WATER AND WASTEWATER CAPACITY CONNECTION FEE STUDY

FOR THE

CITY OF GREEN COVE SPRINGS, FLORIDA

Prepared by:

CPH CONSULTING, LLC
Orange Park, Florida
Project No. 2500947.000
Client No. 8905-72-1
October 2025

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[located at https://www.greencovesprings.com/Archive.aspx?ADID=63]

EXECUTIVE SUMMARY

Municipalities and utilities develop Capacity Connection Fees related to system capacity to offset infrastructure costs required to serve new development that connects to the utility system. The Capacity Connection Fees provide a basis for local government utilities to recover capital cost associated with public facilities that are needed to serve customers that are part of new developments. Local governments charge these fees for several reasons including but not limited to: (1) to obtain revenue to pay for some of the new public facilities cost; (2) to implement a public policy that new development should pay all or a portion of the facilities cost that it requires and that existing development should not pay all of the costs of such facilities; and (3) to assure that public facilities will be constructed concurrently to serve new development in accordance with Florida's growth management laws.

The following is a summary of recommendations developed within this Capacity Connection Fee Study ('Study'):

1. Capacity Connection Fee development and assessment should satisfy a dual rational nexus test where the new development's impact to the City's system is reasonably related to the capital costs expended, financed, or planned by the City for provision of water and wastewater services. First, Capacity Connection Fees are valid when a reasonable connection exists between the anticipated need for additional capital facilities and the growth from new development. Second, Capacity Connection Fees are valid when there is a reasonable connection between the fee's expenditure and the benefits accruing to growth.

2. The Study has determined that the City should charge the following Capacity Connection Fee per Equivalent Residential Unit (ERU) :

    a. Water System Capacity Connection Fee = $2,372/ERU
    [*$1,000 existing]*

    b. Wastewater System Capacity Connection Fee = $2,531/ERU
    [*$2,000 existing]*

3. The Capacity Connection Fees are based on the City's current metered Level of Service (LOS) per Equivalent Residential Unit (ERU) capacity of:

   a. 220 gallons per day (gpd) for the Water System;
   b. 185 gpd for the Wastewater System.

   An ERU equates to the expected usage of an average detached-single-family home customer within the City's Utility Service Area. Should the LOS change over time, then the associated Capacity Connection Fees should be adjusted at the same time.

   The City's current code of ordinance defines an ERU capacity as 300 gpd for both the Water and Wastewater Systems. The values defined above differ from this planning amount and reflect actual water and sewer use within the City's system. Modifications to current codes and planning requirements should be adjusted to reflect the City's current LOS.

4. For comparison purposes only, capacity connection fees and LOS values from neighboring utility systems are summarized as follows:

Utility	Capacity Connection Fee	
	Water System (Fee/ERU | LOS[a])	**Wastewater System (Fee/ERU | LOS[a])**
Clay County Utility Authority (CCUA)[b]	$476.93 | 450 gpd/ERU	$4,243.50 | 311 gpd/ERU $411.64/ERU alternative water supply
St. Johns County[c]	$2,850.00 | 350 gpd/ERU	$5,750.00 | 280 gpd/ERU
JEA[d] (Capacity Fee & Growth Capacity Fee)	$1,170.50 | 250 gpd/ERU $917.00 | 250 gpd/ERU	$5,114.00 | 200 gpd/ERU $778.00 | 200 gpd/ERU

a: If LOS value is not listed, then the information was not available.
b: Values from CCUA FY 25/26 Rate Resolution. Pending location of development, other capacity fees apply.
c: Values from SJCUD Water, Wastewater and Reclaimed Water System Rate Tariff (amended 6/17/25).
d: Values noted from October 2025 JEA Capacity Fee Calculator.

   Every utility's capacity connection fees are specific to their utility costs, expansion timing, and associated user uses.

5. The enclosed Study utilized the Equity and Incremental Cost methods, as defined by the American Water Works Association (AWWA) Manual M1 Principles of Water Rates, Fees, and Charges. The manual provides a logical basis to develop capacity fees by applying: capital costs expended, financed, or planned for the City's Water and Wastewater Systems. The two methods were blended on a

pro-rated basis (i.e., existing committed flow versus available capacity) to develop the final fee amounts. The Equity method utilized actual cost from the City's financial audits to apply the depreciated value of the City's infrastructure toward capacity available to serve future customers (growth). The Incremental Cost method, on the other hand, applied estimated cost for capacity expansion necessary to meet the overall service needs of the system, including growth. The two methods were blended to capture the transition from existing facilities to future facilities within the next five years. Costs utilized within the Study were isolated to components that would specifically benefit growth (i.e., new development/customers) within the City's Utility Service Area.

6. The enclosed fees were developed on an ERU basis. It is recommended that all single-family residential customers be considered as 1.0 ERU because of their similar capacity demands regardless of the dwelling unit size. All other customer classifications should be determined as outlined below based on the estimated average demands developed by the applicant and approved by the City during the development review process. Upon assignment of the estimated average daily demand basis (water and/or sewer) on a gallons per day (gpd-ADF) basis, the following Capacity Connection Fee formulas shall be utilized:

   - Water Capacity Connection Fee:

     = Capacity Connection Fee ($/ERU) * [Development Water Demand (gpd-ADF)/220 gpd-ADF]

   - Wastewater Capacity Connection Fee:

     = Capacity Connection Fee ($/ERU) * [Development Wastewater Demand (gpd-ADF)/185 gpd-ADF]

   As noted in paragraph 3, the above calculations are based on the City's current LOS calculated as part of this Study.

   If a specific connection's capacity cannot be agreed to at the time of site plan and/or building permit application, then the City and the applicant should agree to establish an initial fee basis that will be reviewed after 12-months of intended use. The initial fee will then be increased or decreased based upon the actual annual average use (gpd-AADF) divided by the appropriate ERU basis.

7. Capacity Connection Fee calculations should be reviewed for adequacy at least every five years.

8. A separate reclaimed water connection fee has not been established since the City's existing reclaimed water system is included as part of the wastewater treatment system's effluent disposal system. The existing reclaimed system is also built out with extensions to the Magnolia Point golf course, Black Creek Village development, and Edgewater Landing development. The City is pursuing a bulk reclaimed water delivery connection with Clay County Utility Authority (CCUA).

In concert with the preceding recommendations, the City should also consider the following policy items:

- The enclosed Study applies to the City Limits and the City's Utility Service Area as defined in the City's Code of Ordinances, and within the CCUA Interlocal Agreement with associated amendments.

- The LOS requirements set forth herein are based on the most recent localized data. The City will need to consider policy implications of other LOS definitions within the City's Comprehensive Plan and Code of Ordinances.

- The enclosed fees should be reviewed and updated on regular intervals and when the 5-year capital improvement plan identifies a large capital investment related to system expansion requirements. In the near-term, capital improvement needs are anticipated for the assets listed below but are not programmed since specific construction dates are not known at this time. When these projects come into the City's 5-year capital improvement program, the associated capacity connection fee charges should be updated.

    - Additional Reynolds Water Treatment Plant Improvements. Additional work to the water plant will be triggered by growth within, and/or redevelopment of the Reynolds Industrial Park.

    - Surface Water Elimination System Improvements. The City is actively considering effluent disposal alternatives to ensure compliance with the state requirements.

- Further expansion to the Harbor Road WRF is not anticipated within the coming 5-year planning period.

- Redevelopment of the Reynolds Park/Clay County Port is not anticipated in this 5-year planning horizon. Such redevelopment will begin with a developer's agreement and/or updates to the City's Capacity Connection Fee Study to determine utility service requirements with associated costs and funding responsibilities related to: line extensions, treatment facility upgrades, etc.

I. CAPACITY CONNECTION FEE OVERVIEW

A. CAPACITY CONNECTION FEE BASIS

Capacity Connection Fees are charges paid by new development to reimburse local governments for the capital cost of public facilities that are needed to serve new development and the people who occupy the new development. In performing this Study, the City's most recent and localized data was utilized.

B. RULES FOR DEVELOPING CAPACITY CONNECTION FEES

In Florida, cities are empowered to impose capacity connection fees through their home rule authority provided in Article VIII, section 2(b), Florida Constitution, and implemented in Chapters 166 and 180, Florida Statutes, and Section 1.03 of the City's Charter. Article VIII, section 2(b), Florida Constitution, provides as follows:

> (b) POWERS. Municipalities shall have governmental, corporate and proprietary powers to enable them to conduct municipal government, perform municipal functions and render municipal services, and may exercise any power for municipal purposes except as otherwise provided by law. Each municipal legislative body shall be elective.
>
> Id. Section 166.021, Florida Statutes, the Municipal Home Rule Powers Act, completed the constitutional design by granting extensive home rule power to all municipalities. See State v. City of Sunrise, 354 So. 2d 1206 (Fla. 1978).
>
> Chapter 180, Florida Statutes, grants Florida cities broad powers to construct, operate, and maintain various public utilities, including water and wastewater. Pursuant to Section 180.13, Florida Statutes, a city is specifically authorized to establish just and equitable rates for use of the utility.

Section 1.03 of the City's Charter echoes this broad grant of home rule authority and provides that, "The City shall have all powers granted municipalities under the constitution and general laws of the State of Florida."

Capacity Connection Fees are charges imposed against new development to provide for the cost of capital facilities made necessary by that growth. The purpose of the charge is to impose upon the newcomers, rather than the general public, the cost of new facilities necessitated by their arrival. For example, in City of Dunedin v. Contractors and Builders Assoc. of Pinellas County, 312 So. 2d 763 (Fla. 2d DCA 1975), the court stated, "Where a city's water and sewer facilities would be adequate to serve its present inhabitants were it not for drastic growth, it seems unfair to make the existing inhabitants pay for the new systems when they have already been paying for the old ones." Id. at 766. See also, Hollywood, Inc. v. Broward County, 431 So. 2d 606 (Fla. 4th DCA 1983), rev. denied, 440 So. 2d 352 (Fla. 1983).

Capacity Connection Fees are unique products of local government's home rule powers and are imposed in conjunction with their power to regulate land use and their statutory responsibility to adopt and enforce comprehensive planning. The fee development has occurred in Florida by home rule ordinance rather than direct statutory authorization or mandate.

