Attribute to the utility, based on the utility's vision, goals, and specific needs. The ranking should reflect the interests and considerations of all stakeholders (managers, staff, customers, regulators, elected officials, community interests, and others). Once you have chosen to improve one or more Attributes, the next step is to develop and implement a plan for making the desired improvements. Improvement plans support the implementation of effective practices in your chosen attribute area(s). An effective improvement plan will:

1. **Set Near- and Long-term Goals:** Set goals as part of the improvement plan to help define what is being worked toward. Near- and long-term goals for the utility should be linked to the strategic business plan, asset management plan, and financial plan. Goals should also be "SMART."
 - **S – Specific:** What exactly will be achieved? Make the goals specific and well defined. Each goal should be clear to anyone with even a basic knowledge of the utility.
 - **M – Measurable:** Can you measure whether you are achieving the objective? You must be able to tell how close you are to achieving the goal. You must also be able to determine when success is achieved.

- **A – Assignable and Attainable:** Can you specify who is responsible for each segment of the objective? Is the goal attainable? Setting a goal to have zero water outages is great, but unrealistic. A better choice might be to set a goal that states no outage will exceed six hours.
 - **R – Realistic:** Do you have the capacity, funding, and other resources available? The staff and resources of the utility must be considered when setting goals. Available personnel, equipment, materials, funds, and time play a role in setting realistic targets.
 - **T – Time-Based:** What is the timeframe for achieving the objective? 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.
2. **Identify Effective Practices:** Each Attribute area for improvement will be supported by effective practices implemented by the utility. A substantial number of water sector resources exist that detail effective utility practices for each of the Attributes.
 3. **Identify Resources Available and Resources Needed:** For each practice/activity to be implemented as part of the improvement plan, identify resources (financial, informational, staff, or other) that exist on-hand, and those that are needed, to support implementation.
 4. **Identify Challenges:** For the overall improvement plan and for specific practices/activities to be implemented, identify key challenges that will need to be addressed.
 5. **Assign Roles and Responsibilities:** For each improvement action, identify roles and responsibilities for bringing the implementation to completion.
 6. **Define a Timeline:** Establish start date, milestones, and a completion target for each activity/improvement action.
 7. **Establish Measures:** Establish at least one (or more) measure of performance for items to be implemented under the improvement plan.

More information and resources on Effective Utility Management (EUM) can be found at www.WaterEUM.org.

The idea is to set goals and meet them. Reaching the goals should not be overly easy. Effort should be involved. The goals should target areas where a need exists. If the bar is set too low, the process is pointless. Most importantly, the utility must decide the level of service it will provide. The following table shows examples of what might be included as Level of Service goals. The LOS items for American Beach must be specific to the system and ideally 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.

American Beach Drinking Water (DW) Level of Service Goals			
Attribute and Service Area	Goal	Performance Targets	Timeframe/ Reporting
Service Delivery - Health, Safety and Security	Reduce "down time" for water outages and reduce the number and duration of Boil Water Notices	Provide water distribution employees with training necessary to be proactive in water system maintenance and to make emergency water system repairs rapidly and efficiently.	Monthly report to the Operations Manager
Infrastructure Stability - Asset Preservation and Condition	Improve system wide preventive maintenance (PM)	Develop a comprehensive Preventive Maintenance monthly schedule for equipment and water system components (including valve exercising) and complete all preventative maintenance tasks as scheduled.	Monthly report to Operations Manager
Infrastructure Stability - Asset Preservation and Condition	Establish a Predictive Maintenance Schedule (PdMS)	Develop a weekly PdMS to continuously monitor equipment for signs of unexpected problems. Adjust the PdMS as needed.	Monthly report to Operations Manager
Infrastructure Stability - Asset Preservation and Condition	Develop an Asset Replacement Strategy	Develop an asset replacement strategy to be updated at least annually, including financing options.	Annual Report to District Manager
Financial Viability - Service Quality and Cost	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.	Annual Report to District Manager
Financial Viability – Service Quality and Cost	Enact automatic inflationary rate adjustments	Annual evaluation of the adequacy of inflationary rate adjustments	Annual Report to District Manager
Financial Viability - Service Quality and Cost	Minimize Life of Asset Ownership costs	Bi-annual evaluation of unexpected equipment repairs compared to the Preventive Maintenance Schedule (PMS). Adjust the PMS if warranted.	Annual report to Operations Manager
Infrastructure Stability - Conservation, Compliance, Enhancement	Improve reliability of water distribution through the distribution system	Annual evaluation of the water distribution system, including piping, valves, and fire hydrants. Develop a long-range plan for replacements and improvements with timelines and funding options.	Annual report to District Manager

3. System Description

Overview

American Beach is a community located in northeastern Florida on Amelia Island, which resides in Nassau County, just north of Jacksonville. The District was co-founded in 1935 by a man named Abraham Lincoln Lewis, who was Florida’s first African-American millionaire. He purchased the 216-acre area for the purpose of being an area for African Americans to rest and relax without humiliation. During the time of purchase, segregation was still present throughout the United States and Lewis viewed American Beach as a haven for African Americans to enjoy the beach. Despite this being the main reason for its purchase, it was still an area that was welcome to all, and quickly attracted many families, churches, and celebrities. The area was listed on the National Register of Historic Places in 2002.

American Beach began an improvement project identified as The American Beach Water and Sewer District’s Well and Septic Tank Project. The project is designed to build a public water and sewer system within the District. The central water distribution system includes water mains, fire hydrants, auto flushers, water service lines and meters.

Per the construction agreement, the project’s initial final completion date was scheduled for January 2024. Due to delays the project’s projected substantial completion date is still being determined.

Form of Government

American Beach Water and Sewer District is governed by the Board of County Commissioners of Nassau County. As a supporting force, the district created an American Beach Water and Sewer District Advisory Board, with the responsibility to keep the community apprised of the design and construction progress and to present questions and concerns from the district property owners within the district boundaries. Below are the employees that make up both the Board of County Commissioners and the Advisory Board, with each employee’s job title included.

System Government

Board of County Commissioners	
John F. Martin	Chairman
A.M. Huppman	Vice-Chairman
Jeff Gray	Board Member

Alyson R. McCullough	Board Member
Klynt A. Farmer	Board Member

System Management and Water Staff

The District Board works together with the District Staff in the County Manager’s Office. In addition, the American Beach Water and Sewer assets will be maintained and operated by US Water Services Corporation. FRWA appreciates the assistance of those employees that helped in the preparation of this Plan.

