

# FLORIDA RURAL WATER ASSOCIATION

2970 Wellington Circle • Tallahassee, FL 32309-7813  
(850) 668-2746

July 8, 2020

## BOARD of DIRECTORS

TOM JACKSON  
Punta Gorda  
President

PATRICIA CICHON  
Monticello  
Vice President

WILLIAM G. GRUBBS  
Tallahassee  
Secretary/Treasurer

ROBERT MUNRO  
Orlando  
National Director

SCOTT KELLY  
West Palm Beach

BRUCE MORRISON  
Destin

BONNIE PRINGLE  
Rotonda

EXECUTIVE  
DIRECTOR

GARY WILLIAMS  
Tallahassee



EMAIL  
[frwa@frwa.net](mailto:frwa@frwa.net)

WEBSITE  
[www.frwa.net](http://www.frwa.net)

Clay Shrum  
Director of Operations  
Spring Lake Improvement District  
115 Spring Lake Blvd.  
Sebring, FL 33876  
Phone: (863) 655-1715  
Email: [cshrum@springlakefl.com](mailto:cshrum@springlakefl.com)

**RE: DRAFT Water and Wastewater Impact Fee Study  
Spring Lake Improvement District, Highlands County, PWS: 5290266,  
Fac. No. FLA997668**

Dear Clay:

Florida Rural Water Association is pleased to provide this Impact Fee Study and recommendations to the Spring Lake Improvement District as a membership benefit. FRWA is dedicated to assisting water and wastewater systems provide Floridians with an ample affordable supply of high quality water and wastewater services, while protecting natural systems.

You should be congratulated for your water and wastewater system and operations staff. With unfunded mandates continuing to roll down from state and federal governments along with the aging of pipes, pumps and plants, you have risen to the challenge and continue to operate the system providing safe drinking water and consistent sewer services. To make a very difficult job more difficult, revenues have lagged behind expenses. Utility operators have done more with less each year, as measured in real dollars. They have shouldered the responsibility of running the system in a responsible manner and in compliance with state rules and regulations.

**Impact Fees.** Impact Fees (Connection Charges) are one-time charges assessed to the new development or connections to reimburse utility systems for current and proposed infrastructure required to supply water, collect, treat, and dispose of wastewater. Impact Fees are proportional to the capacity set aside for the new customer, development, or connection. In some systems these charges are sometimes called Capacity Fees while others may be called Benefit Assessments, User Fees, Contributions In Aid of Construction (CIAC) or Connection Charges.<sup>1</sup>

The other goals and objectives considered in the study include the following:

- ✓ Proposed Impact Fees should be equitable among customer classes;
- ✓ Proposed Impact Fees should minimize "shock" to customers if possible;
- ✓ Proposed Impact Fees should provide for growth paying for growth; and
- ✓ Proposed Impact Fees should provide for capital needs.

<sup>1</sup> AWWA, *Manual M1 - Principles of Water Rates, Fees and Charges*, 5th Edition, American Water Works Association, Denver CO., 2012, pp. 181-187

# Executive Summary.

## Findings & Recommendations.

The Spring Lake Improvement District has two options for setting Impact Fees:

**Option A** – Use the Remaining Useful Life Basis to capture the existing cost of running the Spring Lake Improvement District Water and Wastewater Utility.

**Option B** – Use the Replacement Value Basis to capture the true and sustainable cost of running the Spring Lake Improvement District Water and Wastewater Utility.

### 1. Water Impact Fee Finding.

Spring Lake Improvement District currently charges Water Capacity Fees based on meter size as shown on the following table. This is the 2020 approved fee structure.

<b>Spring Lake Improvement District Current System Development Charge for New or Expanded Water Service</b>	
<b>Meter Size</b>	
5/8" & 3/4" Meter	\$330.00
1" Meter	\$462.00
1 1/2" Meter	\$1,650.00
2" Meter	\$2,640.00
3" Meter	\$5,280.00
4" Meter	\$8,250.00
6" Meter	\$16,500.00

Spring Lake Improvement District has the option of using the evaluated Fee of **\$600 per ERC** using the Remaining Useful Life Basis –or- **\$3,180 per ERC** using the Replacement Value Basis to capture the true and sustainable cost of running its Water Utility. FRWA recommends using the Replacement Value.

### 2. Wastewater Impact Fee Findings.

Spring Lake Improvement District currently charges a Wastewater Capacity Fee of \$697.11/ERC for new customers. This is also the 2020 approved fee structure

Spring Lake Improvement District has the option of using the evaluated Fee of **\$1,880 per ERC** using the Remaining Useful Life Basis –or- **\$2,150 per ERC** using the Replacement Value Basis to capture the true and sustainable cost of running its Wastewater Utility. FRWA recommends using the Replacement Value.

### 3. Water & Wastewater Impact Fee Findings.

In combination both the Water and Wastewater Impact Fees are:

#### Equivalent Residential Water & Wastewater Connection (ERC) Calculation Comparison

Category	Current Capacity Fee	Option A Current Value	Option B Replacement Value
Water	\$330 / ERC approximately (System Development Charge)	\$600/ ERC	\$3,180/ ERC
Wastewater	\$697.11 / ERC	\$1,880/ ERC	\$2,150/ ERC
<b>Totals</b>	<b>\$1,027.11 / ERC</b>	<b>\$2,480 / ERC</b>	<b>\$5,330 / ERC</b>

### 4. Water and Wastewater Impact Fee Recommendations.

FRWA recommends that Spring Lake Improvement District use the evaluated fees to capture the true and sustainable cost of running its Water and Wastewater Utility and to maintain and protect the Improvement District's vital infrastructure. We recommend and can assist with establishing a 5 and 10-year Capital Improvement Program to keep Spring Lake Improvement District's utility financially sound.

Spring Lake Improvement District is on the threshold of unprecedented growth with the potential of at least doubling water service connections within the next 10 years, perhaps in even less time than that. The proposed Impact Fees provided in this study are based on current utility assets and service connections. The District is currently pursuing State Revolving Fund assistance that could potentially add more than \$3.6 million of assets to the utility. This could add as much as 20% to a capacity fee depending on whether the system has additional service connections when these assets are constructed.

Because Spring Lake Improvement District is moving into a period of significantly increasing both utility assets and utility connections, it is recommended that the Impact Fees be updated as these major asset and connection changes are solidified. That will help provide for the District to be reimbursed for the infrastructure required for the new services being added.

### 5. Other Impact Fee Recommendations

- Fees for turn-ons, turn-offs, and late fees might need to be increased for inflation. Fees should be reviewed / updated at least annually by staff based on actual time and material costs for meters, fittings, boxes, equipment costs, fuel costs, and salaries
- The Utility's policies on payments, late charge fees, illegal turn on penalty, or returned check penalty should also be reviewed / updated at least annually by staff.
- FRWA recommends implementing annual adjustments in accordance with the Florida Public Service Commission. The Florida Public Service Commission current Price Index is found at <http://www.psc.state.fl.us/utilities/waterwastewater/>, click on "Price Index and Pass Through Application for Water and Wastewater Utilities".

<b>Year</b>	<b>Commission Approved Index</b>	<b>Year</b>	<b>Commission Approved Index</b>
2009	2.55%	2015	1.57%
2010	0.56%	2016	1.29%
2011	1.18%	2017	1.51%
2012	2.41%	2018	1.76%
2013	1.63%	2019	2.36%
2014	1.41%	2020	1.79%

- As mentioned previously, it is recommended that you revisit this Impact Fee study every 3 to 5 years or as needed. Indicators of need include changes to revenue or CIP expense predictions, current financial position and, other indicators during the annual budget approval process.

# Impact Fee Evaluation

---

## Impact Fee Study Standards.

FRWA uses contemporary industry standards for recommending and establishing utility Impact Fees, these include: American Water Works Association (AWWA) Manuals of Practice, Generally Accepted Accounting Principles (GAAP), Governmental Accounting Standards Board (GASB), and Florida Public Service Commission guidelines.

## Impact Fee Calculations.

Impact Fee Calculations are performed in accordance with the American Water Works Association *Manual M1 - Principles of Water Rates, Fees and Charges* guidelines for calculating and allocating Impact Fees to new customers.<sup>2</sup> FRWA uses a rational and conservative approach when performing these evaluations. This approach is transparent, defensible, and complies with statute and case law. Since there is a rational nexus of allocating Impact Fees to customer groups it also follows the intent of the Florida Statutes that set the basis for rates and impact fees by counties and municipalities. Such fees shall be just and equitable.<sup>3</sup>

Impact Fees evaluated set using the following criteria:

- The water / wastewater system has the legal authority to charge Impact Fees.
- Costs are allocated to specific customer classes based on use of the water / wastewater system infrastructure.
- New customers add incremental capital costs to the utility and the fees are set to recapture the impacts to the system.
- The evaluation of system data is sufficient to reasonably estimate the value of water / wastewater system infrastructure and support charges to new customers. The evaluation includes water / wastewater consumption, historical flow trends, growth, and inventories of water lines, wells, treatment, collection, manholes, lift stations, etc.
- Justification of capital costs are clearly provided in the calculation of fees.
- Affordability is taken into consideration for all classes of customers and particularly to economically disadvantaged customers.
- The capital costs / fee requirements for new customers are consistent, predictable, and uniform.
- Each customer class equitably pays its own way. No undue burden is placed on one class over another customer class.

## Cost Savings.

Impact Fees consultants charge anywhere from \$15,000 to \$30,000 for this type of report, and by using FRWA you have been prudent with ratepayer money. Consultant reports are much thicker in part to justify the fees, explain the results, and build a case for additional services, which means more consulting fees.

---

<sup>2</sup> AWWA, *Manual M1 - Principles of Water Rates, Fees and Charges*, 6th Edition, American Water Works Association, Denver CO., 2012, pp. 181-187

<sup>3</sup> See Florida Statutes Chapter 153 for County Water & Sewer Systems and Chapter 180 - Municipal Public Works.

## **Accuracy of Revenue Predictions.**

We have performed our analyses using the data and information obtained; we have relied upon such information to be accurate. Projected Impact Fee revenue precision is limited by the accuracy of the financial information provided – good information “in” equals good information “out”, and *vice versa*. Should you find that these recommended Impact Fees are not in-line with your needs, please let us know ASAP. We will work with you to carefully review and update financial records, revisit our calculations, valuation parameters, assumptions, etc. **We are always happy to return, revisit your Impact Fees, and adjust the analyses as necessary, please call me anytime.**

The original mission for creation and ownership public water and wastewater utilities include many compelling objectives: (1) health and safety of citizens; (2) protect most vulnerable residents (aged, young, poor health, economically disadvantaged, etc.); (3) ability to return the profit ordinarily collected by a private entity to the customer in the form of lower Impact Fees; (4) provide fire protection; (5) tool to expand the tax base; (6) ability to shape, facilitate or control growth; and (7) promotes home rule and self-determination.

## **Growth should pay for Growth.**

New development causes the need for expansion and should therefore pay its fair share for the costs incurred. These connections are plant expansions and water / sewer line extensions -- requiring significant cost. Existing ratepayers have supported and maintained the existing facilities, and so new customers should support any new, additional or expanded facilities plus pipelines.

Some officials and new customers have argued incorrectly that the utility should allow new customers on the system without charge or at original plant costs (not adjusted for inflation). It's not fair to existing ratepayers and it is not a prudent utility practice. Nor would it be good business practice. Public officials may be tempted at times to trim budgets; lower utility rates below operational costs; and keep Impact Fees below actual capital investment needs -- but this seriously reduces utilities' ability to perform its central mission, shortchanges ratepayers by delaying costs, sets up unrealistic expectations, and undermines the future vitality of the community.

