FLORIDA RURAL WATER ASSOCIATION

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July 14, 2023

Ms. Kay Gorham, Chairwoman
Spring Lake Improvement District
115 Spring Lake Boulevard
Sebring, FL 33876

Dear Chairwoman Gorham:

The Florida Rural Water Association (FRWA) is pleased to submit the Water System Asset Management and Fiscal Sustainability (AMFS) plan to Spring Lake Improvement 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.

A Utility'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 (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 the Spring Lake Improvement District's 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 Spring Lake Improvement District utility management. FRWA will provide electronic copies for your use and future modification and 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 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,

Ron Nalley
FRWA Utility Asset Management Team

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

Spring Lake Improvement District Water System
Asset Management and Fiscal Sustainability Plan

Prepared for:

Spring Lake Improvement District
PWS #5280266

Prepared by:

FLORIDA RURAL WATER ASSOCIATION
Asset Management Program
In partnership with
Florida Department of Environmental Protection
and
State Revolving Fund Program

SpringLake IMPROVEMENT DISTRICT

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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 project sponsor's 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 sponsor's planning area, and a model, if applicable, for impact fees; 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, 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 District 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

The Table located below contains a listing of the Spring Lake Improvement District's Critical Assets and Processes that were found to need Capital and/or Operational funding to operate as designed and within Regulatory Compliance. Please see Section 4 for a detailed description of the asset improvements listed below.

Critical Assets List				
Name	**Installed**	**Design Life**	**Condition**	**Consequence of Failure**
Control Valves - 1	1975	25	Failed	Moderate
Control Valves - 33	Varies	25	Poor	Moderate
Hydrants -12	Varies	50	Failed	Moderate
Hydrants - 32	Varies	50	Poor	Moderate
Hydrant Valves - 8	Varies	25	Failed	Moderate
Hydrant Valves - 28	Varies	25	Poor	Moderate
WTP 1 HSP 2 Motor	1983	20	Poor	Moderate
WTP 1 HSP 2 Pump	1983	20	Poor	Moderate
WTP 1 Ground Storage Tank 1	1983	50	Poor	Moderate
System Valves - 30	Varies	25	Failed	Moderate
System Valves - 98	Varies	25	Poor	Moderate
Water Mains - 6 (Asbestos Cement)	Varies	100	Poor	Moderate

Based on the list of Critical Assets and Processes that were found to need Capital and/or Operational funding and the State requirements for participation in the State Revolving Fund Program (SRF), a Priority Action List was developed to help the District prioritize action items and establish target dates for timely completion. The Priority Action List is found on the following page.

SPRING LAKE IMPROVEMENT DISTRICT PRIORITY ACTION LIST				
Action Item	**Target Date(s)**	**Cost Type**	**Cost**	**Responsible Party or Parties**
1. Pass Resolution Adopting AMFS Plan and Rate Schedule	Within 60 to 90 Days from Receipt of Final Plan	Administrative	No Cost	Board and District Manager
2. Determine Level of Service (LOS) Attributes, Goals, Targets, and Metrics and Prepare LOS Agreement	90 Days after Adoption	Planning	No Cost *	Board, District Manager, Staff and Public
3. Train Staff and Begin Using AMFS Tools (Diamond Maps).	90 Days after Adoption	Administrative	Annual Cost - $550 + local provider charge Training – No Cost *	District Manager, Utilities Supervisor or Designee
4. Train Staff and Begin Using RevPlan.	90 Days after Adoption	Administrative	No Cost *	District Manager or Designee
5. Develop Valve Exercising, and Replacement Program	Within 6 Months after Adoption	Planning	No Cost *	Utilities Supervisor and Staff
6. Develop Hydrant Flushing, Flow Testing and Maintenance Program	Within 6 months after Adoption	Planning	No Cost *	Utilities Supervisor and Staff
7. Explore Financial Assistance Options	On-going beginning in FY 2023	Administrative	No Cost	District Manager and Finance Staff
8. Document Water Line Condition and Develop Replacement Strategy	On-going beginning FY 2023	Planning	No Cost	Utilities Supervisor and Staff
9. Develop Operation and Maintenance Program and Procedures	Within 1 Year after Adoption	Planning	No Cost *	Utilities Supervisor or Designee
10. Develop Change Out/Repair and Replacement Program for Critical Assets	Within 1 Year after Adoption	Planning	No Cost *	Utilities Supervisor or Designee
11. Develop Comprehensive Capital Improvement Plan for Water System	Within 1 Year after Adoption	Planning	No Cost *	Public, Board, District Manager and Staff

SPRING LAKE IMPROVEMENT DISTRICT PRIORITY ACTION LIST				
Action Item	**Target Date(s)**	**Cost Type**	**Cost**	**Responsible Party or Parties**
12. Engage a Registered Engineer To Review, Plan, Design, Permit, and Construct Capital Projects (WTP 1 Rehabilitation and Distribution System Improvements)	On-going beginning FY 2024	Capital	Professional Service and Construction Cost based on Project Scope	District Manager and Utilities Supervisor
13. Repair/Replace Water Production Facility/Well Components in Poor Condition at WTP 1	FY 2024/2025	Capital	Est. Cost $1,495,000 Cost Varies Depending on Project Scope	Utilities Supervisor and Staff
14. Repair/Replace Control Valves at WTP 1	FY 2024	Operational	$12,000	Utilities Supervisor and Staff
15. Clean and Remove Obstructions, Debris, and Obsolete Equipment from Well Sites and Buildings	FY 2024	Operational	$2,000	Utilities Supervisor and Staff
16. Locate, Clean Out and Evaluate Buried or Unlocated Valves Shown on System Maps	FY 2024	Operational	No Cost *	Utilities Supervisor and Staff
17. Replace Hydrants in Failed Condition; Repair/Replace Hydrants in Poor Condition; and Replace 5 Hydrants and Hydrant Valves Annually	Failed in FY 2024/2025 Poor in FY 2026 and On-going beginning in FY 2027	Capital	Failed - $42,000; Poor - $16,000; and On-going - $23,500	Utilities Supervisor and Staff
18. Replace Valves in Failed Condition; Repair/ Replace Valves in Poor Condition; and begin Replacing 27 Valves Annually with Collars	Failed in FY 2025-2027 Poor in FY 2028/2029 and On-going beginning in FY 2030	Capital	Failed - $53,600; Poor - $63,500; and Annual Replacement (27) - $32,400 per year	Utilities Supervisor and Staff
19. Replace Control Valves in Failed Condition; Repair/Replace Control Valves in Poor Condition	Failed in FY 2025 Poor in FY 2026/2027	Capital	Failed - $500; Poor - $16,500	Utilities Supervisor and Staff
20. Meter Replacement Project	FY 2026-2027	Capital	Total Cost - $864,500	Utilities Supervisor and Staff

SPRING LAKE IMPROVEMENT DISTRICT PRIORITY ACTION LIST				
Action Item	**Target Date(s)**	**Cost Type**	**Cost**	**Responsible Party or Parties**
21. Update Water System Mapping	On-going	Administrative	No Cost	Utilities Supervisor or Designee
22. Provide Additional Staff Training Opportunities	On-going	Administrative	Cost May Vary *	Utilities Supervisor or Designee
23. Implement Annual Asset Replacement Program	Annually	Operational	Cost will Vary Based on Asset Replacement Program and Strategy	Board, District Manager, Utilities Supervisor and Staff
24. Conduct Rate Sufficiency Study and Adjust Rate Structure as Needed with RevPlan	Annually	Planning	No Cost *	District Manager and Finance Staff
25. Revise AMFS Plan and RevPlan Model	Annually	Administrative	No Cost *	Board, District Manager and Utilities Supervisor
26. Update Energy Audit	Every 2 to 3 Years	Administrative	No Cost *	Utilities Supervisor or Designee

*** As a member of the Florida Rural Water Association, FRWA can assist Spring Lake Improvement District 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 AMFS Resolution for Spring Lake Improvement District.

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. Improving 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 project sponsor's (utility) system.

2. An evaluation of the utility system assets' current:

    a. Age
    b. Condition, and
    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:

    a. Renewal
    b. Replacement
    c. Repair, and
    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 Spring Lake Improvement 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 Spring Lake Improvement District with conducting a basic inventory and condition assessment of its current assets. It is expected that the District will periodically re-evaluate the condition of its assets, at least annually, to determine the assets 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 District conducts at least an annual plan review and revises 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 in both the 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 Spring Lake Improvement District has around 1,729 customers, the cost would be around $45 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. Since the District is using Diamond Maps as their asset management tool, it will be easy to move the data collected by FRWA to the District'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 staff has entered a preliminary model into RevPlan to help the utility get started. The assets collected along with financial information provided by the system were entered to create the 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. Details of the model are in the financial section of the plan.

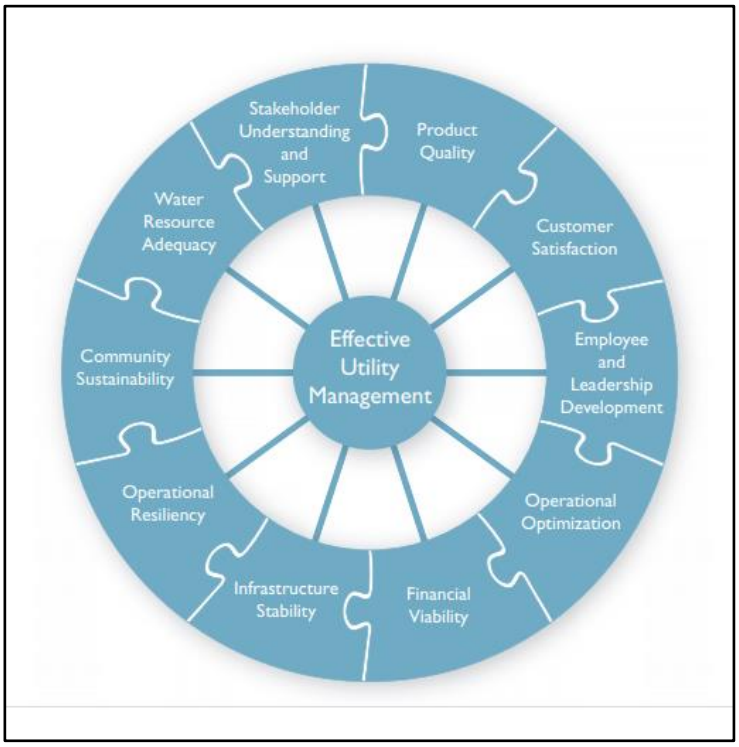
Level of Service (LOS)

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 Spring Lake Improvement District 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.

Spring Lake Improvement District 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 rapidly and efficiently make emergency water system repairs.	Annual Report to Board
Infrastructure Stability - 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.	Weekly Report to Superintendent/ Annual Report to Manager and Board
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.	Weekly Report to Superintendent/ Quarterly Report to 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.	Monthly Report to Superintendent/ Annual Report to Manager and Board
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 Superintendent, Finance, Manager and Board
Financial Viability – Service Quality and Cost	Enact automatic inflationary rate adjustments	Annual evaluation of the adequacy of inflationary rate adjustments	Annual Report to Finance, Manager and Board
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 Manager and Board
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.	Monthly Report to Superintendent/ Annual Report to Manager and Board

3. System Description

Overview

Spring Lake Improvement District was created by a Special Act of the State Legislature in 1971 and is a unit of government similar to a municipality. The exception is that the District does not have authority over land use, zoning, development codes, police, or fire, which are provided by Highlands County. Coral Ridge Properties, which was a subsidiary of Westinghouse Electric, took the leadership role in the development of Spring Lake after purchasing 3,359 acres from Mr. Duane Palmer who came to Spring Lake from the north in 1930's. The first building permit in Spring Lake was issued in 1972 and throughout the 1970's and 1980's the community grew and developed. Presently, Spring Lake is a growing community centered around an existing golf course and adjacent to Sebring Regional Airport, Sebring International Raceway, Lake Istokpoga, and surrounding campgrounds.

Spring Lake Improvement District is part of Highlands County Census Tract 9610, so specific demographic information for the system is not available. Based on the latest estimates from the Census Tract, Spring Lake serves approximately 3,800 people residing in approximately 1,700 households in the District. The average household size is 2.3. The median income per household in the Tract is $47,958 with 18.9% of people living below the poverty line. As with other areas in Highlands County, Spring Lake Improvement District is experiencing increased growth pressures from new housing development.

The Drinking Water system is currently comprised of 1,729 metered connections to the District's water supply. The water is supplied from three wells located on Tizzwood Drive and Madrid Drive. According to the most recent sanitary survey, the system's designed capacity is 999,999 GPD. The total storage capacity is 660,000 gallons with the use of two ground storage tanks and one hydropneumatic tank. Water Treatment is achieved using the following processes: chlorination, disinfection, and aeration.

In 2020, Craig A. Smith & Associates prepared a potable water Facilities Plan detailing proposed improvements to both District's Water Treatment Plants and expansions to their existing potable water conveyance system. The Facilities Plan addresses four water improvement projects: (1) rehabilitation/commissioning of the Water Treatment Plant No. 2, (2) electrical controls/emergency power improvements at Water Treatment Plant No. 1, (3) water main expansion servicing the entire Pinedale Estates Subdivision and (4) US-98 water main expansion extending the District's service area east of Arbuckle Creek.

The rehabilitation of both water treatment plants is underway while the expansion projects have been completed. For the purposes of this Plan, assets still in use were included in the assessment collection and assessment process as well as any newly installed equipment.

Form of Government

The Spring Lake Improvement District Board is composed of five members who are elected. There are three landowner positions on the Board, and two by popular election. Landowner elections are conducted at the November Board meeting, and popular elections are coordinated by the Highlands County Board of Elections. Board members serve three-year terms and reorganize each year to select a Chair, Vice-Chair and Secretary. The Chair presides over all meetings of the Corporation and the Board of Directors and performs all acts and duties usually performed by an executive and presiding officer as well as other duties as the office requires. The Board of Directors is the legislative body of the District with the power to exercise all the powers of the Corporation. The Board appoints a District Manager to oversee the day-to-day activities of the District.

District Government

Spring Lake Improvement District	
Kay Gorham	**Chair**
Butch Copeland	**Vice-Chair**
Sue Dean	**Secretary**
Ken Kirk	**Board Member**
Phil Gentry	**Board Member**

District Management and Water Staff

The success of the Spring Lake Improvement District results from the partnerships, diverse skills, and unselfish contributions of their respective staff members. The District is staffed by fourteen full-time employees. Spring Lake has two water system operator positions currently filled by Israel Serrano (Class C) and Clay Shrum (Class A). FRWA appreciates the assistance of those employees that helped in the preparation of this Plan.

Name	Job Title
Joe DeCerbo	**District Manager**
Diane Angell	**District Administrator**
Israel Serrano	**Utilities Superintendent**
Clay Shrum	**Director of Planning and Development**

System Components

The District's water is supplied from three wells which use onsite treatment of chlorination, disinfection, and aeration. The system has a design capacity of 0.99 MGD, an average daily demand of 0.217 MGD and a maximum daily demand of 0.388 MGD (2022 sanitary survey). Storage components for water total 0.66 MGD. These include the following:

Name	Capacity	Material
WTP 1 Ground Storage Tank 1	250,000 Gallons	Concrete
WTP 1 Ground Storage Tank 2	400,000 Gallons	Concrete
WTP 1 Hydropneumatic Tank	10,000 Gallons	Steel
WTP 2 Ground Storage Tank	400,000 Gallons WTP 2 Under Construction Tank Not in Service	Concrete

The District has each of the tanks inspected regularly. Ground Storage Tank 1 was last inspected in August 2019. Ground Storage Tank 2 was last inspected in August 2022. With the renovation work at WTP 1, the Hydropneumatic Tank will be removed from service.

- WTP 1 GST 1 – The ground storage tank is reported to be in poor condition. The tank is in need of an exterior renovation to address the poor coating deficiencies, torn vent screens, as well as hairline cracks forming on the roof, aerator neck, and shell. The interior roof and upper sidewalls were found to be in good condition, however the coating on the tank floor and steel fill and overflow piping is failing and needs to be addressed to protect the structural integrity of the piping. The renovation issues and any preventative maintenance activities noted in the report should be addressed by the District.
- WTP 1 GST 2 – The ground storage tank is reported to be in good structural condition and had no signs of leakage. Any preventative maintenance activities noted in the report should be addressed by the District.

The distribution system was originally installed in the early 1970's. Since that time, the distribution system has been routinely updated, replaced and/or expanded to better meet the needs of the District. The system is comprised of primarily Polyvinyl Chloride (PVC) Pipe, Asbestos Concrete (AC) Pipe, Ductile Iron (DI) Pipe and Cast Iron (CI) Pipe. The piping sizes range from two inches to twelve inches used in the transmission of the finished water.

According to the last sanitary survey (May 2022) and the last consumer confidence reports, water quality and most of the system's equipment were in satisfactory condition and met all standards.

Number of Connections and Average Use

The District has 1,729 metered connections which include:

Category	# of Meters	Average Monthly Use
Residential	1,689	5,845,750
Commercial	35	249,250
Other Connections	5	2,920
Totals	**1,729**	**6,097,920**

4. Current Asset Conditions

Assets Critical to Sustained Performance

The District'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 District 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 District'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 encourages 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 District in creating these schedules as well as provide training in Diamond Maps.

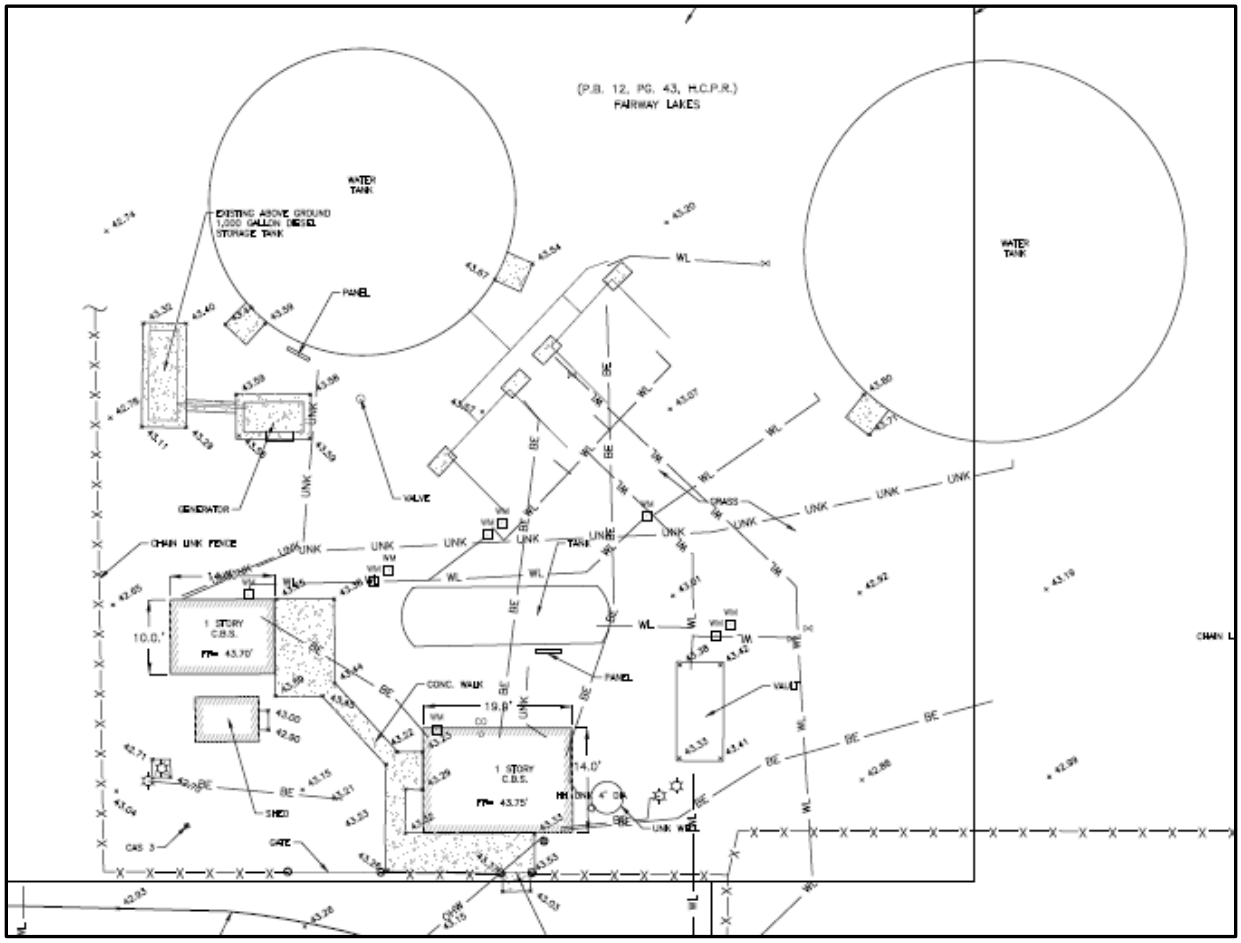
Collection and Assessment Area

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, Fittings and Water Meters were not assessed as a part of this report due to the time and difficulty in evaluating these components. These assets are shown to be in average condition, however, in reality, a percentage of these assets are likely to be found in poor or failed condition. FRWA encourages the system to update the age and condition of these components in the Plan when better information is made available.

Water Production Facilities

The water production facilities at WTP 1 are in poor to average condition with no major deficiencies noted on the last inspection. Previous tank inspections concluded that there were some deficiencies with the current tanks associated with the water facility.

WTP 1 Schematic



During the assessment of the facilities assets the items that were found to be in poor or failed condition are as follows:

Asset Name	Condition	Reported Issue
WTP 1 HSP 2 Motor	Poor	Out of service.
WTP 1 HSP 2 Pump	Poor	Out of service.
WTP 1 Ground Storage Tank 1	Poor	See Tank Inspection Report dated August 3, 2022. Exterior coating is in poor condition. Interior coating on tank floor has failed along with coating on the fill and overflow piping.
WTP 1 HSP 1 Check Valve	Poor	Significant leak at elbow of check valve.
WTP 1 HSP 3 Check Valve	Poor	Check valve is bad.
WTP 1 HSP 4 Check Valve	Poor	Leak at check valve.

The active assets at the water production facilities are generally in average condition. It was noted that some equipment showed signs of early deterioration and corrosion. Regular maintenance and upkeep of the equipment and supply lines at the wells and plants will ensure a longer life before the need for replacement. Time should also be taken to clean debris and remove obsolete equipment no longer needed in the operation of the facilities.

Rehabilitation work is currently underway at WTP 1 including upgrades to the electrical power system at the existing water treatment plant by replacing the original electrical controls, installing variable frequency drives (VFD's) to the existing four (4) high service pumps, replacing the existing 100 KW emergency generator with a larger 150 KW generator, replacing the existing automatic transfer switch (ATS) with a larger unit for the larger 150 KW emergency generator and installing a small building to house the electrical control panels and ATS. The District should begin planning now for the rehabilitation of the older well sites and remaining assets at the treatment plants. It is recommended that the District make the needed repairs to the poor and failed assets and develop a maintenance and replacement strategy for all the components at the well facilities.

The District purchased an abandoned well site formerly owned by Tampa Electric Company. The site includes a 2,000-gpm production well, 400,000-gallon above ground storage tank, small miscellaneous buildings, fire pumps, fuel tanks and other miscellaneous equipment. The District plans to rehabilitate and commission the old facility into their second water treatment plant. The new plant will include the refurbished production well and storage tank, a high service triplex pump station and new structure to serve as a field office and electrical controls building and a separate room for the chemical storage of the hyperchlorination facility to treat the potable water.

Distribution System

The water distribution system was originally installed in the early 1970's. Since that time, the distribution system has been updated, replaced and/or expanded to better meet the needs of the District. The system is comprised of primarily Asbestos Concrete (AC), Polyvinyl Chloride (PVC) Pipe, Ductile Iron (DI) Pipe and Cast Iron (CI) Pipe. There are approximately 47.4 miles of pipes ranging from two inches (2") to twelve inches (12") used in the transmission of the finished water.

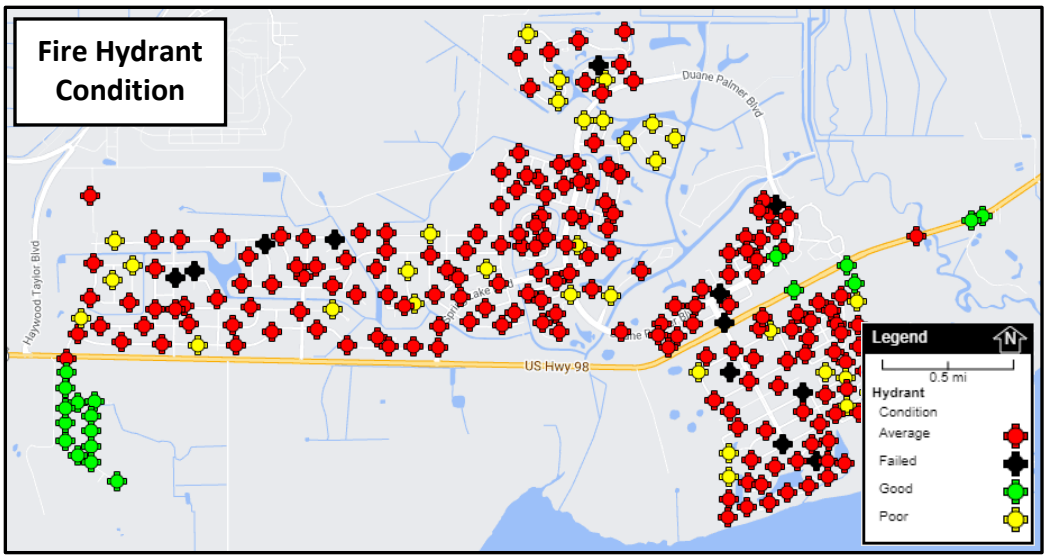
As lines begin to approach the end of their useful lives, many will begin to deteriorate making full repairs difficult. The combination of main breaks and system leaks may cause challenges for the system and higher than expected water loss. As with most systems, water loss can be a significant portion of the water produced by a utility. The most commonly 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 District 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 the next few years, the District 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. The replacement of failing lines and older meters will help improve the District's water loss.

Regular maintenance, collecting coupons and documenting water main breaks and water quality complaints is an effective way to monitor the existing conditions of the piping, as it is often difficult to adequately assess. This documentation will provide the District a good starting point in developing a replacement strategy for some of the older or problematic water mains. 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.

In 2020, Craig A. Smith Associates completed a Water Facilities Plan that recommended two distribution extension projects: 1) Pinedale Estates Subdivision Extension and 2) US-98 water main expansion. Both projects were completed last year and connect existing and proposed development to the District's water system while also providing needed fire protection. The US 98 expansion will supply a second connection to the District's system and allow for additional system pressure south of the highway.

Other than the recommendation for valve and meter replacements found in Section 4, the District should begin a regular operational maintenance program and the replacement of specific lines following the creation of a Replacement Strategy or Capital Improvement Plan.

Hydrants



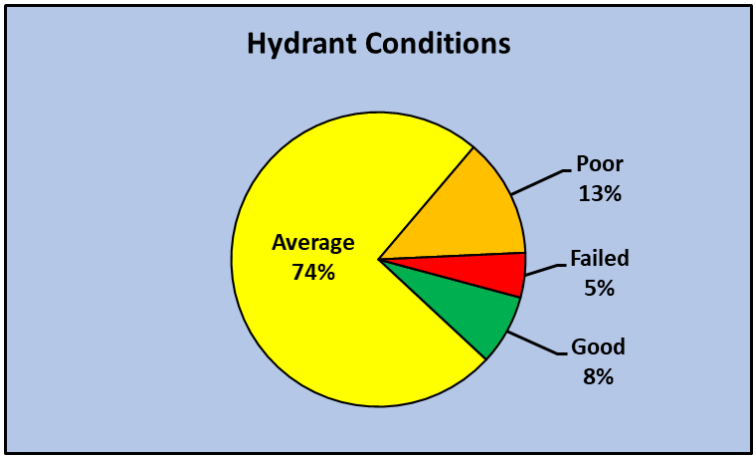
FRWA assessed all the known 245 fire hydrants. Most hydrants assessed were in average working order and did not require any immediate need for repairs. Routine maintenance items like painting, replacing nozzle gaskets, repairing chains, and lubricating operating nuts and threads were the only deficiencies that were noted.