District Staff	
Taco E. Pope	County Manager
Marshall Eyerman	Assistant County Manager
Amy Bell	Senior Management Analyst
Katie Brock	Administrative Specialist
Teresa Irby-butler	Capital Project Manager

System Components

American Beach Water and Sewer District is supplied with their drinking water by an interconnection to Nassau – Amelia Utilities. Once completed, the District is expected to have 12,281 feet (2.3mi) of water mains, 15 fire hydrants, 8 auto flushers, and roughly 310 water service lines and meters.

This distribution system was installed in a two-phase approach, spanning from 2023 through 2024 and is comprised of Polyvinyl Chloride (PVC) piping with ductile iron valves and restrained joints. The piping sizes range from two inches to eight inches, with valves ranging from four inches to eight inches.

Number of Connections and Average Use

The system has approximately 310 connections to their drinking water system. Once the system is fully connected and operational, customers will have the ability to decide whether they want to be connected to the central water distribution system or continue to supply their home with water from their wells or continue to purchase water from the small private water system within the District’s boundaries.

4. Current Asset Conditions

Assets Critical to Sustained Performance

The System's water utility is composed of **critical infrastructure**. The utility provides essential services for the community. The proper provision of these services protects the public health and the environment. The Florida Department of Environmental Protection has strict requirements for the proper operation and maintenance of the utility system, and the System is responsible for meeting these requirements.

Every water and wastewater system are made up of assets. Some you can see, while some you cannot. These are the physical components of the system, such as blowers, pumps, valves, pipes, tanks, motors, manholes, and buildings. Each is important in its own way and serves a function to make the system operate as it should.

One trait common to all assets is that they lose value over time. With age comes deterioration; with deterioration comes a decreased ability to provide the level and type of service the utility should give to its customers. Another trait common to assets is that they must be maintained. Maintenance costs increase as these assets age. Operation costs can rise with age as equipment becomes worn and less efficient. At some point, it is wiser to replace components rather than continue with more frequent and costly repairs. Failed or failing equipment can cause inadequate treatment, customer complaints, damage to private property, negative environmental impacts, permit violations, and regulatory fines.

Another unfortunate reality is that all assets will ultimately fail, and if not properly maintained, some will fail prematurely. How the utility manages the consequences of these failures is vital. Not every asset presents the same failure risk. Not every asset is equally critical to the performance of the utility. Factors that contribute to asset failure are numerous and include age, environment (e.g., weather, corrosive environments), excessive use and improper or inadequate maintenance.

Replacement versus rehabilitation is always a consideration. What is best for the utility? What is best for the customer? The proper decision must be made based on information gleaned from all available resources. Continuing the use of a Computerized Maintenance Management System (CMMS) will ensure the System's assets last longer, perform better, and provide more reliable service. Utilizing data contained in Diamond Maps, maintenance schedules can be created following both manufacturer's recommendations as well as those of industry professionals. Work orders should be created and scheduled to ensure that work is assigned and completed. Tracking and recording maintenance tasks encourage accountability of staff assigned to maintain the equipment. Diamond Maps can do this for you and is included with an active account. FRWA staff can assist the System in creating these schedules as well as provide training in Diamond Maps.

Collection and Assessment

It is the goal of FRWA and the AMP program to assess as close to 100% as possible the production and distribution assets of the System. The System's Water Mains and Water Meters were not assessed as a part of this report due to the difficulty in properly evaluating these components. These assets are shown to be in good condition due to them being installed within the past year. FRWA encourages the system to update the condition of these components in Diamond Maps as they age to ensure longevity.

Water Production Facilities

American Beach has an interconnection with Nassau - Amelia utilities and provides water to its residents through a water production meter, which is located at the plant and is used to serve the whole NAU service area. The water is treated and tested regularly per DEP standards to ensure safe drinking water is supplied to its customers.

Distribution System

The water distribution system began installation in 2023 and continued through 2024. The system is comprised of Polyvinyl Chloride (PVC) Pipe. There are approximately 2.3 miles of pipes ranging from two inches (2") to eight inches (8") used in the transmission of the finished water.

As lines begin to approach the end of their useful lives, many will begin to deteriorate making full repairs difficult. The combination of main breaks and system leaks may cause challenges for the system and higher than expected water loss. As with most systems, water loss can be a significant portion of the water produced by a utility. The most accepted maximum water loss is fifteen percent (15%) of water produced, with accepted ranges from seven and a half percent (7.5%) to twenty five percent (25%). While an assessment of the distribution piping was not conducted during this phase, the System should keep close records of the work conducted on the mains. This should include pictures of the interior of pipes, coupons when new taps are installed, and work orders of all service and main repairs. By compiling this data over time, the System will be able to determine which areas of the distribution system need further evaluation, and which may need replacement. This documentation can be compiled using the work order component of Diamond Maps.

It is important to understand both Unaccounted Water Loss and Non-Revenue Water Loss. Unaccounted Water Loss lets the utility know the amount of water lost to leaks in the distribution system. It is the difference between water supplied and water billed or accounted for through known operations. Non-Revenue Water Loss lets the utility assess the impact of water losses on revenue. It is the difference between the water supplied and water billed.

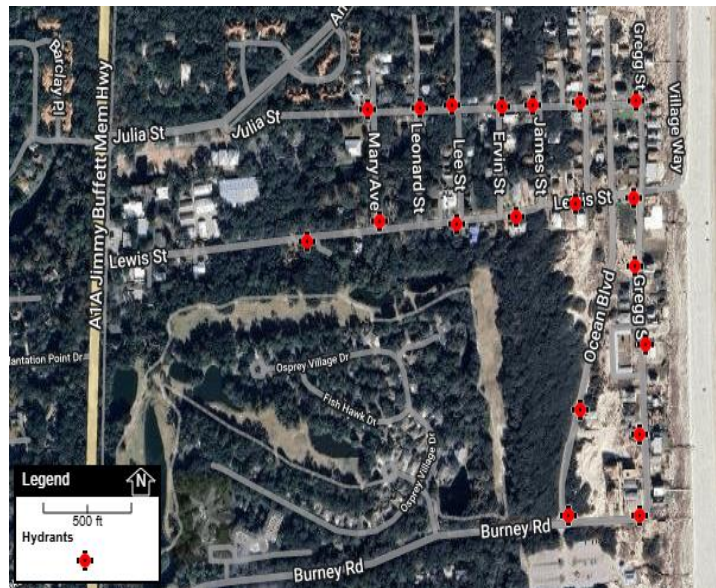
Old or poorly constructed pipelines, inadequate corrosion protection, poorly maintained valves and mechanical damage are some of the factors that can contribute to leakage. Water lost after treatment and pressurization, but before delivered for the intended use, is water, money and energy wasted. Accurate location and repair of leaking water pipes in a supply system greatly reduces these losses. Once a leak is detected, American Beach must take corrective action to minimize water losses in the water distribution system.