## **Dealing with Growth & Infrastructure Decay.**

Florida law requires communities to maintain adequate levels of service for public facilities and to anticipate and prepare for growth.<sup>4</sup> In addition to keeping pace with growth, water and wastewater utilities must maintain the infrastructure in good operating condition. This requires adequate funding and continual repair and replacement (R&R) just to keep up with normal usage and aging. Proper management, training and hiring practices are also essential for efficient utility operation.<sup>5</sup>

As new customers come online more and more of the treatment capacity is used up until the plant is at capacity and must be expanded. Further, the Florida Department of Environmental Protection requires that when a water plant reaches 75% of capacity that planning for expansion must start (Rule 62-555.348 F.A.C.) and when 85% capacity is used that engineering design and construction plans must commence. Similar requirements apply for wastewater facilities during each 5-year operational permit renewal process.

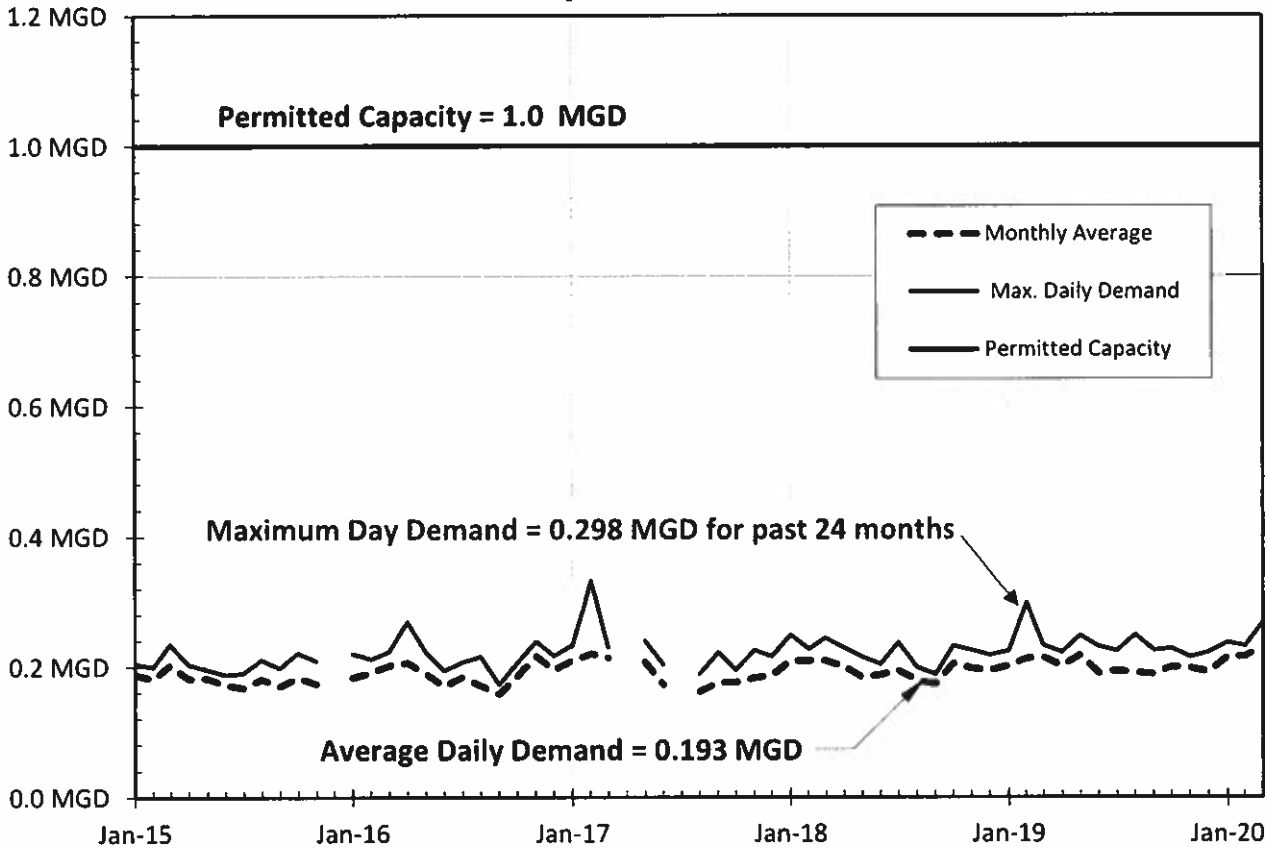
---

<sup>4</sup> Florida's Growth Management Act Chapter 163, Part II, Florida Statutes; the Water Protection and Sustainability Program Chapter 373, Florida Statutes; and Section 373.0361(7)(b), Florida Statutes - requiring local government will implement to meet existing and future development need.

<sup>5</sup> FDEP Rule 62-555-348, FAC requires an initial Capacity Analysis Report (CAR) to be submitted within 6 months after the total maximum-day of finished water produced by all the PWS's treatment plant(s) exceeds 75 percent of the total permitted maximum-day operating capacity of the plant(s). Additionally FDEP Rule 62-555-350, FAC requires that the suppliers of water operate and maintain their public water systems so as to comply with applicable standards, in good condition, and under the plant's permitted operating capacity. Similar requirements apply for wastewater systems.

Existing Water System Demand.

### Spring Lake Improvement District Demand History per MORs



**Figure 1 ~ Historic Water Demands**  
(MGD denotes Millions of Gallons per Day)

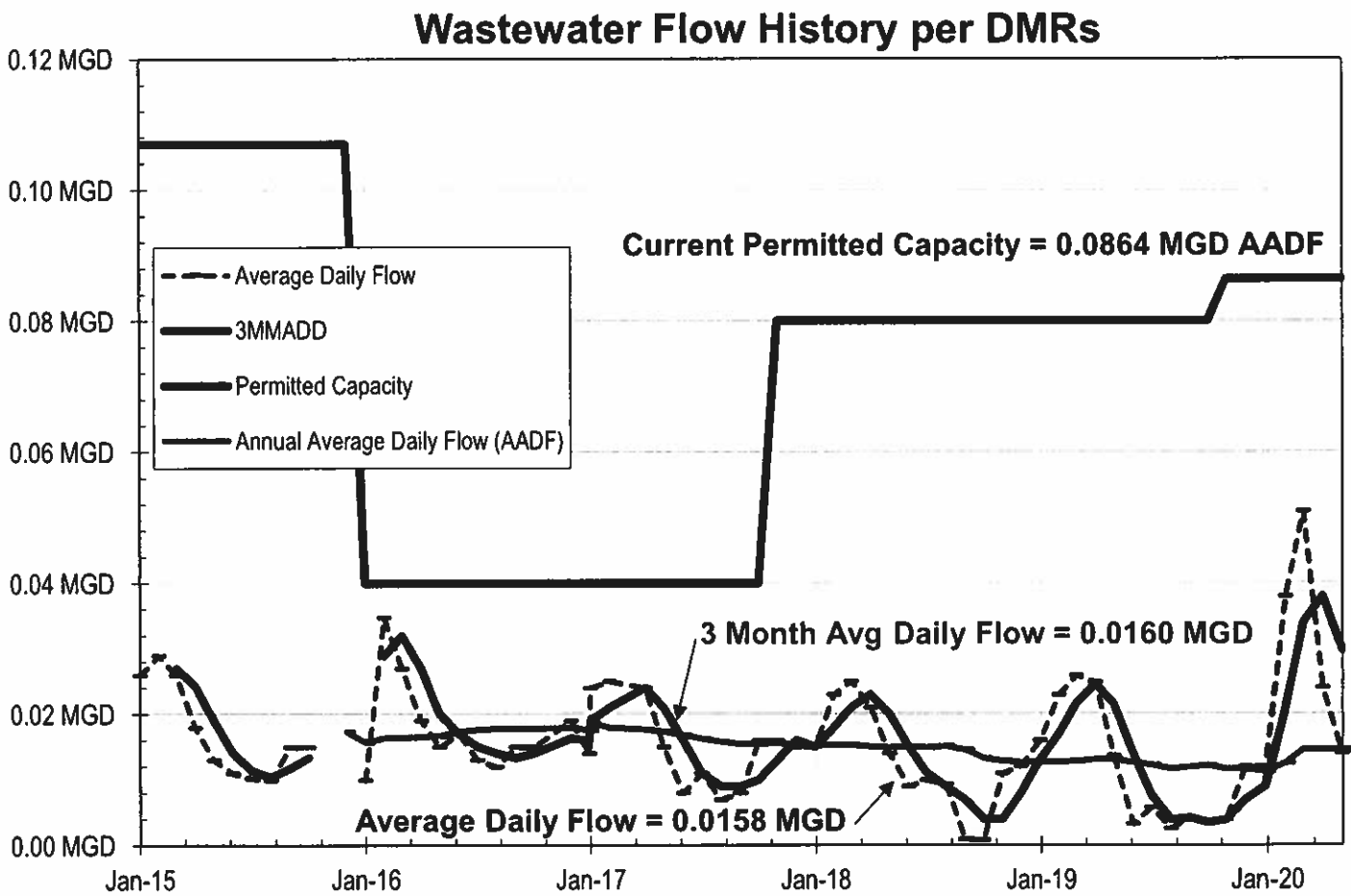
The amount of water used by the customers on the system is provided below, see Figure 1 for flow records:

Population Served.....	3,620
Equivalent Residential Connections (ERC).....	1,731
Average Daily Demand (ADD) per MORs.....	0.193 MGD (134 gpm)
Maximum Daily Demand (MDD) per MORs for past 24 months.....	0.298 MGD (207 gpm)
Permitted Plant Capacity.....	1.0 MGD (694 gpm)
Percentage of water treatment plant used.....	30%
Water used per Equivalent Residential Connection (MDD / ERC).....	172 gpd

Spring Lake Improvement District provides treated water to a mixture of single and multi-family homes and developments. The District currently has one Water Treatment Plant (WTP) with three wells ranging from 6-inch diameter to 12-inch-diameter and two ground storage tanks. Raw water from the wells is aerated, disinfected with bleach and a sequestering agent is added as a corrosion inhibitor. A minimum 0.2 parts per million chlorine residual is maintained throughout the distribution system to ensure water quality.

The Maximum Day Water Demand for the past 24 months, occurring in February 2019, was 0.298 mgd. It is approximately 30% of the total 1.0 mgd water treatment plant capacity. With projected development in the District, this Maximum Day Water Demand could more than double within the next 10 years.

**Existing Wastewater System Demand.**



**Figure 2 ~ Historic Wastewater Flows**

The amount of wastewater used by the customers on the system is provided below; see Figure 2:

Population Served (approximate).....	660
Equivalent Residential Connections.....	316



Average Daily Flow per DMRs.....	0.0158 MGD (11 gpm)
Maximum Three Month Average Daily Flow per DMRs .....	0.0380 MGD (26 gpm)
Permitted Plant Capacity .....	0.0864 MGD (60 gpm)
Percentage of wastewater treatment plant used.....	18%

Spring Lake Improvement District has recently completed construction of a new 0.0864 mgd Wastewater Treatment Facility with effluent disposal which serves approximately 20% of the District’s residents. The remaining 80% of the residents of the District are served by individually owned and operated septic systems. Wastewater received by the new WWTF comes from SLID customer “STEP” (Septic Tank Effluent Pumping) Systems. The current WWTF facility replaced a WWTF that was under an FDEP Administrative Order for failure to meet regulatory compliance.

The new WWTF has a 23,000 gallon surge basin with splitter box, two 13,000 gallon anoxic tanks, two 31,000 gallon aeration basins, two 13,300 gallon clarifiers, two multimedia filters, two 2,000 gallon chlorine contact chambers, an aerobic sludge digester, and two 1.57 acre mounded absorption bed drain fields. The District also has 2 wastewater lift stations, purchased in 2015 with the previous plant. The primary lift station, next to the existing plant site, was rehabilitated with the construction of the new plant.

At an average flow of 0.0158 mgd, the plant is currently operating at approximately 18% of it’s permitted capacity. However, subsequent to construction of the plant, the District has been approached by developers interested in new construction that will be discharging wastewater to the WWTF. The proposed new construction has the potential to more than double the flows to the new WWTF within the next 10 years.

**Utilities are Capital Intensive.**

The water supply and wastewater treatment industry are very capital intensive because almost every component of these systems requires fixed capital investments in long-term infrastructure. Water facilities include water supply, treatment, storage, distribution, and disposal of treatment residuals. Wastewater facilities include sewage collection, pumping (lift stations), transmission, treatment, disposal of treated effluent, and disposal of biosolids.