Fire hydrants have an expected life cycle of 50 years or more with proper routine maintenance and exercising. Approximately forty eight percent (48%) of the hydrants were installed before 1980 meaning many have already passed or are near to reaching the end of their useful life. 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 245 hydrants, all have hydrant valves. It is recommended that when 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 course of the assessment, FRWA assessed or visually inspected 245 hydrants. Of these:

- Nineteen (19) hydrants were in good condition (8%)
- One Hundred Eighty-Two (182) hydrants were in average condition (74%) – Minor to moderate corrosion, broken



chains, minor leaks during flushing, needs painting and/or minor maintenance deficiencies.

- Thirty-Two (32) hydrants were in poor condition (13%) – Moderate to heavy corrosion, some difficulty turning, leaking before flushing, damaged, and/or too low to the ground.
- Twelve (12) hydrants were in failed or very poor condition (5%) – Significant leaks. All outlets or operating nut seized.

Hydrant ID	Condition	Reported Issue	GIS Location
Hydrant - 21	Failed	Operating nut may be broken. No flow at hydrant.	27.4395944 -81.3549236
Hydrant - 23	Failed	Operating nut seized. Unable to open and assess.	27.4400547 -81.3534181
Hydrant - 36	Failed	Operating nut seized. Unable to open and assess.	27.4418714 -81.3480311
Hydrant - 41	Failed	Operating nut seized. Unable to turn and assess.	27.4421668 -81.3427623
Hydrant - 128	Failed	Operating nut seized. Does not meet 18" clearance requirement.	27.4539955 -81.3225349
Hydrant - 140	Failed	Operating nut seized. Unable to turn and assess.	27.4445092 -81.3090189
Hydrant - 154	Failed	Operating nut seized. Unable to turn and assess.	27.4385367 -81.313309
Hydrant - 201	Failed	Operating nut seized. Unable to turn and assess.	27.4271615 -81.3058669
Hydrant - 209	Failed	All outlets seized. Unable to open and assess.	27.4283478 -81.3085141
Hydrant - 212	Failed	Operating nut seized. Unable to turn and assess.	27.4318294 -81.306944
Hydrant - 215	Failed	Operating nut seized. Unable to turn and assess.	27.4332124 -81.31252
Hydrant - 254	Failed	Operating nut seized. Unable to turn and assess.	27.4365127 -81.3129339
Hydrant - 3	Poor	Does not shut off at operating nut. Closed off with hose nozzles.	27.4368553 -81.3621593
Hydrant - 10	Poor	Leaks. Operating nut not stopping flow. Closed at hose nozzles. Evidence of previous leaks.	27.435052 -81.3532
Hydrant - 15	Poor	Does not meet 18" clearance requirement.	27.4393975 -81.3597441
Hydrant - 18	Poor	Does not meet 18" clearance requirement.	27.4404564 -81.3581832
Hydrant - 49	Poor	Operating nut not closing. Cut off at hose nozzles.	27.4400751 -81.3371391
Hydrant - 50	Poor	Operating nut broken. Closed at hose nozzle.	27.4425938 -81.3353996
Hydrant - 54	Poor	Does not meet 18" clearance requirement.	27.4378691 -81.3366
Hydrant - 60	Poor	Does not meet 18" clearance requirement.	27.4402004 -81.331103
Hydrant - 67	Poor	Operating nut does not seem to be closing fully.	27.4384253 -81.3246856
Hydrant - 73	Poor	Does not meet 18" clearance requirement.	27.4383788 -81.3215697
Hydrant - 76	Poor	Does not meet 18" clearance requirement.	27.4418129 -81.3241495
Hydrant - 86	Poor	Does not meet 18" clearance requirement.	27.448903 -81.3204351
Hydrant - 87	Poor	Does not meet 18" clearance requirement. Small leak.	27.4475013 -81.3181379
Hydrant - 88	Poor	Does not meet 18" clearance requirement.	27.4490485 -81.3167312

Hydrant ID	Condition	Reported Issue	GIS Location
Hydrant - 89	Poor	Does not meet 18" clearance requirement.	27.450034 -81.3184169
Hydrant - 90	Poor	Operating nut not closing fully. Small leak.	27.4502284 -81.322189
Hydrant - 91	Poor	Operating nut not closing fully. Small leak. Moderate corrosion.	27.4502285 -81.3237075
Hydrant - 101	Poor	Does not meet 18" clearance requirement.	27.4374735 -81.342906
Hydrant - 120	Poor	Does not meet 18" clearance requirement.	27.4560866 -81.3279911
Hydrant - 124	Poor	Does not meet 18" clearance requirement.	27.453006 -81.3255269
Hydrant - 125	Poor	Does not meet 18" clearance requirement.	27.4515496 -81.3256825
Hydrant - 127	Poor	Does not meet 18" clearance requirement.	27.4530288 -81.3220735
Hydrant - 162	Poor	Does not meet 18" clearance requirement.	27.433172 -81.3149064
Hydrant - 166	Poor	Operating nut not closing fully. Small leak. Closed at nozzles.	27.4276923 -81.3126007
Hydrant - 168	Poor	Does not meet 18" clearance requirement.	27.4261089 -81.3125766
Hydrant - 177	Poor	Does not meet 18" clearance requirement.	27.4380059 -81.3028562
Hydrant - 189	Poor	Does not meet 18" clearance requirement.	27.4328157 -81.303639
Hydrant - 191	Poor	Does not meet 18" clearance requirement.	27.433161 -81.3052274
Hydrant - 193	Poor	Does not meet 18" clearance requirement.	27.4309121 -81.30358
Hydrant - 197	Poor	Does not meet 18" clearance requirement.	27.4317848 -81.3018925
Hydrant - 222	Poor	Operating nut not closing fully. Small leak. Closed at nozzles.	27.4360007 -81.3094192
Hydrant - 228	Poor	Does not meet 18" clearance requirement.	27.4421066 -81.359587

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 $1,200 for hydrants without valves. This amount at a minimum should be budgeted for hydrant replacements until all hydrants have been repaired or replaced that are in a failed or poor condition. Poor condition hydrants need to be evaluated and repaired as needed. In some instances, the repair may be as simple as adding grease, while other repairs may include rebuilding or raising the hydrant. A minimum of $500 should be placed aside for repair of each hydrant rated as poor.

For future assessments of the hydrants, a flow test should be performed annually, and a report should be presented to the District 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 is different from a flow test. A special meter must be used to accurately measure the flow and gallons per minute (gpm) for each hydrant.

As the hydrants begin to reach the end of their useful life, it is recommended that the District begin an annual hydrant replacement program. It is also recommended that the District install hydrant valves as hydrants are added or replaced in the system.

Estimated total cost to replace/repair hydrants throughout system: $58,000.

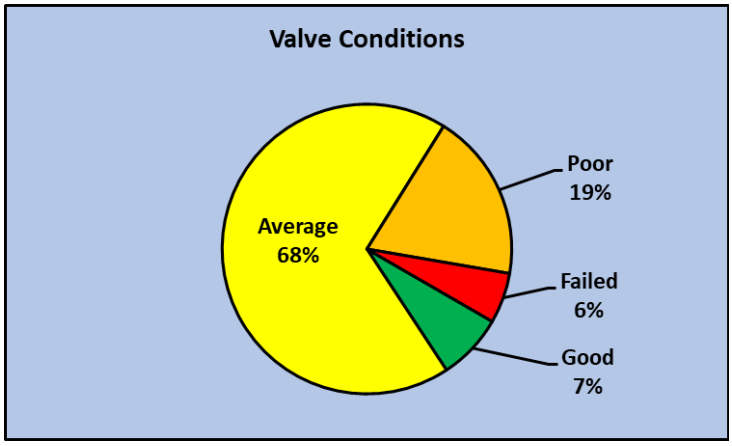
- **Estimated cost to repair failed and very poor condition hydrants: $42,000.**
- **Estimated cost to repair poor condition hydrants: $16,000**

System and Hydrant Valves

A total of 430 System Valves and 245 Hydrant Valves were collected and assessed by FRWA.

During the assessment:

- Fifty (50) valves were in good condition (7%)
- Four Hundred Sixty (460) valves were in average condition (68%).
- One Hundred Twenty-Seven (127) valves were in poor condition (19%).
- Thirty-Eight (38) valves were in failed condition (6%).



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 time of need. As the District 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 exercising. 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.

Additionally, it was reported by the system that some valves may be completely buried or paved over. Buried valves should be located and the GIS locations of these valves should be

updated during the implementation phase to reflect current conditions and changes should be made to locations if they are found to be inaccurate. As old lines are replaced or water breaks necessitate, new valves should be installed in order to better isolate sections of the system.

Valve ID	Condition	Reported Issue	GIS Location
Valve - 14	Failed	Seized. Unable to turn and assess.	27.4405293 -81.361198
Valve - 37	Failed	Broken wheel valve.	27.4406421 -81.3533412
Valve - 47	Failed	Seized. Unable to turn and assess.	27.442266 -81.3448803
Valve - 65	Failed	Seized. Unable to turn and assess.	27.4402825 -81.3446862
Valve - 101	Failed	Seized. Unable to turn and assess.	27.4426107 -81.3300025
Valve - 104	Failed	Seized. Unable to turn and assess.	27.4405154 -81.3299916
Valve - 113	Failed	Seized after 1 turn. Valve box may be offset.	27.4377611 -81.3368699
Valve - 155	Failed	Seized. Unable to turn and assess.	27.4423678 -81.3284282
Valve - 162	Failed	Seized. Unable to turn and assess.	27.4423432 -81.3249766
Valve - 201	Failed	Seized. Unable to turn and assess.	27.4487264 -81.323383
Valve - 209	Failed	Seized. Unable to turn and assess.	27.4513219 -81.322974
Valve - 212	Failed	Very difficult to turn. Only turned 7 times.	27.4532014 -81.3139681
Valve - 213	Failed	Seized. Unable to turn and assess.	27.4531741 -81.3138759
Valve - 215	Failed	Seized. Unable to turn and assess.	27.4522067 -81.31168
Valve - 243	Failed	Seized. Only turned 1 time.	27.4393099 -81.3136662
Valve - 268	Failed	Difficult to turn. Only turned 8 times.	27.4444837 -81.3091913
Valve - 270	Failed	Seized. Unable to turn and assess.	27.4444795 -81.309181
Valve - 278	Failed	Seized. Unable to turn and assess.	27.4384161 -81.3032678
Valve - 287	Failed	Seized. Unable to turn and assess.	27.4348967 -81.3026536
Valve - 357	Failed	Seized. Unable to turn and assess.	27.4548147 -81.3288206
Valve - 365	Failed	Seized. Unable to turn and assess.	27.45303 -81.322518
Valve - 366	Failed	Seized. Unable to turn and assess.	27.4533053 -81.3227056
Valve - 367	Failed	Seized. Unable to turn and assess.	27.4525063 -81.3229793
Valve - 371	Failed	Seized. Unable to turn and assess.	27.4377343 -81.3151456
Valve - 389	Failed	Seized. Unable to turn and assess.	27.4269756 -81.3614033
Valve - 422	Failed	Seized. Unable to turn and assess.	27.4409588 -81.3089
Valve - 432	Failed	Operating nut spins.	27.4348444 -81.3347706
Valve - 445	Failed	Seized. Unable to turn and assess.	27.4468652 -81.3096944
Valve - 446	Failed	Seized. Unable to turn and assess.	27.4446421 -81.3087938
Valve - 447	Failed	Seized. Unable to turn and assess. Unable to determine if this old hydrant Valve or valve for blowoff. Hydrant no longer exists.	27.4532164 -81.3166723
Valve - 9	Poor	Only turned 18 times. Very stiff.	27.4421449 -81.3552593
Valve - 17	Poor	Unable to locate and assess. Shown on system map.	27.4370297 -81.3624865

Valve ID	Condition	Reported Issue	GIS Location
Valve - 19	Poor	Buried. Unable to locate and assess.	27.4351798 -81.3612901
Valve - 20	Poor	Buried. Unable to locate and assess.	27.4350702 -81.3566316
Valve - 31	Poor	Difficult to turn. Turned only 6 times.	27.4421438 -81.3513597
Valve - 32	Poor	Unable to set operating nut. May be wheel valve.	27.442142 -81.3514022
Valve - 33	Poor	Wheel valve. Did not turn and assess.	27.4420443 -81.354912
Valve - 36	Poor	Unable to locate and assess. Shown on system map.	27.4391058 -81.3549622
Valve - 39	Poor	Unable to set operating nut. May be wheel valve or box is offset.	27.4393574 -81.35347
Valve - 49	Poor	Unable to locate and assess. Shown on system map.	27.4391098 -81.3483849
Valve - 51	Poor	Very difficult to turn. Turned 7 times.	27.4404401 -81.3449116
Valve - 52	Poor	Unable to locate valve as shown on system map.	27.4402477 -81.3448838
Valve - 53	Poor	Unable to locate and assess. Shown on system map.	27.4391745 -81.3452101
Valve - 55	Poor	Unable to locate and assess. Shown on system map.	27.4388236 -81.3452875
Valve - 58	Poor	Unable to locate. Shown on system map. Backflow Valve in area. May be mislabeled. Check with system.	27.4355929 -81.345366
Valve - 59	Poor	Unable to locate and assess. Shown on system map.	27.4405575 -81.3419026
Valve - 66	Poor	Paved over. Under driveway.	27.4404509 -81.3416595
Valve - 69	Poor	Unable to set operating nut. Valve box may be offset.	27.4417308 -81.3427924
Valve - 70	Poor	Unable to locate and assess. Shown on system map.	27.4423198 -81.3482242
Valve - 73	Poor	Unable to locate and assess. Possibly buried or paved over.	27.4401585 -81.3387911
Valve - 75	Poor	Very difficult to turn. Turned only 5 times.	27.4375538 -81.3485007
Valve - 77	Poor	Very difficult to turn. Turned 6 times.	27.4362806 -81.3472409
Valve - 78	Poor	Very difficult to turn. Turned 5 times.	27.4361506 -81.3474621
Valve - 80	Poor	Very difficult to turn. Turned 6 times.	27.4375627 -81.3486619
Valve - 81	Poor	Paved over. Possible location marked on GIS map and road.	27.4375219 -81.3486099
Valve - 82	Poor	Very difficult to turn. Only turned 13 times.	27.4350698 -81.3518782
Valve - 83	Poor	Very difficult to turn. Only turned 6 times.	27.4350636 -81.3515128
Valve - 85	Poor	Valve box broken. Needs replaced and new lid.	27.4369731 -81.3517124
Valve - 98	Poor	Unable to locate and assess. Shown on system map.	27.4425894 -81.3341097
Valve - 99	Poor	Unable to locate and assess. Shown on system map.	27.4425915 -81.3348805
Valve - 102	Poor	Very difficult to turn. Turned only 7 times.	27.4425475 -81.3294406
Valve - 107	Poor	Valve box offset. Unable to turn valve fully.	27.4413936 -81.3340616
Valve - 111	Poor	Lid sealed. Unable to open and assess.	27.4399193 -81.3326044
Valve - 112	Poor	Unable to set operating nut. Valve box may be offset.	27.4374605 -81.3380778
Valve - 120	Poor	Buried. Unable to locate and assess.	27.4375984 -81.3338232
Valve - 130	Poor	Difficult to turn. Only turned 13 times.	27.4392801 -81.3298314
Valve - 131	Poor	Very difficult to turn. Turned only 3 times.	27.4393815 -81.3296616
Valve - 132	Poor	Very difficult to turn. Turned only 2 times.	27.4391047 -81.3295614

Valve ID	Condition	Reported Issue	GIS Location
Valve - 133	Poor	Difficult to turn. Turned 7 times.	27.4366573 -81.3288137
Valve - 135	Poor	Unable to locate.	27.4367603 -81.3281203
Valve - 138	Poor	Difficult to turn. Turned only 12 times.	27.4399656 -81.3259623
Valve - 157	Poor	Difficult to turn. Turned only 10 times.	27.4423238 -81.3265091
Valve - 171	Poor	Unable to set operating nut. May be wheel valve.	27.4447659 -81.3299032
Valve - 174	Poor	Valve box may be offset or may be wheel valve.	27.4414095 -81.3219841
Valve - 175	Poor	Very difficult to turn. Turned 2 times.	27.4411581 -81.327255
Valve - 177	Poor	Unable to set operating nut. May be wheel valve.	27.4410124 -81.3283197
Valve - 182	Poor	Buried. Unable to locate and assess. Shown on system map.	27.4472214 -81.3251356
Valve - 183	Poor	Difficult to turn. Turned only 12 times.	27.4455996 -81.328326
Valve - 192	Poor	Buried. Unable to locate and assess. Shown on system map.	27.4473167 -81.3252728
Valve - 196	Poor	Buried. Unable to locate and assess. Shown on system map.	27.4487759 -81.3244073
Valve - 197	Poor	Unable to locate and assess. Shown on system map.	27.4488615 -81.324112
Valve - 202	Poor	Buried or paved over. Unable to locate. Shown on system map.	27.4487038 -81.323193
Valve - 214	Poor	Lid sealed shut. Unable to open and assess.	27.4521925 -81.3116941
Valve - 216	Poor	Unable to locate and assess. Shown on system map.	27.4519014 -81.3113313
Valve - 218	Poor	Unable to locate. Shown on system map.	27.4497516 -81.3099757
Valve - 223	Poor	Buried. Unable to locate and assess. Shown on system map.	27.4362738 -81.3226306
Valve - 224	Poor	Buried. Unable to locate and assess. Shown on system map.	27.4364925 -81.3224873
Valve - 225	Poor	Buried. Unable to locate and assess. Shown on system map.	27.436486 -81.3225193
Valve - 231	Poor	Buried. Unable to locate and assess. Shown on system map.	27.437402 -81.3257042
Valve - 232	Poor	Buried. Unable to locate and assess. Shown on system map.	27.4354102 -81.3258291
Valve - 233	Poor	Car parked over valve. Unable to turn and assess.	27.4362096 -81.3253344
Valve - 234	Poor	Valve stem seems to be broken. Did not assess.	27.4374271 -81.3257623
Valve - 235	Poor	Buried. Unable to locate and assess. Shown on system map.	27.4357068 -81.3256944
Valve - 238	Poor	Unable to locate. Possible location marked on GIS map.	27.4357679 -81.326951
Valve - 239	Poor	Buried. Unable to locate and assess. Shown on system map.	27.4370827 -81.3270199
Valve - 240	Poor	Could not set operating nut. May be wheel valve.	27.4367658 -81.3272114
Valve - 248	Poor	Unable to set operating nut. Valve box may be offset.	27.4409443 -81.3121218
Valve - 254	Poor	Paved over or buried. Unable to locate and assess.	27.4409867 -81.3088562
Valve - 260	Poor	On private property behind fence. Unable to locate and assess.	27.4445814 -81.3070237
Valve - 261	Poor	On private property behind fence. Unable to locate and assess.	27.4439804 -81.3074692
Valve - 262	Poor	On private property behind fence. Unable to locate and assess.	27.4438765 -81.3073316
Valve - 266	Poor	Buried. Unable to locate and assess.	27.4414641 -81.3080303
Valve - 273	Poor	Difficult to turn. Only turned 9 times.	27.4440629 -81.3102319
Valve - 277	Poor	Buried. Unable to locate and assess.	27.4359871 -81.3026611
Valve - 279	Poor	Unable to locate and assess. Shown on system map.	27.4384405 -81.3027996

Valve ID	Condition	Reported Issue	GIS Location
Valve - 284	Poor	Unable to locate and assess. Shown on system map.	27.4343593 -81.3071969
Valve - 285	Poor	Difficult to turn. Turned only 14 times.	27.4341221 -81.3077238
Valve - 286	Poor	Unable to set operating nut. Valve box may be offset.	27.4341242 -81.3077416
Valve - 291	Poor	Only turned 14 times.	27.4367497 -81.3060624
Valve - 294	Poor	Missing lid. Full of dirt. Unable to turn and assess.	27.4359445 -81.3076642
Valve - 295	Poor	Buried. Unable to locate and assess.	27.4374835 -81.3064612
Valve - 303	Poor	Buried. Unable to locate and assess.	27.4313372 -81.3050506
Valve - 305	Poor	Valve box broken. Lid missing. Needs to be dug out and reset.	27.4311622 -81.3048436
Valve - 315	Poor	Unable to set operating nut. Valve box may be offset.	27.4309875 -81.3058665
Valve - 322	Poor	Unable to set operating nut. Valve box may be offset.	27.4309926 -81.3058835
Valve - 331	Poor	Buried. Unable to locate and assess.	27.4240607 -81.3111299
Valve - 332	Poor	Only turned 11 times. Difficult to turn.	27.4252683 -81.3126143
Valve - 333	Poor	Buried. Unable to locate and assess.	27.4263522 -81.3126165
Valve - 343	Poor	Difficult to turn. Only turned 1 time.	27.4262822 -81.3046777
Valve - 348	Poor	Valve box offset. Unable to set operating nut.	27.4551754 -81.3262592
Valve - 356	Poor	Unable to set operating nut. Valve box may be offset, or something may be blocking access.	27.4556023 -81.3261762
Valve - 370	Poor	Buried or paved over. Unable to locate and assess.	27.4517881 -81.3226361
Valve - 403	Poor	Damaged. Unable to turn and assess. Needs repaired. Not in service.	27.443149 -81.2961435
Valve - 409	Poor	Unable to locate and assess. Buried or not a true valve location.	27.4423804 -81.2982794
Valve - 429	Poor	Very difficult to turn. Only turned 5 times.	27.4423136 -81.3486608
Valve - 437	Poor	Valve box offset. Unable to turn and assess.	27.4439335 -81.3224463
Valve - 443	Poor	Valve box offset. Unable to turn and assess.	27.449901 -81.3101188
Valve - 444	Poor	Valve box offset. Unable to turn and assess.	27.4479288 -81.3098803
Valve - 454	Poor	Blowoff Valve. Broken wheel valve.	27.4323079 -81.3014542

Hydrant Valve ID	Condition	Reported Issue	GIS Location
Hydrant Valve - 4	Failed	Seized. Unable to turn and assess.	27.4331702 -81.3149082
Hydrant Valve - 10	Failed	Seized. Unable to turn and assess. Valve box may be offset.	27.4338852 -81.3036565
Hydrant Valve - 96	Failed	Seized. Unable to turn and assess.	27.4391415 -81.3475296
Hydrant Valve - 130	Failed	Seized or valve box is offset.	27.436636 -81.3324732
Hydrant Valve - 132	Failed	Seized. Unable to turn and assess. Valve box may be offset.	27.4372107 -81.3289763
Hydrant Valve - 158	Failed	Seized. Unable to turn and assess.	27.4387857 -81.3230884
Hydrant Valve - 161	Failed	Seized. Unable to turn and assess.	27.4437623 -81.3246624
Hydrant Valve - 217	Failed	Seized. Unable to turn and assess. Valve box may be offset.	27.4322757 -81.3088089
Hydrant Valve - 29	Poor	Unable to set operating nut. Valve box may be offset.	27.4529996 -81.325535

Hydrant Valve ID	Condition	Reported Issue	GIS Location
Hydrant Valve - 30	Poor	Unable to set operating nut. Valve box may be offset.	27.4557041 -81.3240738
Hydrant Valve - 35	Poor	Valve box offset. Unable to turn and assess. Box broken.	27.4540038 -81.3225356
Hydrant Valve - 44	Poor	Difficult to turn. Only turned 11 times.	27.43981 -81.3106044
Hydrant Valve - 46	Poor	Difficult to turn. Only turned 7 times.	27.4388176 -81.3146828
Hydrant Valve - 65	Poor	Unable to set operating nut. Valve box may be offset.	27.4352397 -81.3590288
Hydrant Valve - 72	Poor	Unable to set operating nut. Valve box may be offset.	27.4404555 -81.3581873
Hydrant Valve - 74	Poor	Turned only 12 times.	27.4405688 -81.3611618
Hydrant Valve - 76	Poor	Unable to locate.	27.4421375 -81.3565177
Hydrant Valve - 79	Poor	Seized after 6 turns.	27.4395942 -81.3549291
Hydrant Valve - 92	Poor	Difficult to turn. Only turned 12 times.	27.4396331 -81.3451369
Hydrant Valve - 115	Poor	Unable to set operating nut.	27.4425865 -81.3353996
Hydrant Valve - 138	Poor	Very difficult to turn. Turned only 4 times.	27.4425769 -81.3286174
Hydrant Valve - 140	Poor	Difficult to turn. Turned only 8 times.	27.4438028 -81.3268994
Hydrant Valve - 143	Poor	Difficult to turn. Turned 8 times.	27.4417304 -81.3283763
Hydrant Valve - 157	Poor	Valve box offset. Unable to set operating nut.	27.4383843 -81.3215834
Hydrant Valve - 159	Poor	Valve box offset. Unable to set operating nut.	27.4398599 -81.3247761
Hydrant Valve - 170	Poor	Valve box offset. Unable to turn and assess.	27.4435673 -81.3237585
Hydrant Valve - 172	Poor	Difficult to turn. Turned only 10 times.	27.4410071 -81.3232948
Hydrant Valve - 176	Poor	Lid sealed shut. Unable to open and assess.	27.4365652 -81.3268362
Hydrant Valve - 177	Poor	Difficult to turn. Turned only 7 times.	27.4359169 -81.3255355
Hydrant Valve - 178	Poor	Valve box offset. Unable to turn and assess.	27.4487075 -81.322869
Hydrant Valve - 182	Poor	Unable to locate and assess.	27.4474947 -81.3181422
Hydrant Valve - 209	Poor	Lid sealed shut. Unable to open and assess.	27.4254869 -81.3064922
Hydrant Valve - 210	Poor	Valve box offset. Unable to turn and assess. Reset box.	27.4270394 -81.3037709
Hydrant Valve - 215	Poor	Stiff. Only turned 12 times.	27.4296756 -81.3056658
Hydrant Valve - 227	Poor	Valve box offset. Unable to set operating nut.	27.4303701 -81.3044101
Hydrant Valve - 231	Poor	Buried. Unable to locate and assess. Shown on system map.	27.4387261 -81.3076144

It is recommended that all valves buried or paved over be located, mapped, and assessed. It is also recommended that valves be raised to match the existing ground level with the addition of a concrete collar to prevent damage from mowers or adjacent road work.

- **Estimated cost to replace failed condition valves: $53,600**
- **Estimated cost to replace/repair poor condition valves: $63,500**
- **Estimated cost to replace annually up to 27 valves throughout system: $32,400**
- **Cost to locate, evaluate, clean out and reset valve boxes: Free if done by system.**

Control Valves

The System currently has 97 control valves which consists of blowoff valves, air release valves, check valves and backflow valves. During the assessment:

- Seventeen (17) valves were found to be in good condition (18%).
- Forty-Six (46) valves were found to be in average condition (47%).
- Thirty-Three (33) valves were found to be in poor condition (34%).
- One (1) valve was found to be in failed condition (1%).