Regular maintenance, collecting coupons and documenting water main breaks and water quality complaints is a good way to monitor issues that could arise within the piping. This documentation will provide the System with an organized way of keeping their new system in the best possible condition. Issues like lead service line connections or lead poured joints are a common occurrence with older water mains and should be removed from service, as well as any asbestos pipe which also contain health risks.

Since this system is new, there are no maintenance issues that need to be addressed at this time. Despite this fact, preparations for the future can begin at any time, and the most beneficial approach is in prioritizing preventative maintenance. A preventative maintenance plan should be developed and followed to ensure longevity of the system.

Hydrants

FRWA assessed a total of 19 fire hydrants during the field assessment process. The construction project that was conducted by the District consisted of 16 newly installed fire hydrants, with 3 existing hydrants that served as tie-in points for the new system. All of the newly installed hydrants were assessed to be in good working order and did not require any need for repairs. The fire hydrants that were not found to be in good condition were deemed so due to age of the hydrant and were the 3 existing hydrants that the new construction project tied in to. No hydrants were found to be in poor, or worse, condition.



Fire hydrants have an expected life cycle of 50 years or more with proper routine maintenance and exercising. The 16 hydrants from the construction project were dated from 2022, and all finalized installation and began functioning in 2024, while the older hydrants ranged in installation date from 20-30 years ago, meaning that most hydrants within the District have quite a bit of asset life remaining. It is recommended to perform regular maintenance to maximize efficiency

and longevity. The fire hydrants serve as a critical tool for firefighting and flushing water from dead-end lines. The hydrants should be inspected and exercised at least annually. The flow should be measured and recorded for each hydrant. Records of the flows and dates assessed and exercised can then be updated into Diamond Maps to create a historic database and a good record of work that has been or needs to be done. The work order feature in Diamond Maps may be utilized for the task of creating a hydrant maintenance and exercising program.

Of the 19 hydrants, all have hydrant valves. It is recommended that if a hydrant is added or replaced, that a hydrant valve be installed to match existing ground level with the addition of a concrete collar.

During the assessment, FRWA assessed or visually inspected 19 hydrants. Of these:

- Sixteen (16) hydrants were in good condition (84%) – Newly installed, freshly painted, no corrosion, operating nut operating correctly, and chains installed.
- Three (3) hydrants were in average condition (16%) – Minor to moderate corrosion, broken chains, minor leaks during flushing, needs painting and/or minor maintenance deficiencies.

As the hydrant conditions change, poor condition hydrants need to be serviced, repaired, or replaced within two years. Failed hydrants should be repaired or replaced immediately for fire prevention capabilities as well as system flushing. A minimum of \$3,500 should be budgeted for each hydrant replacement and an additional \$1,500 for hydrants without a valve.

For future assessments of the hydrants, a flow test should be performed annually, and a report should be presented to the System with the findings. Typically, this is done by the local fire departments. Having the hydrants flow tested is a crucial piece of information needed for fire protection. Simply flowing the hydrant does not constitute a flow test. A special meter must be used to accurately measure the pressure (psi) and flow in gallons per minute (gpm) for each hydrant.

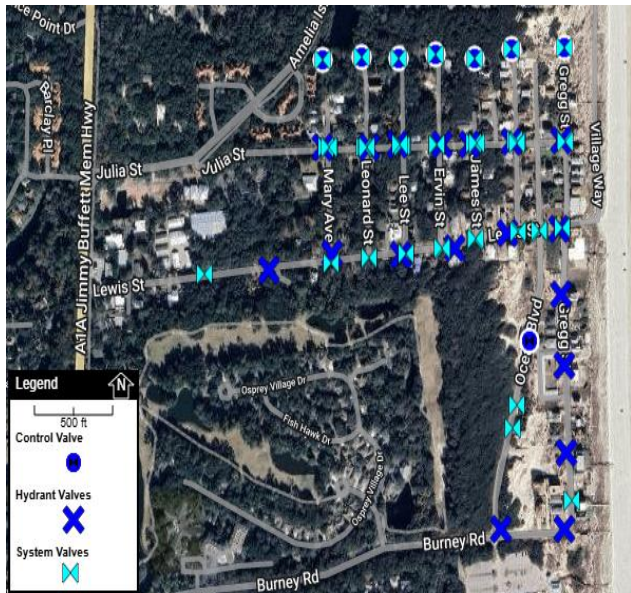
It is important to note that NAU operations and maintenance staff have a hydrant flushing SOP already in place, which is necessary in ensuring longevity of each hydrant. Despite this longevity, it is inevitable that hydrants will begin to age, and as they do it is recommended that the System begin an annual hydrant replacement program. This can also be done in Diamond Maps.

System and Hydrant Valves

A total of 46 System Valves and 18 Hydrant Valves were collected and assessed by FRWA.

During the assessment:

- Sixty-One (61) valves were in good condition (95%).
- Three (3) valves were in average condition (5%).



FDEP requires a valve exercising program to be administered where all valves are turned at least once a year. Doing this will not only extend the life span of the valves but will help ensure that they are operational in a time of need. As the System begins exercising, repairing, and replacing valves, the ratings can be updated in Diamond Maps. Notating in Diamond Maps valves that are not operational and those that require repairs or replacement is useful information when they are used during emergencies and flushing programs.

Water valves used for the isolation of water are a crucial asset when dealing with water line breaks and to help direct flushing of clean water to a certain point or side of the system. These valves have a life span of 25 years or more and can continue to remain operational after that with proper exercise. During exercising, valves can be assessed or evaluated by closing off valves and checking flows at hydrants and other flush points. Some valves are required to be turned up and down multiple times if not exercised, to properly operate. While exercising valves, it is good practice to have a flush point open, if possible (hydrant or other flushing device fitting), to help wash out the buildup and deposits that form inside the seat of the valve.