As developed under Florida case law, these fees must meet the "dual rational nexus" test. First, connection fees are valid when a reasonable connection, or rational nexus, exists between the anticipated need for additional capital facilities and the growth in population. Second, connection fees are valid when a reasonable connection, or rational nexus, exists between the expenditure of the fee's proceeds and the benefits accruing to the growth from those proceeds. Home Builders and Contractors Assoc. of Palm Beach Co. v. Palm Beach Co., 446 So. 2d 140 (Fla. 4th DCA 1983). See also, St. Johns County v. N.E. Fla. Builders Assoc., 583 So. 2d 635, 637 (Fla. 1991).

C. DATA SOURCES

This Study used the most recent City of Green Cove Springs and other noted resources.

Additionally, in some instances, the data in this Study was calculated using computer spreadsheet software. In some tables, there may be small variations from the results that would be obtained using a calculator to compute the same data due to small rounding differences.

a: Previous two pages reprinted with permission from "Primer on Home Rule to Local Government Revenue Sources" by Nabors, Giblin & Nickerson, PA.

D. CAPACITY CONNECTION FEE APPROACH

Pursuant to the American Water Works Association (AWWA) Manual M1, two (2) basic methods exist for calculating capacity connection fees. One is called the Equity Method and the other is the Incremental Cost Method. Pending the status of a utility, one or a blending of the two methods is recommended. The Equity Method is typically utilized for a system which has excess capacity and assesses fees for new connections related to their proportionate "buy-in". The Incremental Cost Method is based on the theory of new development paying for their connection to the utility system, or their proportionate cost of future capacity. This future capacity may be in the planning stages with construction intended to occur within the next five (5) years. Expansion requirements that exceed a five-year "look ahead" should be excluded from the Incremental Cost Method.

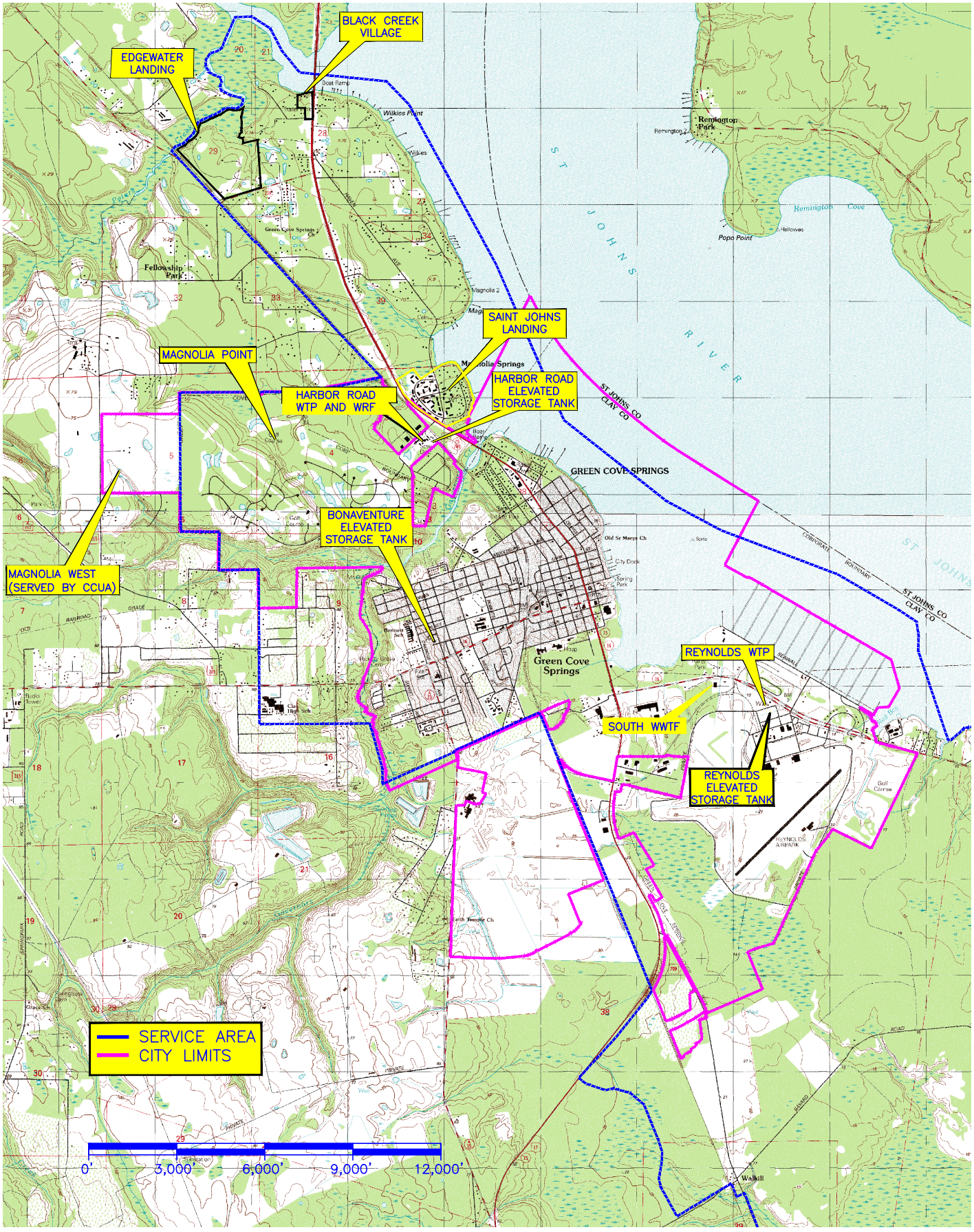
The City currently owns and operates a Water System and Wastewater System. Each system extends beyond the City's municipal limits, but remains within their Utility Service Area that extends into unincorporated areas of Clay County. The City's Utility Service Area is defined within the City's Code of Ordinances, and amended through the City's Interlocal Agreement with the Clay County Utility Authority with associated amendments.

The Water and Wastewater Systems benefit the entire City as well as those customers located within the Utility Service Area. The locations of each facility along with the City Limits and Utility Service Area are provided as **Figure 1**.

As facility components, and associated capital costs, are reviewed in the context of the Equity Method and/or Incremental Cost Method, they should be limited to facilities that affect treatment capacity and 'backbone' transmission/distribution capabilities. These considerations could also include large pumping stations or similar service components (i.e., large storage tanks located away from treatment facility sites, etc.) that serve large portions of the customer base. Costs associated with rehabilitation, repair, maintenance, isolated service areas within the systems, etc. should be excluded from the analysis.

Future consideration or adoption of capacity connection fee modifications should include consideration of when facility expansion would be required. A general rule of thumb is that capacity connection fee values should represent capital investment needs within the next five years. The improvements defined herein have addressed growth within this time horizon. However, growth exceeding current projections could result in additional facility needs, thus the City should

SCALE: 1" = 4,500'



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CITY OF GREEN COVE SPRINGS
Water & Wastewater Capacity Connection Fee Study
Overall Service Area Map
Clay County, Florida

FIGURE 1
October 2025
Project No. 8905-72-1

review capital improvement/capacity needs on a continual basis and update capacity connection fees accordingly.

II. WATER SYSTEM CAPACITY CONNECTION FEE

The City's Water System is comprised of production wells, raw-water mains, treatment components, storage tanks, high-service pumps, and distribution mains/hydrants/meters, etc. The City has two (2) water treatment facilities with associated production wells, piping, storage tanks, treatment systems, and high service pumping. The northerly facility is called the Harbor Road Water Treatment Plant (WTP) and the southerly facility is called the Reynolds WTP.

The Harbor Road WTP was expanded in 2009 and 2010. The Reynolds WTP last expansion occurred in 2002. Both facilities connect to one overall distribution system that serves customers within the Utility Service Area. Expansion of the Harbor Road WTP is anticipated within the next five years as well as other Water System improvements as defined herein. Therefore, the Equity and Incremental Cost Methods are utilized herein to calculate an appropriate capacity connection fee.

System components constructed prior to the above improvements have been tracked within the City's audits and contain a depreciated capital value as calculated by the City's auditor's fixed asset summary reviewed as part of the City's *Financial Statements and Auditor's Reports, September 30, 2024*. The capacity of those systems to serve new development is considered "excess" capacity and is reviewed further herein. However, the City's original water system has aged to near its service life, which leaves little residual book value to assess to new development.

A. LEVEL OF SERVICE REVIEW

A review of the City's water use billing records was completed to determine current residential level of service (LOS) values. The City meters each customer connected to their system. For purposes of the connection fee review, the LOS associated with the residential water and residential potable irrigation meters are considered. The findings are summarized in **Table 1**.

TABLE 1 WATER SYSTEM LOS REVIEW		
Fiscal Year	**Residential Water Customers**	**Avg Residential Use 'ERU' (gpd/ERU)**
19	3,960	217
20	4,104	223
21	4,202	207
22	4,239	226
23	4,279	220
24	4,300	219
	AVG	**219**

Based on historic use, the City's current LOS will be defined as follows:

- 220 gpd/Water-ERU for residential water use.

A typical City potable water connection utilizes 220 gallons per day or 220 gpd/ERU. This value establishes typical potable water use within the City's Utility Service Area, and is intended to depict the average single-family residential customer.

B. CAPACITY REVIEW

1. **Treatment Facility Capacity:** The Florida Department of Environmental Protection (FDEP) rates water treatment system capacities based on Maximum Daily Flow (MDF) demands. FDEP rules require water treatment infrastructure to meet maximum system demands. FDEP rates the current physical capacities as follows:

Reynolds WTP Capacity	=	1.728 MGD (MDF)
Harbor Road WTP Capacity	=	2.304 MGD (MDF)
Total	**=**	**4.032 MGD (MDF)**

Generally, MDF values are typically two (2) times the average demands within a water system. For purposes of this Study, the MDF values will be defined as follows:

- MDF = Annual Average Daily Flow (AADF) * 2.0 (peaking factor)

Using this relationship, the current treatment facility capacities are summarized as follows:

Reynolds WTP Capacity	=	0.864 MGD (AADF) or 1.728 MGD (MDF)
Harbor Road WTP Capacity	=	1.152 MGD (AADF) or 2.304 MGD (MDF)
Total	**=**	**2.016 MGD (AADF) or 4.032 MGD (MDF)**

2. **Existing Flows and Excess Capacity:** The metered flows for the Water System are recorded at each individual production well, and are summarized in **Table 2**.

TABLE 2

EXISTING WATER SYSTEM PRODUCTION

Fiscal Year	Well Production (MGD-AADF)
20	1.16
21	1.21
22	1.20
23	1.03
24	1.17
Average	**1.15**

Using the metered flows, the current excess capacity for the Treatment Facility will be calculated as follows:

Excess Treatment Facility Capacity = 2.016 MGD (AADF) - Well Production (MGD-AADF)

The results are illustrated in **Table 3**.