Control Valve ID	Condition	Reported Issue	GIS Location
Water-2-Water Blowoff - 24	Failed	Broken wheel valve. Unable to turn and assess.	27.444754 -81.3295716
Water-8-Water Blowoff - 1	Poor	Unable to locate valve assembly.	27.4383924 -81.3616497
Water-6-Water Blowoff - 3	Poor	Unable to locate valve assembly.	27.4405157 -81.3612636
Water-2-Water Blowoff - 9	Poor	Unable to locate blowoff assembly.	27.4422499 -81.345905
Water-2-Water Blowoff - 10	Poor	Unable to locate blowoff assembly. May be buried.	27.4391449 -81.3502081
Water-2-Water Blowoff - 18	Poor	Needs cleaning and possibly repaired.	27.4402762 -81.3328666
Water-4-Water Blowoff - 19	Poor	Unable to locate blowoff assembly.	27.4368053 -81.3381614
Water-4-Water Blowoff - 21	Poor	Unable to locate blowoff assembly.	27.4356397 -81.3381703
Water-4-Water Blowoff - 25	Poor	Unable to locate blowoff assembly. May be buried.	27.4414563 -81.3206362
Water-2-Water Blowoff - 27	Poor	Unable to set operating nut. May be wheel valve.	27.4407312 -81.3285734
Water-2-Water Blowoff - 31	Poor	Wheel valve broken and assembly is leaking.	27.4471933 -81.3286982
Water-2-Water Blowoff - 32	Poor	Unable to set operating nut. May be wheel valve.	27.4465773 -81.3289855
Water-6-Water Blowoff - 33	Poor	Unable to locate blowoff assembly. May be buried.	27.447672 -81.3268041
Water-10-Water Blowoff - 34	Poor	Unable to locate blowoff assembly. May be buried.	27.4446772 -81.3243789
Water-10-Water Blowoff - 35	Poor	Unable to locate blowoff assembly.	27.4487923 -81.324764
Water-6-Water Blowoff - 36	Poor	Unable to locate blowoff assembly.	27.4483484 -81.3210826
Water-6-Water Blowoff - 37	Poor	Unable to locate blowoff assembly. May be buried.	27.4470792 -81.3169004
Water-4-Water Blowoff - 38	Poor	Wheel valve broken.	27.4487541 -81.3169325
Water-10-Water Blowoff - 39	Poor	Clean out. Test to see if operating.	27.4513419 -81.3229453
Water-8-Water Blowoff - 42	Poor	Unable to locate blowoff assembly. May be buried.	27.4533959 -81.3139126
Water-8-Water Blowoff - 43	Poor	Unable to locate and assess. Shown on system map.	27.4521058 -81.3117416
Water-8-Water Blowoff - 44	Poor	Unable to locate. Shown on system map.	27.452365 -81.3114996
Water-8-Water Blowoff - 45	Poor	Wheel valve broken.	27.449889 -81.3101487
Water-2-Water Blowoff - 48	Poor	Unable to locate blowoff assembly. May be buried.	27.4366534 -81.3228566
Water-8-Water Blowoff - 52	Poor	On private property behind fence. Unable to assess.	27.444632 -81.3069998
Water-2-Water Blowoff - 57	Poor	Unable to locate blowoff assembly.	27.4346093 -81.3093751
Water-6-Water Blowoff - 59	Poor	Check for leak. Valve closed.	27.4231203 -81.313265
Water-2-Water Blowoff - 72	Poor	Full of dirt. Corp stop in meter box.	27.4367238 -81.3416202

Control Valve ID	Condition	Reported Issue	GIS Location
Water-2-Water Blowoff - 76	Poor	Unsure what this is. May be blowoff. Recheck.	27.4519841 -81.3111164
Water-4-Water Blowoff - 77	Poor	Unable to locate and assess.	27.4326566 -81.3131363
Water-2-Water Blowoff - 78	Poor	Unable to locate - may be removed or buried.	27.4329665 -81.3070821
WTP 1 HSP 1 Check Valve	Poor	Significant leak at elbow of check valve.	27.4404525 -81.3142571
WTP 1 HSP 3 Check Valve	Poor	Check valve is bad.	27.4403961 -81.3142767
WTP 1 HSP 4 Check Valve	Poor	Leak at check valve.	27.4403741 -81.3142801

Water Meters

The District currently has and maintains 1,729 water meters throughout the District for residential and commercial use. 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. It is recommended that the District begin putting funds aside to replace their meters.

- **Estimated cost to replace all meters throughout the system (approximately 1,729 customers @ $500 per meter): $864,500**

The numbers above are an illustration from a system that has went through a meter replacement project recently and incorporated newer technology that lets the system obtain meter readings remotely. The actual cost will vary depending on the vendor and technology that is chosen to best fit the District's needs.

Water meters should be considered a critical component of the District's revenue stream. Inaccurate meters can cost a District 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 commercial/industrial 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.

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 District 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 District and its staff.

FRWA personnel can provide some of the training needed by District 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 are 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 on the following page 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 District staff, based on their historical knowledge and information gleaned from the O&M Manuals and other sources.

Table 5.A: Sample O&M Program

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.

Task Name	Frequency	Task Name	Frequency
Visually Inspect Plant Site for Damage or Tampering	Per Visit	Respond to any complaints	As they occur
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
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 equipment	Manufacturer recommendation
Collect all samples	As required by Permit	Inspect storage tank	Annually
Perform general housekeeping on grounds and building.	Weekly	Calibrate meter and backflows	Annually
Exercise Generator	Monthly	Exercise hydrants and valves	Annually
Confirm submittal of monthly reports	Monthly	Update AMFSP	Annually

Table 5.B on the following page is a sample of work orders that are specific to SLID.

Table 5.B: Sample Work Orders – Diamond Maps

WO#	Status	Description	Type	Recurring	Date Planned	Date Started	Date Completed
W1002	Planned	Repair/Replace Wheel Valve	Basic Work Order		7/7/2023		
W1003	Planned	Repair Blowoff Valve	Basic Work Order		7/7/2023		
W1004	Planned	Repair Leak	Basic Work Order		7/7/2023		
W1005	Planned	Repair/Replace Check Valve	Basic Work Order		7/7/2023		
W1006	Planned	Repair/Replace Valve	Basic Work Order		7/7/2023		
W1007	Planned	Repair/Replace Valve	Basic Work Order		7/7/2023		
W1008	Planned	Repair/Replace Valve.	Basic Work Order		7/7/2023		
W1009	Planned	Repair/Replace Valve	Basic Work Order		7/7/2023		
W1010	Planned	Repair/Replace Valve	Basic Work Order		7/7/2023		
W1011	Planned	Repair/Replace Valve	Basic Work Order		7/7/2023		
W1012	Planned	Repair/Replace Valve	Basic Work Order		7/7/2023		
W1013	Planned	Locate Valve and Assess	Basic Work Order		7/7/2023		
W1014	Planned	Reset Valve Box. Unable to turn and assess.	Basic Work Order		7/7/2023		
W1015	Planned	Locate valve and assess.	Basic Work Order		7/7/2023		
W1016	Planned	Reset Valve Box and Assess	Basic Work Order		7/7/2023		
W1017	Planned	Locate Valve and Assess	Basic Work Order		7/7/2023		
W1018	Planned	Replace Valve Lid. Dig out and assess.	Basic Work Order		7/7/2023		
W1019	Planned	Repair/Replace Hydrant	Basic Work Order		7/7/2023		
W1020	Planned	Repair/Replace Hydrant	Basic Work Order		7/7/2023		
W1021	Planned	Repair/Replace Hydrant	Basic Work Order		7/7/2023		
W1022	Planned	Repair/Replace Hydrant	Basic Work Order		7/7/2023		
W1023	Planned	Repair/Replace Hydrant	Basic Work Order		7/7/2023		
W1024	Planned	Repair/Replace Hydrant	Basic Work Order		7/7/2023		
W1025	Planned	Repair leak at Hydrant.	Basic Work Order		7/7/2023		
W1026	Planned	Raise Hydrant	Basic Work Order		7/7/2023		
W1027	Planned	Raise Hydrant	Basic Work Order		7/7/2023		
W1028	Planned	Repair/Replace Hydrant	Basic Work Order		7/7/2023		
W1029	Planned	Make Needed Repairs to Tank	Basic Work Order		7/7/2023		

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 the District's asset data definition file into "Diamond Maps", described in Section 2, and will populate the field data. The appropriate District 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 District'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 properly 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.

It is recommended that the District develop a more comprehensive CIP and continue their work in planning and identifying improvement projects. 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.

Spring Lake Improvement District (SLID)											
S1 SLID 2023 (10 model)											
Fiscal Year: 2023											
CIP Schedule											
Description	**Funding Source**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**
Wastewater R&R Cost	Wastewater Revenues	$0	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900
Water R&R Cost	Water Revenues	$0	$40,000	$80,000	$120,000	$160,000	$200,000	$240,000	$280,000	$320,000	$360,000
Capital Projects	Water Revenues	$57,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
Capital Projects	Wastewater Revenues	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WTP 1 Improvements	Future Loan	$0	$0	$1,300,000	$0	$0	$0	$0	$0	$0	$0
Meter Replacement Project	Future Loan	$0	$0	$0	$0	$864,500	$0	$0	$0	$0	$0
WTP 1 Improvements Planning	Future Loan	$0	$0	$195,000	$0	$0	$0	$0	$0	$0	$0
	Funding Source	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**
	Water Revenues	$57,000	$40,000	$80,000	$120,000	$160,000	$200,000	$240,000	$280,000	$320,000	$360,000
	Wastewater Revenues	$0	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900
	Future Loan	$0	$0	$1,495,000	$0	$864,500	$0	$0	$0	$0	$0
	Total	$57,000	$138,900	$1,673,900	$218,900	$1,123,400	$298,900	$338,900	$378,900	$418,900	$458,900

On the following page is an example of what may be included in a Capital Improvement Plan for Spring Lake Improvement District based on the Priority Action List.

The “Proposed Projects Cost Allocation Worksheet” identifies the repair and maintenance projects identified in the Priority Action List, the proposed capital projects identified in the Plan, the fiscal year in which the project is proposed, the five-year annual maintenance budget of the District and the revenue that would be generated from the proposed change recommended in the rate schedule. As the rates are more firmly established, the District’s annual Capital Requirement identified in RevPlan of $474,993, maintains the needed cash reserves, allows for the completion of capital projects, and generates sufficient revenue to cover the full cost of operating a water system. The information from this worksheet can be used to develop a base for a more comprehensive Capital Improvement Plan for the utility system.

Spring Lake Improvement District

Proposed Projects Cost Allocation Worksheet

Item Number	Asset Projects	Recommended Action	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
	O&M or R&R Projects											
1	Diamond Maps Subscription Cost	License Cost for Unlimited Users	$ 550	$ 550	$ 550	$ 550	$ 550	$ 550	$ 550	$ 550	$ 900	$ 550
2	Water Production Facilities	WTP 1 - High Speed Pumps Control Valves	$ 12,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	Water Production Facilities - All Buildings	Remove obstructions, debris and obsolete equipment.	$ 2,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
4	Hydrants - Failed Condition	Replace Failed Condition Hydrants	$ 21,000	$ 21,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	Hydrants - Poor Condition	Repair/Replace Poor Condition Hydrants	$ -	$ -	$ 16,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6	Hydrant and Valve Replacement	Replace Annually Hydrants and Valves Assembly	$ -	$ -	$ -	$ 23,500	$ 23,500	$ 23,500	$ 23,500	$ 23,500	$ 23,500	$ 23,500
7	System and Hydrant Valves - Failed Condition	Replace Failed System and Hydrant Valves	$ -	$ 17,900	$ 17,900	$ 17,800	$ -	$ -	$ -	$ -	$ -	$ -
8	System and Hydrant Valves - Poor Condition	Locate, Repair or Replace Poor Condition Valves	$ -	$ -	$ -	$ -	$ 31,750	$ 31,750	$ -	$ -	$ -	$ -
9	System and Hydrant Valve Replacement	Replace Annually System Valves	$ -	$ -	$ -	$ -	$ -	$ -	$ 32,400	$ 32,400	$ 32,400	$ 32,400
10	Control Valves - Failed Condition	Replace Failed Condition Control Valves	$ -	$ 500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11	Control Valves - Poor Condition	Replace Poor Condition Control Valves	$ -	$ -	$ 8,250	$ 8,250	$ -	$ -	$ -	$ -	$ -	$ -
	Total O&M or R&R Projects		**$ 35,550**	**$ 39,950**	**$ 42,700**	**$ 50,100**	**$ 55,800**	**$ 55,800**	**$ 56,450**	**$ 56,450**	**$ 56,800**	**$ 56,450**
	Capital Projects											
1	Budgeted Capital Projects		$ 57,025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	WTP 1 Improvements - Poor Condition	$1,495,000 - DWSRF 100% Loan (Construction & Engineering)	$ -	$ 92,900	$ 92,900	$ 92,900	$ 92,900	$ 92,900	$ 92,900	$ 92,900	$ 92,900	$ 92,900
3	Water Meter Replacement	$864,500 - DWSRF 100% Loan	$ -	$ -	$ -	$ 53,700	$ 53,700	$ 53,700	$ 53,700	$ 53,700	$ 53,700	$ 53,700
	Total Capital Projects		**$ 57,025**	**$ 92,900**	**$ 92,900**	**$ 146,600**	**$ 146,600**	**$ 146,600**	**$ 146,600**	**$ 146,600**	**$ 146,600**	**$ 146,600**
	Total Proposed Project Costs		**$ 92,575**	**$ 132,850**	**$ 135,600**	**$ 196,700**	**$ 202,400**	**$ 202,400**	**$ 203,050**	**$ 203,050**	**$ 203,400**	**$ 203,050**
	Annual Maintenance Revenue per System		$ 76,000	$ 76,000	$ 76,000	$ 76,000	$ 76,000	$ 76,000	$ 76,000	$ 76,000	$ 76,000	$ 76,000
	Annual O&M and R&R Revenue per RevPlan		**$ -**	$ 40,000	$ 80,000	$ 120,000	$ 160,000	$ 200,000	$ 240,000	$ 280,000	$ 320,000	$ 360,000
	Project Costs (Over)/Under RevPlan Revenue		**$ (16,575)**	**$ (16,850)**	**$ 20,400**	**$ (700)**	**$ 33,600**	**$ 73,600**	**$ 112,950**	**$ 152,950**	**$ 192,600**	**$ 232,950**
	Accumulated Annual Savings		**$ (16,575)**	**$ (33,425)**	**$ (13,025)**	**$ (13,725)**	**$ 19,875**	**$ 93,475**	**$ 206,425**	**$ 359,375**	**$ 551,975**	**$ 784,925**

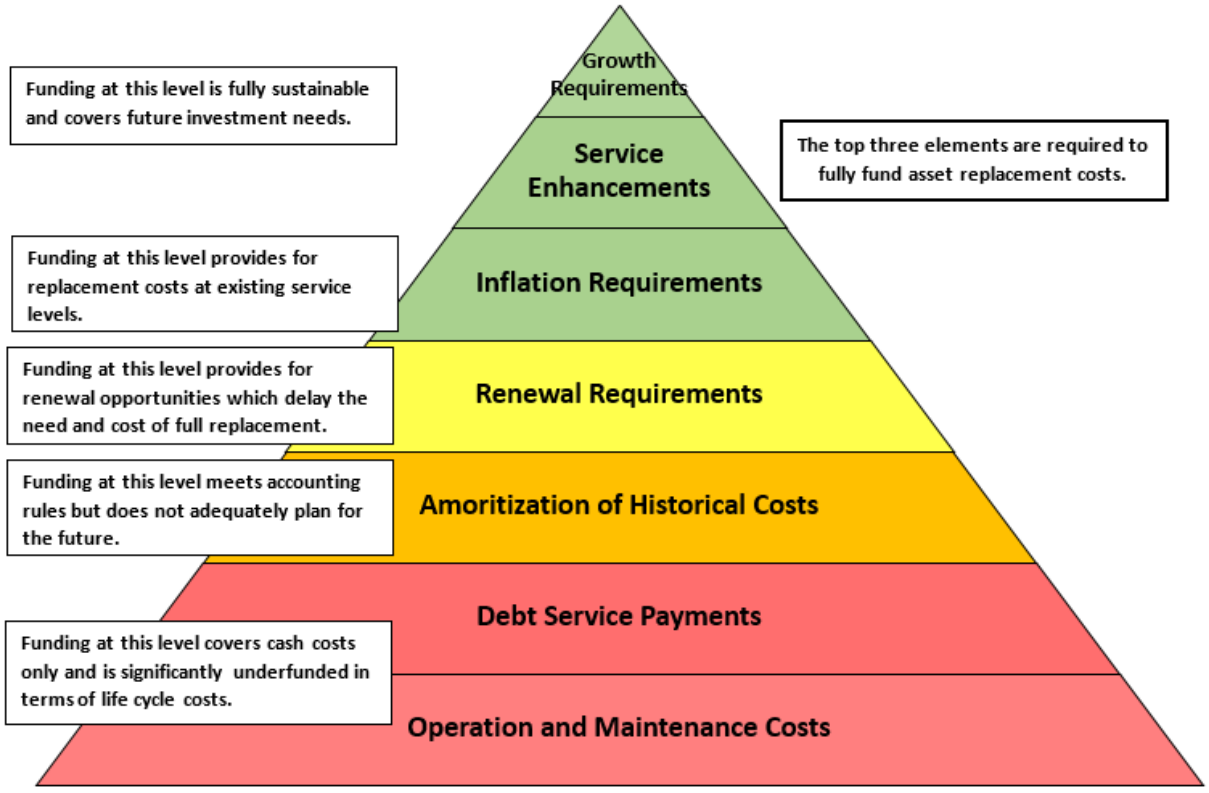
To meet capital replacement and repair/rehabilitation needs for existing infrastructure, prevent infrastructure backlogs, and achieve long-term sustainability, the System's average annual capital requirement totals $474,993. The System historically contributes $76,000 annually towards maintenance and repair projects, which provides an annual capital asset replacement cost of $398,933. For system affordability, this cost is increased by $40,000 each year until reaching $400,000 in 2034.

7. Financial

Budget/Financial Sufficiency

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 the District 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 scenarios for consideration and culminating with final recommendations.

The assets collected, along with financial information provided by the system, were entered into RevPlan to create a preliminary financial sufficiency model for the District. Each year the system is encouraged to update RevPlan and use it to help understand the impacts of future projects and rate increases. Details of the model are in Appendix C.

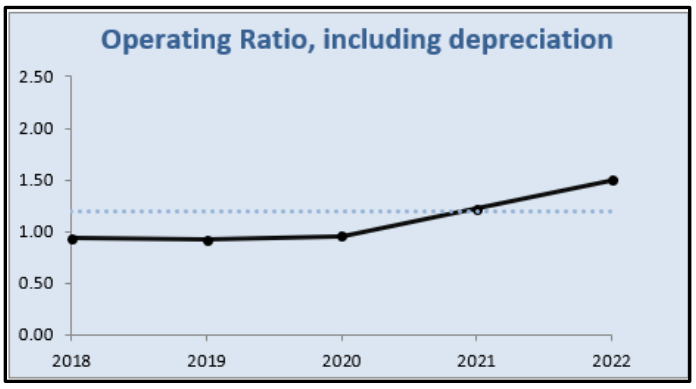
The use of RevPlan allows the system to input current financial data and develop their own financial planning projections based on various time frames. The District will have the ability to modify the rate structure to determine which proposed rate scenarios may support current and upcoming debt and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

Financial Performance

Financial data available from the annual financial statements were copied into a Financial Health Checkup tool provided by the Environmental Finance Center at the University of Chapel Hill. This free tool assists in the assessment of the financial performance of a water utility fund by computing key financial indicators that measure a variety of important metrics. Each metric is compared against targets and demonstrates the financial strengths and weaknesses of the utility fund in the past five years.

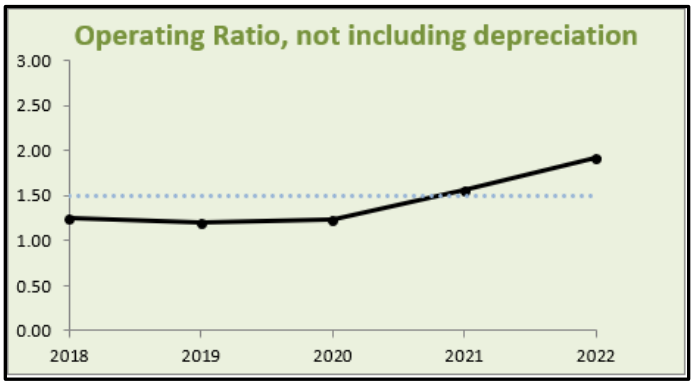
As indicated by the Snapshot chart, the District met four out of the six financial targets indicating financial strength in the water fund.

Operating Ratio (including depreciation): Did the system generate the revenue needed to pay for O&M and a little for capital? Benchmark is 1.20.



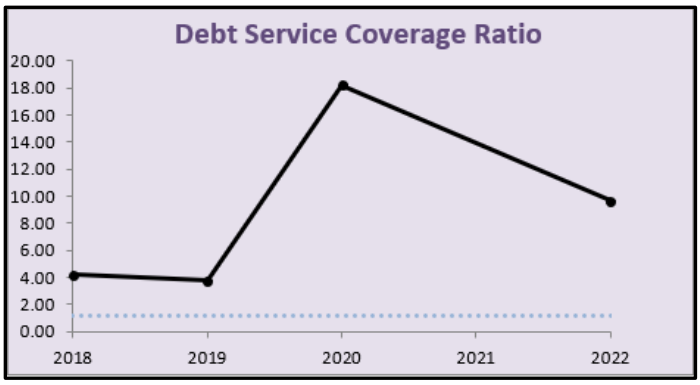
Value for Spring Lake Improvement District in Fiscal Year 2022:	1.50
Did you meet your target?	
Did you improve since the previous year?	

Operating Ratio (not including depreciation): Did the system generate the revenues to pay for O&M by itself? Benchmark is 1.50.



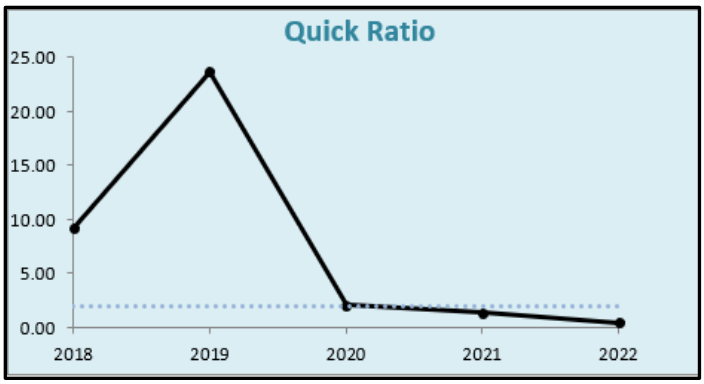
Value for Spring Lake Improvement District in Fiscal Year 2022:	1.92
Did you meet your target in Fiscal Year 2022?	✓
Did you improve since the previous year?	↑

Debt Service Coverage: Did the system generate the revenues needed to pay for O&M and existing debt service? Benchmark is >1.2.



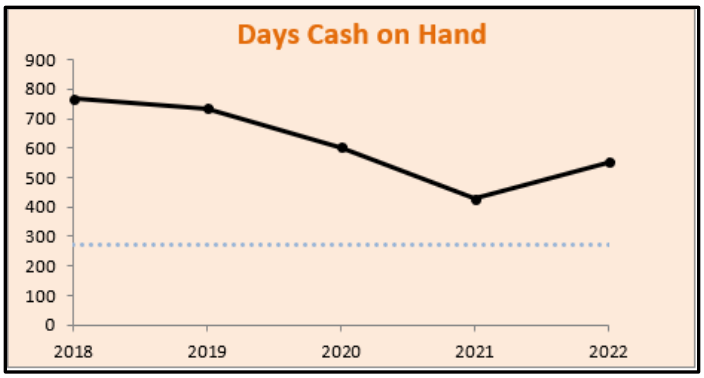
Value for Spring Lake Improvement District in Fiscal Year 2022:	9.64
Did you meet your target in Fiscal Year 2022?	✓
Did you improve since the previous year?	No data

Quick Ratio: Did you have enough liquidity to pay your current liabilities at the end of the year? Benchmark is at least 2.0.



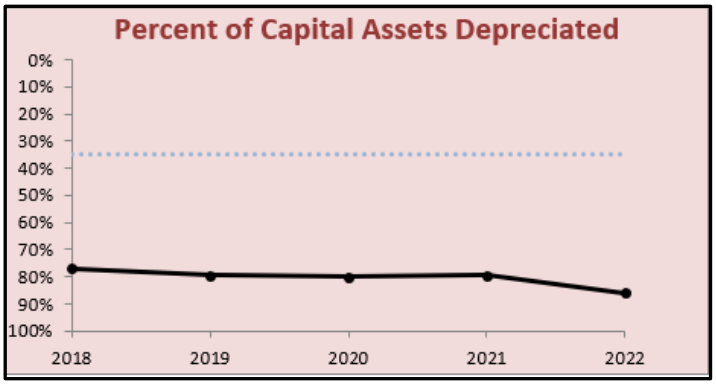
Value for Spring Lake Improvement District in Fiscal Year 2022:	0.5
Did you meet your target in Fiscal Year 2022?	✗
Did you improve since the previous year?	↓

Days Cash on Hand: How many days could you continue to operate the utility with the cash levels available? Benchmark is 270 days.



Value for Spring Lake Improvement District in Fiscal Year 2022:	553
Did you meet your target in Fiscal Year 2022?	✓
Did you improve since the previous year?	↑

Percent of Capital Assets Depreciated: How much have your utility's assets depreciated (nearing the end of their lives)? Benchmark is staying away from 100%.



Value for Spring Lake Improvement District in Fiscal Year 2022:	86%
Did you meet your target in Fiscal Year 2022?	✗
Did you improve since the previous year?	↓

Based on the results of the key financial indicators it is recommended that the District continue their current practices of strengthening their utility fund in order to have enough funds to cover daily expenses, debt service, capital replacement costs, emergencies, and unexpected revenue shortfalls. As the water system ages and the percent of assets depreciated increases each year, it is important for the water fund to become fully sustainable by securing funding levels that provide for renewal opportunities, the full replacement costs of assets, service enhancements and growth requirements.

Asset Statistics

The table below summarizes the asset information from the District collected by FRWA and found in RevPlan:

Spring Lake Improvement District Water System	
Total Replacement Cost of Water System	$25,404,955
Percent of Assets Needing Replacement	9.62 %
Cost of Replacing All Assets Needing Replacement	$2,443,220
Annual Replacement Cost of System	$474,993

Please note that the $25.4 million dollar replacement cost of the water system documented above, along with the annual replacement cost of $474,993 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 District.

Based on the findings of the Asset Management Plan, it is important for 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.

In the District, the unrestricted cash available at end of FY 2022 was $909,405, with annual operating expenses (without depreciation) of approximately $780,821 giving the District 425 days of cash on hand. Please note that this does differ from the 553 “Days Cash On Hand” benchmark reported earlier in this Plan due to the fact that the Benchmark is using audited figures.

For planning purposes and without a stated reserve policy from the District, FRWA builds the financial model by increasing the annual unrestricted reserve funding to 270 days of the current year operation and maintenance budget. 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.

A recent rate study completed by FRWA concluded that base rates and the usage charge need to be increased for all customers.

The current residential and commercial rate structure is as follows:

Water Base Rates	Residential	Commercial
5/8 inch	$ 31.05	$ 41.92
1 inch	$ 34.16	$ 46.12
1.5 inch	$ 55.89	$ 75.45
2 inch	$ 90.05	$ 121.57
3 inch	$ 341.55	$ 461.09
4 inch	$ 434.70	$ 586.85
6 inch	$ 652.05	$ 880.27

Water Usage Rates	Residential	Commercial
0 to 2,999 Gallons	$ 3.57	$4.11
3,000 to 5,999 Gallons	$ 4.14	$4.76
6,000 to 8,999 Gallons	$ 4.83	$5.55
9,000 to 15,999 Gallons	$ 5.52	$6.03
16,000 Gallons or More	$ 6.21	$7.14

The table below outlines the District's 2022 annual asset investment requirements, current funding positions and funding increases required to achieve full funding on assets funded by rates.