**Funding Utilities.**

Utilities typically operate for many years without fully recovering the initial construction costs. Loans and grants supported by rates are used to finance capital facilities. In addition to paying the debt obligation for existing facilities, rates support operation, maintenance, salaries, chemicals, power, vehicles, equipment, repair and replacement. Rates frequently cannot be structured to accommodate new or expanded facilities for new customers. So, Impact Fees are used to assess new customers for capital construction costs and allow new customers to “buy-in” to the system. Impact Fees bridge the funding gap needed to build the new facilities to provide service to new residents and businesses. **Impact Fees cannot be used for operation, maintenance, repair, replacement, or normal utility administrative costs. Impact Fees should be held in a separate account from water/wastewater revenue and general funds.**

It is just too easy to neglect existing facilities and run them to failure instead of being proactive in their repair and replacement. Problems with this approach are:

1. Cost for replacement is several times greater than for repair and maintenance;
2. Real cost of utility operation is hidden from the ratepayer and governing board;

3. Assets are not properly valued and preserved;
4. Improper stewardship of public assets;
5. Grants never cover all replacement costs; and
6. Diversion of public funds from other worthy uses.

### **FRWA Impact Fees Basis**

The Impact Fees are an opinion of probable costs based on the FRWA and the engineer's experience as well as review of similar bid tabs and construction projects for other communities throughout Florida. These include costs not only for new water and sewer plants but water distribution systems, sewage collection systems, lift stations, force mains, land acquisition, offices, SCADA, controls, emergency power generation, sprayfields, percolations ponds, and deep wells for disposal.

Twenty years ago, conventional lime softening water treatment plants would cost about \$4 to \$6 per gallon to construct; whereas, today one would expect to spend approximately \$8 to \$9 per gallon to construct an upgrade. Actual costs vary greatly by community, by region, and between design consultants. Plus, any estimate must include unique site-specific water quality treatment and raw water supply as well as piping, land, instrumentation & controls, emergency power generation. Cost estimates must include provisions to meet increasingly stringent and new FDEP requirements

Estimating the cost for new wastewater treatment capacity is just as complex. Twenty years ago conventional extended aeration secondary treatment plant would cost about \$3 to \$5 per gallon to construct, today you would expect to spend approximately \$6 to \$12 per gallon to construct an upgrade alone. A new facility may cost between \$15 to \$20 per gallon when site work and stormwater treatment is considered. Actual costs vary greatly by community, by region, and between design consultants. The estimates developed for Spring Lake Improvement District rely on the engineer's best professional judgment based on discussions with District officials of future needs and how those needs may be best accomplished. Current final construction costs were used for the new WWTF and rehabilitated Lift Station. Accepted construction bids were used for force main under construction.

The costs used to estimate these Impact Fees are shown in the attached tables and we are happy to discuss these if there are any questions or concerns.

### **Scheduling Presentation of Impact Fees Study Findings and Recommendations.**

We are happy to come to your next utility commission meeting to explain our analysis and report. We anticipate that you will have questions to discuss and options to consider. My presentation is between 20 to 30-minutes in length, which would be followed by commission discussion. This activity typically takes about 60 to 90-minutes and can be held during a special workshop or a normal commission meeting. This is an informative meeting and decisions about Impact Fees are usually taken at subsequent meetings. It is important that all commission members be in attendance since the adoption of Impact Fees increases can produce public comment.

We have enjoyed serving you and wish your water and wastewater system the best. Please feel free to contact me if you have any further questions.

Sincerely,

Sterling L. Carroll, P.E.  
FRWA State Engineer

David Bolam, P.E.  
Saltus Engineering, Inc.

# Water & Wastewater Impact Fee Report

## Spring Lake Improvement District

FRWA Member:

Address: 115 Spring Lake Blvd.  
Sebring, FL 33876  
Telephone: (863) 655-1715

Contact: Clay Shrum, Director of Operations  
E-mail: cshrum@springlakefl.com

County: **Highlands**

Population: 3,620

Connections:	Water: 1,569	Wastewater: 312
PWS:	<b>5290266</b>	Facility ID: FLA997668
Capacity:	1.000 MGD	Capacity: 0.0864 MGD
ADD:	0.193 MGD	3MMADF: 0.016 MGD
MDD:	0.298 MGD	

Revision: **July 8, 2020**

Version: **DRAFT**

Prepared by: Sterling L. Carroll, P.E. Project Manager  
David Bolam, P.E. / Saltus Engineering, Inc. Project Engineer

### Florida Rural Water Association



2970 Wellington Circle  
Tallahassee, Florida 32309-6885  
Phone: 850-668-2746  
Certification of Authorization: 29291

Sterling L. Carroll, P.E.  
FL PE# 46151

# Florida Rural Water Association

2970 Wellington Circle, Tallahassee, Florida 32309

Date: 8-Jul-20



Member: Spring Lake Improvement District

Version: DRAFT

Contact: Clay Shrum, Director of Operations

Conn: 1,569

Address: Sebring, FL 33876

PWS: 5290266

## Abbreviations, Terms and Acronyms

*A complete glossary of environmental / financial terms can be found on the EPA website by an internet search.*

Abbr	Description
ACP	Asbestos-Cement Pipe (transite)
ADD	Average Daily Demand - defined as the water system's average water demand for a single calendar day
AMP	Asset Management Plan
AWWA	American Water Works Association
BEBR	Bureau of Economic and Business Research (at the University of Florida)
CIP	Capital Improvement Program,
CIP	Cast Iron Pipe
CWS	Community Water System - a PWS that supplies water to the same population year-round
DBP	Disinfectant By-Products
DIP	Ductile Iron Pipe
DWSRF	Drinking Water State Revolving Fund Program
ERC	Equivalent Residential Water Connection - based solely on flow. For instance 1 ERC = 250 gpd Average Daily Demand (Residential Usage) or 0.174 gpm. A commercial entity with 750 gpd ADD would be 3.0 ERCs.
ERP	Emergency Response Plan
ES	Equalization Storage - projection of finished-water storage needed for operational equalization typically 25% of maximum-day water demand
EST	Elevated Storage Tank
F.A.C.	Florida Administrative Code
FDEP	Florida Department Of Environmental Protection
FRWA	Florida Rural Water Association
FS	Fire Storage - storage needed for fire fighting for 2 or 4 hours times needed fire flow
Galv	Galvanized Steel Pipe ( or GSP)
gpcd	Gallons Per Capita Per Day
gpd	Gallons Per Day
gpm	Gallons per Minute
HSP	High Service Pump
ISO	Insurance Services Office - establishes fire insurance rates for communities
MDD	Maximum Day Demand - maximum flow for any day in a month. Typically between 1.85 to 2.0 x ADD or about 500 gpd.
mg/L	Milligrams per liter (also parts per million)
MGD	Million Gallons per Day
BEBR	Bureau of Economic and Business Research (at the University of Florida)
MOR	Monthly Operating Report - flow records for WTP production
NFF	Needed Fire Flow - volume needed to extinguish a typical fire = NFFD x NFFR
NFFD	Needed Fire-Flow Duration - time needed to extinguish a typical fire in your community (starts at 2 hours)
NFFR	Needed Fire-Flow Rate - flow rate needed to extinguish a typical fire in your community (starts at 500
O&M	Operations and Maintenance
PER	Preliminary Engineering Report
PHD	Peak-Hour Demand - projected highest flow rate over a 24-hour period in gpm. Typically 4.0 x ADD or
psi	Pounds Per Square Inch - water system pressures range typically between 25 psi and 70 psi
PM	Preventative Maintenance
PPE	Personal Protection Equipment
PVC	Polyvinyl Chloride Pipe
PWS	Public Water System - a system for the provision to the public of water for human consumption through pipes or other conveyances. For regulatory purposes, the system must have at least 15 service connections or serve at least 25 people daily at least 60 days a year.
R&R	Rehabilitation & Replacement,
RFI	Request for Inclusion (for the SRF)
SCADA	Supervisory Control and Data Acquisition (Telemetry)
SWFWMD	Southwest Florida Water Management District
SOP	Standard Operating Procedures
SRF	State Revolving Fund
TPC	Total Permitted Capacity - the maximum allowed daily flow from a WTP as permitted by FDEP
VFDs	Variable Frequency Drives
WM	Water Meters
WTP	(Drinking) Water Treatment Plant
WUP	Water Use Permit with the local Water Management District
WWTP	Wastewater Treatment Plant

# Florida Rural Water Association

2970 Wellington Circle, Tallahassee, Florida 32309

Date: 8-Jul-20



Member: Spring Lake Improvement District

Version: DRAFT

Contact: Clay Shrum, Director of Operations

Conn: 1,569

Address: Sebring, FL 33876

PWS: 5290266

## Water Capacity Fee Summary

Meter Size	City Tie-In Fees <sup>1</sup>		Proposed Water Capacity Fees using Remaining Useful Life Basis <sup>2</sup>	Proposed Water Capacity Fees using Replacement Value Basis <sup>2</sup>	Ratio of Fee to Meter Sizing <sup>3</sup>
	Meter	Backflow			
5/8 x 3/4-in	Market <sup>4</sup>	Market	\$600	\$3,180	1.00
1-inch	Market	Market	\$1,200	\$6,360	2.00
1.5-inch	Market	Market	\$3,000	\$15,900	5.00
2-inch	Market	Market	\$4,800	\$25,440	8.00
3-inch	Market	Market	\$9,600	\$50,880	16.00
4-inch	Market	Market	\$15,000	\$79,500	25.00
6-inch	Market	Market	\$30,000	\$159,000	50.00

- Notes:
1. Meter and backflow installation costs remain the same for customers outside city limits.
  2. Capacity fees are the same for customers outside city limits.
  3. Impact fees use the same current ratio of rates for different sized water meters, see table below.
  4. Installation costs for water meters and backflow preventers are the market price + labor

## Water Meter Sizing

Meter Size	Typical Service (example categories)	Acceptable Flow Range (gpm)	Maximum Continuous Flow (gpm)	Maximum ERCs	PHD Flow (gpm)
<b>Positive Displacement Meters</b>					
5/8 x 3/4-in	Residential & Small Businesses	1/8 to 20 gpm	10 gpm	1	0.69 gpm
3/4-in	Residential & Small Businesses	1/4 to 30 gpm	15 gpm	1	0.69 gpm
1-in	Small Businesses	3/8 to 50 gpm	25 gpm	2	1.4 gpm
1.5-in	Medium Sized Businesses	5/8 to 100 gpm	50 gpm	5	3.5 gpm
2-in	Apartment Buildings & Commercial	1-1/4 to 160 gpm	80 gpm	8	5.6 gpm
<b>Turbine Meters *</b> * Turbine Meters required for Fire Flow & sizing by design engineer					
2-in	Commercial, Industrial & Institutional	3 to 300 gpm	160 gpm	8	5.6 gpm
3-in	Commercial, Industrial & Institutional	4.3 to 450 gpm	350 gpm	16	11.1 gpm
4-in	Commercial, Industrial & Institutional	25 to 1000 gpm	1,000 gpm	25	17 gpm
6-in	Commercial, Industrial & Institutional	30 to 2,500 gpm	2,000 gpm	50	35 gpm
8-in	Commercial, Industrial & Institutional	35 to 4,400 gpm	3,500 gpm	80	56 gpm

Average Daily Demand (Residential Usage) per ERC = 1 ERC (Equivalent Residential Connection)      250 gpd      0.174 gpm

Maximum Day Demand (Residential Usage) per ERC      500 gpd      0.347 gpm  
Peaking Factor MDD:ADD = 2.0

Peak Hour Demand (Residential Usage) per ERC      N/A      0.694 gpm  
Peaking Factor PHD:ADD = 4.0