TABLE 3

EXISTING WATER SYSTEM CAPACITY REVIEW

Fiscal Year	Well Production (MGD-AADF)	Excess Treatment Capacity (MGD-AADF)
20	1.16	0.86
21	1.21	0.81
22	1.20	0.82
23	1.03	0.99
24	1.17	0.85
Average	**1.15**	**0.86**

C. EQUITY METHOD REVIEW

Utilizing the equity method, the capital costs for current facility improvements are reviewed with accumulated depreciation and associated grant contributions to determine the remaining equity within the system. The equity is distributed amongst total connection capacity to determine a value requirement per connection. The values utilized for this calculation are comprised from values included within the City's annual audit.

The City's current water system capacities were calculated as follows:

Total Capacity	=	2.016 MGD-AADF
Equity Excess Capacity	=	0.860 MGD-AADF

The equity in the system includes the depreciated value of the City's Water System as summarized in **Table 4**. The Water Treatment Facility costs are

captured separately in the City's audit as illustrated in **Attachment 1**. Since values associated with backbone water distribution system piping have fully depreciated, they are not considered in this analysis. The primary focus of this Study is related to values of the City's Water Treatment Facilities. Each of these components provide benefit to the City's customers receiving water service.

TABLE 4

WATER SYSTEM CAPACITY CONNECTION FEE REVIEW - EQUITY METHOD

Item[c]	Net Value ($) (Original Cost less Accumulated Depreciation less Bond/Loan Proceeds less Grant Funds)[a]
Supply (Wells)	$297,100
Land	$147,700
Pumping Systems	$3,864,000
Equipment	$1,195,100
Structures	$244,300
Total Water System Equity	**$5,748,200**

*a: See **Attachment 1** for FY '24 fixed asset summary table developed from information provided by the City's auditors.*

Calculating the equity portion of the capacity connection fee results in the following values:

Capacity Connection Fee (Equity) = $5,748,200/860,000 gpd-AADF
= $6.68/gpd-AADF

Water-ERU (Equity) = $6.68/gpd-AADF * 220 gpd/ERU
= $1,470/ERU

D. INCREMENTAL COST METHOD REVIEW

Utilizing the Incremental Cost Method, a review of proposed capital improvement costs will be analyzed so that they can be expressed on a per ERU basis. Within the next five years, the City is planning various capacity-adding capital improvements. A summary of the proposed projects is provided as **Attachment 2.**

The City's Capital Improvement Plan (CIP) identified the following Water System improvements scheduled for completion within the next five years:

- Harbor Road WTP and Water System Upgrades
  Capital Budget = $5,346,000

- Reynolds WTP and Water System Upgrades
  Capital Budget = $7,600,000

The denoted improvements would expand the City's total Water System capacity as follows:

- Harbor Road WTP & Water System Upgrades
  0.80 MGD-MDF capacity increase (4.96 MGD less existing 4.16 MGD)
  0.40 MGD-ADF on system storage basis.

- Reynolds WTP & Water System Upgrades
  3.03 MGD-MDF capacity increase (7.49 MGD less existing 4.46 MGD)
  1.52 MGD-ADF on a groundwater delivery system basis.

The total system capacity is increased to 4.96 MGD-MDF (2.48 MGD-AADF) limited by finished water storage capacity. This results in a total system increase of 0.464 MGD-AADF.

A summary of the capacity calculation is provided in **Attachment 3**. The incremental capital cost per treatment gallon is summarized as follows:

Incremental Capacity Costs	=	($5,346,000/400,000 gpd-AADF) + ($7,600,000/1,520,000 gpd-AADF)
	=	$13.37/gpd + $5.00/gpd
	=	$18.37/gpd-AADF
Water-ERU (Incr.)	=	$18.37/gpd-AADF * 220 gpd/ERU
	=	$4,041/ERU

E. CAPACITY CONNECTION FEE CALCULATION

In order to blend the Equity and Incremental Cost Methods together, the amount of capacity created or available will be prorated to define a final value. Each capacity connection fee value per system is calculated as follows:

Water Treatment

Total Excess Capacity = Equity + Incremental
= 0.860 MGD-AADF + 0.464 MGD-AADF
= 1.324 MGD-AADF

Water Treatment

Blended Capacity Connection Fee:

[Equity Value * (Excess Equity Capacity/Total Excess Capacity)] + [Incremental Value * (Incremental Capacity/Total Excess Capacity)]

= $6.68/gpd-AADF (0.860 MGD-AADF/1.324 MGD-AADF) + $18.37/gpd-AADF (0.464 MGD-AADF/1.324 MGD-AADF)

= $4.34/gpd-AADF + $6.44/gpd-AADF

= $10.78/gpd-AADF

Water-ERU = $10.78/gpd-AADF * 220 gpd/ERU
= $2,372/ERU

F. SUMMARY

Consideration should be given to modifying the Water System capacity connection fee values as follows:

$2,372/ERU @ LOS = 220 gpd/ERU | $10.78/gpd [Residential water meter]

[*$1,000 existing @ LOS = 300 gpd/ERU* | *$3.33/gpd*]

III. WASTEWATER SYSTEM CAPACITY CONNECTION FEE

The City's Wastewater System is comprised of collection piping, manholes, pump stations, force main piping networks, and wastewater treatment facilities. The City has two (2) wastewater treatment facilities. The northerly facility is called the Harbor Road Water Reclamation Facility (WRF) and the southerly facility is called the South Wastewater Treatment Facility (WWTF).

In March 2007, FDEP, along with various public and private stakeholders, began to finalize nutrient limits for various "reaches" of the St. Johns River. Based on the modeling that was completed, FDEP established the Lower St. Johns River Basin Management Action Plan ("BMAP") that was adopted on October 10, 2008. As a result of the BMAP, the City was allotted an annual nutrient allocation (Total Maximum Daily Load - TMDL) from the City's two (2) wastewater treatment facilities of:

- 46.7 pounds per day ("ppd") or 17,055.5 pounds per year ("ppy") for Total Nitrogen ("TN"); and

- 11.6 pounds per day ("ppd") or 4,244.2 pounds per year ("ppy") for Total Phosphorus ("TP").

The City completed various operational modifications to the SWWTP and Harbor Road WRF that resulted in significant reductions to their TN and TP loadings. As a result, the City has maintained loading levels below the annual allocations. However, the capacity of each facility was de-rated since neither facility was designed for biological nutrient removal capabilities. As a result, the City had limited capacity for future growth as discussed and reviewed further herein.

As a result of the TMDL restrictions, the City began a planning process to determine the most appropriate next steps to address long-term growth within the City's Utility Service Area. In April 2015, the City accepted an updated Wastewater System Master Plan that defined specific backbone transmission system and wastewater treatment improvements. These improvements will lead to a consolidated wastewater treatment system at the Harbor Road WRF which will have advanced wastewater treatment capabilities to meet the City's TMDL obligations, provide the appropriate level of service to their customers, and allow for growth. The Master Plan's selected alternative at the Harbor Road site reached operational completion during May 2025. Decommissioning the SWWTP and extending a 16" force main from the south service area to the Harbor Road WRF is the next major capital project to meet the master planning goals.

Separately, and in addition to the above, the State of Florida, through Chapter 2021-168, Laws of Florida, enacted further restrictions to non-beneficial surface water discharges. As a result, the City developed a Surface Water Discharge Elimination Plan (Mittauer & Associates, Inc., October 2021) that outlined capital improvements to proceed toward compliance of the state's goals. After the City completes the wastewater treatment consolidation, expansion of their reclaimed water system will be required to address the effluent disposal restrictions.

Applicable portions of these documents are provided in **Attachment 4**.

A. LEVEL OF SERVICE REVIEW

A review of the City's sewer billing records was completed. The average metered use per account and total customer accounts per year are reviewed below to determine the system's current level of service.

TABLE 5
SEWER SYSTEM LOS REVIEW

Fiscal Year	Residential Sewer Customers	Avg Residential Use 'ERU' (gpd/ERU)[a]
19	2,921	203
20	3,153	195
21	3,395	177
22	3,530	181
23	3,607	179
24	3,668	178
	AVG	**186**

a: Average Residential Use based on City's billing records for residential sewer customers.

A 185 gpd/ERU basis is recommended.

B. CAPACITY REVIEW

1. **Treatment Facility Capacity:** The City's current treatment capacities are limited to:

South WWTF Capacity	=	0.35 MGD (AADF)
Harbor Road WRF Capacity	=	1.25 MGD (AADF)
Total	**=**	**1.60 MGD (AADF)**

As noted elsewhere, the City will be decommissioning the South WWTF in the next five years. Construction of the project will include backbone collection and transmission facility improvements to deliver wastewater from the City's South Service Area and Core City to the Harbor Road WRF. **Figure 2** and **Figure 3** depict the proposed improvements.

After consolidation, the City's Wastewater Treatment Capacity will be as follows, which is scheduled to occur prior to 2030:

South WWTP Capacity	=	0.00 MGD (AADF)
Harbor Rd WRF Capacity	=	1.25 MGD (AADF)
Total	**=**	**1.25 MGD (AADF)**

The State of Florida enacted Chapter 2021-168, Laws of Florida, which is also known as "Senate Bill 64" that has effectively eliminated surface water discharges except for limited wet weather events. The Harbor Road WRF has a permitted connection to the St. Johns River that allows for effluent disposal, and currently accounts for 50 to 60% of the WRF's effluent disposal capacity. The City completed a Surface Water Discharge Elimination Plan (*Mittauer & Associates, Inc., Oct. 2021*) that was submitted to FDEP to illustrate the City's approach to address the requirements.

The permitted effluent disposal capacity directly limits the system's treatment capacity. Therefore, the City is currently working through capital improvements to expand their reclaimed water system to reduce the surface water flows and ensure the system's permitted capacity is not limited.

SCALE: 1" = 1000'

N

EXISTING HR WRF

16" FM EXTENSION

P.S. No. 4

P.S. #3
200gpm STATION

ST. JOHNS RIVER

UPGRADE &
MODIFY P.S. No. 2

Governor's Creek

Pine Ave.

Magnolia Ave.

Orange Ave.

Houston St.

Palmetto Ave.

Oak St.