As old lines are replaced or water breaks necessitate, new valves should be installed to better isolate sections of the system.

Control Valves

The System currently has 8 control valves which consist of only blowoff assemblies. During the assessment, all were found to be in good condition.

Water Meters

The System currently has about 310 water meter boxes ready for connection when the property owners elect to connect to the central water distribution system. The guidelines for meter replacement vary from different manufactures but industry standards are set at replacement being done every 20 years or 1,000,000 gallons. Older meters slow down over time and lead to

higher numbers of unaccounted for water and lost revenue. Due to the system being recently installed, it is not recommended to replace their service meters at this time.

Water meters should be considered a critical component of the System's revenue stream. Inaccurate meters can cost a System thousands of dollars over time. Therefore, making sure that meters are working properly, and replacing old and broken meters annually, is an industry standard and best management practice. Regular testing of large meters (two inches and above) or meters installed at high use locations is also recommended. Meters testing below AWWA standards should be repaired or replaced ensuring accuracy and preventing lost revenue.

There should be an established water meter maintenance program that accompanies the newly installed system. This is one of the major suggestions given to American Beach Water and Sewer District.

Additionally, an educational program should be developed, aiming at encouraging homeowners to switch over to the newly installed public drinking water system.

5. 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. This maintenance strategy should 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 system repairs, customer service issues, troubleshooting and repair, pump and motor 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 is recommended that the System initiate or enhance their 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, and confined space entry are just a few of the topics that could benefit the System and its staff.

FRWA personnel can provide some of the training needed by American Beach staff members. Training services that we offer to members are listed on our website <http://www.frwa.net> under the Training Tab.

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 the day-to-day work necessary to keep assets operating properly, which includes the following:

1. Regular and ongoing annual tasks necessary to keep the assets at their required service level.
2. Day-to-day and general upkeep designed to keep the assets operating at the required levels of service.
3. Tasks that provide for the normal care and attention of the asset including repairs and minor replacements.
4. Performing 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 the 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 two to three times when compared to "run till failure" mode of operation. Communities that have disregarded preventive maintenance practices can achieve positive returns from a relatively small additional investment. 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.

Table 5.A is a sample O&M Program for this system and is based on best management practices, manufacturers' recommended service intervals, staff experience, and other sources. *This*

schedule is only an example. The true schedule must be created by American Beach staff, based on their historical knowledge and information gleaned from the O&M Manuals and other sources.

Diamond Maps can be used to schedule maintenance tasks. Recurring items (e.g., annual flow meter calibrations) can be set up in advance. In fact, all maintenance activities can be coordinated in Diamond Maps using its work order feature.

Table 5.B is a sample of work orders that are specific to American Beach.

Table 5.A: Sample O&M Program

Task Name	Frequency	Task Name	Frequency
Ensure proper operation of equipment (note any issues)	Per Visit	Decommission unnecessary equipment	As they occur
Calibrate all meters and necessary equipment	Per Visit	Inspect CL2 system and alarms	Every six months
Confirm submittal of monthly reports	Monthly	Update AMFSP	Annually

Table 5.B: Sample Work Orders – Diamond Maps

WO#	Status	Description	Type	Date Planned	Recurring	Date Started	Date Completed
W1021	Planned	Locate system valve and assess	Basic Work Order	9/18/2024			
W1022	Planned	Reset valve in box	Basic Work Order	9/26/2024			
W1023	Planned	Reset valve in box	Basic Work Order	10/22/2024			
W1024	Planned	Locate valve	Basic Work Order	10/31/2024			
W1025	Planned	Locate valve	Basic Work Order	11/5/2024			
W1026	Planned	Locate and assess	Basic Work Order	11/13/2024			
W1027	Planned	Locate and assess	Basic Work Order	11/18/2024			
W1028	Planned	Locate and assess	Basic Work Order	12/4/2024			
W1030	Planned	Locate and assess	Basic Work Order	1/8/2025			

Performing the work is important. Tracking the work is also important. Being able to easily check on when specific maintenance tasks were performed or are scheduled will make the utility run more efficiently and prolong the life of critical equipment.

Best Management Practices (BMP)

Utility owners, managers, and operators are expected to be responsible stewards of the system. Every decision must be based on sound judgment. Using Best Management Practices (BMPs) is an excellent tool and philosophy to implement. BMPs 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.

Proactive vs Reactive Maintenance

Reactive maintenance is often carried out by customer requests or sudden asset failures. Required service and maintenance to fix the customer's issue(s) or asset failure is identified by staff inspection and corrective action is then taken. Reactive maintenance is sometimes performed under emergency conditions, such as a main break at the treatment plant causing a water disruption. As mentioned above, if your system is responding to and performing reactive/emergency maintenance more than 30% of the time, you will need to adjust your maintenance schedules and increase proactive maintenance schedules.

Proactive maintenance consists of preventive and predictive maintenance. Preventive maintenance includes scheduled tasks to keep equipment operable. Predictive maintenance tasks try to determine potential failure points. An example of predictive maintenance is infrared analysis of electrical connections. Using special equipment, a technician can "see" loose or corroded connections that would be invisible to the naked eye. This allows the utility to "predict" and correct a potential problem early. Assets are monitored frequently, and routine maintenance is performed to increase asset longevity and prevent failure.

Upon adoption of this AMFS plan or any DEP-approved AMP, the FRWA Utility Asset Management (UAM) team intends to upload American Beach's asset data definition file into "Diamond Maps", described in [Section 2](#), and will populate the field data. The appropriate System personnel will be trained in Diamond Maps functionality and can immediately begin using it for scheduling and tracking system asset routine and preventive maintenance.

6. Capital Improvement Plan

A Capital Improvement Plan is a multi-year financial planning tool that looks into the future to forecast the System's asset needs. It encourages the system and the community to forecast not only what expenditures they intend and expect to make, but also to identify potential funding sources in order to more carefully plan for the acquisition of the asset. The CIP is designed to be a flexible planning tool and is updated and revised on an annual basis.

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

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

Capital improvement projects 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:

1. 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).
2. Any rehabilitation involving improvements and realignment or anything that restores the assets to a new or fresh condition (e.g., 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:

1. Structural
2. Capacity
3. Level of service failures
4. Outdated functionality
5. 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.