# Florida Rural Water Association

2970 Wellington Circle, Tallahassee, Florida 32309

Member: **Spring Lake Improvement District**

Contact: **Clay Shrum, Director of Operations**

Address: **Sebring, FL 33876**

Date: **8-Jul-20**

Version: **DRAFT**

Conn: **1,569**

PWS: **5290266**

## Water Impact Fee Recommendations

### Water Impact Fee Calculation

Cost per gal =	Remaining Useful Life				Per Gallon
	Wells	Water Treatment	Water Storage Tanks	Distribution System	
	\$70,000	\$356,900	\$1,429,500	\$1,649,383	\$3.51 / gal
	1,000,000 gpd				

Where:

Total Treatment Capacity = 1,000,000 gpd

Max Day Demand from MORs = 298,000 gpd

Percentage of WTP used = 29.8%

Category	Remaining Useful Life	Replacement Value
Wells	\$70,000 8%	\$900,000
Water Treatment	\$356,900 10%	\$3,569,200
Water Storage Tanks	\$1,429,500 29%	\$4,935,000
Distribution System	\$1,649,383 18%	\$9,063,384
<b>Totals</b>	<b>\$3,505,783 19%</b>	<b>\$18,467,584</b>

\$3.51 / gal \$18.47 / gal

\$3.57 / gal

### Equivalent Residential Water Connection (ERC) Calculation

Where:

	Remaining Useful Life Basis	Replacement Value Basis
System Value (\$) =	\$3,505,783	\$18,467,584
Max Daily Demand for past 24 mo.s =	298,000 gpd	298,000 gpd
ERCs =	1,731	1,731 <small>see ERC calculation worksheet</small>
Max Daily Demand / Connection =	172 gpd/ERC	172 gpd/ERC

$$\text{ERC Costs} = \frac{\text{System Value (\$)} \times \text{MDD} / \text{ERC}}{\text{Total Treatment Capacity gpd}}$$

$$\text{ERC Costs} = \frac{\$3,505,783 \quad 172 \text{ gpd/ERC}}{1,000,000 \text{ gpd}} \quad \mathbf{\$603.54 / ERC} \quad \text{Remaining Useful Life Basis}$$

Use **\$600 / ERC**

$$\text{ERC Costs} = \frac{\$18,467,584 \quad 172 \text{ gpd/ERC}}{1,000,000 \text{ gpd}} \quad \mathbf{\$3,179.28 / ERC} \quad \text{Replacement Value Basis}$$

Use **\$3,180 / ERC**

### Remaining Equivalent Residential Water Connections Available

Where:

Max Daily Demand / ERC =	172 gpd/ERC	1,731	= ERCs
Total Treatment Capacity =	1,000,000 gpd		
Max Day Demand using MOR avg fact	298,000 gpd	<b>702,000 gpd</b>	= Capacity Remaining
Percentage of WTP used =	29.8%	70.2%	

**4,078 = ERCs Remaining**

FDEP requires planning for expansion at 75% capacity and design commence at 85%.

# Florida Rural Water Association

2970 Wellington Circle, Tallahassee, Florida 32309

Member: **Spring Lake Improvement District**  
 Contact: **Clay Shrum, Director of Operations**  
 Address: **Sebring, FL 33876**

Date: **8-Jul-20**  
 Version: **DRAFT**  
 Conn: **312**  
 GMS: **FLA997668**

## Wastewater Impact Fee Recommendations

### Wastewater Impact Fee Calculation

	Remaining Useful Life WWTF and Effluent Disposal System	Lift Stations	Pipes	Per Gallon
Cost per gal =	\$1,500,000	\$268,750	\$1,482,314	\$37.63 / gal
	86,400 gpd			

Where:

Total Treatment Capacity =	86,400 gpd
Monthly ADF from DMRs =	15,800 gpd
Percentage of WWTF used =	18.3%

Category	Remaining Useful Life		Replacement Value
WWTF and Effluent Disposal	\$1,500,000	100%	\$1,500,000
Lift Stations	\$268,750	83%	\$325,000
Pipes	\$1,482,314	79%	\$1,885,305
<b>Totals</b>	<b>\$3,251,064</b>	<b>88%</b>	<b>\$3,710,305</b>
	\$37.63 / gal		\$42.94 / gal

\$17.36 / gal

### Equivalent Residential Water Connection (ERC) Calculation

Where:	Remaining Useful Life Basis	Replacement Value Basis
System Value (\$)	\$3,251,064	\$3,710,305
Monthly ADF from DMRs =	15,800 gpd	15,800 gpd
ERCs =	316	316
Max Daily Demand / Connection =	50 gpd/ERC	50 gpd/ERC

see ERC calculation worksheet

$$\text{ERC Costs} = \frac{\text{System Value (\$)} \times \text{ERC}}{\text{Total Treatment Capacity gpd}}$$

$$\text{ERC Costs} = \frac{\$3,251,064}{86,400 \text{ gpd}} \times 50 \text{ gpd/ERC} = \$1,881.40 / \text{ERC} \text{ Remaining Useful Life Basis}$$

Use **\$1,880 / ERC**

$$\text{ERC Costs} = \frac{\$3,710,305}{86,400 \text{ gpd}} \times 50 \text{ gpd/ERC} = \$2,147.17 / \text{ERC} \text{ Replacement Value Basis}$$

Use **\$2,150 / ERC**

### Remaining Equivalent Residential Wastewater Connections Available

Where:

Monthly ADF / ERC =	50 gpd/ERC	316	= ERCs
Total Treatment Capacity =	86,400 gpd		
Monthly ADF from DMRs	15,800 gpd	70,600 gpd	= Capacity Remaining
Percentage of WWTF used =	18.3%	81.7%	

**1,412 = ERCs Remaining**

Note: Useful life value based on Florida Public Service Commission Average Service Life Guidelines, F.A.C. 25-30.140





# Florida Rural Water Association

2970 Wellington Circle, Tallahassee, Florida 32309

Member: **Spring Lake Improvement District**

Contact: **Clay Shrum, Director of Operations**

Address: **Sebring, FL 33876**

Date: **8-Jul-20**

Version: **DRAFT**

Conn: **1,569**

PWS: **5290266**

## Estimated WTP Construction Costs vs. Plant Size & Type

Current Water Treatment Plant Size (MGD)

1.000 MGD

FDEP Permitted Category per Rule 62-699.310(2)(e), F.A.C.

V

FDEP Permitted Staffing Classification per Rule 62-699.310(2)(e), F.A.C.

C

Construction Year 1985

Total Water Treatment Plant Size (MGD)

1.000 MGD

Water Plant Category per Rule 62-699.310(2)(e), F.A.C.

Category I - Lime Softening / Chemical Coagulation

No

\$0.00

Category II - Reverse Osmosis / Nanofiltration

No

\$0.00

Category IV - Primary Treatment / Aeration, Stabilization, Disinfection

Yes

\$3.57

Category V - Disinfection Only

No

\$0.00

Water Plant Construction Costs (\$ per gallon)

\$3.57

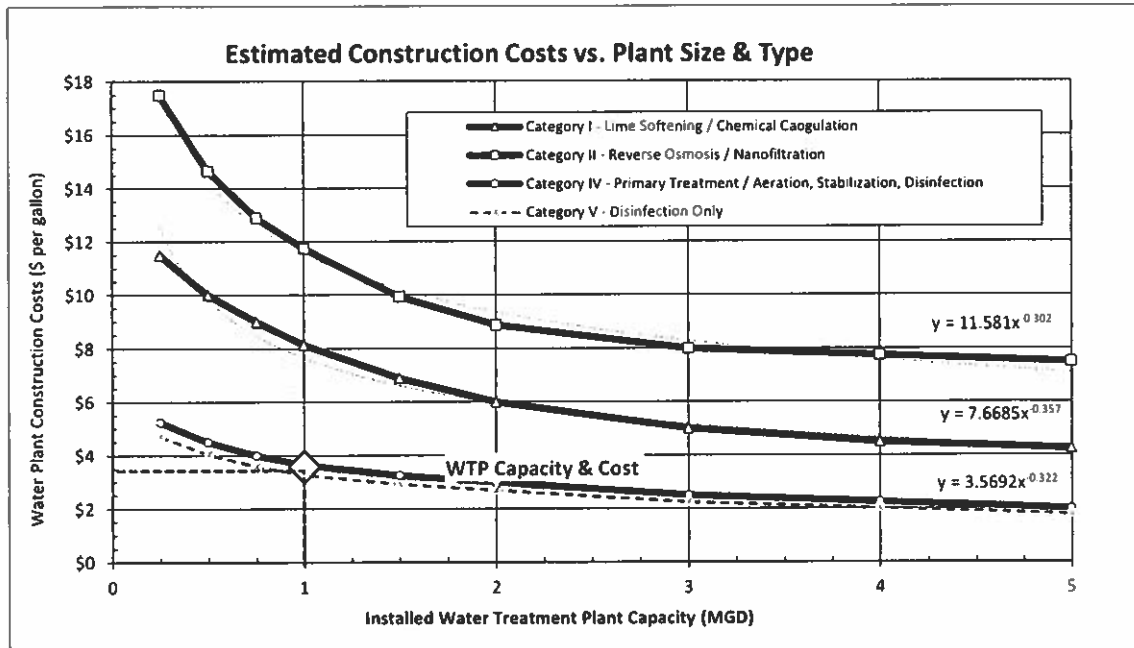
Water Plant Construction Costs Estimate

\$3,569,200

Replacement Cost

\$356,920

Useful Value



Note: Useful life value based on Florida Public Service Commission Average Service Life Guidelines (27 years), F.A.C. 25-30.140, Class C Utility, interviews with operations staff and engineering opinion.

# Florida Rural Water Association

2970 Wellington Circle, Tallahassee, Florida 32309

Member: **Spring Lake Improvement District**

Contact: **Clay Shrum, Director of Operations**

Address: **Sebring, FL 33876**

Date: **8-Jul-20**

Version: **DRAFT**

Conn: **1,569**

PWS: **5290266**

## Distribution System Piping - Inventory, Condition & Current Value

*Neglect lines less than 1.5-inches from value of water distribution system*

Replacement Value at today's cost price per inch-diameter per foot: \$5.50

Pipe Dia (inches)	Pipe Material	Length (feet)	Length (miles)	Approximate Average Age		Value (\$ per ft)	Estimated (\$)	
2-in	PVC	7,133-ft	1.35 mi	41 years	20%	\$11.00 /ft	\$15,693	\$78,463
4-in	PVC	9,058-ft	1.72 mi	41 years	20%	\$22.00 /ft	\$39,855	\$199,276
6-in	AC	1,460-ft	0.28 mi	41 years	5%	\$33.00 /ft	\$2,409	\$48,180
6-in	PVC	128,692-ft	24.37 mi	41 years	20%	\$33.00 /ft	\$849,367	\$4,246,836
8-in	AC	1,500-ft	0.28 mi	41 years	5%	\$44.00 /ft	\$3,300	\$66,000
8-in	PVC	36,777-ft	6.97 mi	41 years	20%	\$44.00 /ft	\$323,638	\$1,618,188
10-in	AC	7,415-ft	1.40 mi	41 years	5%	\$55.00 /ft	\$20,391	\$407,825
10-in	PVC	31,058-ft	5.88 mi	41 years	20%	\$55.00 /ft	\$341,638	\$1,708,190
12-in	AC	7,000-ft	1.33 mi	41 years	5%	\$66.00 /ft	\$23,100	\$462,000
12-in	PVC	3,461-ft	0.66 mi	41 years	20%	\$66.00 /ft	\$45,685	\$228,426
Weighted Average								
		<b>233,554-ft</b>	<b>44.23 mi</b>			<b>\$7.06 /ft</b>	<b>\$1,649,383</b>	<b>\$9,063,384</b>

Replacement Value at today's cost: **\$9,063,384**

### NOTES:

1. Age of pipelines are based on inspection of water system maps, as-builts plans, dates of typical material availability (such as asbestos concrete pipe was used during the 1970s) and interviews with operations staff. Most pipe installed between 1972 and 1989, approximately 40% of pipe installed in 1980.

2. Useful life value based on Florida Public Service Commission Average Service Life Guidelines, F.A.C. 25-30.140, interviews with operations staff, pipe material research studies, and engineering opinion.