Idlewilde Ave. (SR 16)

US 17

P.S. #12
P.S. #11
P.S. #7
P.S. #27
P.S. #15
P.S. #5
P.S. #8
P.S. #9
P.S. #2

Vera Francis Hall Park
Core City
Green Cove Junior High
Bannerman School
Public Works Complex
Green Cove Heights
Governors Springs Apartments
Mt. Pleasant Baptist
PORT P.S.
Pier 1
Pier 2
Pier 3
Pier 4
Pier 5

MITTAUER & ASSOCIATES, INC.
CONSULTING ENGINEERS
580-1 WELLS ROAD, ORANGE PARK, FLORIDA 32073
TEL. (904) 278-0030 FAX. (904) 278-0840 FLORIDA CA NO. 6569

CITY OF GREEN COVE SPRINGS
Water & Wastewater Capacity Connection Fee Analysis
P.S. No. 2 & P.S. No. 4 FM Reroute
Clay County, Florida

FIGURE 2
October 2025
Project No. 8905-72-1

J:\OrangePark\CAD Files\Green Cove Springs\8905721 Water and Wastewater Capacity Connection Fee Study\Figure 2 (FM Revisions).dwg, 10/6/2025 5:07:38 PM

SCALE: 1" = 80'

N

EXISTING 2-STORY ELECTRICAL BLDG.

LINE CREW BUILDING

OPERATIONS BUILDING

CONCRETE SLAB

CONCRETE SLAB

CONCRETE SLAB

CONCRETE SLAB

CONCRETE STORAGE SLAB

CONCRETE STORAGE SLAB

GROUND STORAGE TANK No. 1

GROUND STORAGE TANK No. 2

WATER FACILITY STORAGE BUILDING

ELEVATED STORAGE TANK

EXISTING WASTEWATER TREATMENT FACILITY

HYDROTANK

REUSE PUMPING STATION

HARBOR ROAD WATER TREATMENT FACILITY

CONC SLAB

EXISTING AEROBIC DIGESTER No. 4

EXISTING AEROBIC DIGESTER No. 3

EXISTING AEROBIC DIGESTER No. 2

EXISTING AEROBIC DIGESTER No. 1

INFLUENT STRUCTURE

IN-PLANT PUMP STA.

EXISTING REUSE GST No. 1

RECLAIMED WATER STORAGE TANK No. 1

GENERATOR (FUTURE)

GENERATOR

ELECTRICAL BUILDING

CLARIFIER No. 2

CLARIFIER No. 1

CHLORINE CONTACT CHAMBER

FILTERS 1 & 2

CHEMICAL FEED & STORAGE FACILITY

OXIDATION DITCH No. 1

VAC-CON DEWATERING BED

EXISTING ELECTRICAL SUBSTATION

MH 1

MH 2

MH 3

MH 4

MH 5

MH 6

MH 7

MH 8

MH 9

MH 10

STAIRS

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CONSULTING ENGINEERS
580-1 Wells Road, Orange Park, Florida 32073
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CITY OF GREEN COVE SPRINGS
Water and Wastewater Capacity Connection Fee Study
HRWRF – AWT Improvements
Clay County, Florida

FIGURE 3

October 2025
Project No.
8905-72-1

The City's primary reclaimed water users are currently the Magnolia Point golf course with conversion of the Black Creek Village and Edgewater Landing developments to reclaimed water by 1st quarter 2026. These developments were constructed with separate reclaimed water systems, but the Black Creek Village and Edgewater Landing reclaimed water service has been awaiting completion and operational tuning of the Harbor Road WRF. In the interim, each development has been served via potable water irrigation. Historic water use for each is approximately 360,000 gpd, 14,000 gpd, and 55,000 gpd, respectively on an AADF basis. In total, the existing reclaimed water users provide approximately 429,000 gpd (AADF) of effluent capacity leaving 821,000 gpd (AADF) [1.25 MGD - 0.429 MGD] of additional alternative effluent disposal capacity needs based on the current permitted capacity of 1.25 MGD (AADF). In the near-term, the additional effluent disposal capacity needs are 0.341 MGD [0.77 MGD - 0.429 MGD] based on the system's total demand of 0.77 MGD.

The City is currently pursuing projects to expand reclaimed water delivery capacity via extensions within their Utility Service Area or through a bulk delivery agreement with neighboring Clay County Utility Authority (CCUA). The City has spent the following related to these capital needs with additional projects to be identified:

- Capital Costs = $2,195,000
- Capacity = 341,000 gpd-AADF
  [Targeted effluent disposal capacity]
- Capacity Costs = $6.44/gpd-AADF

2. **Existing Treatment System Flows and Excess Capacity:** The metered flows for the Sewer System are recorded at each individual treatment facility, and are summarized per fiscal year in **Table 6**.

TABLE 6 EXISTING WASTEWATER SYSTEM FLOWS		
Fiscal Year	**South WWTP (MGD-AADF)**	**Harbor Road WWTP (MGD-AADF)**
20	0.27	0.50
21	0.28	0.50
22	0.25	0.50
23	0.26	0.49
24	0.26	0.51
Average	**0.27**	**0.50**

As noted herein, the City has completed improvements to the Harbor Road WRF that have resulted in a permitted treatment capacity of 1.25 MGD (AADF). The City is beginning the funding process to construct a force main extension that will consolidate the City's treatment to this location resulting in the following excess treatment capacity by 2030:

Future Excess Treatment Capacity = 1.25 MGD - 0.50 MGD - 0.27 MGD
= 0.48 MGD (AADF)

3. **Backbone Transmission Main:** To finalize the City's wastewater treatment consolidation, the existing collection and transmission systems will be upgraded to allow all of the City's wastewater flows to flow to the Harbor Road WRF. Pump Station No. 2 and No. 4 will be modified to provide capabilities to pump combined flow directly to the WRF. Pump Station No. 2 delivers the City's entire South Service Area flow to the South WWTP, while Pump Station No. 4 delivers the majority of the City's remaining Service Area flow to the Harbor Road WRF.

   Force mains are designed to carry peak hourly flows from the wastewater system. The peaking factor for wastewater demands is typically between 2.5 to 4.0 pending the population density. For purposes of this Study, a 3.0 peaking factor will be utilized. Therefore, the 16-inch Backbone Capacity in average day demand terms is 1,488,000 gpd-ADF (3,100 gpm/3.0).

   A 16-inch force main will be constructed from P.S. No. 2 to the connection point with P.S. No. 4. At this location, the two pump stations will combine and

16-inch system will extend to the Harbor Road WRF. The existing 12-inch force main that currently serves P.S. No. 2 will remain in service to provide redundancy at the Governor's Creek crossing. The force main diameter was selected to provide the following capacities:

- 16-inch Force Main Capacity Review

  Design Capacity = 3,100 gpm (PHF) | 1,488,000 gpd (AADF)

  Current Capacity = 565 gpm (PHF) | 270,000 gpd (AADF)

  Excess Capacity = 1,218,000 gpd [1.488 MGD - 0.270 MGD]

C. EQUITY METHOD REVIEW

Utilizing the equity method, the capital costs for current facility improvements are reviewed with accumulated depreciation and associated grant contributions to determine the remaining equity within the system and related cost on an ERU basis. The equity is distributed amongst total connection capacity to determine a value requirement per connection. The values utilized for this calculation are comprised from values included within the City's annual audit.

The City completed the Harbor Road WRF improvements during FY '25. Those improvement costs have not been realized in the City's auditing. Further, near-term capital improvements will allow the South WWTF to be decommissioned during FY 26. An equity review is not applicable given the infrastructure changes. The system modifications and associated capacity fee basis are outlined in the Incremental Cost Method Review.

D. INCREMENTAL COST METHOD REVIEW

Utilizing the Incremental Cost Method, a review of the recently constructed Harbor Road WRF along with the proposed force main capital improvement costs will be analyzed so that they can be expressed on a per ERU basis.

1. **Treatment System Expansion/Improvements:** In 2025, the City completed the Harbor Road WRF expansion and advanced wastewater treatment (AWT) improvements. The project will serve the City's Utility Service Area with AWT technology once the City's South WWTP flow is diverted. Therefore, the system's total treatment capacity is as follows:

   Harbor Road WRF Capacity = 1.25 MGD-AADF

   Based on the City's current wastewater treatment flows, the system's excess capacity was calculated as follows:

   Excess Capacity = 0.48 MGD-AADF

   The City's investment (less grant funding) into the Harbor Road WRF improvements was as follows:

• Planning	=	$ 44,006
• Design	=	$ 765,985
• Construction	=	$ 1,846,863 (Ph. 1) + $12,535,652 (Ph. 2)
TOTAL		**$15,192,506**

   The above construction costs should also include the land value that remains. Per the Clay County Property Appraiser, the 2025 land value is recorded as $230,952. Since the facility is serving the City's Utility Service Area and replacing existing capacity with upgraded treatment capabilities, the capacity connection fee is calculated as follows:

   Capacity Connection Fee
   (Treatment - Incremental) = ($15,192,506 + $230,952)/1,250,000 gpd
   = $12.34/gpd-AADF

   Similarly, the reclaimed water system expansion efforts are required to retain the City's overall treatment capacity from an effluent disposal basis. The Capacity Connection Fee associated with the current investment is summarized as follows:

   Capacity Connection Fee
   (SW Elim - Incremental) = $2,195,000/341,000 gpd-AADF
   = $6.44/gpd-AADF

2. <u>Transmission System Expansion/Improvements</u>:

As noted within **Section III.B.3.**, the City will be constructing backbone transmission system improvements to consolidate the City's wastewater treatment capabilities to one site. The aspects of the 16-inch transmission main were previously discussed, and a summation of the provided capacity is provided as follows:

Design Capacity	=	1.488 MGD-AADF
Current Flows	=	0.270 MGD-AADF
Excess Capacity	=	1.218 MGD-AADF

The following capital investment is calculated for the transmission system:

Capital Cost	=	$4,537,000 (*CIP Budget*)

The capacity connection fee is calculated as follows:

<u>Capacity Connection Fee</u>

Transmission	=	$4,537,000/1,488,000 gpd-AADF
	=	$3.05/gpd-AADF

E. CAPACITY CONNECTION FEE CALCULATION

In order to blend the Equity and Incremental Cost Methods together, the capacity created or available will be prorated to define a final value. Each system components are summarized in the following summaries.