Summary of Infrastructure Requirements and Current Funding Available (Includes Transfers)						
		2022 Annual Funding Available				
	Average Annual Investment Requirement	Rates	Less: Allocated to Operations	Other Revenue	Total Funding Available	Annual (Deficit)/Surplus
Water System	$474,993	$923,800	-$734,900	$74,300	$263,200	($211,793)

The average annual investment requirement for the water system is $474,993. Annual revenue currently allocated to these assets for capital purposes is $263,200 leaving an annual deficit of $211,793. To put it another way, these infrastructure categories are currently funded at 44.6% of their long-term requirements. Without consideration of any other sources of revenue, full funding would require a 22.9% increase in rates over time.

Although not recommended, a more traditional approach to phasing in the funding gap follows:

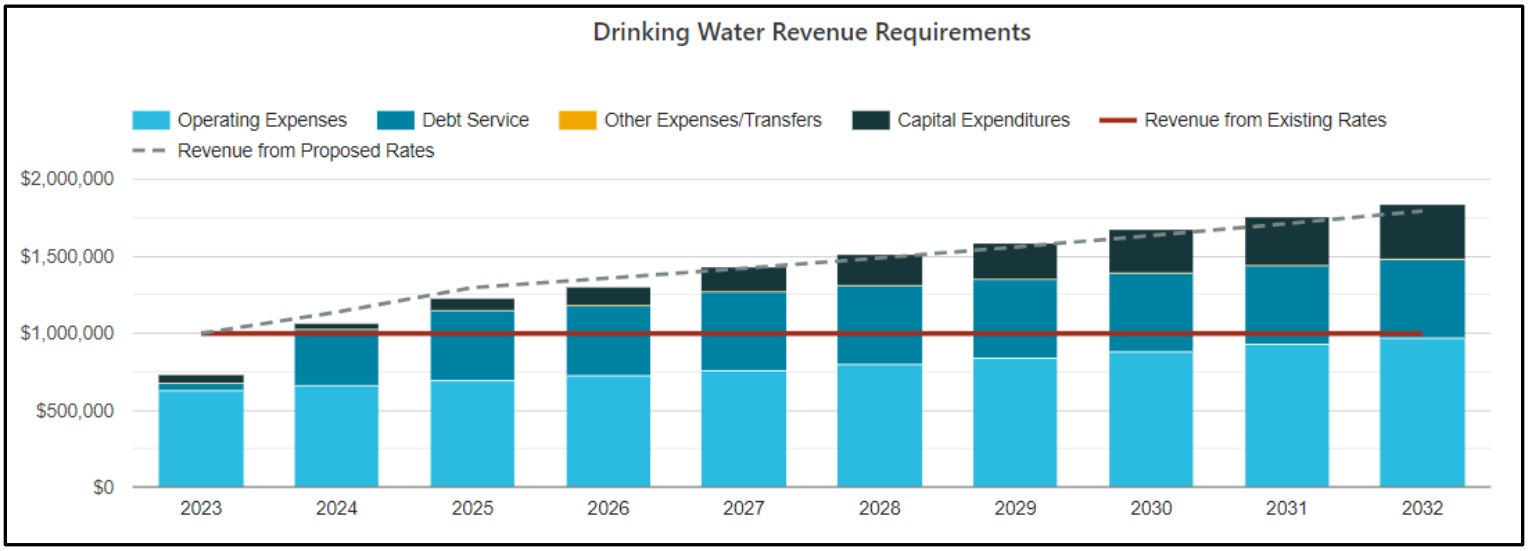
Funding Gap Phase-In Approach			
	Total Rate Increase Required	Phase-In Over 5 Years	Phase-In Over 10 Years
Annual Rate Change Required	22.9%	4.6%	2.29%

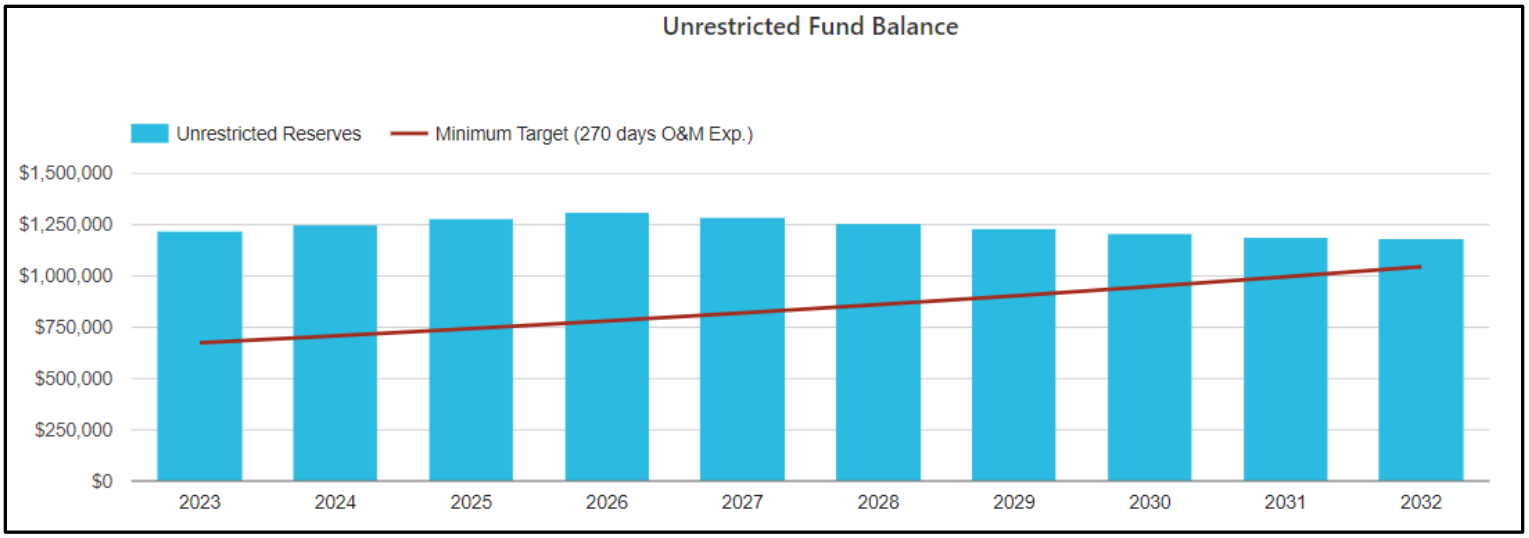
Based on the available financial information, water production reports, and billing information, FRWA developed a rate scenario that shows the rate adjustments necessary to adequately fund the water system using the existing rate structure. The proposed Scenario shows the rate adjustments necessary to adequately fund the water system by establishing rate increases of 15% in 2024 and 2025, followed by annual rate increases of 5% in subsequent years.

Proposed Rate Adjustments										
	Fiscal Year									
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base Charge Adjustments										
Drinking Water	**0%**	**15%**	**15%**	**5%**	**5%**	**5%**	**5%**	**5%**	**5%**	**5%**
Usage Charge Adjustments										
Drinking Water	**0%**	**15%**	**15%**	**5%**	**5%**	**5%**	**5%**	**5%**	**5%**	**5%**

Proposed Scenario:

The proposed Scenario shows the rate adjustments necessary to adequately fund the water system:





Please note that this table shows the Unrestricted Reserve Balance of both the Water Fund and the Sewer Fund.

Once established, the rate increases will satisfy:

- The existing operational expenses.
- The existing and future debt service requirements.
- The annual replacement costs for the system and future capital improvement costs.
- The new operating expenses (assets in failed or poor condition) detailed in Section 4 of this plan.
- The future debt needed to adequately replace and sustain the assets of the system.
- The annual reserve requirements.
- The need to preserve the existing amount of funds in retained earnings.

Rate Recommendation:

Based on the preliminary financial sufficiency model developed by RevPlan, the annual asset investment requirement, the need to build cash reserves, and the water production reports and billing information, FRWA recommends that the District pursue the proposed Scenario presented above. In addition, FRWA encourages the District to review RevPlan, growth projections and Consumer Price Index (CPI) changes at least annually to determine if additional rate increases are needed as well as to pursue aggressively alternative revenue funding sources for the future capital projects identified in the Capital Improvements Plan.

Proposed Residential and Commercial Water Base and Usage Rates

Water Base Rates	Current Residential Rates	Current Commercial Rates	Proposed Residential Rates	Proposed Commercial Rates
5/8 inch	$ 31.05	$ 41.92	$ 35.71	$ 48.21
1 inch	$ 34.16	$ 46.12	$ 39.28	$ 53.04
1.5 inch	$ 55.89	$ 75.45	$ 64.27	$ 86.77
2 inch	$ 90.05	$ 121.57	$ 103.56	$ 139.81
3 inch	$ 341.55	$ 461.09	$ 392.78	$ 530.25
4 inch	$ 434.70	$ 586.85	$ 499.91	$ 674.88
6 inch	$ 652.05	$ 880.27	$ 749.86	$ 1,012.31

Water Usage Rates	Current Residential Rates	Current Commercial Rates	Proposed Residential Rates	Proposed Commercial Rates
0 to 2,999 gallons	$ 3.57	$ 4.11	$ 4.11	$ 4.73
3,000 to 5,999 gallons	$ 4.14	$ 4.76	$ 4.76	$ 5.47
6,000 to 8,999 gallons	$ 4.83	$ 5.55	$ 5.55	$ 6.38
9,000 to 15,999 gallons	$ 5.52	$ 6.03	$ 6.35	$ 6.93
16,000 gallons or more	$ 6.21	$ 7.14	$ 7.14	$ 8.21

Typical Monthly Bill – Proposed Residential Rates

Typical Monthly Water Bill With Proposed Residential Rates At 5,000 Gallons					
	2023	**2024**	**2025**	**2026**	**2027**
Base Charge	$ 31.05	$ 35.71	$ 41.06	$ 43.12	$ 45.27
Usage Charge	$ 18.99	$ 21.84	$ 25.12	$ 26.37	$ 27.69
Combined Bill	**$ 50.04**	**$ 57.55**	**$ 66.18**	**$ 69.49**	**$ 72.96**

Typical Monthly Water Bill With Proposed Residential Rates At 5,000 Gallons					
	2028	**2029**	**2030**	**2031**	**2032**
Base Charge	$ 47.54	$ 49.91	$ 52.41	$ 55.03	$ 57.78
Usage Charge	$ 29.07	$ 30.53	$ 32.05	$ 33.66	$ 35.34
Combined Bill	**$ 76.61**	**$ 80.44**	**$ 84.46**	**$ 88.69**	**$ 93.12**

Typical Monthly Bill – Proposed Commercial Rates

Typical Monthly Water Bill With Proposed Commercial Rates At 5,000 Gallons					
	2023	**2024**	**2025**	**2026**	**2027**
Base Charge	$ 41.92	$ 48.21	$ 55.44	$ 58.21	$ 61.12
Usage Charge	$ 21.85	$ 25.13	$ 28.90	$ 30.34	$ 31.86
Combined Bill	**$ 63.77**	**$ 73.34**	**$ 84.34**	**$ 88.55**	**$ 92.98**

Typical Monthly Water Bill With Proposed Commercial Rates At 5,000 Gallons					
	2028	**2029**	**2030**	**2031**	**2032**
Base Charge	$ 64.18	$ 67.39	$ 70.76	$ 74.29	$ 78.01
Usage Charge	$ 33.45	$ 35.12	$ 36.88	$ 38.72	$ 40.66
Combined Bill	**$ 97.63**	**$ 102.51**	**$ 107.64**	**$ 113.02**	**$ 118.67**

Existing Rate vs. Proposed Rate Sufficiency

Spring Lake Improvement District (SLID)										
S1 SLID 2023 (10 model)										
Fiscal Year: 2023										
Water Revenue Requirements										
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Revenue Requirements:										
Operating Expenses	$625,200	$656,500	$689,300	$723,800	$760,000	$798,000	$837,900	$879,800	$923,700	$969,900
Debt Service	$52,700	$364,700	$457,600	$457,600	$511,300	$511,300	$511,300	$511,300	$511,300	$511,300
Other Expenses/Transfers	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Capital Expenditures	$57,000	$40,000	$80,000	$120,000	$160,000	$200,000	$240,000	$280,000	$320,000	$360,000
Gross Revenue Requirements	$734,900	$1,061,200	$1,227,000	$1,301,400	$1,431,300	$1,509,300	$1,589,200	$1,671,100	$1,755,100	$1,841,300
Less: Other Revenue	$74,300	$74,300	$74,300	$74,300	$74,300	$74,300	$74,300	$74,300	$74,300	$74,300
Net Revenue Requirements	$660,600	$986,900	$1,152,700	$1,227,100	$1,357,000	$1,435,000	$1,514,900	$1,596,800	$1,680,800	$1,767,000
Existing Rate Sufficiency:										
Revenue from Existing Rates	$923,800	$923,800	$923,800	$923,800	$923,800	$923,800	$923,800	$923,800	$923,800	$923,800
Revenue Surplus/(Deficiency)	$263,100	-$63,200	-$228,900	-$303,400	-$433,300	-$511,300	-$591,100	-$673,000	-$757,000	-$843,200
Proposed Rate Sufficiency:										
Revenue from Proposed Rates	$923,800	$1,062,300	$1,221,700	$1,282,700	$1,346,900	$1,414,200	$1,484,900	$1,559,200	$1,637,100	$1,719,000
Increase in Revenue	$0	$138,600	$297,900	$359,000	$423,100	$490,500	$561,200	$635,400	$713,400	$795,300
Cumulative %										
All Customer Classes										
Base Charges	0.00%	15.00%	32.25%	38.86%	45.81%	53.10%	60.75%	68.79%	77.23%	86.09%
Usage Charges	0.00%	15.00%	32.25%	38.86%	45.81%	53.10%	60.75%	68.79%	77.23%	86.09%
Current Year %										
All Customer Classes										
Base Charges	0.00%	15.00%	15.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Usage Charges	0.00%	15.00%	15.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Revenue Surplus/(Deficiency)	$263,100	$75,400	$69,000	$55,600	-$10,100	-$20,800	-$30,000	-$37,600	-$43,600	-$48,000

Proposed Rate Schedule

Spring Lake Improvement District (SLID)										
S1 SLID 2023										
Fiscal Year: 2023										
Rate Schedule										
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Drinking Water										
Residential Single Family										
Base Charges Inside City										
5/8-inch	$31.05	$35.71	$41.06	$43.12	$45.27	$47.54	$49.91	$52.41	$55.03	$57.78
1-inch	$34.16	$39.28	$45.18	$47.44	$49.81	$52.30	$54.91	$57.66	$60.54	$63.57
1.5-inch	$55.89	$64.27	$73.91	$77.61	$81.49	$85.57	$89.84	$94.34	$99.05	$104.01
2-inch	$90.05	$103.56	$119.09	$125.05	$131.30	$137.86	$144.76	$151.99	$159.59	$167.57
3-inch	$341.55	$392.78	$451.70	$474.28	$498.00	$522.90	$549.04	$576.50	$605.32	$635.59
4-inch	$434.70	$499.91	$574.89	$603.64	$633.82	$665.51	$698.78	$733.72	$770.41	$808.93
6-inch	$652.05	$749.86	$862.34	$905.45	$950.73	$998.26	$1,048.17	$1,100.58	$1,155.61	$1,213.39
Usage Charges Inside City										
0 to 2,999 gallons	$3.57	$4.11	$4.72	$4.96	$5.21	$5.47	$5.74	$6.03	$6.33	$6.64
3,000 to 5,999 gallons	$4.14	$4.76	$5.48	$5.75	$6.04	$6.34	$6.66	$6.99	$7.34	$7.70
6,000 to 8,999 gallons	$4.83	$5.55	$6.39	$6.71	$7.04	$7.39	$7.76	$8.15	$8.56	$8.99
9,000 to 15,999 gallons	$5.52	$6.35	$7.30	$7.67	$8.05	$8.45	$8.87	$9.32	$9.78	$10.27
16,000 gallons or more	$6.21	$7.14	$8.21	$8.62	$9.05	$9.51	$9.98	$10.48	$11.01	$11.56
Commercial										
Base Charges Inside City										
5/8-inch	$41.92	$48.21	$55.44	$58.21	$61.12	$64.18	$67.39	$70.76	$74.29	$78.01
1-inch	$46.12	$53.04	$60.99	$64.04	$67.25	$70.61	$74.14	$77.85	$81.74	$85.82
1.5-inch	$75.45	$86.77	$99.78	$104.77	$110.01	$115.51	$121.29	$127.35	$133.72	$140.40
2-inch	$121.57	$139.81	$160.78	$168.82	$177.26	$186.12	$195.42	$205.20	$215.46	$226.23
3-inch	$461.09	$530.25	$609.79	$640.28	$672.30	$705.91	$741.21	$778.27	$817.18	$858.04
4-inch	$586.85	$674.88	$776.11	$814.91	$855.66	$898.44	$943.37	$990.53	$1,040.06	$1,092.06
6-inch	$880.27	$1,012.31	$1,164.16	$1,222.36	$1,283.48	$1,347.66	$1,415.04	$1,485.79	$1,560.08	$1,638.09
Usage Charges Inside City										
0 to 2,999 gallons	$4.11	$4.73	$5.44	$5.71	$5.99	$6.29	$6.61	$6.94	$7.28	$7.65
3,000 to 5,999 gallons	$4.76	$5.47	$6.30	$6.61	$6.94	$7.29	$7.65	$8.03	$8.44	$8.86
6,000 to 8,999 gallons	$5.55	$6.38	$7.34	$7.71	$8.09	$8.50	$8.92	$9.37	$9.84	$10.33
9,000 to 15,999 gallons	$6.03	$6.93	$7.97	$8.37	$8.79	$9.23	$9.69	$10.18	$10.69	$11.22
16,000 gallons or more	$7.14	$8.21	$9.44	$9.91	$10.41	$10.93	$11.48	$12.05	$12.65	$13.29

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 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:

1. Load management
2. Replace weather-stripping and insulation on buildings
3. Installation of insulated metal roofing over energy inefficient shingle roofing
4. On-demand hot water heaters
5. Variable frequency driven pumps and electrical equipment
6. Energy efficient infrastructure
7. LED lighting
8. Meg electric motors
9. MCC electrical lug thermal investigation
10. Flag underperforming assets for rehabilitation or replacement

The above 10 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	• Motion sensors • T5 low and high bay fixtures • Pulse start metal halide • Indirect fluorescent • Super-efficient T8s • Comprehensive control for large buildings
Heating, Ventilation, Air Conditioning (HVAC)	• 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, like 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
• 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	• 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	• Maintenance records • Consistently throttled values • 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

In 2023, an Energy Assessment was conducted by FRWA staff at the District's water treatment plant. The result of that assessment is summarized in the table below:

Spring Lake Improvement District Energy Audit Recommendations			
Audit Recommendations	**Cost of Improvement**	**Payback (Years)**	**Total Annual Cost Savings**
1. Install VFD's on High Service Pumps	$14,000.00	1 – 2.3 years	$4,230.00
2. Install VFD's on Well Pumps	$5,500.00	2.6 – 5.7 years	$3,771.00
	Total Projected Annual Cost Savings		**$8,001.00**

Energy Audit recommendations for the District include installing VFD's on service pumps and well pumps along with other energy saving recommendations, which are included under the treatment plant expansion plans. By completing the projects outlined in the recommendations, it is projected that the District may save approximately $8,001 per year in energy costs. 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:

- Make needed repairs to the poor and failed assets and develop a maintenance and Replacement Strategy for all the components at the water production facilities. If poor or failed equipment is no longer needed in the operation of the facility it is recommended that the equipment be surplused and removed from the site.
- Clean and remove any obstructions and debris in buildings and around water production sites.
- Plan for the rehabilitation of the older well sites. If the well and its components are not incorporated into the current rehabilitation plans, the District should consider providing the appropriate cover for the well to protect the assets from the outside elements.
- Plan for the rehabilitation or replacement of Storage Tank 1. Provide the appropriate maintenance activities at the Storage Tanks as outlined in Section 4 of this Plan and the tank inspection reports.
- Develop a regular operational maintenance program for the system.
- Document water line condition and water line breaks and develop a Replacement Strategy for any older or problematic water mains. Plan for the abandonment or replacement of the Asbestos Cement Pipe as part of the system Replacement Strategy.
- Include engineering recommendations for distribution improvements from the Replacement Strategy or Capital Improvement Plan.
- 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:

- Develop an annual hydrant maintenance program to coincide with the current flushing program and record any deficiencies inside Diamond Maps.
- Repair all poor condition hydrants and hydrant valves and replace all failed condition hydrants and hydrant valves.
- Ensure operation of accompanying hydrant valves and install new valves and concrete collar with any hydrant installation.
- Conduct an annual flow test at each of the hydrants.
- Begin an annual hydrant replacement program.

- Raise hydrant valves to match the existing ground level with the addition of a concrete collar.

Water Valves:

- Continue the annual valve exercising program and record any deficiencies inside Diamond Maps.
- Repair all poor condition system valves and replace all failed condition system valves. Begin replacing 2" wheel valves throughout the system.
- Locate and clean out buried valve boxes and exercise if possible. Evaluate any remaining valves throughout the system for accurate representation in Diamond Maps.
- Raise system valves to match the existing ground level with the addition of a concrete collar.
- As old lines are replaced or water breaks necessitate, new valves should be installed in order to isolate sections of the system.

Control Valves:

- Repair all poor condition control valves and replace all failed condition control valves.
- Routinely flush system using control valves in accordance with written flushing plan.
- Locate and dig out blowoff assemblies. Evaluate any remaining control valves throughout the system for accurate representation in Diamond Maps.

Water Meters:

- Implement a meter replacement program or pursue alternative revenue sources to replace all the meters throughout the system with Advanced Metering Infrastructure (AMI).

Energy Audit:

- Complete all energy audit recommendations.

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 more comprehensive 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.
- Strengthen the water system fund in order to cover daily expenses, debt service, capital replacement costs, emergencies, and unexpected revenue shortfalls. Rates must be increased and routinely monitored to ensure adequate funding for operations and system improvements. Cash reserves are essential to a utility's operation, and it is recommended that the District continue building a water fund cash reserve.
- Determine Level of Service (LOS) Attributes, Goals, Targets, and Metrics and Prepare LOS Agreement.
- Perform regular audits of Energy Saving initiatives. 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:

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 District budgets for Repair and Replacement 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 District 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 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.

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 850-245-2969
FDEP Clean Water State Revolving Fund Loan Program (CWSRF)	https://floridadep.gov/wra/srf/content/cwsrf-program	Mike Chase Michael.Chase@FloridaDEP.gov 850-245-2913
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 jeanie.isler@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?oppId=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 District - 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 Spring Lake Improvement District for consideration and final adoption. Its creation would not have been possible without the cooperation of the District 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 the District with any future projects to ensure your Asset Management Plan is a success.

APPENDIX A: Sample Resolution

RESOLUTION NO. 2023-_____

A RESOLUTION OF THE SPRING LAKE IMPROVEMENT DISTRICT, FLORIDA, APPROVING THE DISTRICT'S WATER SYSTEM ASSET MANAGEMENT AND FISCAL SUSTAINABILITY PLAN; AUTHORIZING THE DISTRICT MANAGER AND UTILITIES SUPERINTENDENT 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 utility system improvements; and

WHEREAS, the Florida Department of Environmental Protection State Revolving Fund (SRF) has designated the Spring Lake Improvement 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, Spring Lake Improvement District is required to implement an Asset Management and Fiscal Sustainability Plan for the District's Water System Improvements; and

WHEREAS, the Board of the Spring Lake Improvement 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 District.

NOW, THEREFORE, BE IT RESOLVED BY THE SPRING LAKE IMPROVEMENT BOARD the following:

Section 1. That the Spring Lake Improvement District Board hereby approves the District's Water System Asset Management and Fiscal Sustainability Plan, attached hereto, and incorporated by reference as a part of this Resolution.

Section 2. That the District Manager and Utilities Superintendent are authorized to take all actions necessary to effectuate the intent of this Resolution and to implement the Water System Asset Management and Fiscal Sustainability Plan in accordance with applicable Florida law and Council direction in order to obtain funding from the SRF.

Section 3. That the 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 Water System Asset Management and Fiscal Sustainability Plan or in proportion to the District'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_____, 2023.