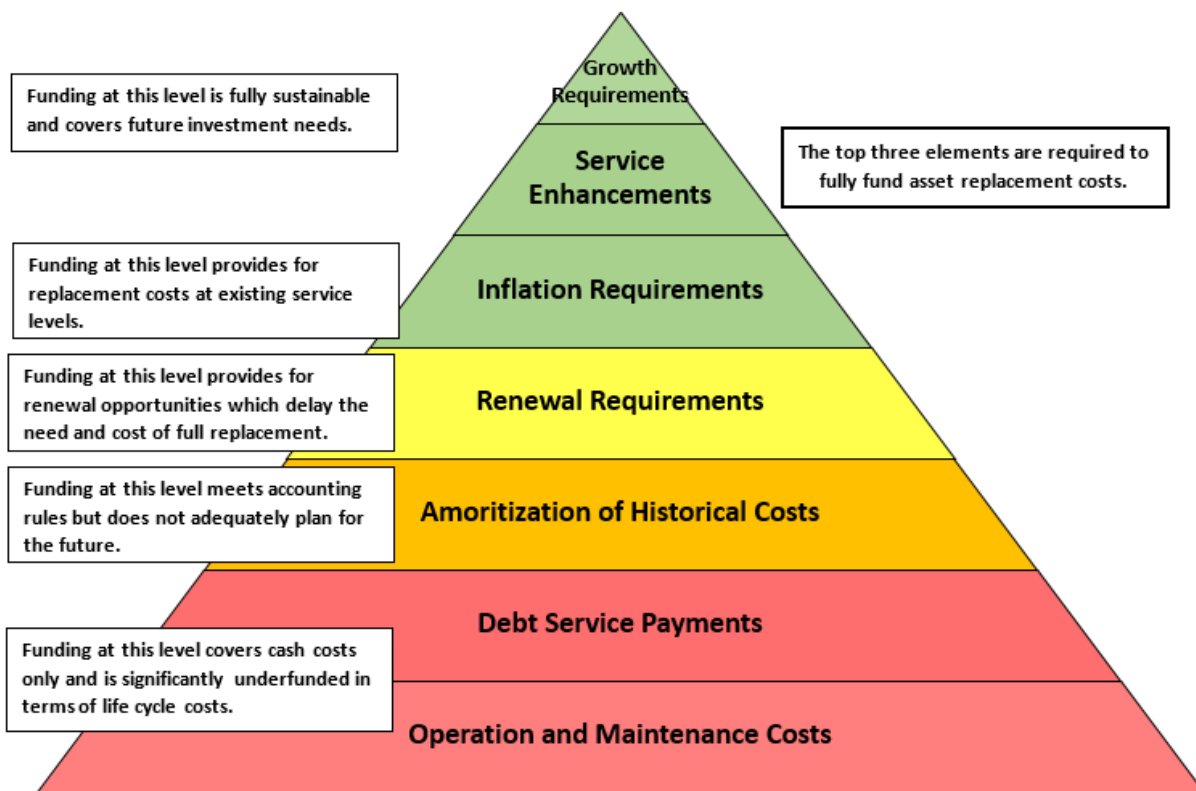
Due to the system being newly installed, a comprehensive CIP had not been prepared at the time of this report. It is recommended that a comprehensive CIP be developed for the system. Asset recommendations from this Plan can be incorporated into the process of developing and approving a Capital Improvement Plan as part of the annual budget process.

7. Financial

Budget/Financial Sufficiency

In order for an Asset Management Plan to be effectively put into action, it must be integrated with financial planning and long-term budgeting. The development of a comprehensive financial plan will allow American Beach to identify the financial resources required for sustainable asset management based on existing asset inventories, desired levels of service, and projected growth requirements.

The pyramid below depicts the various cost elements and resulting funding levels that should be incorporated into Asset Plans that are based on best practices.



This report, with the assistance of RevPlan, helps develop such a financial plan by presenting several scenarios for consideration and culminating with final recommendations.

Once enough financial information for the system is available, it is suggested that American Beach create a preliminary financial sufficiency model. Each year the system is encouraged to update RevPlan and use it to help understand the impacts of future projects and rate increases.

The use of RevPlan allows the system to input current financial data and develop their own financial planning projections based on various timeframes. The System will have the ability to modify the rate structure to determine which proposed rate scenarios may support current and upcoming debt and expenses. Members of FRWA staff are available to assist the System with RevPlan and updating financial models.

Asset Statistics

Total Replacement Cost of System	
Drinking Water	\$730,804.08
Percent of Assets Needing Replacement	
Drinking Water	0%
Cost of Replacing All Assets Needing Replacement	
Drinking Water	\$0.00
Annual Replacement Cost of System	
Drinking Water	\$10,529.77

Please note that the \$925,060.57 replacement cost of the water system documented above, along with the annual replacement cost of \$10,880.28 for the system is low. These figures do not include certain assets such as large equipment, vehicles, and some property improvements normally associated with maintaining a utility system. As a result, any proposed rate adjustments suggested by FRWA should be considered a minimum or a starting point for review and consideration by the System.

Based on the findings of the Asset Management Plan, it is important for American Beach Water and Sewer District to start setting aside reserves for the replacement of its assets, to make sure that the base charge is adequately covering fixed costs and that its usage charges are sufficient to fund its variable costs.

Reserves

Reserve balances for utility systems are funds set aside for a specific cash flow requirement, financial need, project, task, or legal covenant. All types of reserves can play a significant role in

addressing current and future challenges facing utility systems, such as demand volatility, water supply costs, large capital requirements, asset replacements, natural disasters and potential liabilities from system failures associated with aged infrastructure. All utilities should establish formal financial policies relative to reserves. Such policies should articulate how these balances are established, their use, and how the adequacy of each respective reserve fund balance is determined. Once reserve targets are established, they should be reviewed annually during the budgeting process.

While there is not a one size fits all approach to building reserves, FRWA cautions utilities about dropping below 90 days and encourages them to work towards a balance of cash on hand equal to or greater than 270 days. Cash reserves are essential to ensure a utility's long-term financial sustainability and resiliency. Each utility system has its own unique circumstances and considerations that should be factored into the selection of the types of reserves and corresponding policies that best meet its needs and objectives.