<u>Wastewater Treatment</u>

The recent expansion at Harbor Road replaced existing capacity and constructed additional capacity, so the costs are blended as follows:

Total Capacity	=	Equity + Incremental
	=	770,000 gpd-AADF + 480,000 gpd-AADF
	=	1,250,000 gpd-AADF
Excess Capacity	=	480,000 gpd-AADF

Surface Water Elimination

The proposed Harbor Road WRF effluent disposal expansion project will provide additional system capacity, and does not replace any existing systems. Therefore, the system expansion costs are only associated with an incremental review:

Additional Capacity = 341,000 gpd-AADF

Backbone Transmission System

The proposed improvements will divert existing flows currently pumped to the South WWTF and will also provide for additional capacity, so the costs are blended as follows:

Total Capacity = Equity + Incremental
= 270,000 gpd-AADF + 1,218,000 gpd-AADF
= 1,488,000 gpd-AADF

Excess Capacity = 1,218,000 gpd-AADF

The combined/pro-rated Water and Wastewater System Capacity Fee calculations are defined as follows:

Wastewater Treatment

Capacity Connection Fee-Treatment:

Capacity Connection Fee * (Excess Treatment Capacity/Total Capacity)

= $12.34/gpd-AADF * (480,000 gpd-AADF/1,250,000 gpd-AADF)
= $4.74/gpd-AADF

Wastewater Disposal - Surface Water Elimination

Capacity Connection Fee-Surface Water Elimination:

= $6.44/gpd-AADF

Wastewater Transmission (Backbone Main)

Capacity Connection Fee-Transmission:

Capacity Connection Fee * (Excess Capacity/Total Capacity)

= $3.05/gpd-AADF * (1,218,000 gpd-AADF/1,488,000 gpd-AADF)
= $2.50/gpd-AADF

Wastewater System (Total)

Capacity Connection Fee-Total:

Treatment + Surface Water Elimination + Transmission System (Backbone Main)

= $4.74/gpd-AADF + $6.44/gpd-AADF + $2.50/gpd-AADF
= $13.68/gpd-AADF

On an ERU basis, the Capacity Connection Fee is calculated as follows:

= $13.68/gpd-AADF * 185 gpd/ERU

= $2,531/ERU

F. SUMMARY

Consideration should be given to modifying the capacity connection fee values as follows:

$2,531/ERU @ LOS = 185 gpd/ERU | $13.68/gpd
[*$2,000 existing @ LOS = 300 gpd | $6.67/gpd*]

ATTACHMENT 1

Water and Wastewater Capacity Connection Fee Study
FY 25 Capacity Connection Fee Study
City of Green Cove Springs, Florida
Client No. 8905-72-1

2024 Fixed Asset Data Sheets (from auditor)

Asset	Current Value
As Of: 09/30/2024 / All Types / Departments: 40201,40202,40203,40204,40205 / All Schedules / Ordered By Asset Type / Asset Type: 160 CONSTRUCTION WORK IN PROGRESS	
Totals for Asset Type 160 - CONSTRUCTION WORK IN PROGRESS, Count: 3	58,000.00
As Of: 09/30/2024 / All Types / Departments: 40201,40202,40203,40204,40205 / All Schedules / Ordered By Asset Type / Asset Type: 201 WATER-LAND	
Totals for Asset Type 201 - WATER-LAND, Count: 2	147,670.00
As Of: 09/30/2024 / All Types / Departments: 40201,40202,40203,40204,40205 / All Schedules / Ordered By Asset Type / Asset Type: 202 WATER-PUMPING	
Totals for Asset Type 202 - WATER-PUMPING, Count: 113	3,863,927.70
As Of: 09/30/2024 / All Types / Departments: 40201,40202,40203,40204,40205 / All Schedules / Ordered By Asset Type / Asset Type: 203 WATER-GENERAL EQUIPMENT/PLANT	
Totals for Asset Type 203 - WATER-GENERAL EQUIPMENT/PLANT, Count: 122	1,195,112.48
As Of: 09/30/2024 / All Types / Departments: 40201,40202,40203,40204,40205 / All Schedules / Ordered By Asset Type / Asset Type: 204 WATER-TREATMENT PLANT	
Totals for Asset Type 204 - WATER-TREATMENT PLANT, Count: 21	244,263.87
As Of: 09/30/2024 / All Types / Departments: 40201,40202,40203,40204,40205 / All Schedules / Ordered By Asset Type / Asset Type: 205 WATER-SOURCE OF SUPPLY	
Totals for Asset Type 205 - WATER-SOURCE OF SUPPLY, Count: 4	297,077.78
Grand Totals, Count: 265	5,806,051.83
	5,895,316.00

ATTACHMENT 2

Water and Wastewater Capacity Connection Fee Study
FY 25 Capacity Connection Fee Study
City of Green Cove Springs, Florida
Client No. 8905-72-1

FY'26 Capital Improvement Plan

FY 2025/26 UTILITY FUND PROJECT FUNDING SOURCES									
ACCT #	PROJECT	LOAN PROCEEDS	REVENUE	GRANTS	REIMB.	OTHER	CAPITAL TRUST FUND	LEGISLATIVE DELGATION	TOTAL
	ELECTRIC - 401-3031								
6201	Electric Operations Renovations-Structure	5,000,000							5,000,000
6502	Voltage Conversion on North End of Town		100,000						100,000
6400	Equipment		100,000						100,000
6404	Vehicles								-
6500	URD System Conductor Replacment Project		60,000						60,000
6301	Extend New Lines								-
6510	Magnolia Ave. North Feed		50,000						50,000
6990	System Materials		60,000						60,000
6518	Convert North end of Town-Reliability		10,000						10,000
6501	UG Reliability (loop feed)		40,000						40,000
6500	Rookery: Phase 3A & 3B		325,828				661,530		987,358
6500	Distribution project 1: Rookery - Pearce Blvd		198,000				402,000		600,000
6522	ROOKERY TRANSFORMERS						182,481		182,481
	Total Electric	**$ 5,000,000**	**$ 943,828**	**$ -**	**$ -**	**$ -**	**$ 1,246,011**		**$ 7,189,839**
	WATER - 402-3033								
6200	Building Improvement		30,000						30,000
6395	Water Taps				25,000				25,000
6391	Water Line Replacement		40,000						40,000
6393	Replace Valves		15,000						15,000
6395	New Meters to Install (reimbursable)								-
6396	Line Extensions (reimbursable)				40,000				40,000
6406	CR 209 S Water Main Extension to Bayard Rd Staff have received many draft site plans, first real development will trigger implementation. Portion may be completed in FY26						200,000		200,000
64XX	CR 315 Utility Relocations - County expansion of road, Relocation is required. Both water & sewer total $1,000,000	500,000							500,000

FY 2025/26 UTILITY FUND PROJECT FUNDING SOURCES									
ACCT #	PROJECT	LOAN PROCEEDS	REVENUE	GRANTS	REIMB.	OTHER	CAPITAL TRUST FUND	LEGISLATIVE DELGATION	TOTAL
6410	**North Service Territory / Harbor Road WTP Upgrades** **Design Complete** * New Ground Storage Tank *Jockey & High Service Pump Upgrades * Addition of two Hydro Tanks (could be phased) * HRWTP, Reynolds & Bonaventure Altitude Valve Replacement * SR16 Jockey Station Rehabilitation * Electrical Improvements	2,000,000							2,000,000
6400	Replace Truck #804-2009 F150 Pickup FY26								-
6400	Equipment		40,000						40,000
6400	Water System TCU Replacement		25,000						25,000
	Total Water	**$ 2,500,000**	**$ 150,000**	**$ -**	**$ 65,000**	**$ -**	**$ 200,000**	**$ -**	**$ 2,915,000**
	WASTEWATER - 403-3035								
6300	Structural R&R - stop-gap repairs only as needed		20,000						20,000
6300	Improvements other than Buildings:		20,000						20,000
6301	WW Collection System-Line Extensions (reimbursable)				30,000				30,000
6302	Lift Station Rehab (Re-pipe 3 per year)								-
6400	Small Equipment (Plants, line Maintenance)								-
6403	CR 315 Utility Relocations - County expansion of road, Relocation is required.						520,000		520,000
6405	CR 209 S Force Main extension to Bayard Road						200,000		200,000
6304	Manhole Rehab								-
6317	Rehab Sewer Lines-Routine								-
6317	Point Repairs (30 locations per SSES/various sz) ($1,500,000)		100,000						100,000
6400	Equipment - Non Vehicle (TCU replacement)		75,000						75,000
6401									-
6404	Trailer mounted Centrifuge for sludge processing. Hope to include in HRAWWTF Phase II funding								-
6500	Phase III Consolidated AWWTP Construction and Construction Management (SWWTF Decommissioning and PS 2 16" FM)	2,000,000							2,000,000
	Total Wastewater	**$ 2,000,000**	**$ 215,000**	**$ -**	**$ 30,000**	**$ -**	**$ 720,000**	**$ -**	**$ 2,965,000**
	SOLID WASTE - 404-3034								

FY 2025/26 UTILITY FUND PROJECT FUNDING SOURCES									
ACCT #	PROJECT	LOAN PROCEEDS	REVENUE	GRANTS	REIMB.	OTHER	CAPITAL TRUST FUND	LEGISLATIVE DELGATION	TOTAL
6431	Replace #701 Garbage Truck 2017, Freightliner	-							-
6431	Add one new Garbage Truck for growth								-
	Total Solid Waste	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**		**$ -**
	STORMWATER - 406-3036								
6307	Stormwater Improvements								
	Clay St. Storm Basin	1,816,732	500,000						2,316,732
	Total Stormwater	**$ 1,816,732**	**$ 500,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2,316,732**
	RECLAIMED WATER - 407-3039								
6500	Design and Permitting, RW Main for Magnolia Point								-
	Total Reclaimed Water	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**		**$ -**
	UTILITY FUND TOTAL	**$ 11,316,732**	**$ 1,808,828**	**$ -**	**$ 95,000**	**$ -**	**$ 2,166,011**	**$ -**	**$ 15,386,571**

402-3033 WATER			FY 2025/2026 THRU FY 2029/2030 CAPITAL IMPROVEMENT PROGRAM					
ACCOUNT NUMBER	PROJECT	FUNDING SOURCE	25/26	26/27	27/28	28/29	29/30	Notes
	Revenues & Other Sources:							
3435551	Reimbursable	RE	65,000	65,000	70,000	75,000	80,000	
	Revenue	R	150,000	295,000	185,000	195,000	215,000	
3433540	Trust Fund/Reserves	TF	200,000	-	-	-	-	
3832239	Private Developer	PD	-	-	-	-	-	
3849994	Loan (To be Secured) - SRF	L	2,500,000	3,346,000	-	-		*HRWTP -$5,346,000 - SRF,spend $2,000,000 in FY26 *CR315-$500,000-private
	Total Revenues & Other Sources		**$ 2,915,000**	**$ 3,706,000**	**$ 255,000**	**$ 270,000**	**$ 295,000**	
	Expenditures & Other Uses:							
6200	Building Improvement	R	30,000	25,000	25,000	25,000	25,000	Recurring
6394	Meter Replacement (Program Complete. Next Generation to follow)	R						Placeholder. Tantalus remote read system may negate need to upgrade
6395	Water Taps	RE	25,000	25,000	30,000	30,000	35,000	Recurring
	Recurring Water Line Replacements/Upgrades							
6396	Extensions Reimbursement	RE	40,000	40,000	40,000	45,000	45,000	Recurring
6391	Water Line Replacement	R	40,000	40,000	40,000	40,000	45,000	Recurring
6393	Replace Valves	R	15,000	15,000	20,000	20,000	25,000	Recurring