# Florida Rural Water Association

2970 Wellington Circle, Tallahassee, Florida 32309

Member: **Spring Lake Improvement District**  
 Contact: **Clay Shrum, Director of Operations**  
 Address: **Sebring, FL 33876**

Date: **8-Jul-20**  
 Version: **DRAFT**  
 Conn: **1,569**  
 PWS: **5290266**

## Finished Water Storage Tanks

Steel Elevated Storage Tanks have an estimated 30-years useful life

Concrete Ground Storage Tanks have an estimated 37-years useful life

Hydropneumatic Tanks have an estimated 30-years useful life

\$6.00/gal

\$7.50/gal

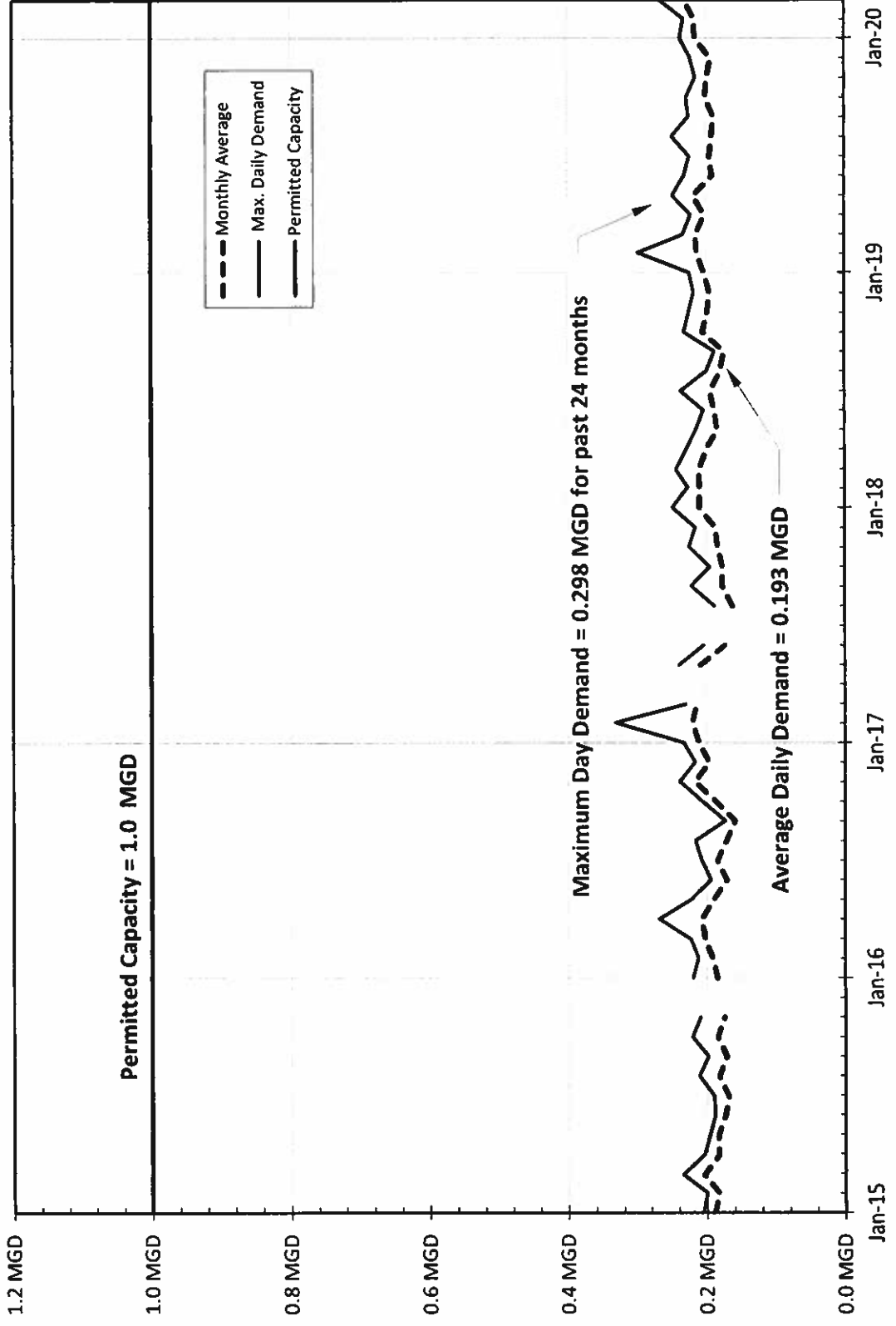
\$6.00/gal

Tank	Name / Location	Year Installed	Type & Material	Capacity (gal)	Approx. Useful Value	Estimated (\$)	
1	Ground Storage 1	1985	Concrete	250,000	10%	\$187,500	\$1,875,000
2	Ground Storage 2	1997	Concrete	400,000	40%	\$1,200,000	\$3,000,000
3	Hydro 1	2010 redone	Steel	10,000	70%	\$42,000	\$60,000
				660,000 gal	37-yrs	<b>\$1,429,500</b>	<b>\$4,935,000</b>

Replacement Value at today's cost: **\$4,935,000**

*Note: Useful life value based on Florida Public Service Commission Average Service Life Guidelines, and F.A.C. 25-30.140, interviews with operations staff and engineering opinion*

# Spring Lake Improvement District Demand History per MORs



**Florida Rural Water Association**

2970 Wellington Circle, Tallahassee, Florida 32309

Member: **Everglades City**  
 Contact: **Mayor Howell Grimm Jr.**  
 Address: **Everglades City, FL 34139**

Date: **14-Apr-20**  
 Version: **DRAFT**  
 Conn: **1,288**  
 PWS: **5110089**

**Historic Water Treatment Plant Flow Data from MORs**

from Monthly Operation Reports per 62-555.900(2), (3), (4) (5) or (5) (in MGDs)

Month	Monthly Average	ADD (Annual)	Max. Daily Demand	MDD (Annual)	Ratio MDD:ADD	Permitted Capacity
Jan-15	0.1889		0.2050		1.085	1.0000
Feb-15	0.1821		0.2000		1.098	1.0000
Mar-15	0.2038		0.2350		1.153	1.0000
Apr-15	0.1828		0.2040		1.116	1.0000
May-15	0.1833		0.1960		1.069	1.0000
Jun-15	0.1733		0.1880		1.085	1.0000
Jul-15	0.1684		0.1900		1.129	1.0000
Aug-15	0.1819		0.2110		1.160	1.0000
Sep-15	0.1711		0.1980		1.157	1.0000
Oct-15	0.1845		0.2210		1.198	1.0000
Nov-15	0.1743	0.1813	0.2090	0.2350	1.199	1.0000
Dec-15		<b>0.1813 MGD</b>		<b>0.2350 MGD</b>		<b>1.0000</b>
Jan-16	0.1843		0.2200		1.194	1.0000
Feb-16	0.1916		0.2120		1.106	1.0000
Mar-16	0.2026		0.2230		1.101	1.0000
Apr-16	0.2071		0.2690		1.299	1.0000
May-16	0.1904		0.2230		1.171	1.0000
Jun-16	0.1709		0.1940		1.135	1.0000
Jul-16	0.1846		0.2070		1.121	1.0000
Aug-16	0.1717		0.2160		1.258	1.0000
Sep-16	0.1588		0.1730		1.089	1.0000
Oct-16	0.1861		0.2060		1.107	1.0000
Nov-16	0.2170	0.1884	0.2390	0.2690	1.102	1.0000
Dec-16	0.1962	<b>0.1884 MGD</b>	0.2170	<b>0.2690 MGD</b>	1.106	<b>1.0000</b>
Jan-17	0.2105		0.2330		1.107	1.0000
Feb-17	0.2205		0.3320		1.506	1.0000
Mar-17	0.2143		0.2300		1.073	1.0000
Apr-17						1.0000
May-17	0.2086		0.2400		1.150	1.0000
Jun-17	0.1733		0.2040		1.177	1.0000
Jul-17						1.0000
Aug-17	0.1624		0.1890		1.164	1.0000
Sep-17	0.1770		0.2220		1.254	1.0000
Oct-17	0.1769		0.1950		1.102	1.0000
Nov-17	0.1838	0.1915	0.2250	0.3320	1.224	1.0000
Dec-17	0.1872	<b>0.1915 MGD</b>	0.2160	<b>0.3320 MGD</b>	1.154	<b>1.0000</b>
Jan-18	0.2097		0.2490		1.188	1.0000
Feb-18	0.2098		0.2270		1.082	1.0000
Mar-18	0.2101		0.2440		1.161	1.0000
Apr-18	0.2004		0.2290		1.143	1.0000
May-18	0.1843		0.2150		1.167	1.0000
Jun-18	0.1883		0.2040		1.083	1.0000
Jul-18	0.1948		0.2370		1.216	1.0000
Aug-18	0.1792		0.1990		1.111	1.0000
Sep-18	0.1741		0.1880		1.080	1.0000
Oct-18	0.2052		0.2320		1.130	1.0000
Nov-18	0.1982	0.1957	0.2250	0.2490	1.135	1.0000
Dec-18	0.1946	<b>0.1957 MGD</b>	0.2180	<b>0.2490 MGD</b>	1.120	<b>1.0000</b>
Jan-19	0.2024		0.2240		1.107	1.0000
Feb-19	0.2133		0.2980		1.397	1.0000
Mar-19	0.2148		0.2330		1.085	1.0000
Apr-19	0.2022		0.2220		1.098	1.0000
May-19	0.2185		0.2480		1.135	1.0000
Jun-19	0.1909		0.2310		1.210	1.0000
Jul-19	0.1947		0.2240		1.151	1.0000
Aug-19	0.1914		0.2490		1.301	1.0000
Sep-19	0.1890		0.2250		1.191	1.0000
Oct-19	0.2004		0.2280		1.138	1.0000
Nov-19	0.1985	0.2007	0.2150	0.2980	1.083	1.0000
Dec-19	0.1925	<b>0.2007 MGD</b>	0.2220	<b>0.2980 MGD</b>	1.153	<b>1.0000</b>
Jan-20	0.2152		0.2370		1.101	1.0000
Feb-20	0.2168		0.2320		1.070	1.0000
Mar-20	0.2310		0.2670		1.156	1.0000
Average	0.193		0.223		1.152	