Rates

A 'rule of thumb' FRWA subscribes to regarding rates is that base charges pay for fixed expenses and usage charges fund the variable expenses. Rates should generate sufficient revenue to cover the full cost of operating a water system. By charging customers the full cost of water, small water systems send a message that water is a valued commodity that must be used wisely and not wasted. When rates are set to cover the full cost of production, water systems are more likely to have financial stability and security.

Rate Recommendation:

According to the SRF application supplied by American Beach Water and Sewer District, the Project Sponsor shall establish, maintain, and collect Special Assessments which will be sufficient to pay the costs of collecting such assessments and to provide, in each Fiscal Year, Pledged Revenues equal to or exceeding 1.15 times the sum of the Semiannual Loan Payments due in such Fiscal Year. At the time of this report, American Beach did not have separate financial documents from Nassau-Amelia Utilities available. Therefore, FRWA was unable to provide a rate recommendation other than what was provided for in the SRF agreement.

8. Energy Management

Energy costs often make up twenty-five to thirty percent of a utility's total operation and maintenance costs. They also represent the largest controllable cost of providing water and wastewater services. EPA's *"Ensuring a Sustainable Future: An Energy Management Guidebook for Wastewater and Water Utilities"* provides details to support utilities in energy management and cost reduction by using the steps described in this guidebook. The Guidebook takes utilities

through a series of steps to analyze their current energy usage, use energy audits to identify ways to improve efficiency and measure the effectiveness of energy projects.

Energy Conservation and Cost Savings

The System 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 System should implement going forward:

1. Load management.
2. On-demand hot water heaters.
3. LED lighting.
4. Flag underperforming assets for rehabilitation or replacement.

The above 4 energy saving initiatives are just a start and most can be accomplished in-house. A more comprehensive energy audit, conducted by an energy consultant/professional, is recommended to evaluate how much energy is consumed system-wide and identify measures that can be taken to utilize energy more efficiently. The primary goal is reducing power consumption and cost through physical or operational changes.

Each system will have unique opportunities to reduce energy use or cost depending on system specific changes and opportunities within the power provider’s rate schedules. For example, an audit of an individual water treatment plant (WTP) will attempt to pinpoint wasted or unneeded facility energy consumption.

With the cost of electricity rising, the reduction of energy use should be a priority for systems. A key deliverable of an energy audit is a thorough analysis of the effect of overdesign on energy efficiency. Plants are designed to perform at maximum flow and loading conditions. Unfortunately, most plants are not efficient at average conditions. Aging infrastructure is another source of inefficient usage of energy in WTPs across the country. The justification for addressing aging infrastructure related energy waste is also included in the energy audit process.

Energy Conservation Measures

The following table provides typical water and wastewater high-use energy operations and associated potential energy saving measures.

High Energy Using Operations	Energy Saving Measures
Lighting	<ul style="list-style-type: none"> • Motion sensors • T5 low and high bay fixtures • Pulse start metal halide

	<ul style="list-style-type: none"> • Indirect fluorescent • Super-efficient T8s • Comprehensive control for large buildings
<p style="text-align: center;">Heating, Ventilation, Air Conditioning (HVAC)</p>	<ul style="list-style-type: none"> • Water source heat pumps • Prescriptive incentives for remote telemetry units • Custom incentives for larger units • Low volume fume hood • Occupancy controls • Heat pump for generator oil sump

Energy Audit Approach

An energy audit is intended to evaluate how much energy is consumed and identify measures that can be taken to utilize energy more efficiently. The primary goal is reducing power consumption and costs through physical and operational changes. Each system will have unique opportunities to reduce energy use or cost depending on system specific changes and opportunities within the power provider’s rate schedules. An audit of an individual treatment plant is an attempt to pinpoint wasted or unneeded facility energy consumption. It is recommended to perform an energy audit every two to three years to analyze a return on investment.

A water system energy audit approach checklist, similar to the one on the following page for pumps and motors, can be a useful tool to identify areas of potential concern and to develop a plan of action to resolve them.

Minimum Equipment Information to Gather	Additional Equipment Information to Gather	Conditions to Consider
<ul style="list-style-type: none"> • Pump style • Number of pump stages • Pump and motor speed(s) • Pump rated head (name plate) • Motor rated power and voltage (name plate) • Full load amps • Rated and actual pump discharge • Operation schedules 	<ul style="list-style-type: none"> • Pump manufacturer’s pump curves • Actual pump curve • Power factor • Load profile • Analysis of variable frequency drives (vfd’s) if present • Pipe sizes • Water level (source) • Motor current • Pump suction pressure • Discharge pressure 	<ul style="list-style-type: none"> • Maintenance records • Consistently throttled valves • Excessive noise or vibrations • Buildup of sand and/or grit • Evidence of wear or cavitation on pump, impellers, or pump bearings. • Out-of-alignment conditions • Significant flow rate/ pressure variations • Active by-pass piping • Restrictions in pipes or pumps • Restrictive/leaking pump shaft packing

Several grants and loans are available to systems for completing such projects. A list of common funding sources is found in Section 9 of this Plan.

Please know that FRWA offers Energy Assessments to our members and SRF recipients that are participating in the AMFSP program. It is recommended that audits be completed every two to three years. For future energy assessments, please contact your local Circuit Rider or the FRWA office to participate.

9. Conclusions

Our conclusions are based on our observations during the data collection procedure, discussions with District staff, regulatory inspection data, and our experience related to similar assets.

Areas needing attention are detailed in Section 4 and include:

Water Production and Distribution System:

- Develop a regular operational maintenance program for the District.
- Create and then regularly update the Capital Improvement Plan to fund the replacement of production and distribution assets following the creation of a Replacement Strategy.

Hydrants and Hydrant Valves:

Asset Management and Fiscal Sustainability Plan

- Develop an annual hydrant maintenance program to coincide with the current flushing program and record any deficiencies inside Diamond Maps.
- Conduct an annual flow test at each of the hydrants.

Water Valves:

- Develop the annual valve exercising program and record any deficiencies inside Diamond Maps.

Water Meters:

- Establishing a meter maintenance program.
- Develop an education program to encourage homeowners to switch over to the public drinking water system.