6400	**Equipment/Vehicles**							
	Replace Truck #804-2009 F150 Pickup FY26	R		50,000	50,000	60,000	60,000	Eliminated replacement truck, 50K, for FY26
	Equipment -- Non vehicle	R	40,000	40,000	50,000	50,000	60,000	
	Water System TCU Replacement	R	25,000					
	Water Distribution Systems							
6401	CR 315 Utility Relocations - County expansion of road, Relocation is required. Both water & sewer total $1,000,000	L	500,000					Pending - County continues to delay project
6402	South Service Territory Loop Feed (Loop around Reynolds adjacent to FCE). Reynolds development controls implementation. Should include developer contribution.	R		$125,000				Reynolds Development controls implementation
6403	Water Main - Governors Creek ($400,000 beyond FY 30)	L						Placeholder
6404	~~Magnolia Point Culdesacs 2" Water Main Upgrades. 17 culdesacs, 4/year, $75,000.00 each. ($1,275,000 total) Postponed, maybe cancelled, due to SB 64/Magnolia Point Reclaimed Water System (See WW/RW CIP)~~	L						MP Reclaimed Water project and /or Harbor Road WTP project should cancel need
6405	City-Wide Water Distribution System Upgrade: Elimination of AC water mains and other upgrades ($6,620,000 beyond FY 30)	L						Regulatory mandate will drive implementation
6406	CR 209 S Water Main Extension to Bayard Rd Staff have received many draft site plans, first real development will trigger implementation. Portion may be completed in FY26	TF	200,000					Staff have received many draft site plans, first real development will trigger implementation

6391	Loop Energy Cove Court (will let development of parcel or Master Plan drive easement obtainment) Cost = $30,000	R						Placeholder
	Water Treatment Plants							
6403	~~Bonaventure Water Plant (new facility to improve pressure/flow to Magnolia Point) Postponed due to SB 64 Magnolia Point Reclaimed Water System (See WW/RW CIP), however there are system benefits~~							MP Reclaimed Water project and/or Harbor Road WTP project should cancel need
6410	**North Service Territory / Harbor Road WTP Upgrades** **Design Complete** * New Ground Storage Tank *Jockey & High Service Pump Upgrades * Addition of two Hydro Tanks (could be phased) * HRWTP, Reynolds & Bonaventure Altitude Valve Replacement * SR16 Jockey Station Rehabilitation * Electrical Improvements	L	2,000,000	3,346,000				Funded by SRF Drinking Water Program loan
6411	**South Service Territory / Reynolds WTP Upgrades** **Design Complete** * Two new 16" wells (replaces two exisitng wells) *New Ground Storage Tank *New Pre-Stressed Concrete Building for new electrical and chemical feed systems *High Service Pump Upgrades **Cost = $14,200,000**	L						Reynolds development will drive implementation
	Total Expenditures & Other Uses		**$ 2,915,000**	**$ 3,706,000**	**$ 255,000**	**$ 270,000**	**$ 295,000**	

402 - 3033 WATER				FY 2025/26 CIP PROJECT PRIORITY	
RANK	ACCOUNT NUMBER	ACCOUNT NAME	FUNDING SOURCE	AMOUNT	BRIEF EXPLANATION
1	6401	CR 315 Utility Relocations -	L	500,000	Pending - County continues to delay project
2	6405	CR 209 S Water Main Extension to Bayard Rd	TF	200,000	Staff have received many draft site plans, first real development will trigger implementation
3	6410	North Service Territory / Harbor Road WTP Upgrades	L	2,000,000	
4	6400	*Equipment, Non-Vehicle $40,000 *Water System RTU Replacement $25,000	R	65,000	
5	6200	Building Improvement	R	30,000	
6	6393	Replace Valves	R	15,000	
7	6395	Water Taps	RE	25,000	
8	6391	Water Line Replacement	R	40,000	
9	6396	Line Extensions	RE	40,000	
		TOTAL		**$ 2,915,000**	

403-3035 WASTEWATER			FY 2024/2025 THRU FY 2028/2029 CAPITAL IMPROVEMENT PROGRAM					
ACCOUNT NUMBER	PROJECT	FUNDING SOURCE	25/26	26/27	27/28	28/29	29/30	Notes
	Revenues & Other Sources:							
3435551	Reimbursable	RE	30,000	30,000	30,000	35,000	35,000	
	Revenue	R	215,000	1,255,000	1,255,000	1,485,000	1,485,000	Reduced Revenue financed expenditures by 565,000 for FY26. Was 1,250,000
3849994	Loan/Grant	L/G	2,000,000	2,537,000	-	-	-	Will not qualify for SRF Grants after FY26 as population will exceed 10,000
3849994	Loan	L	-	-	400,000	3,350,000	4,750,000	
3910010	Trust Fund	TF	720,000	-	-	-	-	
3343500	Grant - FEMA/HMGP	G	-	600,000	-	-	-	
	Total Revenues & Other Sources		**$ 2,965,000**	**$ 4,422,000**	**$ 1,685,000**	**$ 4,870,000**	**$ 6,270,000**	
	Expenditures:							
3832101	Capital Transfers to Reclaimed Water # 407-3039					2,000,000	2,000,000	
	General Improvements:							
6300	Improvements other than Buildings:	R	20,000	20,000	20,000	25,000	25,000	
6300	Structural R & R, Buildings	R	20,000	40,000	40,000	45,000	45,000	reduced by 20K for FY26
	WW Collection System							
6301	Extensions Reimbursment	RE	30,000	30,000	30,000	35,000	35,000	Recurring
6302	**Lift Station Rehab** (Re-pipe 3 per year)	R	-	600,000	600,000	650,000	650,000	Recurring reduced by 300K for FY26
6304	Manhole Rehab (120 locations per SSES)	R	-	70,000	70,000	75,000	75,000	Recurring

403-3035 WASTEWATER			FY 2024/2025 THRU FY 2028/2029 CAPITAL IMPROVEMENT PROGRAM					
ACCOUNT NUMBER	PROJECT	FUNDING SOURCE	25/26	26/27	27/28	28/29	29/30	Notes
6317	Rehab sewer Lines -- Routine	R	-	300,000	300,000	350,000	350,000	Recurring reduced by 200K for FY26
	Conversion of LS 318 to gravity	TF/G		600,000				Will apply for HMGP 75%Grant
	Scioto Court Gravity Replacement - Carryover	R						Carryover Unsure of timing
6404	Reynolds/South Service Territory / SR23 Force Main Extension - Loop around Reynolds park Reynolds development controls implementation $3,000,000	L						Placeholder
6403	CR 315 Utility Relocations - County expansion of road, **Relocation is required.**	TF	520,000					Carryover - county continues to delay implementation
6405	CR 209 S Force Main extension to Bayard Road	TF	200,000					Staff have received many draft site plans, first real development will trigger implementation
	Point Repairs (30 locations per SSES/various sz) ($1,500,000)	R	100,000	100,000	100,000	200,000	200,000	Recurring
6317	**Long-Term Sewer Line Rehabilitation. Developed from Sanitary Sewer Evaluation Survey (SSES). Will manage project by project, not major initiative. Implementation TBD**							Placeholder - documents clay lines in system - timing continues to "push out" due to other spending priorities
6317	Rehab 660 LF 15" VC Sewer Line ($200,000)	L			200,000			Placeholder - documents clay lines in system
6317	Rehab 750 LF 12" VC Sewer Line ($200,000)	L			200,000			Placeholder - documents clay lines in system
6317	Rehab 250 LF 12" VC Sewer Line ($300,000)	L				300,000		Placeholder - documents clay lines in system
6317	Rehab 650 LF 10" VC Sewer Line ($300,000)	L				300,000		Placeholder - documents clay lines in system
6317	Rehab 900 LF 10" VC Sewer Line ($750,000)	L					750,000	Placeholder - documents clay lines in system

403-3035 WASTEWATER			FY 2024/2025 THRU FY 2028/2029 CAPITAL IMPROVEMENT PROGRAM					
ACCOUNT NUMBER	PROJECT	FUNDING SOURCE	25/26	26/27	27/28	28/29	29/30	Notes
6317	Rehab (pipe burst) 1,300 LF 10" VC Sewer Line ($750000)	L					750,000	Placeholder - documents clay lines in system
6317	Rehab 24,200 LF 8" VC Sewer Line ($4,000,000)	L				2,000,000	2,000,000	Placeholder - documents clay lines in system
6317	Rehab 7,500 LF 8" VC Sewer Line to SWWTP--Not part of SSES ($2,000,000)	L				750,000	1,250,000	Placeholder - documents clay lines in system
	Equipment / Vehicles							
6400	Equipment - Non Vehicle	R	75,000	75,000	75,000	80,000	80,000	TCU replacement
6401	Replace Vehicles. # 904, 2006 F-150 in FY 2026	R		50,000	50,000	60,000	60,000	Took vehcile out for FY26 reducing FY 26 by 50K
	Trailer mounted Centrifuge for sludge processing. Placeholder	L						Performance of current contractor will determine timing
6500	**TREATMENT PLANTS**							

403-3035 WASTEWATER			FY 2024/2025 THRU FY 2028/2029 CAPITAL IMPROVEMENT PROGRAM					
ACCOUNT NUMBER	PROJECT	FUNDING SOURCE	25/26	26/27	27/28	28/29	29/30	Notes
	Phase III Consolidated AWWTP Construction and Construction Management (SWWTF Decommissioning and PS 2 16" FM)	L/G	2,000,000	2,537,000				Submitted RFI to Clean Water SRF Program
	Consolidated AWWTP Phase IV (second 1.25 MGD plant at Harbor Road) Engineering, Design, & Permitting (engineering, design & permitting 80% complete). Final design/permitting $200,000. Construction $30,000,000	L						Capacity from growth will determine timing
	HRAWWTF Outfall Improvements. Uncover end, extend further into river. Inspection, Design & Permitting $300,000. Construction $2,000,000	L						Quantity of surface water discharge will determine timing.
	Septic tank Phaseout, 60-75K per house	L/G						Pending regulatory agency mandate
	Total Expenditures & Other Uses		**$ 2,965,000**	**$ 4,422,000**	**$ 1,685,000**	**$ 4,870,000**	**$ 6,270,000**	