Spring Lake Improvement District, Florida

_____
Kay Gorham, Chair

ATTEST:

_____
District Clerk

APPROVED AS TO FORM:

_____
District Attorney

Appendix B: Master Asset List

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Buildings							
Buildings	Water Treatment Plant 1 Building	1984	50	$ 40,000	Average	Moderate	2048
Buildings	WTP 1 Chlorine Building	1984	50	$ 20,000	Average	Moderate	2048
Buildings	WTP1 MCC Building	2023	50	$ 30,000	Good	Moderate	2058
Buildings	WTP 2 Treatment and Electrical Bldg.	2023	50	$ 50,000	Good	Moderate	2058
Control Valves							
Control Valves	Water-6-Water Blowoff	1981	25	$ 1,000	Average	Moderate	2035
Control Valves	Water-2-Water Blowoff	1975	25	$ 400	Average	Moderate	2035
Control Valves	Water-2-Water Blowoff	1975	25	$ 400	Average	Moderate	2035
Control Valves	Water-2-Water Blowoff	1981	25	$ 1,000	Average	Moderate	2035
Control Valves	Water-4-Water Blowoff	1975	25	$ 800	Average	Moderate	2035
Control Valves	Water-4-Water Blowoff	1975	25	$ 800	Average	Moderate	2035
Control Valves	Water-4-Water Blowoff	1975	25	$ 800	Average	Moderate	2035
Control Valves	Water-6-Water Blowoff	1975	25	$ 1,200	Average	Moderate	2035
Control Valves	Water-6-Water Blowoff	1975	25	$ 1,200	Average	Moderate	2035
Control Valves	Water-2-Water Blowoff	1975	25	$ 400	Average	Moderate	2035
Control Valves	Water-2-Water Blowoff	1975	25	$ 400	Average	Moderate	2035
Control Valves	Water-4-Water Blowoff	1975	25	$ 800	Average	Moderate	2035
Control Valves	Water-4-Water Blowoff	1975	25	$ 800	Average	Moderate	2035
Control Valves	Water-4-Water Blowoff	1975	25	$ 800	Average	Moderate	2035

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Control Valves	Water-4-Water Blowoff	1980	25	$ 800	Average	Moderate	2035
Control Valves	Water-2-Water Blowoff	1979	25	$ 400	Average	Moderate	2035
Control Valves	Water-2-Water Blowoff	1979	25	$ 400	Average	Moderate	2035
Control Valves	Water-2-Water Blowoff	1979	25	$ 400	Average	Moderate	2035
Control Valves	Water-8-Water Blowoff	1989	25	$ 1,600	Average	Moderate	2035
Control Valves	Water-8-Water Blowoff	1989	25	$ 1,600	Average	Moderate	2035
Control Valves	Water-8-Water Blowoff	1975	25	$ 1,600	Average	Moderate	2035
Control Valves	Water-8-Water Blowoff	1975	25	$ 1,600	Average	Moderate	2035
Control Valves	Water-4-Water Blowoff	1979	25	$ 800	Average	Moderate	2035
Control Valves	Water-4-Water Blowoff	1979	25	$ 800	Average	Moderate	2035
Control Valves	Water-4-Water Blowoff	1981	25	$ 800	Average	Moderate	2035
Control Valves	Water-4-Water Blowoff	2000	25	$ 800	Average	Moderate	2035
Control Valves	Water-4-Water Blowoff	2021	25	$ 800	Average	Moderate	2035
Control Valves	Water-2-Water Blowoff	2020	25	$ 400	Average	Moderate	2035
Control Valves	Water-6-Water Blowoff	1972	25	$ 1,200	Average	Moderate	2035
Control Valves	Water-4-Water Blowoff	1985	25	$ 800	Average	Moderate	2035
Control Valves	Water-2-Water Blowoff	1989	25	$ 1,000	Average	Moderate	2032
Control Valves	Water-2-Water Blowoff	1989	25	$ 1,000	Average	Moderate	2032
Control Valves	Water-6-Water Blowoff	1989	25	$ 1,200	Average	Moderate	2032
Control Valves	Water-1.5-Water Blowoff	1999	25	$ 300	Average	Moderate	2034
Control Valves	Water-2-Water Blowoff	2022	25	$ 400	Average	Moderate	2034
Control Valves	Water-2-Water Blowoff	1985	25	$ 400	Average	Moderate	2034
Control Valves	Water-2-Water Blowoff	1975	25	$ 400	Average	Moderate	2035

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Control Valves	Water-2-Water Blowoff	1989	25	$ 1,000	Average	Moderate	2033
Control Valves	Backflow Valve Assembly	2000	25	$ 1,000	Average	Moderate	2035
Control Valves	Water-2-Water Blowoff	1986	25	$ 400	Average	Moderate	2035
Control Valves	WTP 1 HSP 2 Control Valve	1983	25	$ 3,500	Average	Moderate	2035
Control Valves	Well 1 Check Valve	1972	25	$ 3,500	Average	Moderate	2035
Control Valves	Well 2 Check Valve	1974	25	$ 3,500	Average	Moderate	2035
Control Valves	Well 2 Air Release Valve	1974	25	$ 500	Average	Moderate	2035
Control Valves	Well 3 Air Release Valve	1992	25	$ 500	Average	Moderate	2035
Control Valves	Well 3 Check Valve	1992	25	$ 3,500	Average	Moderate	2035
Control Valves	Water-2-Water Blowoff	1975	25	$ 400	Failed	Moderate	2023
Control Valves	Water-6-Water Blowoff	2018	25	$ 1,000	Good	Moderate	2040
Control Valves	Water-2-Water Blowoff	2021	25	$ 1,000	Good	Moderate	2040
Control Valves	Water-2-Water Blowoff	2021	25	$ 1,000	Good	Moderate	2040
Control Valves	Water-6-Water Blowoff	2021	25	$ 1,200	Good	Moderate	2040
Control Valves	Backflow Valve Assembly	2018	25	$ 500	Good	Moderate	2040
Control Valves	Well 4 ARV and Pressure Gauge	2022	25	$ 500	Good	Moderate	2040
Control Valves	Well 4 Check Valve	2022	25	$ 5,000	Good	Moderate	2040
Control Valves	WTP 2 Finish ARV/Pressure Gauge	2021	25	$ 500	Good	Moderate	2040
Control Valves	WTP 2 Finish Water Backflow Assembly	2021	25	$ 1,000	Good	Moderate	2040
Control Valves	WTP 2 HSP 4 Check Valve	2022	25	$ 2,500	Good	Moderate	2040
Control Valves	WTP 2 HSP 3 Check Valve	2022	25	$ 4,000	Good	Moderate	2040
Control Valves	WTP 2 HSP 2 Check Valve	2022	25	$ 4,000	Good	Moderate	2040
Control Valves	WTP 2 HSP 1 Check Valve	2022	25	$ 4,000	Good	Moderate	2040

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Control Valves	WTP 2 HSP 4 ARV and Pressure Gauge	2022	25	$ 500	Good	Moderate	2040
Control Valves	WTP 2 HSP 3 ARV and Pressure Gauge	2022	25	$ 500	Good	Moderate	2040
Control Valves	WTP 2 HSP 2 ARV and Pressure Gauge	2022	25	$ 500	Good	Moderate	2040
Control Valves	WTP 2 HSP 1 ARV and Pressure Gauge	2022	25	$ 500	Good	Moderate	2040
Control Valves	Water-8-Water Blowoff	1981	25	$ 1,000	Poor	Moderate	2030
Control Valves	Water-6-Water Blowoff	1981	25	$ 1,000	Poor	Moderate	2030
Control Valves	Water-2-Water Blowoff	1975	25	$ 400	Poor	Moderate	2030
Control Valves	Water-2-Water Blowoff	1975	25	$ 1,000	Poor	Moderate	2030
Control Valves	Water-2-Water Blowoff	1975	25	$ 400	Poor	Moderate	2030
Control Valves	Water-4-Water Blowoff	1975	25	$ 800	Poor	Moderate	2030
Control Valves	Water-4-Water Blowoff	1975	25	$ 800	Poor	Moderate	2030
Control Valves	Water-4-Water Blowoff	1979	25	$ 800	Poor	Moderate	2030
Control Valves	Water-2-Water Blowoff	1979	25	$ 400	Poor	Moderate	2030
Control Valves	Water-2-Water Blowoff	1979	25	$ 400	Poor	Moderate	2030
Control Valves	Water-2-Water Blowoff	1979	25	$ 400	Poor	Moderate	2030
Control Valves	Water-6-Water Blowoff	1975	25	$ 1,200	Poor	Moderate	2030
Control Valves	Water-10-Water Blowoff	1978	25	$ 2,000	Poor	Moderate	2030
Control Valves	Water-10-Water Blowoff	1979	25	$ 2,000	Poor	Moderate	2030
Control Valves	Water-6-Water Blowoff	2006	25	$ 1,200	Poor	Moderate	2030
Control Valves	Water-6-Water Blowoff	1987	25	$ 1,200	Poor	Moderate	2030
Control Valves	Water-4-Water Blowoff	1989	25	$ 800	Poor	Moderate	2030
Control Valves	Water-10-Water Blowoff	1987	25	$ 2,000	Poor	Moderate	2030
Control Valves	Water-8-Water Blowoff	1989	25	$ 1,600	Poor	Moderate	2030

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Control Valves	Water-8-Water Blowoff	1989	25	$ 1,600	Poor	Moderate	2030
Control Valves	Water-8-Water Blowoff	1989	25	$ 1,600	Poor	Moderate	2030
Control Valves	Water-8-Water Blowoff	1989	25	$ 1,600	Poor	Moderate	2030
Control Valves	Water-2-Water Blowoff	1978	25	$ 400	Poor	Moderate	2030
Control Valves	Water-8-Water Blowoff	1981	25	$ 1,600	Poor	Moderate	2030
Control Valves	Water-2-Water Blowoff	1975	25	$ 400	Poor	Moderate	2030
Control Valves	Water-6-Water Blowoff	1972	25	$ 1,200	Poor	Moderate	2030
Control Valves	Water-2-Water Blowoff	1975	25	$ 400	Poor	Moderate	2030
Control Valves	Water-2-Water Blowoff	1989	25	$ 1,000	Poor	Moderate	2030
Control Valves	Water-4-Water Blowoff	1972	25	$ 800	Poor	Moderate	2030
Control Valves	Water-2-Water Blowoff	1972	25	$ 400	Poor	Moderate	2030
Control Valves	WTP 1 HSP 1 Check Valve	1983	25	$ 3,500	Poor	Moderate	2030
Control Valves	WTP 1 HSP 3 Check Valve	1983	25	$ 3,500	Poor	Moderate	2030
Control Valves	WTP 1 HSP 4 Check Valve	1983	25	$ 3,500	Poor	Moderate	2030
Dry Well							
Dry Well	Flow Meter Vault	1983	50	$ 5,000	Average	Moderate	2048
Electrical Equipment							
Electrical Equipment	WT Plant 1 Disconnect Switch	1984	20	$ 1,000	Average	Moderate	2033
Electrical Equipment	WT Plant 1 Surge Protector	1984	20	$ 1,000	Average	Moderate	2033
Electrical Equipment	WTP 1 Power Transfer Switch	1984	20	$ 3,000	Average	Moderate	2033
Electrical Equipment	WTP 1 Chlorine Room Pump Ctrl. Panel	2010	20	$ 3,000	Average	Moderate	2033
Electrical Equipment	WTP 1 HSP 1 Disconnect Switch	1983	20	$ 1,000	Average	Moderate	2033
Electrical Equipment	WTP 1 HSP 2 Disconnect Switch	1983	20	$ 1,000	Average	Moderate	2033

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Electrical Equipment	WTP 1 HSP 3 Disconnect Switch	1983	20	$ 1,000	Average	Moderate	2033
Electrical Equipment	WTP 1 HSP 4 Disconnect Switch	1983	20	$ 1,000	Average	Moderate	2033
Electrical Equipment	Well 1 Disconnect Switch	1990	20	$ 1,000	Average	Moderate	2033
Electrical Equipment	Well 2 Disconnect Switch	1974	20	$ 1,000	Average	Moderate	2033
Electrical Equipment	Well 3 Disconnect Switch	1992	20	$ 1,000	Average	Moderate	2033
Electrical Equipment	WTP 1 MCC Bldg. Electrical Ctrl. Panel	2023	20	$ 5,000	Excellent	Moderate	2041
Electrical Equipment	WTP 1 MCC Building Disconnect Switch	2023	20	$ 1,500	Excellent	Moderate	2041
Electrical Equipment	WTP 1 MCC Building OIT Panel	2023	20	$ 5,000	Excellent	Moderate	2041
Electrical Equipment	WTP 1 MCC Building Lighting Panel	2023	20	$ 1,000	Excellent	Moderate	2041
Electrical Equipment	WTP 1 Generator	2023	20	$ 125,000	Excellent	Moderate	2041
Electrical Equipment	WTP 1 MCC Building Disconnect Switch	2023	20	$ 1,000	Excellent	Moderate	2041
Electrical Equipment	WTP 1 MCC Building HVAC Unit	2023	20	$ 5,000	Excellent	Moderate	2041
Electrical Equipment	Well 4 Disconnect Switch	2022	20	$ 1,000	Good	Moderate	2037
Electrical Equipment	WTP 2 HSP 4 Disconnect Switch	2022	20	$ 1,000	Good	Moderate	2037
Electrical Equipment	WTP 2 HSP 3 Disconnect Switch	2022	20	$ 1,000	Good	Moderate	2037
Electrical Equipment	WTP 2 HSP 2 Disconnect Switch	2022	20	$ 1,000	Good	Moderate	2037
Electrical Equipment	WTP 2 HSP 1 Disconnect Switch	2022	20	$ 1,000	Good	Moderate	2037
Electrical Equipment	WTP Generator	2022	20	$ 65,000	Good	Moderate	2037
Electrical Equipment	WTP 2 Generator Disconnect Switch	2022	20	$ 1,000	Good	Moderate	2037
Electrical Equipment	WTP 2 Generator Electrical Ctrl. Panel	2022	20	$ 5,000	Good	Moderate	2037
Electrical Equipment	WTP 2 Chlorine Pump Control Panel	2022	20	$ 3,000	Good	Moderate	2037
Electrical Equipment	WTP 2 Building Disconnect Switch	2022	20	$ 1,000	Good	Moderate	2037
Electrical Equipment	WTP 2 Emergency Disconnect Switch	2022	20	$ 1,000	Good	Moderate	2037

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
Electrical Equipment	WTP 2 Circuit Breaker Panel	2022	20	$ 2,000	Good	Moderate	2037
Electrical Equipment	WTP 2 Transformer	2022	20	$ 3,000	Good	Moderate	2037
Electrical Equipment	WTP 2 Electrical Distribution Panel	2022	20	$ 3,000	Good	Moderate	2037
Hydrants							
Hydrants	Fire Hydrant	2017	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1981	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1981	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1981	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1981	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1981	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1981	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1981	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1978	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1981	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1978	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1978	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1978	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	2008	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1978	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1978	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1978	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	2008	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1978	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1987	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1991	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1991	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	2003	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	2006	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	2006	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1978	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1978	50	$ 3,500	Average	Moderate	2048

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
Hydrants	Fire Hydrant	2006	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	2006	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	2006	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1987	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1995	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1978	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1989	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1989	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1989	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1989	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1989	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	2021	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1989	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1989	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1981	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1989	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1989	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	2016	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1981	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1981	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1978	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	2018	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1978	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1981	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1981	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1978	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1981	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	2013	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1985	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1985	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1985	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1985	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1985	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1985	50	$ 3,500	Average	Moderate	2048

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1982	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1982	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1982	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1982	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1982	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1981	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1981	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1982	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1981	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1982	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1982	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1982	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1982	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1986	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1986	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1986	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1986	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1986	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1985	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1985	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1985	50	$ 3,500	Average	Moderate	2048

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
Hydrants	Fire Hydrant	1985	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1985	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1985	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1985	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1982	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1982	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1982	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1972	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	2004	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1979	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1981	50	$ 3,500	Average	Moderate	2045
Hydrants	Fire Hydrant	2021	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1999	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1989	50	$ 3,500	Average	Moderate	2048

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
Hydrants	Fire Hydrant	1995	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	2022	50	$ 3,500	Average	Moderate	2048
Hydrants	Fire Hydrant	1973	50	$ 3,500	Failed	Moderate	2023
Hydrants	Fire Hydrant	1973	50	$ 3,500	Failed	Moderate	2023
Hydrants	Fire Hydrant	1973	50	$ 3,500	Failed	Moderate	2023
Hydrants	Fire Hydrant	1973	50	$ 3,500	Failed	Moderate	2023
Hydrants	Fire Hydrant	1989	50	$ 3,500	Failed	Moderate	2023
Hydrants	Fire Hydrant	1989	50	$ 3,500	Failed	Moderate	2023
Hydrants	Fire Hydrant	1972	50	$ 3,500	Failed	Moderate	2023
Hydrants	Fire Hydrant	1985	50	$ 3,500	Failed	Moderate	2023
Hydrants	Fire Hydrant	1972	50	$ 3,500	Failed	Moderate	2023
Hydrants	Fire Hydrant	1972	50	$ 3,500	Failed	Moderate	2023
Hydrants	Fire Hydrant	1972	50	$ 3,500	Failed	Moderate	2023
Hydrants	Fire Hydrant	1972	50	$ 3,500	Failed	Moderate	2023
Hydrants	Fire Hydrant	2021	50	$ 3,500	Good	Moderate	2058
Hydrants	Fire Hydrant	2021	50	$ 3,500	Good	Moderate	2058
Hydrants	Fire Hydrant	2021	50	$ 3,500	Good	Moderate	2058
Hydrants	Fire Hydrant	2021	50	$ 3,500	Good	Moderate	2058
Hydrants	Fire Hydrant	2021	50	$ 3,500	Good	Moderate	2058
Hydrants	Fire Hydrant	2021	50	$ 3,500	Good	Moderate	2058
Hydrants	Fire Hydrant	2021	50	$ 3,500	Good	Moderate	2058
Hydrants	Fire Hydrant	2021	50	$ 3,500	Good	Moderate	2058
Hydrants	Fire Hydrant	2021	50	$ 3,500	Good	Moderate	2058

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
Hydrants	Fire Hydrant	2021	50	$ 3,500	Good	Moderate	2058
Hydrants	Fire Hydrant	2021	50	$ 3,500	Good	Moderate	2058
Hydrants	Fire Hydrant	2021	50	$ 3,500	Good	Moderate	2058
Hydrants	Fire Hydrant	2021	50	$ 3,500	Good	Moderate	2058
Hydrants	Fire Hydrant	2021	50	$ 3,500	Good	Moderate	2058
Hydrants	Fire Hydrant	2021	50	$ 3,500	Good	Moderate	2058
Hydrants	Fire Hydrant	2021	50	$ 3,500	Good	Moderate	2058
Hydrants	Fire Hydrant	2021	50	$ 3,500	Good	Moderate	2058
Hydrants	Fire Hydrant	2021	50	$ 3,500	Good	Moderate	2058
Hydrants	Fire Hydrant	2021	50	$ 3,500	Good	Moderate	2058
Hydrants	Fire Hydrant	1981	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1973	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1981	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1981	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1972	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1972	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1982	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1972	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1987	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1999	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1979	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1987	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1987	50	$ 3,500	Poor	Moderate	2038

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Hydrants	Fire Hydrant	1989	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1989	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1987	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1987	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1973	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1989	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1989	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1989	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1989	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1972	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1971	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1985	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1982	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1982	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1982	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1986	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1986	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1972	50	$ 3,500	Poor	Moderate	2038
Hydrants	Fire Hydrant	1981	50	$ 3,500	Poor	Moderate	2036
Hydrant Valves							
Hydrant Valves	Hydrant Valve	1982	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2032

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1982	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1982	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1986	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1986	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1985	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1985	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1985	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1985	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1985	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1989	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1989	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1989	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1989	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1989	25	$ 1,200	Average	Moderate	2032

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1989	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1989	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1989	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1989	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1989	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	2016	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1989	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1978	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	1978	25	$ 1,200	Average	Moderate	2032
Hydrant Valves	Hydrant Valve	2017	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Average	Moderate	2035

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1978	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1978	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1978	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1975	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1975	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1975	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1995	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	2008	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1978	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1978	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1978	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2035

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1999	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1978	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1978	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	2006	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	2006	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	2006	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	2006	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	2006	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1987	25	$ 1,200	Average	Moderate	2033
Hydrant Valves	Hydrant Valve	1987	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1987	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1989	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1989	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1987	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1987	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1989	25	$ 1,200	Average	Moderate	2035

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Hydrant Valves	Hydrant Valve	1989	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1978	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	2018	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1995	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1971	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1985	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1985	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1985	25	$ 1,200	Average	Moderate	2035

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Hydrant Valves	Hydrant Valve	1985	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1985	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1986	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1986	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	2013	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	2004	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1982	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1982	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1982	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1986	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1982	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1982	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1982	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1982	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1982	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1982	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1982	25	$ 1,200	Average	Moderate	2035

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
Hydrant Valves	Hydrant Valve	1982	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1982	25	$ 1,200	Average	Moderate	2035
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Failed	Moderate	2020
Hydrant Valves	Hydrant Valve	1982	25	$ 1,200	Failed	Moderate	2020
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Failed	Moderate	2023
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Failed	Moderate	2023
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Failed	Moderate	2023
Hydrant Valves	Hydrant Valve	2003	25	$ 1,200	Failed	Moderate	2023
Hydrant Valves	Hydrant Valve	1978	25	$ 1,200	Failed	Moderate	2023
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Failed	Moderate	2023
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Good	Moderate	2040
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Good	Moderate	2040
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Good	Moderate	2040
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Good	Moderate	2040
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Good	Moderate	2040
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Good	Moderate	2040
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Good	Moderate	2040
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Good	Moderate	2040
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Good	Moderate	2040
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Good	Moderate	2040
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Good	Moderate	2040
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Good	Moderate	2040
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Good	Moderate	2040

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Good	Moderate	2040
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Good	Moderate	2040
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Good	Moderate	2040
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Good	Moderate	2040
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Good	Moderate	2040
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Good	Moderate	2040
Hydrant Valves	Hydrant Valve	2022	25	$ 1,200	Good	Moderate	2040
Hydrant Valves	Hydrant Valve	1989	25	$ 1,200	Poor	Moderate	2027
Hydrant Valves	Hydrant Valve	1989	25	$ 1,200	Poor	Moderate	2027
Hydrant Valves	Hydrant Valve	1989	25	$ 1,200	Poor	Moderate	2027
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Poor	Moderate	2027
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Poor	Moderate	2027
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	1981	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	1978	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	1973	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	1972	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	1999	25	$ 1,200	Poor	Moderate	2030

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Hydrant Valves	Hydrant Valve	1978	25	$ 1,200	Poor	Moderate	2028
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	1979	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	1991	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	1991	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	1987	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	1987	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	1985	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	1985	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	1985	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	1986	25	$ 1,200	Poor	Moderate	2030
Hydrant Valves	Hydrant Valve	2021	25	$ 1,200	Poor	Moderate	2030
Hydropneumatic Tanks							
Hydropneumatic Tanks	WTP 1 Hydropneumatic Tank	2002	30	$ 50,000	Average	Moderate	2038
Instruments and Controls							
Instruments and Controls	WTP 1 SCADA System	2018	20	$ 3,000	Average	Moderate	2033
Instruments and Controls	WTP 1 Motor Control Center	2023	20	$ 150,000	Excellent	Moderate	2041
Instruments and Controls	WTP 1 Water Analysis Controller	2020	20	$ 3,000	Good	Moderate	2037
Instruments and Controls	WTP 1 SCADA	2022	20	$ 5,000	Good	Moderate	2037
Instruments and Controls	WTP 2 Chlorine Analyzer	2023	20	$ 5,000	Good	Moderate	2037
Instruments and Controls	WTP 2 SCADA Panel	2022	20	$ 5,000	Good	Moderate	2037
Instruments and Controls	WTP 2 Digital Time Switch	2022	20	$ 500	Good	Moderate	2037

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Motors							
Motors	WTP 1 HSP 1 Motor	1983	20	$ 6,000	Average	Moderate	2033
Motors	WTP 1 HSP 3 Motor	1983	20	$ 6,000	Average	Moderate	2033
Motors	WTP 1 HSP 4 Motor	1983	20	$ 6,000	Average	Moderate	2033
Motors	Well 1 Motor	1972	20	$ 3,000	Average	Moderate	2033
Motors	Well 2 Motor	1974	20	$ 3,500	Average	Moderate	2033
Motors	Well 3 Motor	1992	20	$ 3,500	Average	Moderate	2033
Motors	Well 4 Motor	2022	20	$ 7,000	Good	Moderate	2037
Motors	WTP 2 HSP 4 Motor	2022	20	$ 4,000	Good	Moderate	2037
Motors	WTP 2 HSP 3 Motor	2022	20	$ 5,000	Good	Moderate	2037
Motors	WTP 2 HSP 2 Motor	2022	20	$ 5,000	Good	Moderate	2037
Motors	WTP 2 HSP 1 Motor	2022	20	$ 5,000	Good	Moderate	2037
Motors	WTP 1 HSP 2 Motor	1983	20	$ 4,000	Poor	Moderate	2029
Other Equipment and Tools							
Other Equip. and Tools	WTP 1 Eyewash Station	1984	20	$ 1,000	Average	Moderate	2033
Other Equip. and Tools	Chlorine Alarm and Detector	1984	20	$ 3,000	Average	Moderate	2033
Other Equip. and Tools	WTP 1 Diesel Fuel Tank	1984	20	$ 10,000	Average	Moderate	2033
Pumps							
Pumps	WTP 1 Chemical Pump 1	2010	20	$ 2,000	Average	Moderate	2033
Pumps	WTP 1 Chlorine Pump 1	2010	20	$ 2,000	Average	Moderate	2033
Pumps	WTP 1 Chlorine Pump 2	2010	20	$ 2,000	Average	Moderate	2033
Pumps	WTP 1 Chlorine Pump 3	2010	20	$ 2,000	Average	Moderate	2033

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Pumps	WTP 1 HSP 1	1983	20	$ 10,000	Average	Moderate	2033
Pumps	WTP 1 HSP 3	1983	20	$ 10,000	Average	Moderate	2033
Pumps	WTP 1 HSP 4	1983	20	$ 10,000	Average	Moderate	2033
Pumps	Well 1 Pump	1972	20	$ 8,000	Average	Moderate	2033
Pumps	Well 2 Pump	1974	20	$ 10,000	Average	Moderate	2033
Pumps	Well 3 Pump	1992	20	$ 10,000	Average	Moderate	2033
Pumps	Well 4 Pump	2022	20	$ 15,000	Good	Moderate	2037
Pumps	WTP 2 HSP 4	2022	20	$ 17,000	Good	Moderate	2037
Pumps	WTP 2 HSP 3	2022	20	$ 42,500	Good	Moderate	2037
Pumps	WTP 2 HSP 2	2022	20	$ 42,500	Good	Moderate	2037
Pumps	WTP 2 HSP 1	2022	20	$ 42,500	Good	Moderate	2037
Pumps	WTP 2 Hydrogen Peroxide Pump	2022	20	$ 1,000	Good	Moderate	2037
Pumps	WTP 1 HSP 2	1983	20	$ 6,000	Poor	Moderate	2029
Security Equipment							
Security Equipment	WTP 1 Security Fencing	1983	20	$ 12,000	Average	Moderate	2033
Security Equipment	Well 1 Fencing	1972	20	$ 1,500	Average	Moderate	2033
Security Equipment	Well 2 Security Fence	1974	20	$ 2,000	Average	Moderate	2033
Security Equipment	Well 3 Security Fencing	1992	20	$ 2,000	Average	Moderate	2033
Storage Tanks							
Storage Tanks	WTP 1 Ground Storage Tank 2	1998	50	$ 2,000,000	Average	Moderate	2048
Storage Tanks	WTP 2 Ground Storage Tank	1982	50	$ 2,000,000	Average	Moderate	2048
Storage Tanks	WTP 1 Ground Storage Tank 1	1983	50	$ 1,250,000	Poor	Moderate	2038

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
System Valves							
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1981	25	$ 1,600	Average	Moderate	2033
System Valves	Water-10-Gate Valve	1981	25	$ 2,000	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1981	25	$ 1,600	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1981	25	$ 1,600	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1981	25	$ 1,600	Average	Moderate	2033
System Valves	Water-10-Gate Valve	1981	25	$ 2,000	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Average	Moderate	2035
System Valves	Water-2-Gate Valve	1975	25	$ 400	Average	Moderate	2035
System Valves	Water-2-Gate Valve	1975	25	$ 400	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2035

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1981	25	$ 1,600	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1981	25	$ 1,600	Average	Moderate	2033
System Valves	Water-10-Gate Valve	1975	25	$ 2,000	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-2-Gate Valve	1975	25	$ 400	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-2-Gate Valve	1975	25	$ 400	Average	Moderate	2035
System Valves	Water-2-Gate Valve	1975	25	$ 400	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-10-Gate Valve	1975	25	$ 2,000	Average	Moderate	2033

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
System Valves	Water-10-Gate Valve	1975	25	$ 2,000	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1975	25	$ 1,600	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-10-Gate Valve	1975	25	$ 2,000	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1981	25	$ 1,600	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1981	25	$ 1,600	Average	Moderate	2035
System Valves	Water-10-Gate Valve	1981	25	$ 2,000	Average	Moderate	2035
System Valves	Water-10-Gate Valve	1981	25	$ 2,000	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-10-Gate Valve	1972	25	$ 2,000	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-10-Gate Valve	1975	25	$ 2,000	Average	Moderate	2033

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2033
System Valves	Water-4-Gate Valve	1975	25	$ 800	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Average	Moderate	2035
System Valves	Water-12-Gate Valve	1975	25	$ 2,400	Average	Moderate	2035
System Valves	Water-12-Gate Valve	1975	25	$ 2,400	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Average	Moderate	2035
System Valves	Water-4-Gate Valve	1990	25	$ 800	Average	Moderate	2035
System Valves	Water-4-Gate Valve	1975	25	$ 800	Average	Moderate	2035
System Valves	Water-10-Gate Valve	1975	25	$ 2,000	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Average	Moderate	2035
System Valves	Water-4-Gate Valve	1975	25	$ 800	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-12-Gate Valve	1975	25	$ 2,400	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1978	25	$ 1,200	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Average	Moderate	2033

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
System Valves	Water-12-Gate Valve	1975	25	$ 2,400	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1981	25	$ 1,600	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1981	25	$ 1,600	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1978	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1978	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1979	25	$ 1,600	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2035
System Valves	Water-10-Gate Valve	1975	25	$ 2,000	Average	Moderate	2035
System Valves	Water-10-Gate Valve	1975	25	$ 2,000	Average	Moderate	2035
System Valves	Water-10-Gate Valve	1978	25	$ 2,000	Average	Moderate	2033
System Valves	Water-12-Gate Valve	1978	25	$ 2,400	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1978	25	$ 1,200	Average	Moderate	2033
System Valves	Water-10-Gate Valve	1978	25	$ 2,000	Average	Moderate	2033
System Valves	Water-10-Gate Valve	1978	25	$ 2,000	Average	Moderate	2033