Other Areas:

- An Asset Management Planning (AMP) and Computerized Maintenance Management System (CMMS) program must be implemented to maintain assets efficiently and effectively.
- Develop a Capital Improvement Plan and work in planning and identifying water system improvement projects. Pursue alternative revenue funding sources for capital improvement projects.
- Staff training on maintenance, safety, and use of the AMP/CMMS tool must be completed.
- Determine Level of Service (LOS) Attributes, Goals, Targets, and Metrics and Prepare LOS Agreement.
- ***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:

1. **Assign specific personnel** to oversee and perform the tasks of Asset Management.
2. **Develop and use a Computerized Maintenance Management System (CMMS) program.** The information provided in this AMFS plan will give the utility a good starting point to begin. 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 set up and implementation.

3. **Develop specific Level of Service items.** Create a Level of Service (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 sample LOS list in Section 2.
4. **Develop specific Change Out/Repair/Replacement Programs.** The System budgets for Repair and Replacement and should continue to evaluate the system to adjust the annual budgeted amounts accordingly. An example includes budgeting for a certain number of stepped system refurbishments each year.
5. **Modify the existing rate structure.** The System should make changes to their rate structure to capture all possible revenue and share the burden of maintaining the system among all classes of users. Continue to make sure adequate funds are available to properly operate and maintain the facilities. Rate increases, when required, can be accomplished in a stepped fashion rather than an 'all now' approach to lessen the resulting customer impact.
6. **Explore financial assistance options.** Financial assistance is especially useful in the beginning stages of Asset Management since budget shortfalls are likely to exist and high-cost items may be needed quickly. For a table of common funding sources, see Section 9.
7. **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. Common updates or revisions include:
 - Changes to your asset management team.
 - Updates to the asset inventory.
 - Updates to asset condition and criticality ranking charts.
 - Updates to asset condition and criticality assessment procedures.
 - Updates to operation and maintenance activities.
 - Changes to financial strategies and long-term funding plans.

The annual review should begin by asking yourself:

“What changes have occurred since our last Asset Management and Fiscal Sustainability Plan update?”

Funding Sources for Water and Wastewater Systems

On the following page 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, grants, or a combination of both.

FRWA offers funding and technical assistance in the form of preparing funding documentation. This includes Request for Inclusion (RFIs), Applications, and Disbursement Requests. FRWA offers this as a free service to communities in Florida using knowledgeable employees dedicated to assisting with funding. For more information on how your system can benefit from this assistance, please contact the FRWA office.

Closing

This Asset Management and Fiscal Sustainability plan is presented to the Board of County Commissioners for consideration and final adoption. Its creation would not have been possible without the cooperation of the System staff and the Florida Department of Environmental Protection State Revolving Fund (FDEP-SRF).

As a valued FRWA member, it is our goal to help make the most effective and efficient use of your limited resources. The Asset Management and Fiscal Sustainability Plan is an unbiased, impartial, independent review and is solely intended for achievement of drinking water and wastewater system fiscal sustainability and maintaining your valuable utility assets. The Florida Rural Water Association has enjoyed serving you and will happily assist American Beach Water and Sewer District with any future projects to ensure your Asset Management Plan is a success.

Asset Management and Fiscal Sustainability Plan

Agency/Program	Website	Contact
FDEP Drinking Water State Revolving Fund Program (DWSRF)	https://floridadep.gov/wra/srf/content/dwsrf-program	Eric Meyers eric.v.meyers@FloridaDEP.gov 850-245-2991
FDEP Clean Water State Revolving Fund Loan Program (CWSRF)	https://floridadep.gov/wra/srf/content/cwsrf-program	Mike Chase Michael.Chase@FloridaDEP.gov 850-245-2969
USDA Rural Development- Water and Wastewater 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	Jeanie Isler pamela.isler@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.doc.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 Commerce - 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	Shauita Jackson shauita.jackson@deo.myflorida.com 850-717-8416
Northwest Florida Water Management System - Cooperative Funding Initiative (CFI)	https://www.nfwwater.com/Water-Resources/Funding-Programs	Christina Coger Christina.Coger@nfwwater.com 850-539-5999

APPENDIX A: Sample Resolution

RESOLUTION NO. 2024-_____

A RESOLUTION OF THE AMERICAN BEACH WATER AND SEWER DISTRICT, APPROVING THE WATER SYSTEM ASSET MANAGEMENT AND FISCAL SUSTAINABILITY PLAN; AUTHORIZING THE DISTRICT 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 and public systems to finance construction of utility system improvements; and

WHEREAS, the Florida Department of Environmental Protection State Revolving Fund (SRF) has designated the American Beach Water and Sewer District water system improvements, identified in the Asset Management and Fiscal Sustainability Plan, as potentially eligible for available funding; and

WHEREAS, as a condition of obtaining funding from the SRF, the system is required to implement an Asset Management and Fiscal Sustainability Plan for the System's Water System Improvements; and

WHEREAS, the Board for the American Beach Water and Sewer District has determined that approval of the attached Asset Management and Fiscal Sustainability Plan for the proposed improvements, in order to obtain necessary funding in accordance with SRF guidelines, is in the best interest of the System.

NOW, THEREFORE, BE IT RESOLVED BY THE AMERICAN BEACH WATER AND SEWER DISTRICT BOARD the following:

Section 1. That the American Beach Water and Sewer District Board hereby approves the American Beach Water and Sewer District Asset Management and Fiscal Sustainability Plan, attached hereto and incorporated by reference as a part of this Resolution.

Section 2. That the District Manager is authorized to take all actions necessary to effectuate the intent of this Resolution and to implement the American Beach Water and Sewer District Asset Management and Fiscal Sustainability Plan in accordance with applicable Florida law and Board direction in order to obtain funding from the SRF.

Section 3. That the American Beach Water and Sewer District will annually evaluate existing rates to determine the need for any increase and will increase rates in accordance with the financial recommendations found in the American Beach Water and Sewer District Asset Management and Fiscal Sustainability Plan or in proportion to the System’s needs as determined by the Board in its discretion.

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

PASSED AND ADOPTED on this _____ day of _____, 2024.