403 - 3035 WASTEWATER			FY 2025/26 CIP PROJECT PRIORITY		
RANK	ACCOUNT NUMBER	ACCOUNT NAME	FUNDING SOURCE	AMOUNT	BRIEF EXPLANATION
1	6500	Phase III Consolidated AWWTP Construction and Construction Management (SWWTF Decommissioning and PS 2 16" FM)	L/G	2,000,000	Submitted RFI to Clean Water SRF Program
8	6403	CR 315 Utility Relocations - County expansion of road, **Relocation is required.**	TF	520,000	Carryover - county continues to delay implementation
3	6405	CR 209 S Force Main extension to Bayard Road	TF	200,000	Pending development
6	6302	Lift Station Rehab (Re-pipe 3 per year)	R	-	
7	6304	Manhole Rehab (120 locations per SSES)	R	-	
9	6400	Equipment, Non-Vehicle (Plants, Line Maintenance)	R	75,000	TCU Replacement Phase 1
11	6317	Sewer Line Point Repairs (30 locations per SSES)	R	100,000	
	6300	Improvements other than Buildings:	R	20,000	
12	6300	Structural R & R	R	20,000	
13	6301	Extensions Reimbursments	RE	30,000	
14	6317	Rehab sewer Lines -- Routine	R		
		TOTAL		**$ 2,965,000**	

ATTACHMENT 3

Water and Wastewater Capacity Connection Fee Study
FY 25 Capacity Connection Fee Study
City of Green Cove Springs, Florida
Client No. 8905-72-1

Water System Capacity Expansion Calculation

Water System Firm Capacity Review

The City's water system is generally comprised of the following component categories:

- Groundwater Withdrawal / Delivery System: Wells, well pumps/motors.
- Treatment System: Limited to aeration and chemical feed ("disinfection") system due to the high-quality groundwater source.
- Storage Facilities: Elevated storage tank(s), and ground storage tank(s).
- Finished Water Delivery System: Pumps and motors.

"Firm Capacity" is generally considered the capability of a water system to meet the maximum day demand with coincident fire flow with the largest mechanical "unit" out of service. For example, the firm capacity of the raw water or finished water delivery systems will be defined as the capacity of the system to deliver water with the largest well and/or pump out of service. Storage is reviewed based on available volume. Generally, the FDEP rated capacity of a system should define the water system's firm capacity.

Water system review includes several references, but two of the most critical items associated with Firm Capacity include: (a) the Recommended Standards for Water Works, 2012 Edition ("10 State Standards"), referenced as part of FDEP Rule 62-555.330, F.A.C., and (b) FDEP Rule 62-555, F.A.C.

The basis of design utilizes the following criteria for the City's firm capacity review:

- Groundwater Delivery Systems must have sufficiently installed units to meet maximum day demand (MDD) with the largest unit out of service;
- Finished Water Delivery Systems must have sufficient installed units to meet maximum day demand with coincident fire flow and the largest unit out of service. Additionally, the system shall be sufficient to meet the peak hourly demand for four consecutive hours with available finish water storage; and
- Finished water storage shall be provided for a minimum of 25% of the maximum day demand plus 180,000 gallons to provide two (2) hours of residential fire flow protection of 1,500 gpm. In addition, the system shall be sufficient for peak hourly demands with finished water delivery systems as denoted above.

The City's water treatment plants (WTP) include the Harbor Road WTP and Reynolds WTP. Both are interconnected through the City's water distribution network. The current Florida Department of Environmental Protection (FDEP) water treatment permitted capacities are defined as follows:

- Reynolds WTP Capacity = 1.728 MGD (MDF)
- Harbor Road WTP Capacity = 2.304 MGD (MDF)

Total = 4.032 MGD (MDF)

The existing water system components are illustrated in **Figure 1.1**. They are summarized as follows with associated firm capacity per component grouping:

- **Groundwater Delivery Systems:**
  - Reynolds WTP – Well 1 = 520 gpm
  - Reynolds WTP – Well 2 = 400 gpm
  - Reynolds WTP – Well 3 = 575 gpm
  - Harbor Road WTP – Well 1 = 1,600 gpm
  - Harbor Road WTP – Well 2 = 2,000 gpm

  TOTAL = 5,095 gpm (7.33 MGD)

  FIRM CAPACITY, MDD = 3,095 gpm (4.46 MGD, less HRWTP Well 2)
- **Storage Systems (nominal capacities):**
  - Reynolds WTP – GST 1 = 0.20 MG
  - Reynolds WTP – GST 2 = 0.20 MG
  - Harbor Road WTP – GST 1 = 0.20 MG
  - Harbor Road WTP – GST 2 = 0.20 MG
  - Reynolds EST = 0.20 MG
  - Bonaventure EST = 0.06 MG
  - Harbor Road EST = 0.16 MG

  TOTAL = 1.22 MG

  FIRM CAPACITY, MDD = 4.16 MGD [(1.22 MG – 0.18 MG)/0.25]
- **Finished Water Pumping Systems:**
  - Reynolds WTP – HS Pump 1 = 400 gpm
  - Reynolds WTP – HS Pump 2 = 400 gpm
  - Reynolds WTP – HS Pump 3 = 400 gpm
  - Harbor Road WTP – Jok. Pmp 1 = 400 gpm
  - Harbor Road WTP – Jok. Pmp 2 = 400 gpm
  - Harbor Road WTP – HS Pump 1 = 1,200 gpm
  - Harbor Road WTP – HS Pump 2 = 1,200 gpm
  - Harbor Road WTP – HS Pump 3 = 1,200 gpm

  TOTAL = 5,600 gpm (8.06 MGD)

  = 4,800 gpm (6.91 MGD, less Jockeys)

  FIRM CAPACITY, MDD = 3,600 gpm (5.18 MGD, less Jockeys & HR HS PMP)

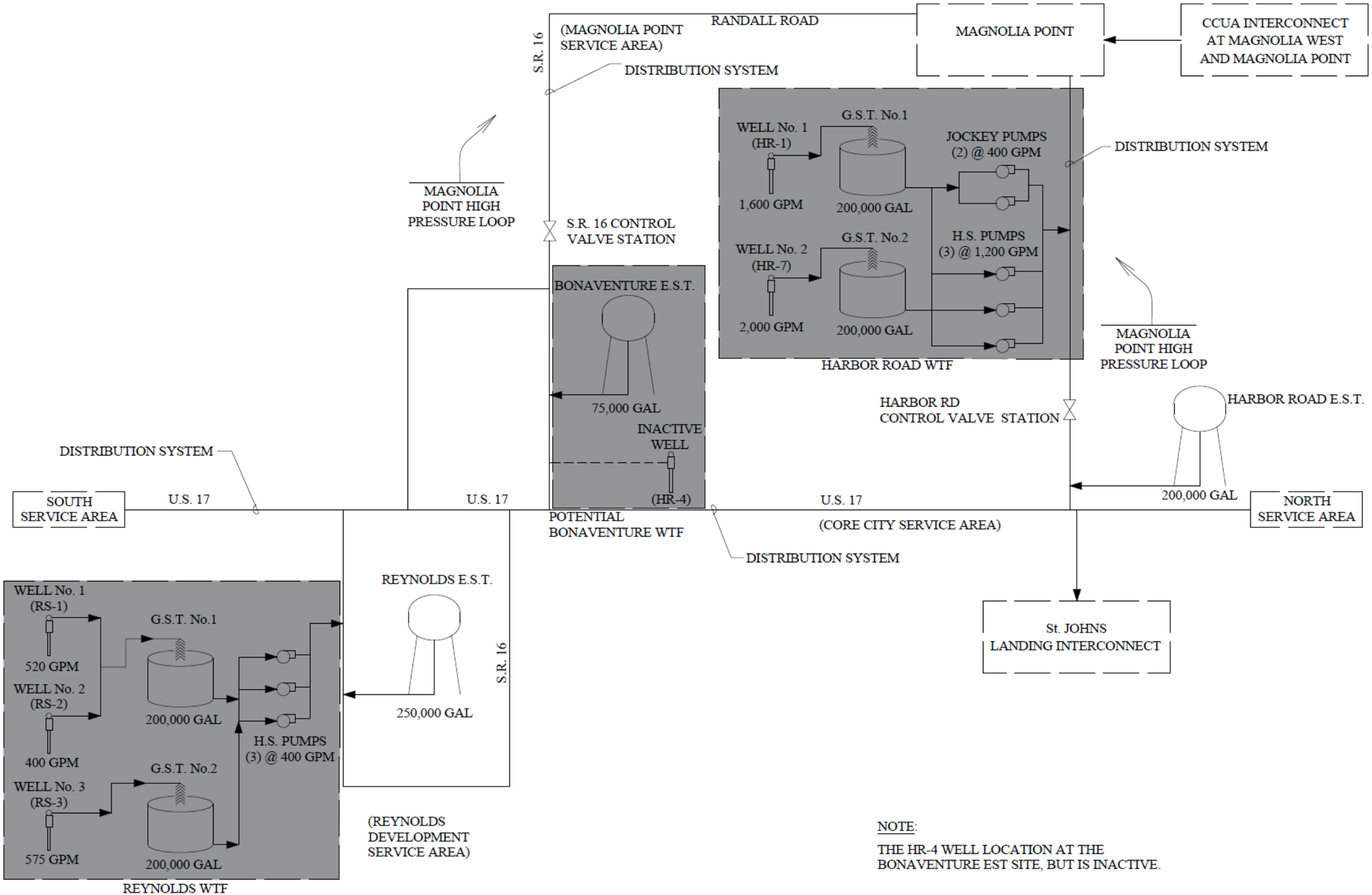

Figure 1.1 Existing Water System Schematic

The existing system's limiting capacity is related to available storage that includes fire flow reserve storage for a 1,500 gpm [2 hours * 1,500 gpm = 180,000 gallons] design delivery basis. The limiting firm capacity is 4.96 MGD (MDD).