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1978	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1979	25	$ 1,600	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1979	25	$ 1,600	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1979	25	$ 1,600	Average	Moderate	2035
System Valves	Water-4-Gate Valve	1979	25	$ 800	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1979	25	$ 1,600	Average	Moderate	2035
System Valves	Water-4-Gate Valve	1979	25	$ 800	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1979	25	$ 1,600	Average	Moderate	2035
System Valves	Water-4-Gate Valve	1979	25	$ 800	Average	Moderate	2035
System Valves	Water-4-Gate Valve	1979	25	$ 800	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1979	25	$ 1,600	Average	Moderate	2033
System Valves	Water-6-Gate Valve	2006	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1987	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1987	25	$ 1,600	Average	Moderate	2035

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
System Valves	Water-8-Gate Valve	1987	25	$ 1,600	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1987	25	$ 1,600	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1989	25	$ 1,600	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1989	25	$ 1,600	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1989	25	$ 1,600	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1989	25	$ 1,600	Average	Moderate	2033
System Valves	Water-10-Gate Valve	1989	25	$ 2,000	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1999	25	$ 1,200	Average	Moderate	2035
System Valves	Water-12-Gate Valve	1999	25	$ 2,400	Average	Moderate	2033
System Valves	Water-12-Gate Valve	1999	25	$ 2,400	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1987	25	$ 1,200	Average	Moderate	2035
System Valves	Water-4-Gate Valve	1987	25	$ 800	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1987	25	$ 1,200	Average	Moderate	2035
System Valves	Water-4-Gate Valve	1979	25	$ 800	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2035
System Valves	Water-10-Gate Valve	1981	25	$ 2,000	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2035
System Valves	Water-4-Gate Valve	1981	25	$ 800	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2035

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Average	Moderate	2034
System Valves	Water-10-Gate Valve	1981	25	$ 2,000	Average	Moderate	2034
System Valves	Water-10-Gate Valve	1981	25	$ 2,000	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2033
System Valves	Water-10-Gate Valve	1981	25	$ 2,000	Average	Moderate	2034
System Valves	Water-10-Gate Valve	1981	25	$ 2,000	Average	Moderate	2033
System Valves	Water-10-Gate Valve	1981	25	$ 2,000	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1981	25	$ 1,600	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1982	25	$ 1,600	Average	Moderate	2035
System Valves	Water-8-Gate Valve	1982	25	$ 1,600	Average	Moderate	2035
System Valves	Water-6-Water Line	1982	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Water Line	1981	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Water Line	1981	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Water Line	1981	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Water Line	1981	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Water Line	1981	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Water Line	1982	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Water Line	1981	25	$ 1,200	Average	Moderate	2035

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
System Valves	Water-6-Water Line	1982	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Water Line	1982	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Water Line	1982	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1982	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1982	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Water Line	1982	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1982	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1982	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1982	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1982	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-2-Gate Valve	1972	25	$ 400	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1985	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1985	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1985	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1985	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1985	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1985	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1985	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1985	25	$ 1,200	Average	Moderate	2035
System Valves	Water-4-Gate Valve	1985	25	$ 800	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1985	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1985	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1989	25	$ 1,600	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1989	25	$ 1,600	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1989	25	$ 1,600	Average	Moderate	2033
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1989	25	$ 1,600	Average	Moderate	2033
System Valves	Water-8-Gate Valve	1981	25	$ 1,600	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	Water-10-Gate Valve	1975	25	$ 2,000	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2035
System Valves	Water-2-Gate Valve	1999	25	$ 400	Average	Moderate	2035
System Valves	Water-6-Gate Valve	2006	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	2006	25	$ 1,200	Average	Moderate	2035

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
System Valves	Water-6-Gate Valve	2006	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	2006	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	2006	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2035
System Valves	Water-10-Gate Valve	1989	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1985	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1985	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1986	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1986	25	$ 1,200	Average	Moderate	2035
System Valves	Water-2-Gate Valve	1982	25	$ 400	Average	Moderate	2035
System Valves	WTP 1 Facility Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	WTP 1 Facility Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	WTP 1 Facility Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	WTP 1 Facility Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	WTP 1 Facility Valve	1975	25	$ 1,200	Average	Moderate	2035
System Valves	WTP 1 Facility Valve	1983	25	$ 1,200	Average	Moderate	2035
System Valves	WTP 1 HSP 1 Valve	1983	25	$ 1,200	Average	Moderate	2035
System Valves	WTP 1 HSP 2 Valve	1983	25	$ 1,200	Average	Moderate	2035
System Valves	WTP 1 HSP 3 Valve	1983	25	$ 1,200	Average	Moderate	2035

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
System Valves	WTP 1 HSP 4 Valve	1983	25	$ 1,200	Average	Moderate	2035
System Valves	WTP 1 HSP 1 Isolation Valve	1983	25	$ 1,200	Average	Moderate	2035
System Valves	WTP 1 HSP 2 Isolation Valve	1983	25	$ 1,200	Average	Moderate	2035
System Valves	WTP 1 HSP 3 Isolation Valve	1983	25	$ 1,200	Average	Moderate	2035
System Valves	WTP 1 HSP 4 Isolation Valve	1983	25	$ 1,200	Average	Moderate	2035
System Valves	Meter Vault Valve 1	2019	25	$ 1,200	Average	Moderate	2035
System Valves	Meter Vault Valve 2	2019	25	$ 1,200	Average	Moderate	2035
System Valves	Well 1 Valve	1972	25	$ 1,200	Average	Moderate	2035
System Valves	Well 2 Valve 2	1974	25	$ 800	Average	Moderate	2035
System Valves	Well 2 Bypass Valve	1974	25	$ 1,200	Average	Moderate	2035
System Valves	Well 2 Valve 1	1974	25	$ 1,200	Average	Moderate	2035
System Valves	Well 2 Discharge Valve	1974	25	$ 2,000	Average	Moderate	2035
System Valves	Well 2 Isolation Valve	1974	25	$ 1,200	Average	Moderate	2035
System Valves	Well 3 Discharge Valve	1992	25	$ 1,200	Average	Moderate	2035
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Failed	Moderate	2023
System Valves	Water-2-Gate Valve	1975	25	$ 400	Failed	Moderate	2023
System Valves	Water-10-Gate Valve	1975	25	$ 2,000	Failed	Moderate	2021
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Failed	Moderate	2023
System Valves	Water-8-Gate Valve	1972	25	$ 1,600	Failed	Moderate	2023
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Failed	Moderate	2023
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Failed	Moderate	2023
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Failed	Moderate	2023
System Valves	Water-6-Gate Valve	1978	25	$ 1,200	Failed	Moderate	2021

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
System Valves	Water-8-Gate Valve	1979	25	$ 1,600	Failed	Moderate	2021
System Valves	Water-10-Gate Valve	1987	25	$ 2,000	Failed	Moderate	2021
System Valves	Water-8-Gate Valve	1989	25	$ 1,600	Failed	Moderate	2021
System Valves	Water-10-Gate Valve	1989	25	$ 2,000	Failed	Moderate	2021
System Valves	Water-8-Gate Valve	1989	25	$ 1,600	Failed	Moderate	2021
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Failed	Moderate	2023
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Failed	Moderate	2023
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Failed	Moderate	2023
System Valves	Water-6-Water Line	1982	25	$ 1,200	Failed	Moderate	2023
System Valves	Water-8-Gate Valve	1982	25	$ 1,600	Failed	Moderate	2023
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Failed	Moderate	2021
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Failed	Moderate	2021
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Failed	Moderate	2021
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Failed	Moderate	2021
System Valves	Water-12-Gate Valve	1981	25	$ 2,400	Failed	Moderate	2021
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Failed	Moderate	2023
System Valves	Water-10-Gate Valve	2021	25	$ 2,000	Failed	Moderate	2023
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Failed	Moderate	2023
System Valves	Water-10-Gate Valve	1989	25	$ 2,000	Failed	Moderate	2023
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Failed	Moderate	2023
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Failed	Moderate	2020
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Good	Moderate	2040
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Good	Moderate	2040

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Good	Moderate	2040
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Good	Moderate	2040
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Good	Moderate	2040
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Good	Moderate	2040
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Good	Moderate	2040
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Good	Moderate	2040
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Good	Moderate	2040
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Good	Moderate	2040
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Good	Moderate	2040
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Good	Moderate	2040
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Good	Moderate	2040
System Valves	Water-8-Gate Valve	2021	25	$ 1,200	Good	Moderate	2040
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Good	Moderate	2040
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Good	Moderate	2040
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Good	Moderate	2040
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Good	Moderate	2040
System Valves	Water-6-Gate Valve	2021	25	$ 1,200	Good	Moderate	2040
System Valves	Water-6-Gate Valve	2021	25	$ 1,200	Good	Moderate	2040
System Valves	Water-10-Gate Valve	2021	25	$ 2,000	Good	Moderate	2040
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Good	Moderate	2040
System Valves	Water-10-Gate Valve	2021	25	$ 2,000	Good	Moderate	2040
System Valves	Water-10-Gate Valve	2021	25	$ 2,000	Good	Moderate	2040
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Good	Moderate	2040

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
System Valves	Water-10-Gate Valve	2021	25	$ 2,000	Good	Moderate	2040
System Valves	Water-8-Gate Valve	2018	25	$ 1,600	Good	Moderate	2040
System Valves	WTP 1 Facility Valve	2022	25	$ 300	Good	Moderate	2040
System Valves	WTP 1 Facility Valve	2022	25	$ 2,400	Good	Moderate	2040
System Valves	WTP 1 Facility Valve	2022	25	$ 2,400	Good	Moderate	2040
System Valves	Well 4 Valve	2022	25	$ 2,000	Good	Moderate	2040
System Valves	WTP Finished Water Valve 1	2021	25	$ 1,600	Good	Moderate	2040
System Valves	WTP 2 Finished Water Valve 2	2021	25	$ 1,600	Good	Moderate	2040
System Valves	WTP 2 Finished Water Valve 3	2021	25	$ 1,600	Good	Moderate	2040
System Valves	WTP 2 HSP Vale	2022	25	$ 2,400	Good	Moderate	2040
System Valves	WTP 2 HSP 4 Valve 1	2022	25	$ 800	Good	Moderate	2040
System Valves	WTP 2 HSP 3 Valve 1	2022	25	$ 1,600	Good	Moderate	2040
System Valves	WTP 2 HSP 2 Valve 1	2022	25	$ 1,600	Good	Moderate	2040
System Valves	WTP 2 HSP 1 Valve 1	2022	25	$ 1,600	Good	Moderate	2040
System Valves	WTP 2 HSP 4 Valve 2	2022	25	$ 800	Good	Moderate	2040
System Valves	WTP 2 HSP 3 Valve 2	2022	25	$ 1,600	Good	Moderate	2040
System Valves	WTP 2 HSP 2 Valve 2	2022	25	$ 1,600	Good	Moderate	2040
System Valves	WTP 2 HSP 1 Valve 2	2022	25	$ 1,600	Good	Moderate	2040
System Valves	Water-10-Gate Valve	1981	25	$ 2,000	Poor	Moderate	2028
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Poor	Moderate	2028
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-4-Gate Valve	1975	25	$ 800	Poor	Moderate	2028

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
System Valves	Water-2-Gate Valve	1975	25	$ 400	Poor	Moderate	2028
System Valves	Water-2-Gate Valve	1975	25	$ 400	Poor	Moderate	2028
System Valves	Water-8-Gate Valve	1979	25	$ 1,600	Poor	Moderate	2030
System Valves	Water-2-Gate Valve	1975	25	$ 400	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-10-Gate Valve	1975	25	$ 2,000	Poor	Moderate	2030
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Poor	Moderate	2030
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Poor	Moderate	2030
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Poor	Moderate	2030
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Poor	Moderate	2030
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Poor	Moderate	2028
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Poor	Moderate	2028
System Valves	Water-4-Gate Valve	1975	25	$ 800	Poor	Moderate	2028
System Valves	Water-10-Gate Valve	1975	25	$ 2,000	Poor	Moderate	2028
System Valves	Water-4-Gate Valve	1975	25	$ 800	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-10-Gate Valve	1975	25	$ 2,000	Poor	Moderate	2030
System Valves	Water-10-Gate Valve	1975	25	$ 2,000	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-10-Gate Valve	1975	25	$ 2,000	Poor	Moderate	2030
System Valves	Water-10-Gate Valve	1975	25	$ 2,000	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Poor	Moderate	2030

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1975	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-10-Gate Valve	1975	25	$ 2,000	Poor	Moderate	2030
System Valves	Water-10-Gate Valve	1975	25	$ 2,000	Poor	Moderate	2028
System Valves	Water-2-Gate Valve	1975	25	$ 400	Poor	Moderate	2030
System Valves	Water-4-Gate Valve	1975	25	$ 800	Poor	Moderate	2030
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Poor	Moderate	2030
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Poor	Moderate	2030
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Poor	Moderate	2030
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Poor	Moderate	2030
System Valves	Water-8-Gate Valve	1975	25	$ 1,600	Poor	Moderate	2030
System Valves	Water-12-Gate Valve	1975	25	$ 2,400	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1978	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-2-Gate Valve	1979	25	$ 400	Poor	Moderate	2030
System Valves	Water-4-Gate Valve	1979	25	$ 800	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-2-Gate Valve	1979	25	$ 400	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-8-Gate Valve	1979	25	$ 1,600	Poor	Moderate	2030
System Valves	Water-10-Gate Valve	1979	25	$ 2,000	Poor	Moderate	2028
System Valves	Water-10-Gate Valve	1979	25	$ 2,000	Poor	Moderate	2028

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
System Valves	Water-8-Gate Valve	1979	25	$ 1,600	Poor	Moderate	2028
System Valves	Water-8-Gate Valve	1989	25	$ 1,600	Poor	Moderate	2028
System Valves	Water-10-Gate Valve	1989	25	$ 2,000	Poor	Moderate	2028
System Valves	Water-10-Gate Valve	1989	25	$ 2,000	Poor	Moderate	2028
System Valves	Water-12-Gate Valve	1978	25	$ 2,400	Poor	Moderate	2030
System Valves	Water-8-Gate Valve	1978	25	$ 1,600	Poor	Moderate	2028
System Valves	Water-6-Gate Valve	1978	25	$ 1,200	Poor	Moderate	2028
System Valves	Water-8-Gate Valve	1987	25	$ 1,600	Poor	Moderate	2030
System Valves	Water-4-Gate Valve	1987	25	$ 800	Poor	Moderate	2030
System Valves	Water-4-Gate Valve	1987	25	$ 800	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1987	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1987	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-4-Gate Valve	1987	25	$ 800	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1987	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-4-Gate Valve	1987	25	$ 800	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1979	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-10-Gate Valve	1981	25	$ 2,000	Poor	Moderate	2029
System Valves	Water-8-Gate Valve	1981	25	$ 1,600	Poor	Moderate	2030
System Valves	Water-8-Gate Valve	1981	25	$ 1,600	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1981	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Water Line	1982	25	$ 1,200	Poor	Moderate	2030

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
System Valves	Water-6-Water Line	1982	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Water Line	1972	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Water Line	1972	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Water Line	1972	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Water Line	1982	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Water Line	1982	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Water Line	1982	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1982	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1982	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1972	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1985	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Poor	Moderate	2028
System Valves	Water-6-Gate Valve	1989	25	$ 1,200	Poor	Moderate	2028
System Valves	Water-10-Gate Valve	1989	25	$ 2,000	Poor	Moderate	2027
System Valves	Water-8-Gate Valve	2021	25	$ 1,600	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	2021	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-10-Gate Valve	1975	25	$ 2,000	Poor	Moderate	2030
System Valves	Water-6-Gate Valve	2006	25	$ 1,200	Poor	Moderate	2030
System Valves	Water-8-Gate Valve	1989	25	$ 1,600	Poor	Moderate	2030

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
System Valves	Water-8-Gate Valve	1989	25	$ 1,600	Poor	Moderate	2030
System Valves	Water-2-Gate Valve	1986	25	$ 400	Poor	Moderate	2030
Treatment Equipment							
Treatment Equipment	WTP1 GST2 Aerator	1998	25	$ 25,000	Average	Moderate	2036
Treatment Equipment	WTP1 GST1 Aerator	1983	25	$ 25,000	Average	Moderate	2036
Treatment Equipment	WTP 1 Chemical Treatment Tank System	2020	25	$ 3,000	Average	Moderate	2036
Treatment Equipment	WTP Chlorine Treatment Tank 1 and 2	2010	25	$ 5,000	Average	Moderate	2036
Treatment Equipment	Well 4 Chlorine Injector	2022	25	$ 1,000	Good	Moderate	2041
Treatment Equipment	Well 4 Hydrogen Peroxide Injector	2022	25	$ 1,000	Good	Moderate	2041
Treatment Equipment	WTP 2 Finished Water Chlorine Injector	2021	25	$ 1,000	Good	Moderate	2041
Treatment Equipment	WTP 2 Polyphosphate Injector	2022	25	$ 1,000	Good	Moderate	2041
Treatment Equipment	WTP 2 Chlorine Treatment Tank 1	2022	25	$ 5,000	Good	Moderate	2041
Treatment Equipment	WTP 2 Hydrogen Peroxide Tank	2022	25	$ 500	Good	Moderate	2041
Treatment Equipment	WTP 2 Triplex Chlorine Skid Assembly	2022	25	$ 40,000	Good	Moderate	2041
Treatment Equipment	WTP 2 Chlorine Pump 1	2022	25	$ 1,000	Good	Moderate	2041
Treatment Equipment	WTP 2 Chlorine Pump 2	2022	25	$ 1,000	Good	Moderate	2041
Treatment Equipment	WTP 2 Chlorine Pump 3	2022	25	$ 1,000	Good	Moderate	2041
Treatment Equipment	WTP2 Chlorine Treatment Tank 2	2022	25	$ 5,000	Good	Moderate	2041
Treatment Equipment	WTP 2 Polyphosphate Tank	2022	25	$ 2,000	Good	Moderate	2041
Treatment Equipment	WTP 2 Polyphosphate Pump	2022	25	$ 1,000	Good	Moderate	2041
Treatment Equipment	WTP 2 Polyphosphate Tank Mixer	2022	25	$ 1,000	Good	Moderate	2041
Utility Meters							
Utility Meters	Hydrant Meter	2007	15	$ 1,000	Average	Moderate	2030

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Utility Meters	WTP 1 Flow Meter	1984	15	$ 5,000	Average	Moderate	2030
Utility Meters	WTP 1 Flow Meter	2019	15	$ 3,500	Average	Moderate	2030
Utility Meters	Well 1 Flow Meter	2015	15	$ 3,500	Average	Moderate	2030
Utility Meters	Well 2 Flow Meter	2015	15	$ 3,000	Average	Moderate	2030
Utility Meters	Well 3 Flow Meter	2015	15	$ 3,000	Average	Moderate	2030
Utility Meters	Flow Meter	2018	15	$ 1,000	Good	Moderate	2033
Utility Meters	Well 4 Flow Meter	2021	15	$ 8,000	Good	Moderate	2033
Utility Meters	WTP 2 Finished Water Flow Meter	2021	15	$ 4,000	Good	Moderate	2033
Utility Meters	WTP 2 Backflow Assembly Meter	2022	15	$ 500	Good	Moderate	2033
Water Mains							
Water Mains	6" Water Line	1975	100	$ 134,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 44,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 32,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 15,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 26,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 38,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	10" Water Line	1975	100	$ 80,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 53,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 48,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 37,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 91,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 69,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 17,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 23,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 15,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 141,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 152,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 18,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	4" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 22,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 28,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 43,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 68,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 13,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 18,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 54,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 55,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 392,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 23,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 2,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	10" Water Line	1975	100	$ 59,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 72,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 26,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 43,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 68,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 60,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 35,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 24,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 1,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	4" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 242,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 166,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 83,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 13,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 34,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 70,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 21,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 129,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 48,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 78,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 19,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	8" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 33,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 39,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 18,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 51,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 15,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 81,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 47,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 15,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 15,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 35,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 36,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	10" Water Line	1975	100	$ 22,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 15,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 25,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 44,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 21,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 50,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 15,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 17,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 3,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	4" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 18,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 34,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 40,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 99,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 15,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 36,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 19,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 24,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 28,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 5,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	6" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 23,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 241,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 44,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 34,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 28,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 28,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 13,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 29,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 1,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	8" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 39,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 17,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 25,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 27,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 19,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 19,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 55,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 18,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 49,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 24,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 20,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 16,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	6" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 13,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 14,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 16,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	2" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 19,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 24,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 14,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	2" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 14,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 15,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 19,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 49,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 54,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 17,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 24,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 30,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 20,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 16,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 38,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 41,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	4" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 14,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 81,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 55,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 35,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 1,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	6" Water Line	1975	100	$ 19,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 27,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 14,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 24,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 16,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 21,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 28,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 13,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 21,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 79,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 9,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	8" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 30,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 21,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 162,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 45,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 42,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 40,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 34,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 40,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 21,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	12" Water Line	1975	100	$ 50,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 84,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 14,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 22,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 16,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 22,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 3,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	6" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 43,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 4,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	4" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 75,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 40,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 26,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 17,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 24,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 14,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 20,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 2,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	4" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 20,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 16,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 44,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 24,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 16,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 14,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 26,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 73,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 44,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 34,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 103,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 18,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	6" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 22,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 18,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 16,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 17,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 70,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 13,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1982	100	$ 8,000	Average	Moderate	2073
Water Mains	6" Water Line	1982	100	$ 34,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 36,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 23,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 37,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 103,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 15,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 21,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 54,000	Average	Moderate	2073
Water Mains	2" Water Line	1982	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1982	100	$ 41,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	6" Water Line	1982	100	$ 27,000	Average	Moderate	2073
Water Mains	6" Water Line	1982	100	$ 11,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1982	100	$ 19,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 15,000	Average	Moderate	2073
Water Mains	6" Water Line	1982	100	$ 38,000	Average	Moderate	2073
Water Mains	6" Water Line	1982	100	$ 26,000	Average	Moderate	2073
Water Mains	6" Water Line	1982	100	$ 39,000	Average	Moderate	2073
Water Mains	6" Water Line	1982	100	$ 38,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 34,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 29,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 118,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 98,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 23,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 1,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	6" Water Line	1975	100	$ 50,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 32,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 33,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 43,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 62,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 15,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 20,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	6" Water Line	1975	100	$ 20,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 23,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 86,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 40,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 36,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 17,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 15,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 64,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 14,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 45,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 49,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 14,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 30,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 14,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 25,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 14,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 16,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 15,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 26,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 20,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 17,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 19,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	4" Water Line	1985	100	$ 3,000	Average	Moderate	2073
Water Mains	4" Water Line	1985	100	$ 6,000	Average	Moderate	2073
Water Mains	4" Water Line	1985	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 13,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 13,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 17,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 27,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 20,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 16,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 27,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 70,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 7,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	6" Water Line	1975	100	$ 19,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 22,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 13,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 18,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	8" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 32,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 21,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 21,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 21,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 43,000	Average	Moderate	2073
Water Mains	8" Water Line	1975	100	$ 17,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 14,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 13,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 5,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 34,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 37,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	6" Water Line	1975	100	$ 15,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 30,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 14,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 14,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 55,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 58,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 154,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 28,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 18,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 17,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 11,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 20,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 3,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	6" Water Line	1975	100	$ 12,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	4" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 16,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 7,000	Average	Moderate	2073
Water Mains	10" Water Line	1975	100	$ 49,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 24,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 18,000	Average	Moderate	2073
Water Mains	12" Water Line	1975	100	$ 19,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 4,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	6" Water Line	1986	100	$ 82,000	Average	Moderate	2073
Water Mains	6" Water Line	1986	100	$ 35,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 10,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
Water Mains	4" Water Line	1975	100	$ 10,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 9,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 8,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 2,000	Average	Moderate	2073
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2071
Water Mains	2" Water Line	1975	100	$ 1,000	Average	Moderate	2071
Water Mains	2" Water Line	1975	100	$ 8,000	Average	Moderate	2072
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	Name	Installed	Design Life	Replacement Cost	Condition	Consequence of Failure	EOL
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	2021	100	$ 19,000	Average	Moderate	2073
Water Mains	6" Water Line	2022	100	$ 1,000	Average	Moderate	2072
Water Mains	6" Water Line	2022	100	$ 1,000	Average	Moderate	2072
Water Mains	6" Water Line	2022	100	$ 1,000	Average	Moderate	2072
Water Mains	6" Water Line	2022	100	$ 1,000	Average	Moderate	2072
Water Mains	6" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	2022	100	$ 1,000	Average	Moderate	2072

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	6" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	2022	100	$ 1,000	Average	Moderate	2072
Water Mains	6" Water Line	2022	100	$ 1,000	Average	Moderate	2072
Water Mains	8" Water Line	2021	100	$ 92,000	Average	Moderate	2073
Water Mains	8" Water Line	2021	100	$ 56,000	Average	Moderate	2072
Water Mains	6" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	2021	100	$ 205,000	Average	Moderate	2073
Water Mains	8" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	2021	100	$ 18,000	Average	Moderate	2073
Water Mains	6" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	2021	100	$ 4,000	Average	Moderate	2073
Water Mains	8" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	2021	100	$ 4,000	Average	Moderate	2073
Water Mains	8" Water Line	2021	100	$ 43,000	Average	Moderate	2073
Water Mains	8" Water Line	2021	100	$ 37,000	Average	Moderate	2073
Water Mains	8" Water Line	2021	100	$ 54,000	Average	Moderate	2073
Water Mains	8" Water Line	2021	100	$ 3,000	Average	Moderate	2073
Water Mains	8" Water Line	2021	100	$ 66,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	6" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	Service Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	2021	100	$ 12,000	Average	Moderate	2073
Water Mains	10" Water Line	2021	100	$ 51,000	Average	Moderate	2073
Water Mains	6" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	2021	100	$ 7,000	Average	Moderate	2073
Water Mains	10" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	6" Water Line	2021	100	$ 4,000	Average	Moderate	2073
Water Mains	6" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	8" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	2021	100	$ 1,000	Average	Moderate	2073
Water Mains	10" Water Line	2021	100	$ 2,000	Average	Moderate	2073
Water Mains	10" Water Line	2021	100	$ 9,000	Average	Moderate	2073

MASTER ASSET LIST							
Layer	**Name**	**Installed**	**Design Life**	**Replacement Cost**	**Condition**	**Consequence of Failure**	**EOL**
Water Mains	10" Water Line	2021	100	$ 53,000	Average	Moderate	2073
Water Mains	10" Water Line	2021	100	$ 102,000	Average	Moderate	2073
Water Mains	6" Water Line	1975	100	$ 6,000	Average	Moderate	2073
Water Mains	12" Water Line	2022	100	$ 110,000	Good	Moderate	2093
Water Mains	12" Water Line	1975	100	$ 37,000	Poor	Moderate	2053
Water Mains	12" Water Line	1975	100	$ 60,000	Poor	Moderate	2053
Water Mains	12" Water Line	1975	100	$ 92,000	Poor	Moderate	2053
Water Mains	12" Water Line	1975	100	$ 53,000	Poor	Moderate	2053
Water Mains	12" Water Line	1975	100	$ 99,000	Poor	Moderate	2053
Water Mains	12" Water Line	1975	100	$ 55,000	Poor	Moderate	2053
Wells							
Wells	Well 1	1972	50	$ 225,000	Average	Major	2048
Wells	Well 2	1974	50	$ 450,000	Average	Major	2048
Wells	Well 3	1992	50	$ 480,000	Average	Major	2048
Wells	Well 4	1982	50	$ 750,000	Average	Major	2048

Appendix C: RevPlan Recommended Scenario

Spring Lake Improvement District (SLID)

S1 SLID 2023 (10yr model)

Fiscal Year: 2023

FLORIDA RURAL WATER ASSOCIATION
2970 WELLINGTON CIRCLE
TALLAHASSEE, FL 32309
850-668-2746
Completed by: Dyana Jo Stewart

July 18, 2023

Spring Lake Improvement District (SLID)
S1 SLID 2023 (10yr model)
Fiscal Year: 2023
Proposed Rate Adjustments

This rate scenario shows the needed rate increases to meet expenses as identified on the FY22-23 Budgeted, existing debt requirements, additional costs for Annual Asset Maintenance and if Capital Improvement Projects identified in this scenario do not change. Please note that Asset Management costs could increase as the Utility staff continues to locate and add assets to Mapping System.