AMERICAN BEACH WATER AND SEWER DISTRICT

John F. Martin, District Chair, Board of County Commissioners

ATTEST:

APPROVED AS TO FORM:

John Crawford, District Clerk

American Beach Water and Sewer District Attorney

Appendix B: Master Asset List

Master Asset List						
Asset Name	Install Year	Replacement Cost	Design Life	Condition	COF	Age EOL
Blowoff	2024	700	25	Good	Moderate	2049
Blowoff	2024	700	25	Good	Moderate	2049
Blowoff	2024	700	25	Good	Moderate	2049
Blowoff	2024	700	25	Good	Moderate	2049
Blowoff	2024	700	25	Good	Moderate	2049
Blowoff	2024	700	25	Good	Moderate	2049
Blowoff	2024	700	25	Good	Moderate	2049
Blowoff	2024	700	25	Good	Moderate	2049
Asset Name	Install Year	Replacement Cost	Design Life	Condition	COF	Age EOL
Hydrant Valves	1990	1200	25	Average	Moderate	2015
Hydrant Valves	2022	1200	25	Good	Moderate	2047
Hydrant Valves	2022	1200	25	Good	Moderate	2047
Hydrant Valves	2022	1200	25	Good	Moderate	2047
Hydrant Valves	2008	1200	25	Average	Moderate	2033
Hydrant Valves	2022	1200	25	Good	Moderate	2047
Hydrant Valves	2022	1200	25	Good	Moderate	2047
Hydrant Valves	2022	1200	25	Good	Moderate	2047
Hydrant Valves	2022	1200	25	Good	Moderate	2047
Hydrant Valves	2022	1200	25	Good	Moderate	2047
Hydrant Valves	2022	1200	25	Good	Moderate	2047
Hydrant Valves	2022	1200	25	Good	Moderate	2047
Hydrant Valves	2022	1200	25	Good	Moderate	2047
Hydrant Valves	2022	1200	25	Good	Moderate	2047
Hydrant Valves	2022	1200	25	Good	Moderate	2047

Asset Management and Fiscal Sustainability Plan

Hydrant Valves	2022	1200	25	Good	Moderate	2047
Hydrant Valves	2022	1200	25	Good	Moderate	2047
Hydrant Valves	2009	1200	25	Average	Moderate	2034
Asset Name	Install Year	Replacement Cost	Design Life	Condition	COF	Age EOL
Hydrant	1990	3500	50	Average	Moderate	2040
Hydrant	2022	3500	50	Average	Moderate	2072
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2008	3500	50	Average	Moderate	2058
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2022	3500	50	Good	Moderate	2072
Hydrant	2009	3500	50	Average	Moderate	2059
Asset Name	Install Year	Replacement Cost	Design Life	Condition	COF	Age EOL
System Valve	2022	1200	25	Good	Moderate	2047
System Valve	2022	1600	25	Good	Moderate	2047
System Valve	2022	1200	25	Good	Moderate	2047
System Valve	2022	1200	25	Good	Moderate	2047
System Valve	2022	1200	25	Good	Moderate	2047

Asset Management and Fiscal Sustainability Plan

System Valve	2022	1200	25	Good	Moderate	2047
System Valve	2022	1200	25	Good	Moderate	2047
System Valve	2022	800	25	Good	Moderate	2047
System Valve	2022	1600	25	Good	Moderate	2047
System Valve	2022	800	25	Good	Moderate	2047
System Valve	2022	1200	25	Good	Moderate	2047
System Valve	2022	800	25	Good	Moderate	2047
System Valve	2022	1200	25	Good	Moderate	2047
System Valve	2022	800	25	Good	Moderate	2047
System Valve	2022	800	25	Good	Moderate	2047
System Valve	2022	1200	25	Good	Moderate	2047
System Valve	2022	1200	25	Good	Moderate	2047
System Valve	2022	800	25	Good	Moderate	2047
System Valve	2022	800	25	Good	Moderate	2047
System Valve	2022	1200	25	Good	Moderate	2047
System Valve	2022	800	25	Good	Moderate	2047
System Valve	2022	800	25	Good	Moderate	2047
System Valve	2022	800	25	Good	Moderate	2047
System Valve	2022	1200	25	Good	Moderate	2047
System Valve	2022	800	25	Good	Moderate	2047
System Valve	2022	1600	25	Good	Moderate	2047
System Valve	2022	800	25	Good	Moderate	2047
System Valve	2022	1600	25	Good	Moderate	2047
System Valve	2022	1600	25	Good	Moderate	2047
System Valve	2022	1600	25	Good	Moderate	2047
System Valve	2022	800	25	Good	Moderate	2047
System Valve	2022	1600	25	Good	Moderate	2047
System Valve	2022	800	25	Good	Moderate	2047
System Valve	2022	1600	25	Good	Moderate	2047

Asset Management and Fiscal Sustainability Plan

System Valve	2022	400	25	Good	Moderate	2047
System Valve	2022	400	25	Good	Moderate	2047
System Valve	2022	400	25	Good	Moderate	2047
System Valve	2022	400	25	Good	Moderate	2047
System Valve	2022	400	25	Good	Moderate	2047
System Valve	2022	400	25	Good	Moderate	2047
System Valve	2022	400	25	Good	Moderate	2047
System Valve	2022	1600	25	Good	Moderate	2047
System Valve	2009	1200	25	Good	Moderate	2034
System Valve	2022	800	25	Good	Moderate	2047
System Valve	2022	1200	25	Good	Moderate	2047
System valve	2022	1200	25	Good	Moderate	2047
Asset Name	Install Year	Replacement Cost	Design Life	Condition	COF	Age EOL
Water Main	2022	67250	100	Good	Moderate	2122
Water Main	2022	138222	100	Good	Moderate	2122
Water Main	2022	19695	100	Good	Moderate	2122
Water Main	2022	69791	100	Good	Moderate	2122
Water Main	2022	13400	100	Good	Moderate	2122
Water Main	2022	13415	100	Good	Moderate	2122
Water Main	2022	25860	100	Good	Moderate	2122
Water Main	2022	16300	100	Good	Moderate	2122
Water Main	2022	16130	100	Good	Moderate	2122
Water Main	2022	15560	100	Good	Moderate	2122
Water Main	2022	13770	100	Good	Moderate	2122
Water Main	2022	6890	100	Good	Moderate	2122
Water Main	2022	6910	100	Good	Moderate	2122
Water Main	2022	6255	100	Good	Moderate	2122
Water Main	2022	6645	100	Good	Moderate	2122
Water Main	2022	6510	100	Good	Moderate	2122

Asset Management and Fiscal Sustainability Plan

Water Main	2022	6910	100	Good	Moderate	2122
Water Main	2022	6585	100	Good	Moderate	2122
Water Main	2022	68630	100	Good	Moderate	2122