Average Day Demand (MGD) from MORs

**0.193 MGD**

Max Daily Demand (MGD) from MORs

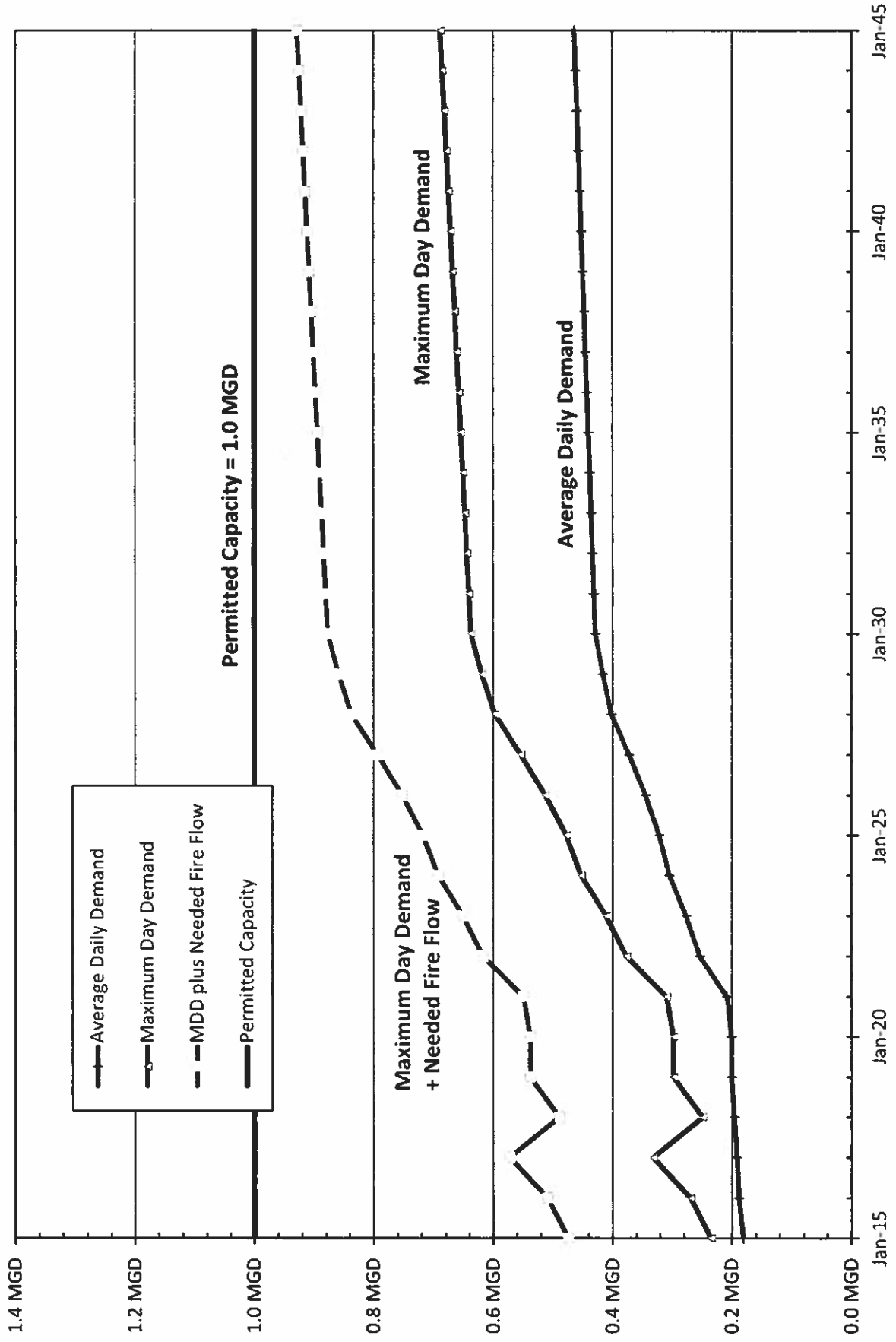
**0.298 MGD**

Max for past 24 months

(to Line 4 on Water Charges)

	ADD	MDD	TPC
2015	0.1813 MGD	0.2350 MGD	1.0000 MGD
2016	0.1884 MGD	0.2690 MGD	1.0000 MGD
2017	0.1915 MGD	0.3320 MGD	1.0000 MGD
2018	0.1957 MGD	0.2490 MGD	1.0000 MGD
2019	0.2007 MGD	0.2980 MGD	1.0000 MGD

# Water System Demand Projections



# Florida Rural Water Association

2970 Wellington Circle, Tallahassee, Florida 32309

Member: **Spring Lake Improvement District**  
 Contact: **Clay Shrum, Director of Operations**  
 Address: **Sebring, FL 33876**

Date: **8-Jul-20**  
 Version: **DRAFT**  
 Conn: **1,569**  
 PWS: **5290266**

## Historic Water Treatment Plant Demands where NFF (for 2-hrs)= 2,000 gpm 0.2400 MGD

Year	Average Daily Demand	Maximum Day Demand	MDD plus Needed Fire Flow	Permitted Capacity	Annual Growth	
2015	0.1813 MGD	0.2350 MGD	0.4750 MGD	1.0000 MGD		0.85
2016	0.1884 MGD	0.2690 MGD	0.5090 MGD	1.0000 MGD	0.78%	0.85
2017	0.1915 MGD	0.3320 MGD	0.5720 MGD	1.0000 MGD	0.32%	0.85
2018	0.1957 MGD	0.2490 MGD	0.4890 MGD	1.0000 MGD	0.44%	0.85
2019	0.2007 MGD	0.2980 MGD	0.5380 MGD	1.0000 MGD	0.50%	0.85

## Anticipated Population Growth based on Potential Development

SLID	Date	Population	Growth	Annual Growth
	2019	3,620	10.00-yr	
	2029	6,930		9.14%
Highlands County	2010	98,786	9.00-yr	
	2019	103,434		0.52%

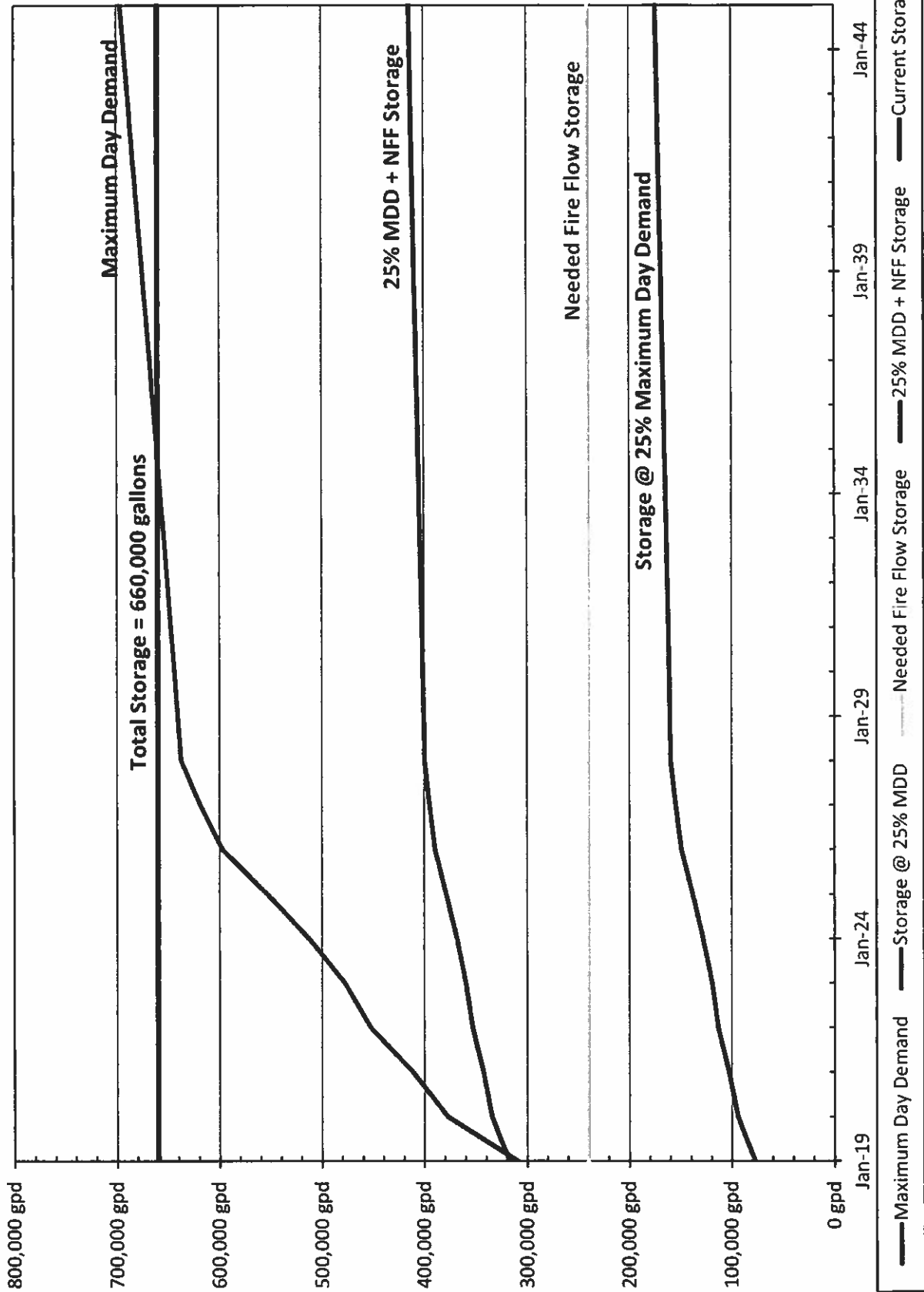
a. 2019 SLID population based on current anticipated development of 1044 new connections at 2.5 people/connection plus an RV Park of 350 connections at 2.0 people/connection

b. Flow projections for 2020 through 2029 provided by SLID engineer, Craig A. Smith & Ass. on 7/1/2020. Projections for 2029 and later based on Highlands County historical growth rate

## Projected Water Treatment Plant Demands 0.2400 MGD Permitted Capacity

Year	Average Daily Demand	Maximum Day Demand	MDD plus Needed Fire Flow	Permitted Capacity	Annual Growth	
2019	0.2007 MGD	0.2980 MGD	0.5380 MGD	1.0000 MGD		0.85
2020	0.2082 MGD	0.3091 MGD	0.5491 MGD	1.0000 MGD	3.74%	0.8500
2021	0.2540 MGD	0.3771 MGD	0.6171 MGD	1.0000 MGD	22.00%	0.8500
2022	0.2768 MGD	0.4109 MGD	0.6509 MGD	1.0000 MGD	8.96%	0.8500
2023	0.3047 MGD	0.4523 MGD	0.6923 MGD	1.0000 MGD	10.08%	0.8500
2024	0.3217 MGD	0.4776 MGD	0.7176 MGD	1.0000 MGD	5.58%	0.8500
2025	0.3452 MGD	0.5125 MGD	0.7525 MGD	1.0000 MGD	7.31%	0.8500
2026	0.3727 MGD	0.5533 MGD	0.7933 MGD	1.0000 MGD	7.97%	0.85
2027	0.4022 MGD	0.5971 MGD	0.8371 MGD	1.0000 MGD	7.92%	0.85
2028	0.4167 MGD	0.6186 MGD	0.8586 MGD	1.0000 MGD	3.61%	0.85
2029	0.4292 MGD	0.6372 MGD	0.8772 MGD	1.0000 MGD	3.00%	0.85
2030	0.4314 MGD	0.6405 MGD	0.8805 MGD	1.0000 MGD	0.52%	0.85
2031	0.4337 MGD	0.6439 MGD	0.8839 MGD	1.0000 MGD	0.52%	0.85
2032	0.4359 MGD	0.6472 MGD	0.8872 MGD	1.0000 MGD	0.52%	0.85
2033	0.4382 MGD	0.6506 MGD	0.8906 MGD	1.0000 MGD	0.52%	0.85
2034	0.4405 MGD	0.6540 MGD	0.8940 MGD	1.0000 MGD	0.52%	0.85
2035	0.4428 MGD	0.6574 MGD	0.8974 MGD	1.0000 MGD	0.52%	0.85
2036	0.4451 MGD	0.6609 MGD	0.9009 MGD	1.0000 MGD	0.52%	0.85
2037	0.4474 MGD	0.6643 MGD	0.9043 MGD	1.0000 MGD	0.52%	0.85
2038	0.4498 MGD	0.6678 MGD	0.9078 MGD	1.0000 MGD	0.52%	0.85
2039	0.4521 MGD	0.6713 MGD	0.9113 MGD	1.0000 MGD	0.52%	0.85
2040	0.4545 MGD	0.6748 MGD	0.9148 MGD	1.0000 MGD	0.52%	0.85
2041	0.4569 MGD	0.6783 MGD	0.9183 MGD	1.0000 MGD	0.52%	0.85
2042	0.4593 MGD	0.6819 MGD	0.9219 MGD	1.0000 MGD	0.52%	0.85
2043	0.4617 MGD	0.6854 MGD	0.9254 MGD	1.0000 MGD	0.52%	0.85
2044	0.4641 MGD	0.6890 MGD	0.9290 MGD	1.0000 MGD	0.52%	0.85
2045	0.4665 MGD	0.6926 MGD	0.9326 MGD	1.0000 MGD	0.52%	0.85
2046	0.4689 MGD	0.6963 MGD	0.9363 MGD	1.0000 MGD	0.52%	0.85
2047	0.4714 MGD	0.6999 MGD	0.9399 MGD	1.0000 MGD	0.52%	0.85
2048	0.4738 MGD	0.7036 MGD	0.9436 MGD	1.0000 MGD	0.52%	0.85
2049	0.4763 MGD	0.7072 MGD	0.9472 MGD	1.0000 MGD	0.52%	0.85
2050	0.4788 MGD	0.7109 MGD	0.9509 MGD	1.0000 MGD	0.52%	0.85
2051	0.4813 MGD	0.7146 MGD	0.9546 MGD	1.0000 MGD	0.52%	0.85
2052	0.4838 MGD	0.7184 MGD	0.9584 MGD	1.0000 MGD	0.52%	0.85
2053	0.4864 MGD	0.7221 MGD	0.9621 MGD	1.0000 MGD	0.52%	0.85
2054	0.4889 MGD	0.7259 MGD	0.9659 MGD	1.0000 MGD	0.52%	0.85
2055	0.4915 MGD	0.7297 MGD	0.9697 MGD	1.0000 MGD	0.52%	0.85
2056	0.4940 MGD	0.7335 MGD	0.9735 MGD	1.0000 MGD	0.52%	0.85
2057	0.4966 MGD	0.7374 MGD	0.9774 MGD	1.0000 MGD	0.52%	0.85
2058	0.4992 MGD	0.7412 MGD	0.9812 MGD	1.0000 MGD	0.52%	0.85
2059	0.5018 MGD	0.7451 MGD	0.9851 MGD	1.0000 MGD	0.52%	0.85
2060	0.5044 MGD	0.7490 MGD	0.9890 MGD	1.0000 MGD	0.52%	0.85
2061	0.5071 MGD	0.7529 MGD	0.9929 MGD	1.0000 MGD	0.52%	0.85
2062	0.5097 MGD	0.7568 MGD	0.9968 MGD	1.0000 MGD	0.52%	0.85
2063	0.5124 MGD	0.7608 MGD	1.0008 MGD	1.0000 MGD	0.52%	0.85
2064	0.5151 MGD	0.7648 MGD	1.0048 MGD	1.0000 MGD	0.52%	0.85
2065	0.5178 MGD	0.7688 MGD	1.0088 MGD	1.0000 MGD	0.52%	0.85
2066	0.5205 MGD	0.7728 MGD	1.0128 MGD	1.0000 MGD	0.52%	0.85
2067	0.5232 MGD	0.7768 MGD	1.0168 MGD	1.0000 MGD	0.52%	0.85
2068	0.5259 MGD	0.7809 MGD	1.0209 MGD	1.0000 MGD	0.52%	0.85