This rate scenario has applied an annual Consumer Price Index (CPI) shown in figure 1, increase on all budgeted O&M expenses after FY22-23. If the CPI for any given year exceeds percentages in Figure 1, rates will need to be increased by the percenage difference. The proposed rate increases (see figure 2) will allow the system to maintain an Unrestricted Reserve of over 270 days of O&M Expense beginning in FY23.

Description	Escalation Factor FY								
	2023	2024	2025	2026	2027	2028	2029	2030	2031
CIP	5	5	5	5	5	5	5	5	5

Figure 1

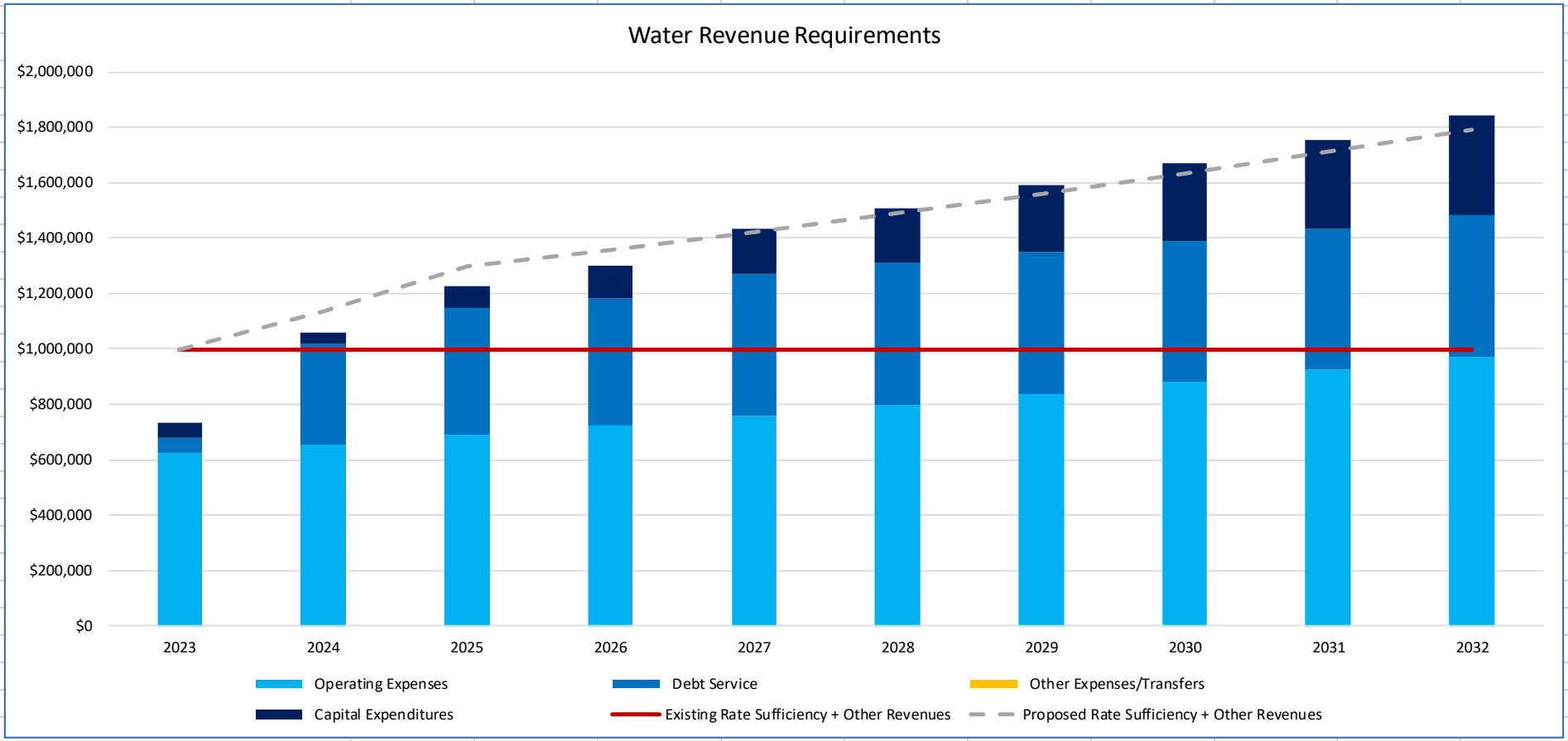
Rate Class	Fiscal Year								
	2023	2024	2025	2026	2027	2028	2029	2030	2031
DW Residential & Non-Residential									
Base	0	15	15	5	5	5	5	5	5
Usage	0	15	15	5	5	5	5	5	5
WW Residential & Non-Residential									
Base	0	5	5	5	5	5	5	5	5
Usage	0	5	5	5	5	5	5	5	5

Figure 2

Spring Lake Improvement District (SLID)
S1 SLID 2023 (10yr model)
Fiscal Year: 2023
Water Revenue Requirements

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Revenue Requirements:										
Operating Expenses	$625,200	$656,500	$689,300	$723,800	$760,000	$798,000	$837,900	$879,800	$923,700	$969,900
Debt Service	$52,700	$364,700	$457,600	$457,600	$511,300	$511,300	$511,300	$511,300	$511,300	$511,300
Other Expenses/Transfers	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Capital Expenditures	$57,000	$40,000	$80,000	$120,000	$160,000	$200,000	$240,000	$280,000	$320,000	$360,000
Gross Revenue Requirements	$734,900	$1,061,200	$1,227,000	$1,301,400	$1,431,300	$1,509,300	$1,589,200	$1,671,100	$1,755,100	$1,841,300
Less: Other Revenue	$74,300	$74,300	$74,300	$74,300	$74,300	$74,300	$74,300	$74,300	$74,300	$74,300
Net Revenue Requirements	$660,600	$986,900	$1,152,700	$1,227,100	$1,357,000	$1,435,000	$1,514,900	$1,596,800	$1,680,800	$1,767,000
Existing Rate Sufficiency:										
Revenue from Existing Rates	$923,800	$923,800	$923,800	$923,800	$923,800	$923,800	$923,800	$923,800	$923,800	$923,800
Revenue Surplus/(Deficiency)	$263,100	-$63,200	-$228,900	-$303,400	-$433,300	-$511,300	-$591,100	-$673,000	-$757,000	-$843,200
Proposed Rate Sufficiency:										
Revenue from Proposed Rates	$923,800	$1,062,300	$1,221,700	$1,282,700	$1,346,900	$1,414,200	$1,484,900	$1,559,200	$1,637,100	$1,719,000
Increase in Revenue	$0	$138,600	$297,900	$359,000	$423,100	$490,500	$561,200	$635,400	$713,400	$795,300
Cumulative %										
All Customer Classes										
Base Charges	0.00%	15.00%	32.25%	38.86%	45.81%	53.10%	60.75%	68.79%	77.23%	86.09%
Usage Charges	0.00%	15.00%	32.25%	38.86%	45.81%	53.10%	60.75%	68.79%	77.23%	86.09%
Current Year %										
All Customer Classes										
Base Charges	0.00%	15.00%	15.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Usage Charges	0.00%	15.00%	15.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Revenue Surplus/(Deficiency)	**$263,100**	**$75,400**	**$69,000**	**$55,600**	**-$10,100**	**-$20,800**	**-$30,000**	**-$37,600**	**-$43,600**	**-$48,000**

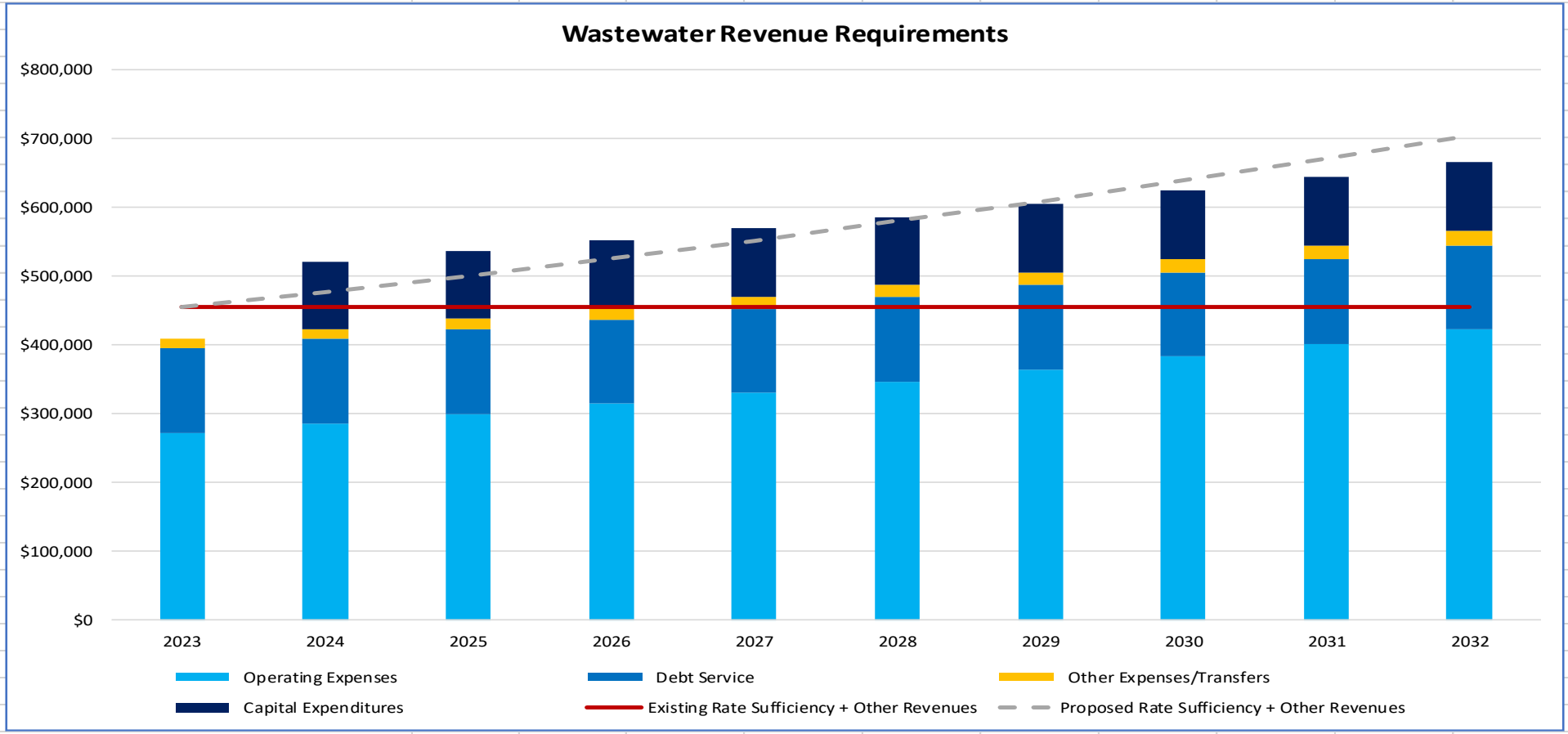
Spring Lake Improvement District (SLID)										
S1 SLID 2023 (10yr model)										
Fiscal Year: 2023										
Water Revenue Requirements Graph										
For Graph Use:										
Existing Rate Sufficiency + Other Revenues	*$998,100*	*$998,100*	*$998,100*	*$998,100*	*$998,100*	*$998,100*	*$998,100*	*$998,100*	*$998,100*	*$998,100*
Proposed Rate Sufficiency + Other Revenues	*$998,100*	*$1,136,600*	*$1,296,000*	*$1,357,000*	*$1,421,200*	*$1,488,500*	*$1,559,200*	*$1,633,500*	*$1,711,400*	*$1,793,300*



Spring Lake Improvement District (SLID)
S1 SLID 2023 (10yr model)
Fiscal Year: 2023
Wastewater Revenue Requirements

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Revenue Requirements:										
Operating Expenses	$272,100	$285,700	$300,000	$315,000	$330,700	$347,300	$364,600	$382,900	$402,000	$422,100
Debt Service	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700
Other Expenses/Transfers	$14,000	$14,700	$15,400	$16,200	$17,000	$17,900	$18,800	$19,700	$20,700	$21,700
Capital Expenditures	$0	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900
Gross Revenue Requirements	$408,800	$522,000	$537,000	$552,800	$569,300	$586,700	$605,000	$624,200	$644,300	$665,400
Less: Other Revenue	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200
Net Revenue Requirements	$408,600	$521,800	$536,800	$552,600	$569,100	$586,500	$604,800	$624,000	$644,100	$665,200
Existing Rate Sufficiency:										
Revenue from Existing Rates	$454,300	$454,300	$454,300	$454,300	$454,300	$454,300	$454,300	$454,300	$454,300	$454,300
Revenue Surplus/(Deficiency)	$45,700	-$67,500	-$82,600	-$98,300	-$114,900	-$132,300	-$150,500	-$169,700	-$189,800	-$211,000
Proposed Rate Sufficiency:										
Revenue from Proposed Rates	$454,300	$477,000	$500,800	$525,900	$552,200	$579,800	$608,700	$639,200	$671,100	$704,700
Increase in Revenue	$0	$22,700	$46,600	$71,600	$97,900	$125,500	$154,500	$184,900	$216,900	$250,400
Cumulative %										
All Customer Classes										
Base Charges	0.00%	5.00%	10.25%	15.76%	21.55%	27.63%	34.01%	40.71%	47.75%	55.13%
Usage Charges	0.00%	5.00%	10.25%	15.76%	21.55%	27.63%	34.01%	40.71%	47.75%	55.13%
Current Year %										
All Customer Classes										
Base Charges	0.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Usage Charges	0.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Revenue Surplus/(Deficiency)	**$45,700**	**-$44,800**	**-$36,000**	**-$26,700**	**-$17,000**	**-$6,800**	**$4,000**	**$15,200**	**$27,100**	**$39,500**

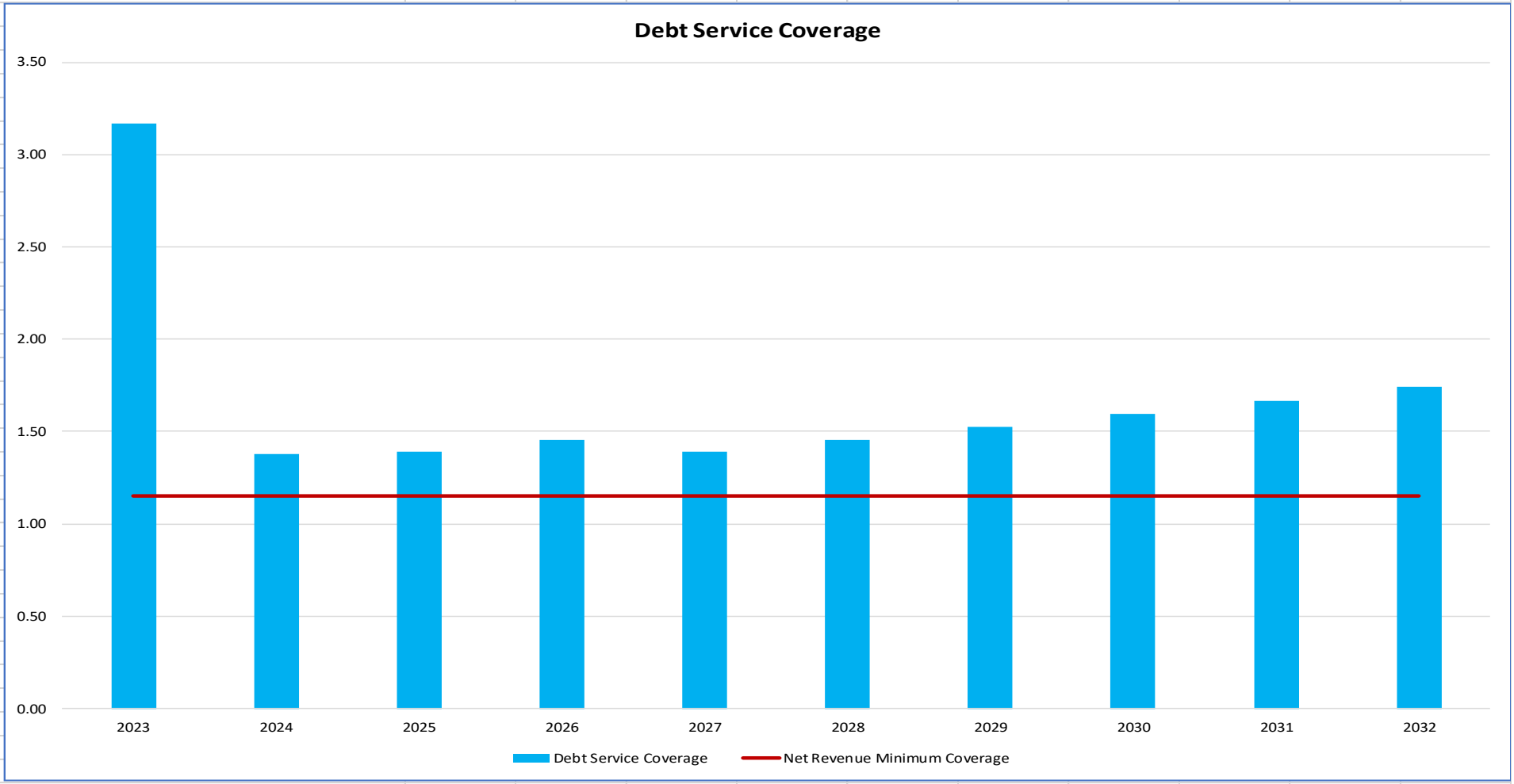
Spring Lake Improvement District (SLID)										
S1 SLID 2023 (10yr model)										
Fiscal Year: 2023										
Wastewater Revenue Requirements Graph										
For Graph Use:										
Existing Rate Sufficiency + Other Revenues	*$454,500*	*$454,500*	*$454,500*	*$454,500*	*$454,500*	*$454,500*	*$454,500*	*$454,500*	*$454,500*	*$454,500*
Proposed Rate Sufficiency + Other Revenues	*$454,500*	*$477,200*	*$501,000*	*$526,100*	*$552,400*	*$580,000*	*$608,900*	*$639,400*	*$671,300*	*$704,900*



Spring Lake Improvement District (SLID)
S1 SLID 2023 (10yr model)
Fiscal Year: 2023
Debt Service Coverage

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Revenue:										
Revenue from Proposed Drinking Water Rates	$923,800	$1,062,300	$1,221,700	$1,282,700	$1,346,900	$1,414,200	$1,484,900	$1,559,200	$1,637,100	$1,719,000
Revenue from Proposed Wastewater Rates	$454,300	$477,000	$500,800	$525,900	$552,200	$579,800	$608,700	$639,200	$671,100	$704,700
Subtotal - Rate Revenue	$1,378,000	$1,539,300	$1,722,500	$1,808,600	$1,899,000	$1,994,000	$2,093,700	$2,198,400	$2,308,300	$2,423,700
Miscellaneous Revenue - Drinking Water	$74,300	$74,300	$74,300	$74,300	$74,300	$74,300	$74,300	$74,300	$74,300	$74,300
Miscellaneous Revenue - Wastewater	$200	$200	$200	$200	$200	$200	$200	$200	$200	$200
Total Revenue	$1,452,500	$1,613,800	$1,797,000	$1,883,100	$1,973,500	$2,068,500	$2,168,200	$2,272,900	$2,382,800	$2,498,200
Operating Expenses:										
Drinking Water	$625,200	$656,500	$689,300	$723,800	$760,000	$798,000	$837,900	$879,800	$923,700	$969,900
Wastewater	$272,100	$285,700	$300,000	$315,000	$330,700	$347,300	$364,600	$382,900	$402,000	$422,100
Total Operating Expenses	$897,300	$942,200	$989,300	$1,038,800	$1,090,700	$1,145,200	$1,202,500	$1,262,600	$1,325,800	$1,392,100
Net Revenue	$555,200	$671,600	$807,700	$844,300	$882,800	$923,200	$965,700	$1,010,200	$1,057,000	$1,106,200
Debt Service:										
Drinking Water	$52,700	$364,700	$457,600	$457,600	$511,300	$511,300	$511,300	$511,300	$511,300	$511,300
Wastewater	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700
Total Debt Service	$175,300	$487,400	$580,300	$580,300	$634,000	$634,000	$634,000	$634,000	$634,000	$634,000
Debt Service Coverage	3.17	1.38	1.39	1.45	1.39	1.46	1.52	1.59	1.67	1.74
Net Revenue Less Debt Service	$379,800	$184,200	$227,400	$264,000	$248,800	$289,200	$331,700	$376,200	$423,000	$472,200
Capital Expenditures:										
Drinking Water	$57,000	$40,000	$80,000	$120,000	$160,000	$200,000	$240,000	$280,000	$320,000	$360,000
Wastewater	$0	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900
Total Capital Expenditures	$57,000	$138,900	$178,900	$218,900	$258,900	$298,900	$338,900	$378,900	$418,900	$458,900
Other Expenses/Transfers:										
Drinking Water	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Wastewater	$14,000	$14,700	$15,400	$16,200	$17,000	$17,900	$18,800	$19,700	$20,700	$21,700
Total Other Expenses/Transfers	$14,000	$14,700	$15,400	$16,200	$17,000	$17,900	$18,800	$19,700	$20,700	$21,700
Revenue Surplus/(Deficiency)	**$308,800**	**$30,600**	**$33,000**	**$28,900**	**-$27,100**	**-$27,500**	**-$26,000**	**-$22,400**	**-$16,600**	**-$8,500**

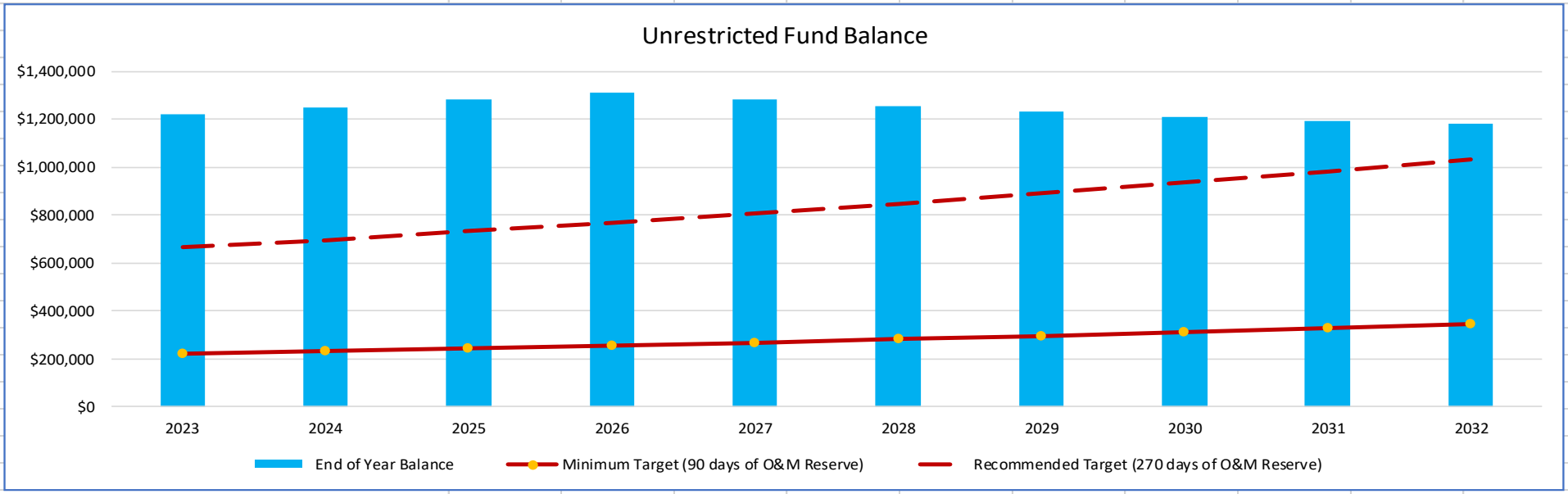
Spring Lake Improvement District (SLID)										
S1 SLID 2023 (10yr model)										
Fiscal Year: 2023										
Debt Service Coverage Graph										
Net Revenue Minimum Coverage	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15



Spring Lake Improvement District (SLID)
S1 SLID 2023 (10yr model)
Fiscal Year: 2023
Unrestricted Fund Balance

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Utility Reserve Funds:										
Beginning of Year Balance	$909,400	$1,218,200	$1,248,800	$1,281,800	$1,310,700	$1,283,600	$1,256,000	$1,230,000	$1,207,700	$1,191,100
Addition to Current Year	$308,800	$30,600	$33,000	$28,900	-$27,100	-$27,500	-$26,000	-$22,400	-$16,600	-$8,500
End of Year Balance	**$1,218,200**	**$1,248,800**	**$1,281,800**	**$1,310,700**	**$1,283,600**	**$1,256,000**	**$1,230,000**	**$1,207,700**	**$1,191,100**	**$1,182,600**

For Graph Use	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Drinking Water O&M Expenses	$625,200	$656,500	$689,300	$723,800	$760,000	$798,000	$837,900	$879,800	$923,700	$969,900
Wastewater O&M Expenses	$272,100	$285,700	$300,000	$315,000	$330,700	$347,300	$364,600	$382,900	$402,000	$422,100
Daily O&M Expense	$2,458	$2,581	$2,710	$2,846	$2,988	$3,138	$3,295	$3,459	$3,632	$3,814
Minimum Target (90 days of O&M Reserve)	$221,252	$232,323	$243,937	$256,142	$268,940	$282,403	$296,507	$311,351	$326,885	$343,233
Recommended Target (270 days of O&M Reserve)	$663,756	$696,970	$731,811	$768,427	$806,819	$847,208	$889,521	$934,052	$980,655	$1,029,699



Spring Lake Improvement District (SLID)											
S1 SLID 2023 (10yr model)											
Fiscal Year: 2023											
CIP Schedule											
Description	**Funding Source**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**
Wastewater R&R Cost	Wastewater Revenues	$0	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900
Water R&R Cost	Water Revenues	$0	$40,000	$80,000	$120,000	$160,000	$200,000	$240,000	$280,000	$320,000	$360,000
Capital Projects	Water Revenues	$57,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
Capital Projects	Wastewater Revenues	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WTP 1 Improvements	Future Loan	$0	$0	$1,300,000	$0	$0	$0	$0	$0	$0	$0
Meter Replacement Project	Future Loan	$0	$0	$0	$0	$864,500	$0	$0	$0	$0	$0
WTP 1 Improvements Planning	Future Loan	$0	$0	$195,000	$0	$0	$0	$0	$0	$0	$0
Totaled By	**Funding Source**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**
	Water Revenues	$57,000	$40,000	$80,000	$120,000	$160,000	$200,000	$240,000	$280,000	$320,000	$360,000
	Wastewater Revenues	$0	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900	$98,900
	Future Loan	$0	$0	$1,495,000	$0	$864,500	$0	$0	$0	$0	$0
	Total	$57,000	$138,900	$1,673,900	$218,900	$1,123,400	$298,900	$338,900	$378,900	$418,900	$458,900

Spring Lake Improvement District (SLID)
S1 SLID 2023 (10yr model)
Fiscal Year: 2023
Debt Service Schedule

Debt	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Existing Debts:													
(DW280530) DWSRF Planning and Design Loan	$52,700	$52,700	$52,700	$52,700	$52,700	$52,700	$52,700	$52,700	$52,700	$52,700	$52,700	$52,700	$52,700
(DW280531) DWSRF Construction Loan	$0	$312,100	$312,100	$312,100	$312,100	$312,100	$312,100	$312,100	$312,100	$312,100	$312,100	$312,100	$312,100
(WW280510) CWSRF Design Loan	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000
(WW280511) CWSRF Wastewater Construction Loan	$111,600	$111,600	$111,600	$111,600	$111,600	$111,600	$111,600	$111,600	$111,600	$111,600	$111,600	$111,600	$111,600
Anticipated Debts:													
Meter Replacement Project DWSRF - 100% Loan	$0	$0	$0	$0	$53,700	$53,700	$53,700	$53,700	$53,700	$53,700	$53,700	$53,700	$53,700
WTP 1 Improvements DWSRF Construction	$0	$0	$80,800	$80,800	$80,800	$80,800	$80,800	$80,800	$80,800	$80,800	$80,800	$80,800	$80,800
WTP 1 Improvements DWSRF Planning	$0	$0	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100
Total	**$175,300**	**$487,400**	**$580,300**	**$580,300**	**$634,000**	**$634,000**	**$634,000**	**$634,000**	**$634,000**	**$634,000**	**$634,000**	**$634,000**	**$634,000**
Drinking Water	$52,700	$364,700	$457,600	$457,600	$511,300	$511,300	$511,300	$511,300	$511,300	$511,300	$511,300	$511,300	$511,300
Wastewater	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700

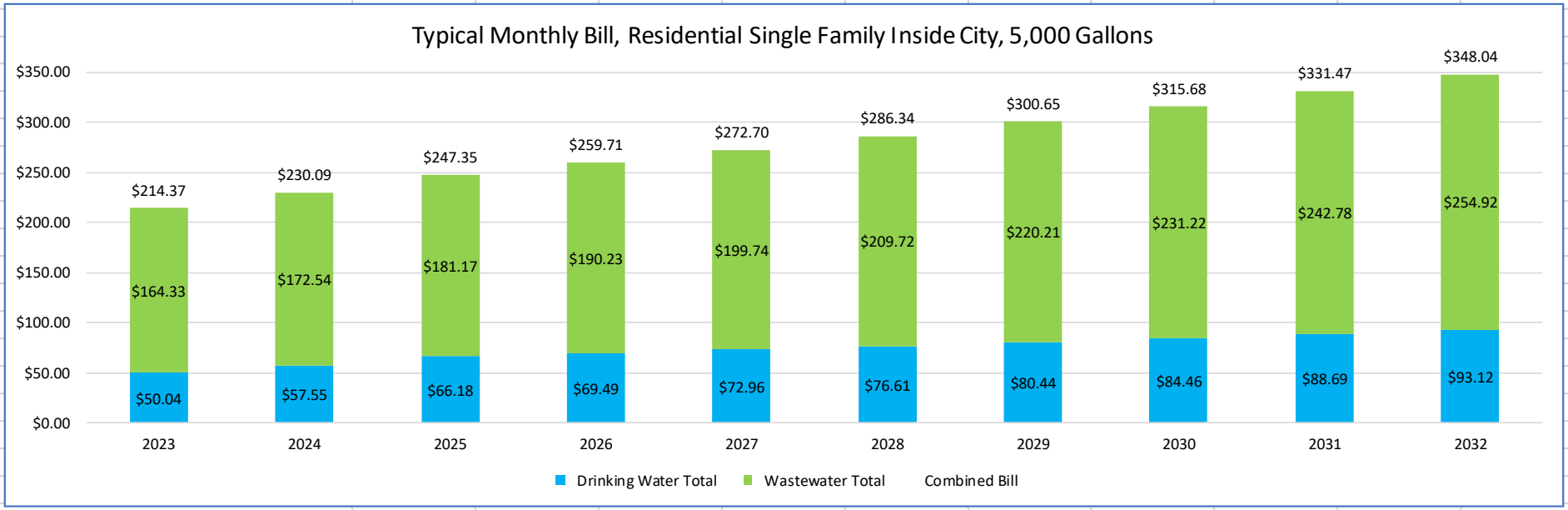
Spring Lake Improvement District (SLID)
S1 SLID 2023 (10yr model)
Fiscal Year: 2023
Debt Service Schedule

Debt	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2031	2032
Existing Debts:														$348,800	$366,200
(DW280530) DWSRF Pl	$52,700	$52,700	$52,700	$52,700	$52,700	$52,700	$52,700	$52,700	$52,700	$52,700	$52,700	$52,700	$52,700	$26,700	$28,000
(DW280531) DWSRF Co	$0	$312,100	$312,100	$312,100	$312,100	$312,100	$312,100	$312,100	$312,100	$312,100	$312,100	$312,100	$312,100	$20,900	$22,000
(WW280510) CWSRF D	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$78,500	$82,400
(WW280511) CWSRF W	$111,600	$111,600	$111,600	$111,600	$111,600	$111,600	$111,600	$111,600	$111,600	$111,600	$111,600	$111,600	$111,600	$15,700	$16,500
														$2,000	$2,100
Anticipated Debts:														$2,700	$2,800
Meter Replacement Pr	$0	$0	$0	$0	$53,700	$53,700	$53,700	$53,700	$53,700	$53,700	$53,700	$53,700	$53,700	$14,800	$15,500
WTP 1 Improvements I	$0	$0	$80,800	$80,800	$80,800	$80,800	$80,800	$80,800	$80,800	$80,800	$80,800	$80,800	$80,800	$400	$500
WTP 1 Improvements I	$0	$0	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$12,100	$3,700	$3,900
														$7,400	$7,800
Total	**$175,300**	**$487,400**	**$580,300**	**$580,300**	**$634,000**	**$634,000**	**$634,000**	**$634,000**	**$634,000**	**$634,000**	**$634,000**	**$634,000**	**$634,000**	$6,200	$6,500
Drinking Water	$52,700	$364,700	$457,600	$457,600	$511,300	$511,300	$511,300	$511,300	$511,300	$511,300	$511,300	$511,300	$511,300	$35,500	$37,200
Wastewater	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$122,700	$400	$400
401-Water Fund	O&M	100% Water	Compute Services	$17,000	$17,000	CPI	$17,800	$18,700	$19,700	$20,700	$21,700	$22,800	$23,900	$25,100	$26,400
401-Water Fund	O&M	100% Water	Refuse Removal	$900	$1,000	CPI	$1,100	$1,200	$1,200	$1,300	$1,300	$1,400	$1,500	$1,600	$1,600
401-Water Fund	O&M	100% Water	Pest Control	$200	$200	CPI	$200	$200	$200	$200	$300	$300	$300	$300	$300
401-Water Fund	O&M	100% Water	Telephone	$5,600	$5,900	CPI	$6,200	$6,500	$6,900	$7,200	$7,600	$7,900	$8,300	$8,800	$9,200
401-Water Fund	O&M	100% Water	Electric-Offices	$2,100	$2,300	CPI	$2,400	$2,500	$2,600	$2,800	$2,900	$3,100	$3,200	$3,400	$3,500
401-Water Fund	O&M	100% Water	Insurance	$36,400	$38,500	CPI	$40,400	$42,400	$44,600	$46,800	$49,100	$51,600	$54,200	$56,900	$59,700
401-Water Fund	O&M	100% Water	Office Supplies	$4,200	$4,200	CPI	$4,400	$4,600	$4,900	$5,100	$5,400	$5,600	$5,900	$6,200	$6,500
401-Water Fund	O&M	100% Water	Postage	$6,000	$6,000	CPI	$6,300	$6,600	$6,900	$7,300	$7,700	$8,000	$8,400	$8,900	$9,300
401-Water Fund	O&M	100% Water	Fuel & Lubricants	$7,000	$10,000	CPI	$10,500	$11,000	$11,600	$12,200	$12,800	$13,400	$14,100	$14,800	$15,500
401-Water Fund	O&M	100% Water	Uniform Rental	$2,800	$2,000	CPI	$2,100	$2,200	$2,300	$2,400	$2,600	$2,700	$2,800	$3,000	$3,100
401-Water Fund	O&M	100% Water	Contractural Services	$1,000	$1,000	CPI	$1,000	$1,100	$1,200	$1,200	$1,300	$1,300	$1,400	$1,500	$1,600
401-Water Fund	O&M	100% Water	Potable Water Quality	$5,000	$5,000	CPI	$5,200	$5,500	$5,800	$6,100	$6,400	$6,700	$7,000	$7,400	$7,800
401-Water Fund	O&M	100% Water	Electric-Water Plant	$12,000	$18,000	CPI	$18,900	$19,800	$20,800	$21,900	$23,000	$24,100	$25,300	$26,600	$27,900
401-Water Fund	O&M	100% Water	Building Lease	$6,200	$6,200	CPI	$6,500	$6,800	$7,200	$7,500	$7,900	$8,300	$8,700	$9,100	$9,600
401-Water Fund	Maintenance	100% Water	Hydrant Maintenance	$5,000	$15,000	CPI	$15,800	$16,500	$17,400	$18,200	$19,100	$20,100	$21,100	$22,200	$23,300
401-Water Fund	Maintenance	100% Water	Meter Costs	$1,000	$5,000	CPI	$5,200	$5,500	$5,800	$6,100	$6,400	$6,700	$7,000	$7,400	$7,800
401-Water Fund	Maintenance	100% Water	Backflow Valves	$10,000	$10,000	CPI	$10,500	$11,000	$11,600	$12,200	$12,800	$13,400	$14,100	$14,800	$15,500
401-Water Fund	O&M	100% Water	Chemicals	$12,000	$25,000	CPI	$26,200	$27,600	$28,900	$30,400	$31,900	$33,500	$35,200	$36,900	$38,800
401-Water Fund	O&M	100% Water	Shop Tools and Supplies	$6,600	$9,000	CPI	$9,400	$9,900	$10,400	$10,900	$11,500	$12,100	$12,700	$13,300	$14,000
401-Water Fund	O&M	100% Water	Operating Equipment	$5,000	$5,000	CPI	$5,200	$5,500	$5,800	$6,100	$6,400	$6,700	$7,000	$7,400	$7,800
401-Water Fund	O&M	100% Water	Janitorial	$1,200	$1,200	CPI	$1,300	$1,300	$1,400	$1,500	$1,500	$1,600	$1,700	$1,800	$1,900
401-Water Fund	Maintenance	100% Water	Building Maintenance	$1,000	$1,000	CPI	$1,000	$1,100	$1,200	$1,200	$1,300	$1,300	$1,400	$1,500	$1,600
401-Water Fund	Maintenance	100% Water	Maintenance-Water Plant	$8,000	$10,000	CPI	$10,500	$11,000	$11,600	$12,200	$12,800	$13,400	$14,100	$14,800	$15,500
401-Water Fund	Maintenance	100% Water	Maintenance-Water Distribution	$30,000	$30,000	CPI	$31,500	$33,100	$34,700	$36,500	$38,300	$40,200	$42,200	$44,300	$46,500
401-Water Fund	Maintenance	100% Water	Maintenance-Vehicle	$4,000	$4,000	CPI	$4,200	$4,400	$4,600	$4,900	$5,100	$5,400	$5,600	$5,900	$6,200

Fund Name	Type of Expense	Cost Allocation	Description	Historical 2022	Budget 2023	Escalation Factor	2024	2025	2026	2027	2028	2029	2030	2031	2032
401-Water Fund	Maintenance	100% Water	Renewal & Replacement	$5,000	$5,000	CPI	$5,200	$5,500	$5,800	$6,100	$6,400	$6,700	$7,000	$7,400	$7,800
403-Wastewater Fund	Personnel	100% Wastewater	Salaries	$84,000	$110,700	CPI	$116,200	$122,000	$128,100	$134,500	$141,200	$148,300	$155,700	$163,500	$171,700
403-Wastewater Fund	Personnel	100% Wastewater	FICA	$6,400	$8,500	CPI	$8,900	$9,300	$9,800	$10,300	$10,800	$11,300	$11,900	$12,500	$13,100
403-Wastewater Fund	Personnel	100% Wastewater	Pension	$5,000	$6,600	CPI	$7,000	$7,300	$7,700	$8,100	$8,500	$8,900	$9,300	$9,800	$10,300
403-Wastewater Fund	Personnel	100% Wastewater	Health Insurance	$16,800	$21,500	CPI	$22,600	$23,700	$24,900	$26,100	$27,400	$28,800	$30,300	$31,800	$33,400
403-Wastewater Fund	Personnel	100% Wastewater	Worker's Compensation	$3,500	$4,300	CPI	$4,500	$4,700	$5,000	$5,200	$5,500	$5,800	$6,100	$6,400	$6,700
403-Wastewater Fund	Personnel	100% Wastewater	Unemployement	$600	$600	CPI	$700	$700	$700	$800	$800	$900	$900	$1,000	$1,000
403-Wastewater Fund	Professional Services	100% Wastewater	Supervisor Fees	$600	$600	CPI	$600	$700	$700	$700	$800	$800	$800	$900	$900
403-Wastewater Fund	Professional Services	100% Wastewater	Audit	$1,000	$1,000	CPI	$1,000	$1,100	$1,200	$1,200	$1,300	$1,300	$1,400	$1,500	$1,600
403-Wastewater Fund	Professional Services	100% Wastewater	Legal Advertising	$100	$100	CPI	$100	$100	$100	$100	$100	$100	$100	$100	$200
403-Wastewater Fund	Professional Services	100% Wastewater	Memberships	$200	$200	CPI	$200	$200	$200	$200	$300	$300	$300	$300	$300
403-Wastewater Fund	Professional Services	100% Wastewater	Attorney	$1,400	$1,400	CPI	$1,500	$1,500	$1,600	$1,700	$1,800	$1,900	$2,000	$2,100	$2,200
403-Wastewater Fund	Professional Services	100% Wastewater	Grant Management	$18,700	$0	CPI	$0	$0	$0	$0	$0	$0	$0	$0	$0
403-Wastewater Fund	Professional Services	100% Wastewater	Engineering	$0	$0	CPI	$0	$0	$0	$0	$0	$0	$0	$0	$0
403-Wastewater Fund	O&M	100% Wastewater	Computer Services	$2,000	$2,000	CPI	$2,100	$2,200	$2,300	$2,400	$2,600	$2,700	$2,800	$3,000	$3,100
403-Wastewater Fund	O&M	100% Wastewater	Refuse Removal	$300	$400	CPI	$400	$400	$400	$400	$400	$500	$500	$500	$500
403-Wastewater Fund	O&M	100% Wastewater	Pest Control	$40	$50	CPI	$50	$60	$60	$60	$60	$70	$70	$70	$80
403-Wastewater Fund	O&M	100% Wastewater	Telephone	$800	$800	CPI	$900	$900	$1,000	$1,000	$1,100	$1,100	$1,200	$1,300	$1,300
403-Wastewater Fund	O&M	100% Wastewater	Electric-Offices	$700	$800	CPI	$800	$800	$900	$900	$1,000	$1,000	$1,100	$1,100	$1,200
403-Wastewater Fund	O&M	100% Wastewater	Insurance	$20,800	$22,000	CPI	$23,100	$24,300	$25,500	$26,700	$28,100	$29,500	$31,000	$32,500	$34,100
403-Wastewater Fund	O&M	100% Wastewater	Office Supplies	$1,400	$1,400	CPI	$1,500	$1,500	$1,600	$1,700	$1,800	$1,900	$2,000	$2,100	$2,200
403-Wastewater Fund	O&M	100% Wastewater	Fuel & Lubricants	$1,500	$2,000	CPI	$2,100	$2,200	$2,300	$2,400	$2,600	$2,700	$2,800	$3,000	$3,100
403-Wastewater Fund	O&M	100% Wastewater	Uniform Rental	$900	$600	CPI	$600	$700	$700	$700	$800	$800	$800	$900	$900
403-Wastewater Fund	O&M	100% Wastewater	Contractual Services	$12,000	$12,000	CPI	$12,600	$13,200	$13,900	$14,600	$15,300	$16,100	$16,900	$17,700	$18,600
403-Wastewater Fund	O&M	100% Wastewater	Wastewater Testing	$4,000	$4,000	CPI	$4,200	$4,400	$4,600	$4,900	$5,100	$5,400	$5,600	$5,900	$6,200
403-Wastewater Fund	O&M	100% Wastewater	Electric-Wastewater Plant	$10,000	$12,000	CPI	$12,600	$13,200	$13,900	$14,600	$15,300	$16,100	$16,900	$17,700	$18,600
403-Wastewater Fund	O&M	100% Wastewater	Chemicals	$6,000	$12,700	CPI	$13,400	$14,000	$14,700	$15,500	$16,200	$17,000	$17,900	$18,800	$19,700
403-Wastewater Fund	O&M	100% Wastewater	Shop Tools and Supplies	$1,100	$1,500	CPI	$1,600	$1,700	$1,700	$1,800	$1,900	$2,000	$2,100	$2,200	$2,300
403-Wastewater Fund	O&M	100% Wastewater	Operating Equipment	$1,500	$1,500	CPI	$1,600	$1,700	$1,700	$1,800	$1,900	$2,000	$2,100	$2,200	$2,300
403-Wastewater Fund	O&M	100% Wastewater	Step System	$14,500	$14,500	CPI	$15,200	$16,000	$16,800	$17,600	$18,500	$19,400	$20,400	$21,400	$22,500
403-Wastewater Fund	O&M	100% Wastewater	Sludge Removal	$3,000	$3,000	CPI	$3,200	$3,300	$3,500	$3,600	$3,800	$4,000	$4,200	$4,400	$4,700
403-Wastewater Fund	Maintenance	100% Wastewater	Maintenance- Wastewater	$4,500	$4,500	CPI	$4,700	$5,000	$5,200	$5,500	$5,700	$6,000	$6,300	$6,600	$7,000
403-Wastewater Fund	O&M	100% Wastewater	Postage	$100	$100	CPI	$100	$100	$100	$100	$100	$100	$100	$100	$200
403-Wastewater Fund	Transfers Out	100% Wastewater	Due to General Fund	$14,000	$14,000	CPI	$14,700	$15,400	$16,200	$17,000	$17,900	$18,800	$19,700	$20,700	$21,700
401-Water Fund	Professional Services	100% Water	SL Breeze	$3,700	$3,700	CPI	$3,900	$4,100	$4,300	$4,500	$4,700	$5,000	$5,200	$5,500	$5,700
403- Wastewater Fund	Maintenance	100% Wastewater	Renewal & Replacement	$4,100	$20,800	CPI	$21,800	$22,900	$24,000	$25,200	$26,500	$27,800	$29,200	$30,700	$32,200
401-Water Fund	Professional Services	100% Water	Cross Connection Program	$0	$2,500	CPI	$2,600	$2,800	$2,900	$3,000	$3,200	$3,400	$3,500	$3,700	$3,900
			Total	$780,800	$911,300		$956,900	$1,004,700	$1,055,000	$1,107,700	$1,163,100	$1,221,300	$1,282,300	$1,346,400	$1,413,800
			Drinking Water Total	$198,900	$243,700	$0	$255,500	$268,400	$282,300	$296,500	$311,400	$326,700	$342,800	$360,500	$378,300
			Wastewater Total	$241,540	$286,150	$0	$300,550	$315,260	$331,060	$347,360	$365,160	$383,370	$402,470	$422,770	$443,880

Spring Lake Improvement District (SLID)
S1 SLID 2023 (10yr model)
Fiscal Year: 2023
Typical Monthly Bill, Residential Single Family Inside City, 5,000 Gallons

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Drinking Water										
Base Charge	$31.05	$35.71	$41.06	$43.12	$45.27	$47.54	$49.91	$52.41	$55.03	$57.78
Usage Charge, 5,000 Gallons	$18.99	$21.84	$25.12	$26.37	$27.69	$29.07	$30.53	$32.05	$33.66	$35.34
Drinking Water Total	$50.04	$57.55	$66.18	$69.49	$72.96	$76.61	$80.44	$84.46	$88.69	$93.12
Wastewater										
Base Charge	$103.50	$108.68	$114.11	$119.81	$125.80	$132.10	$138.70	$145.63	$152.92	$160.56
Usage Charge, 5,000 Gallons	$60.83	$63.87	$67.06	$70.41	$73.93	$77.63	$81.51	$85.59	$89.87	$94.36
Wastewater Total	$164.33	$172.54	$181.17	$190.23	$199.74	$209.72	$220.21	$231.22	$242.78	$254.92
Combined Bill	**$214.37**	**$230.09**	**$247.35**	**$259.71**	**$272.70**	**$286.34**	**$300.65**	**$315.68**	**$331.47**	**$348.04**



Spring Lake Improvement District (SLID)										
S1 SLID 2023 (10yr model)										
Fiscal Year: 2023										
Rate Schedule										
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Drinking Water										
Residential Single Family										
Base Charges Inside City										
5/8-inch	$31.05	$35.71	$41.06	$43.12	$45.27	$47.54	$49.91	$52.41	$55.03	$57.78
1-inch	$34.16	$39.28	$45.18	$47.44	$49.81	$52.30	$54.91	$57.66	$60.54	$63.57
1.5-inch	$55.89	$64.27	$73.91	$77.61	$81.49	$85.57	$89.84	$94.34	$99.05	$104.01
2-inch	$90.05	$103.56	$119.09	$125.05	$131.30	$137.86	$144.76	$151.99	$159.59	$167.57
3-inch	$341.55	$392.78	$451.70	$474.28	$498.00	$522.90	$549.04	$576.50	$605.32	$635.59
4-inch	$434.70	$499.91	$574.89	$603.64	$633.82	$665.51	$698.78	$733.72	$770.41	$808.93
6-inch	$652.05	$749.86	$862.34	$905.45	$950.73	$998.26	$1,048.17	$1,100.58	$1,155.61	$1,213.39
Usage Charges Inside City										
0 to 2,999 gallons	$3.57	$4.11	$4.72	$4.96	$5.21	$5.47	$5.74	$6.03	$6.33	$6.64
3,000 to 5,999 gallons	$4.14	$4.76	$5.48	$5.75	$6.04	$6.34	$6.66	$6.99	$7.34	$7.70
6,000 to 8,999 gallons	$4.83	$5.55	$6.39	$6.71	$7.04	$7.39	$7.76	$8.15	$8.56	$8.99
9,000 to 15,999 gallons	$5.52	$6.35	$7.30	$7.67	$8.05	$8.45	$8.87	$9.32	$9.78	$10.27
16,000 gallons or more	$6.21	$7.14	$8.21	$8.62	$9.05	$9.51	$9.98	$10.48	$11.01	$11.56
Commercial										
Base Charges Inside City										
5/8-inch	$41.92	$48.21	$55.44	$58.21	$61.12	$64.18	$67.39	$70.76	$74.29	$78.01
1-inch	$46.12	$53.04	$60.99	$64.04	$67.25	$70.61	$74.14	$77.85	$81.74	$85.82
1.5-inch	$75.45	$86.77	$99.78	$104.77	$110.01	$115.51	$121.29	$127.35	$133.72	$140.40
2-inch	$121.57	$139.81	$160.78	$168.82	$177.26	$186.12	$195.42	$205.20	$215.46	$226.23
3-inch	$461.09	$530.25	$609.79	$640.28	$672.30	$705.91	$741.21	$778.27	$817.18	$858.04
4-inch	$586.85	$674.88	$776.11	$814.91	$855.66	$898.44	$943.37	$990.53	$1,040.06	$1,092.06
6-inch	$880.27	$1,012.31	$1,164.16	$1,222.36	$1,283.48	$1,347.66	$1,415.04	$1,485.79	$1,560.08	$1,638.09
Usage Charges Inside City										
0 to 2,999 gallons	$4.11	$4.73	$5.44	$5.71	$5.99	$6.29	$6.61	$6.94	$7.28	$7.65
3,000 to 5,999 gallons	$4.76	$5.47	$6.30	$6.61	$6.94	$7.29	$7.65	$8.03	$8.44	$8.86
6,000 to 8,999 gallons	$5.55	$6.38	$7.34	$7.71	$8.09	$8.50	$8.92	$9.37	$9.84	$10.33
9,000 to 15,999 gallons	$6.03	$6.93	$7.97	$8.37	$8.79	$9.23	$9.69	$10.18	$10.69	$11.22
16,000 gallons or more	$7.14	$8.21	$9.44	$9.91	$10.41	$10.93	$11.48	$12.05	$12.65	$13.29

Spring Lake Improvement District (SLID)				
S1 SLID 2023 (10yr model)				
Fiscal Year: 2023				
Rate Revenue, Existing Rates for Fiscal Year 2023				
Base Charge Revenues	**Meter Sizes**	**Base Charge**	**Number of Connections**	**Annual Revenue**
Drinking Water				
Residential Single Family				
Base Charges Inside City				
	5/8-inch	$31.05	1,586.00	$590,943.60
	1-inch	$34.16	103.00	$42,221.76
	1.5-inch	$55.89	0.00	$0.00
	2-inch	$90.05	0.00	$0.00
Commercial				
Base Charges Inside City				
	5/8-inch	$41.92	17.00	$8,551.68
	1-inch	$46.12	14.00	$7,748.16
	1.5-inch	$75.45	2.00	$1,810.80
	2-inch	$121.57	2.00	$2,917.68
Subtotal				$654,193.68
Wastewater				
Residential Single Family				
Base Charges Inside City				
	5/8-inch	$103.50	312.00	$387,504.00
	1-inch	$113.85	0.00	$0.00
Commercial				
Base Charges Inside City				
	5/8-inch	$139.73	2.00	$3,353.52
	1-inch	$153.70	5.00	$9,222.00
Subtotal				$400,079.52
Total				**$1,054,273.20**

Usage Charge Revenues	Gallon Range	Rate per Thousand Gallons	Monthly Water Sold (kgal)	Annual Revenue
Drinking Water				
Residential Single Family				
Usage Charges Inside City				
Block 1	0 to 2,999 gallons	$3.57	5,065.31	$216,997.92
Block 2	3,000 to 5,999 gallons	$4.14	780.44	$38,772.21
Block 3	6,000 to 8,999 gallons	$4.83	0.00	$0.00
Block 4	9,000 to 15,999 gallons	$5.52	0.00	$0.00
Block 5	16,000 gallons or more	$6.21	0.00	$0.00
Commercial				
Usage Charges Inside City				
Block 1	0 to 2,999 gallons	$4.11	104.97	$5,176.87
Block 2	3,000 to 5,999 gallons	$4.76	105.00	$5,997.60
Block 3	6,000 to 8,999 gallons	$5.55	39.29	$2,616.38
Block 4	9,000 to 15,999 gallons	$6.03	0.00	$0.00
Block 5	16,000 gallons or more	$7.14	0.00	$0.00
Subtotal				$269,560.99
Wastewater				
Residential Single Family				
Usage Charges Inside City				
Block 1	0 to 2,500 gallons	$8.11	483.08	$47,013.67
Block 2	2,501 gallons or more	$16.22	0.00	$0.00
Commercial				
Usage Charges Inside City				
Block 1	0 to 2,500 gallons	$9.33	17.50	$1,959.30
Block 2	2,501 gallons or more	$18.65	23.25	$5,203.35
Subtotal				$54,176.32
Total				**$323,737.31**

Combined Revenues				Annual Revenue
Drinking Water				
Base Charge Revenue				$654,193.68
Usage Charge Revenue				$269,560.99
Other Revenue				$74,304.00
Subtotal				$998,058.67
Wastewater				
Base Charge Revenue				$400,079.52
Usage Charge Revenue				$54,176.32
Other Revenue				$200.00
Subtotal				$454,455.84
Total				**$1,452,514.51**