# Finished Water Storage Projections





# Florida Rural Water Association

2970 Wellington Circle, Tallahassee, Florida 32309

Member: **Spring Lake Improvement District**  
 Contact: **Clay Shrum, Director of Operations**  
 Address: **Sebring, FL 33876**

Date: **8-Jul-20**  
 Version: **DRAFT**  
 Conn: **1,569**  
 PWS: **S290266**

## Finished Water Storage Requirements

where NFF (for 2-hrs)=

2,000 gpm

240,000 gal

Year	Maximum Day Demand	Storage @ 25% MDD	Needed Fire Flow Storage	25% MDD + NFF Storage	Current Storage	Additional Storage Needed	Annual Growth
2019	298,000 gpd	74,500 gal	240,000 gal	314,500 gal	660,000 gal	-345,500 gal	
2020	309,136 gpd	77,284 gal	240,000 gal	317,284 gal	660,000 gal	-342,716 gal	3.74%
2021	377,138 gpd	94,285 gal	240,000 gal	334,285 gal	660,000 gal	-325,715 gal	22.00%
2022	410,916 gpd	102,729 gal	240,000 gal	342,729 gal	660,000 gal	-317,271 gal	8.96%
2023	452,341 gpd	113,085 gal	240,000 gal	353,085 gal	660,000 gal	-306,915 gal	10.08%
2024	477,582 gpd	119,396 gal	240,000 gal	359,396 gal	660,000 gal	-300,604 gal	5.58%
2025	512,474 gpd	128,119 gal	240,000 gal	368,119 gal	660,000 gal	-291,881 gal	7.31%
2026	553,305 gpd	138,326 gal	240,000 gal	378,326 gal	660,000 gal	-281,674 gal	7.97%
2027	597,106 gpd	149,277 gal	240,000 gal	389,277 gal	660,000 gal	-270,723 gal	7.92%
2028	618,635 gpd	154,659 gal	240,000 gal	394,659 gal	660,000 gal	-265,341 gal	3.61%
2029	637,195 gpd	159,299 gal	240,000 gal	399,299 gal	660,000 gal	-260,701 gal	3.00%
2030	640,526 gpd	160,131 gal	240,000 gal	400,131 gal	660,000 gal	-259,869 gal	0.52%
2031	643,875 gpd	160,969 gal	240,000 gal	400,969 gal	660,000 gal	-259,031 gal	0.52%
2032	647,241 gpd	161,810 gal	240,000 gal	401,810 gal	660,000 gal	-258,190 gal	0.52%
2033	650,624 gpd	162,656 gal	240,000 gal	402,656 gal	660,000 gal	-257,344 gal	0.52%
2034	654,026 gpd	163,506 gal	240,000 gal	403,506 gal	660,000 gal	-256,494 gal	0.52%
2035	657,445 gpd	164,361 gal	240,000 gal	404,361 gal	660,000 gal	-255,639 gal	0.52%
2036	660,882 gpd	165,221 gal	240,000 gal	405,221 gal	660,000 gal	-254,779 gal	0.52%
2037	664,337 gpd	166,084 gal	240,000 gal	406,084 gal	660,000 gal	-253,916 gal	0.52%
2038	667,810 gpd	166,953 gal	240,000 gal	406,953 gal	660,000 gal	-253,047 gal	0.52%
2039	671,301 gpd	167,825 gal	240,000 gal	407,825 gal	660,000 gal	-252,175 gal	0.52%
2040	674,811 gpd	168,703 gal	240,000 gal	408,703 gal	660,000 gal	-251,297 gal	0.52%
2041	678,339 gpd	169,585 gal	240,000 gal	409,585 gal	660,000 gal	-250,415 gal	0.52%
2042	681,885 gpd	170,471 gal	240,000 gal	410,471 gal	660,000 gal	-249,529 gal	0.52%
2043	685,450 gpd	171,362 gal	240,000 gal	411,362 gal	660,000 gal	-248,638 gal	0.52%
2044	689,033 gpd	172,258 gal	240,000 gal	412,258 gal	660,000 gal	-247,742 gal	0.52%
2045	692,636 gpd	173,159 gal	240,000 gal	413,159 gal	660,000 gal	-246,841 gal	0.52%
2046	696,257 gpd	174,064 gal	240,000 gal	414,064 gal	660,000 gal	-245,936 gal	0.52%
2047	699,897 gpd	174,974 gal	240,000 gal	414,974 gal	660,000 gal	-245,026 gal	0.52%
2048	703,556 gpd	175,889 gal	240,000 gal	415,889 gal	660,000 gal	-244,111 gal	0.52%
2049	707,234 gpd	176,808 gal	240,000 gal	416,808 gal	660,000 gal	-243,192 gal	0.52%
2050	710,931 gpd	177,733 gal	240,000 gal	417,733 gal	660,000 gal	-242,267 gal	0.52%
2051	714,648 gpd	178,662 gal	240,000 gal	418,662 gal	660,000 gal	-241,338 gal	0.52%
2052	718,384 gpd	179,596 gal	240,000 gal	419,596 gal	660,000 gal	-240,404 gal	0.52%
2053	722,139 gpd	180,535 gal	240,000 gal	420,535 gal	660,000 gal	-239,465 gal	0.52%
2054	725,915 gpd	181,479 gal	240,000 gal	421,479 gal	660,000 gal	-238,521 gal	0.52%
2055	729,710 gpd	182,427 gal	240,000 gal	422,427 gal	660,000 gal	-237,573 gal	0.52%
2056	733,525 gpd	183,381 gal	240,000 gal	423,381 gal	660,000 gal	-236,619 gal	0.52%
2057	737,359 gpd	184,340 gal	240,000 gal	424,340 gal	660,000 gal	-235,660 gal	0.52%
2058	741,214 gpd	185,304 gal	240,000 gal	425,304 gal	660,000 gal	-234,696 gal	0.52%
2059	745,089 gpd	186,272 gal	240,000 gal	426,272 gal	660,000 gal	-233,728 gal	0.52%
2060	748,985 gpd	187,246 gal	240,000 gal	427,246 gal	660,000 gal	-232,754 gal	0.52%
2061	752,900 gpd	188,225 gal	240,000 gal	428,225 gal	660,000 gal	-231,775 gal	0.52%
2062	756,836 gpd	189,209 gal	240,000 gal	429,209 gal	660,000 gal	-230,791 gal	0.52%

**Florida Rural Water Association**

2970 Wellington Circle, Tallahassee, Florida 32309

Member: **Spring Lake Improvement District**  
 Contact: **Clay Shrum, Director of Operations**  
 Address: **Sebring, FL 33876**

Date: **8-Jul-20**  
 Version: **DRAFT**  
 Conn: **1,569**  
 PWS: **5290266**

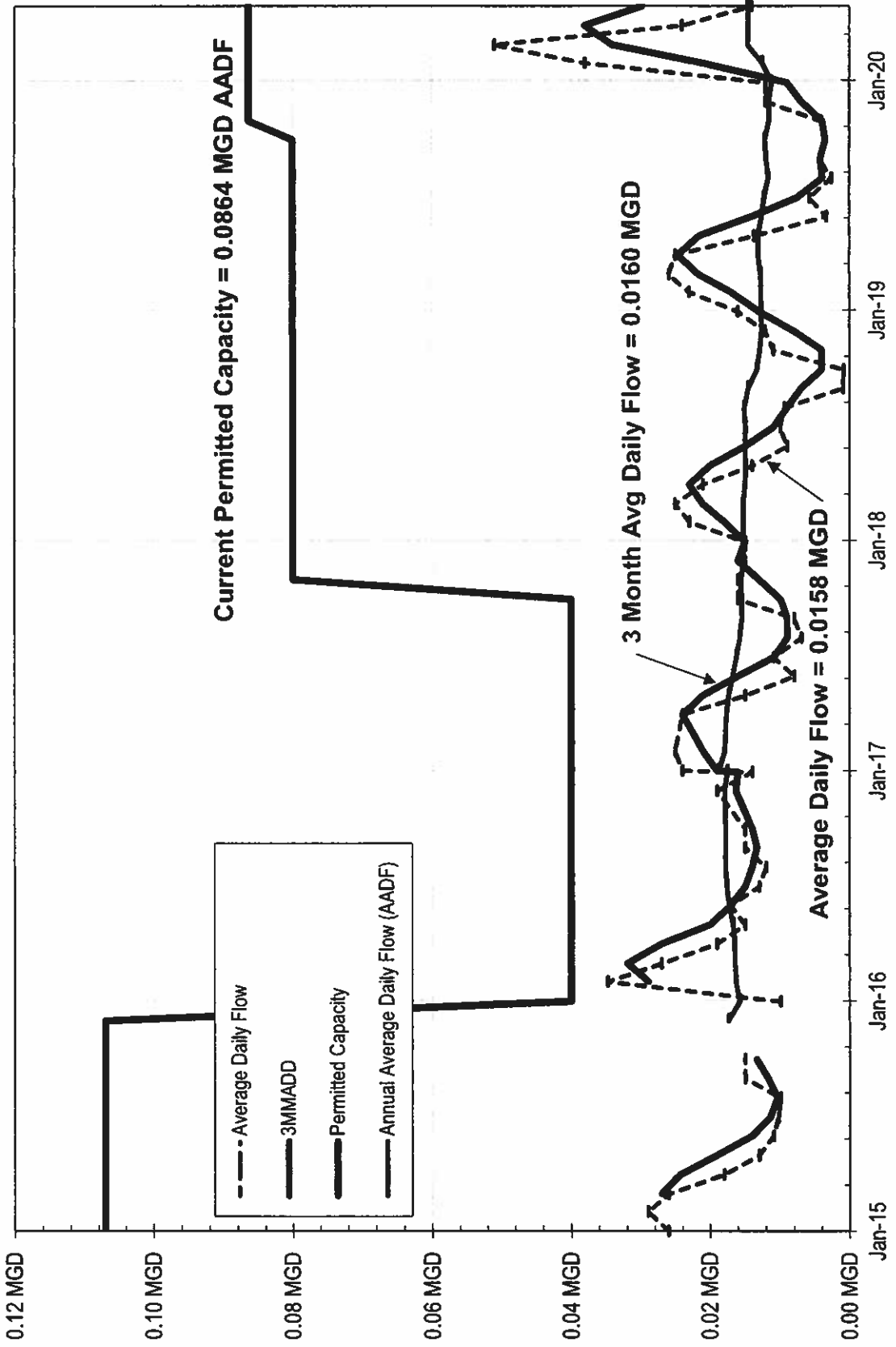
**Historic Wastewater Treatment Plant Flow Data from DMRs**

Charge Monitoring Reports per 62-620.910(10) (in MGDs)

Month	Days/Month	Year	Monthly Average	MDD (Annual)	3MMADD	Ratio MDD:ADD	Annual Average Permitted Capacity	Annual Average
Jan-15	31	2015	0.026				0.107	
Feb-15	28		0.029				0.107	
Mar-15	31		0.026		0.027		0.107	
Apr-15	30		0.018		0.024		0.107	
May-15	31		0.013		0.019		0.107	
Jun-15	30		0.011		0.014		0.107	
Jul-15	31		0.010		0.011		0.107	
Aug-15	31		0.010		0.010		0.107	
Sep-15	30		0.015		0.012		0.107	
Oct-15	31		0.015		0.013		0.107	
Nov-15	30						0.107	
Dec-15	31						0.107	0.017
Jan-16	31	2016	0.010				0.04	0.016
Feb-16	28		0.035		0.029		0.04	0.016
Mar-16	31		0.027		0.032		0.04	0.016
Apr-16	30		0.019		0.027		0.04	0.017
May-16	31		0.015		0.020		0.04	0.017
Jun-16	30		0.017		0.017		0.04	0.017
Jul-16	31		0.013		0.015		0.04	0.018
Aug-16	31		0.012		0.014		0.04	0.018
Sep-16	30		0.015		0.013		0.04	0.018
Oct-16	31		0.015		0.014		0.04	0.018
Nov-16	30		0.019		0.016		0.04	0.018
Dec-16	31		0.014		0.016		0.04	0.018
Jan-17	31	2017	0.024		0.019		0.04	0.019
Feb-17	28		0.025		0.021		0.04	0.018
Mar-17	31		0.024		0.024		0.04	0.018
Apr-17	30		0.015		0.021		0.04	0.017
May-17	31		0.008		0.016		0.04	0.017
Jun-17	30		0.011		0.011		0.04	0.016
Jul-17	31		0.007		0.009		0.04	0.016
Aug-17	31		0.008		0.009		0.04	0.015
Sep-17	30		0.016		0.010		0.04	0.016
Oct-17	31		0.016		0.013		0.08	0.016
Nov-17	30		0.015		0.016		0.08	0.015
Dec-17	31		0.015		0.015		0.08	0.015
Jan-18	31	2018	0.023		0.018		0.08	0.015
Feb-18	28		0.025		0.021		0.08	0.015
Mar-18	31		0.021		0.023		0.08	0.015
Apr-18	30		0.014		0.020		0.08	0.015
May-18	31		0.009		0.015		0.08	0.015
Jun-18	30		0.010		0.011		0.08	0.015
Jul-18	31		0.009		0.009		0.08	0.015
Aug-18	31		0.001		0.007		0.08	0.015
Sep-18	30		0.001		0.004		0.08	0.013
Oct-18	31		0.011		0.004		0.08	0.013
Nov-18	30		0.012		0.008		0.08	0.013
Dec-18	31		0.016		0.013		0.08	0.013
Jan-19	31	2019	0.023		0.017		0.08	0.013
Feb-19	28		0.026		0.022		0.08	0.013
Mar-19	31		0.025		0.025		0.08	0.013
Apr-19	30		0.014		0.022		0.08	0.013
May-19	31		0.003		0.014		0.08	0.013
Jun-19	30		0.006		0.008		0.08	0.012
Jul-19	31		0.003		0.004		0.08	0.012
Aug-19	31		0.004		0.004		0.08	0.012
Sep-19	30		0.004		0.004		0.08	0.012
Oct-19	31		0.004		0.004		0.0864	0.012
Nov-19	30		0.012		0.007		0.0864	0.012
Dec-19	31		0.012		0.009		0.0864	0.011
Jan-20	31	2020	0.038		0.021		0.0864	0.013
Feb-20	28		0.051		0.034		0.0864	0.015
Mar-20	31		0.024		0.038		0.0864	0.015
Apr-20	30		0.014		0.030		0.0864	0.015
<b>Average</b>			<b>0.0158</b>		<b>0.0160</b>			
<b>Maximum</b>			<b>0.0510</b>		<b>0.0380</b>			

3 Month Max Average Daily Flow (MGD) from DMRs (to Line 4 on Wastewater Charges) 0.016

# Wastewater Flow History per DMRs



# Florida Rural Water Association

2970 Wellington Circle, Tallahassee, Florida 32309

Member: **Spring Lake Improvement District**

Contact: **Clay Shrum, Director of Operations**

Address: **Sebring, FL 33876**

Date: **8-Jul-20**

Version: **DRAFT**

Conn: **312**

GMS: **FLA997668**

## Estimated WWTF Construction Costs

	Year built 2019		
	Capacity	Construction Cost	\$/gallon
Existing Wastewater Treatment Plant: Extended Aeration with Anoxic Tank and Effluent Disposal	0.086 MGD	\$1,500,000	\$17.36 / gal
		Replacement Value at today's cost:	\$1,500,000
		Useful Life Value at today's cost:	\$1,500,000

Notes: 1. WWTP and Effluent System cost from final construction cost submitted by Contractor on 3/25/2020

2. Useful life value at 100%, new WWTP

# Florida Rural Water Association

2970 Wellington Circle, Tallahassee, Florida 32309

Member: **Spring Lake Improvement District**

Contact: **Clay Shrum, Director of Operations**

Address: **Sebring, FL 33876**

Date: **8-Jul-20**

Version: **DRAFT**

Conn: **312**

GMS: **FLA997668**

## Wastewater Lift Stations

		Estimated Construction Cost	Age	Useful Life Value	Unit Cost
Club House Master Lift Station	1	\$250,000	new	\$250,000	\$250,000 / ea
Oak Leaf Lift Station	1	\$75,000	25 years	\$18,750	\$75,000 / ea
<b>Total Lift Stations</b>					
<b>Replacement Value</b>	<b>2</b>	<b>\$325,000</b>		<b>\$268,750</b>	
Replacement Value at today's cost:		\$325,000			

1. Club House Lift Station cost based on Contractor's final construction cost, 3/25/2020

2. Useful life based Florida Public Service Commission Average Service Life Guidelines, F.A.C. 25-30.140 (22 years), interviews with operations staff and engineering opinion

# Florida Rural Water Association

Member: **Spring Lake Improvement District**  
 Contact: **Clay Shrum, Director of Operations**  
 City: **Sebring, FL 33876**

Date: **8-Jul-20**  
 Version: **DRAFT**  
 Conn: **312**  
 GMS: **FLA997668**

## Wastewater Transmission System - Inventory, Condition & Current Value

*Represents pipes for low pressure system and pump stations 2-inches and larger  
 plus lines carrying WTP process waste to WWTF*

Pipe Dia (inches)	Pipe Material	Length (feet)	Length (miles)	Approximate Age	Approx. Useful Value	Value (\$ per ft)	Estimated (\$)	
2-in	PVC	5,104-ft	0.97 mi	21	48%	\$15.00 /ft	\$36,366	\$76,560
3-in	PVC	13,499-ft	2.56 mi	21	48%	\$20.00 /ft	\$128,241	\$269,980
4-in	PVC	8,221-ft	1.56 mi	24	40%	\$30.00 /ft	\$98,652	\$246,630
6-in	PVC	2,520-ft	0.48 mi	29	28%	\$40.00 /ft	\$27,720	\$100,800
8-in	PVC	5,612-ft	1.06 mi	1	100%	\$50.00 /ft	\$280,600	\$280,600
10-in	PVC	3,893-ft	0.74 mi	1	100%	\$60.00 /ft	\$233,580	\$233,580
<b>US 98 Force Main Expansion currently under construction (6-in, 8-in and 10-in, all PVC)</b>		11,659-ft	2.21 mi	new	100%		\$677,155	\$677,155
		<b>50,508-ft</b>	<b>9.57 mi</b>				<b>\$1,482,314</b>	<b>\$1,885,305</b>

Replacement Value at today's cost: **\$1,885,305**

### NOTES:

- Age of pipelines are based on interviews with operations staff. 2-inch through 6-inch pipe all installed between 1991 and 2007.
- Useful life based Florida Public Service Commission Average Service Life Guidelines, and F.A.C. 25-30.140 (27 years), interviews with operations staff and engineering opinion
- Cost per linear foot based on recent similar construction in southwest Florida and engineer estimate
- US 98 Force Main Expansion based on Contractor's SLID approved construction cost

**Florida Rural Water Association**

Member: Spring Lake Improvement District  
 Contact: Clay Shrum, Director of Operations  
 City: Sebring, FL 33876

Date: 8-Jul-20  
 Version: DRAFT  
 Conn: 312  
 GMS: FLA997668

**NOTE: SLID DOES NOT HAVE GRAVITY SEWER LINES THAT ARE OWNED BY THE DISTRICT**

**Wastewater Collection System - Inventory, Condition & Current Value**

*Pipe lengths, materials, etc. not provided, but estimated as 55% of water distribution size*

278 Manholes

Pipe Dia (inches)	Pipe Material	Length (feet)	Length (miles)	Value (\$ per ft)	Estimated (\$)
4-in			0.00 mi	\$30.00 /ft	\$0
6-in			0.00 mi	\$45.00 /ft	\$0
8-in			0.00 mi	\$60.00 /ft	\$0
10-in			0.00 mi	\$75.00 /ft	\$0
12-in			0.00 mi	\$90.00 /ft	\$0
15-in			0.00 mi	\$112.50 /ft	\$0
		0-ft	0.00 mi	Rounded	\$0

Replacement Value at today's cost: \$0  
 \$7.50/ft-dia

**Manholes**

Category	Material	Quantity	Value (\$ per unit)	Estimated (\$)
Manholes			\$15,000	\$0
				\$0

Replacement Value at today's cost: \$0

Actual Pipe Diameters unknown, all pipes assumed as 4-in for this study

**NOTES:**

1. Age of pipelines are based on inspection of water system maps, as-builts plans, dates of typical material availability and interviews
2. Approximate Useful Value of existing piping based on pipeline condition, age of pipeline, and engineering opinion.
3. All gravity sewer owned and maintained by developments/HOA, not SLID

# Florida Rural Water Association

2970 Wellington Circle, Tallahassee, Florida 32309

Member: **Spring Lake Improvement District**  
Contact: **Clay Shrum, Director of Operations**  
Address: **Sebring, FL 33876**

Date: **8-Jul-20**  
Version: **DRAFT**  
Conn: **312**  
GMS: **FLA997668**

## Equivalent Residential Connection (ERC) Worksheet

### WATER ERCS

#### Water Meter Breakdown by Size

Type	Quantity	Size	ERC Factor	Total ERCS
Residential & Commercial	1431	5/8" & 3/4"	1	1431
Residential & Commercial	133	1"	2	266
Residential & Commercial	2	1.5"	5	10
Residential & Commercial	3	2"	8	24
<b>Total</b>	<b>1569</b>			<b>1731</b>

Ratio ERCS / Service Connection: 1.10

**1731 Water ERCS**

### WASTEWATER ERCS

Type	Quantity	Size	ERC Factor	Total ERCS
Residential & Commercial	308	5/8" & 3/4"	1	308
Residential & Commercial	4	1"	2	8
<b>Total</b>	<b>312</b>			<b>316</b>

Ratio ERCS / Service Connection: 1.01

**316 Wastewater ERCS**

Source: Clay Shrum / Director of Operations 6/2/2020