The proposed Water System Upgrades project will modify the existing system as follows:

- **Harbor Road WTP Improvements:**
  - Construct GST 3 (0.20 MG) with 2,600 gpm conventional tray aerator.
  - Replacement of Jockey and High Service Pumps with higher head systems. The demands and higher ground elevations with the Magnolia Point development require higher delivery pressures to meet customer requirements. Capacity of the pumping units will remain the same.
  - Addition of two 10,000 gallon hydropnuematic tanks.
  - Replace hydraulic control valves for the Magnolia Point High-Pressure Loop (Control Station 1 and Station 2) and Harbor Road EST with motor-operated butterfly valve units.
  - Electrical and control improvements.

- **Reynolds WTP Improvements:**
  - Replace two existing wells with larger capacity systems (16" wells with 1,600 vertical turbine pumps).
  - Replace HS Pumps with larger capacity units (750 gpm per pump).
  - Replace hydraulic control valves for the Reynolds EST with motor-operated butterfly valve unit.

- **Bonaventure EST Improvements:**
  - Replace EST hydraulic control valve with motor-operated butterfly valve unit.

Once the above improvements (as highlighted below) are completed, the firm capacity is increased as follows:

- **Groundwater Delivery Systems:**

Reynolds WTP – Well 1	=	1,600 gpm
Reynolds WTP – Well 2	=	400 gpm
Reynolds WTP – Well 3	=	1,600 gpm
Harbor Road WTP – Well 1	=	1,600 gpm
Harbor Road WTP – Well 2	=	2,000 gpm
TOTAL	**=**	**7,200 gpm (10.37 MGD-MDF)**
FIRM CAPACITY, MDD	**=**	**5,200 gpm (7.49 MGD-MDF) (less HRWTP Well 2)**

- **Storage Systems (nominal capacities):**
  - Reynolds WTP – GST 1 = 0.20 MG
  - Reynolds WTP – GST 2 = 0.20 MG
  - Harbor Road WTP – GST 1 = 0.20 MG
  - Harbor Road WTP – GST 2 = 0.20 MG
  - Harbor Road WTP – GST 3 = 0.20 MG
  - Reynolds EST = 0.20 MG
  - Bonaventure EST = 0.06 MG
  - Harbor Road EST = 0.16 MG

  TOTAL = 1.42 MG

  FIRM CAPACITY, MDD = 4.96 MGD-MDF [(1.42 MG – 0.18 MG)/0.25]

ATTACHMENT 4

Water and Wastewater Capacity Connection Fee Study
FY 25 Capacity Connection Fee Study
City of Green Cove Springs, Florida
Client No. 8905-72-1

Surface Water Elimination Plan (portions)

TECHNICAL MEMORANDUM: SURFACE WATER DISCHARGE ELIMINATION PLAN

HARBOR ROAD WRF
NPDES FACILITY ID FL0020915
CITY OF GREEN COVE SPRINGS, FLORIDA

Prepared by:

MITTAUER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Orange Park, Florida

Project No. 8905-19-1
October 2021

TECHNICAL MEMORANDUM: SURFACE WATER DISCHARGE ELIMINATION PLAN

HARBOR ROAD WRF
NPDES FACILITY ID FL0020915
CITY OF GREEN COVE SPRINGS, FLORIDA

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Orange Park, Florida

Project No. 8905-19-1
October 2021

EXECUTIVE SUMMARY

In accordance with section 403.064(17), Florida Statutes (F. S.), the enclosed Surface Water Discharge Elimination Plan (Plan) was developed by the City of Green Cove Springs (City) to address the statutory requirements. As documented further herein, the Plan outlines and provides detailed support for the following approach:

- Maximizing reclaimed water supply and use within the City Limits and Utility Service Area including consideration of supplying neighboring utilities, such as Clay County Utility Authority (CCUA), with surplus reclaimed water.

  - The above approach provides the additional benefit of minimizing withdrawals from the Floridan Aquifer for non-essential water demands.

- Enhancing existing biological treatment systems to provide advanced wastewater treatment.

- Consolidating wastewater treatment to one regional facility to support: surface water elimination, increased reclaimed water supplies, and enhanced biological treatment.

- Retaining existing surface water outfalls for wet-weather discharges in accordance with the City's existing wastewater treatment operating permits.

In order to maximize the City's reclaimed water supply capabilities, diminish withdrawals from the Floridan Aquifer, and diminish surface water needs for wet-weather conditions, the City is considering the following projects:

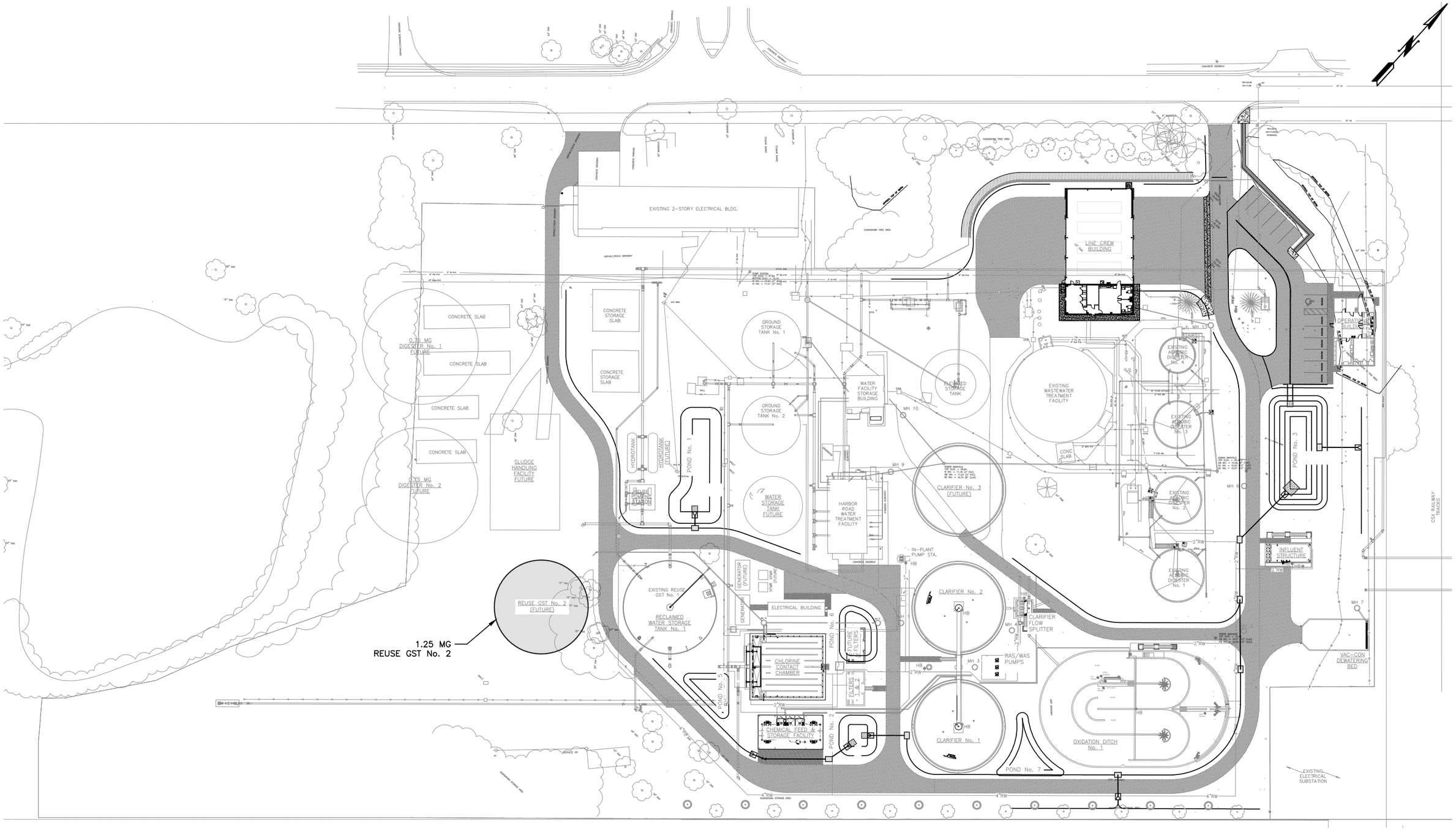
- Expand reclaimed water storage capacity by 1.24 million gallons (MG) via a second ground storage tank (GST No. 2). See **Exhibit ES-1** for conceptual site plan for this improvement.

- Extend reclaimed water distribution piping into the Magnolia Point development to replace existing residential potable water irrigation systems with reclaimed water. This improvement is anticipated to increase reclaimed water demands by approximately 0.50 million gallons per day (MGD) on an annual average daily flow (AADF) basis. See **Exhibit ES-2** for conceptual configuration and limits.

- Continue coordination with CCUA to determine reclaimed water interconnection possibilities, capacities, and locations.

- Evaluate enhancements to the City's reclaimed water operating protocol related to times when the system does not meet public-access reclaimed water quality requirements.

SCALE: 1" = 80'



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TEL. (904) 278-0030 FAX. (904) 278-0840 FLORIDA RY NO. 6569

CITY OF GREEN COVE SPRINGS
Surface Water Discharge Elimination Review
Reuse GST No. 2
Clay County, Florida

FIGURE
ES.1
October 2021
Project No.
8905-19-1

SCALE: 1" = 800'

LEGEND
RECLAIMED WATER PIPING (CONCEPTUAL)
RWSA

PHASE 8 LIMITS
W/ EXISTING RECLAIMED
WATER SERVICE PIPING

EXISTING 10" RECLAIMED
WATER BULK DELIVERY MAIN

HRWRF

MAGNOLIA WEST
(CCUA SERVICE AREA)

GOLF COURSE FED BY
EXISTING BULK RECLAIMED
WATER DELIVERY SYSTEM

CONCEPTUAL RECLAIMED
WATER DISTRIBUTION SYSTEM

WEST RWSA

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CITY OF GREEN COVE SPRINGS
Surface Water Discharge Elimination Review
West RWSA-Reclaimed Water Distribution System
Clay County, Florida

FIGURE
ES.2
October 2021
Project No.
8905-19-1

The City anticipates changes to their growth patterns with resulting modifications to their utility as a result of the First Coast Expressway that is currently under construction. Addressing water, sewer, and reclaimed water demands will be an ongoing process that will likely lead to modifications of the enclosed Plan. The City will continue to coordinate with FDEP as new growth characteristics are known, and submit any modifications to the Plan. Notwithstanding these potential modifications, the City intends to implement projects necessary to eliminate surface water disposal needs, except for wet-weather events in accordance with their operating permits, for operational completion on or before January 1, 2032.

ATTACHMENT 5

Water and Wastewater Capacity Connection Fee Study
FY 25 Capacity Connection Fee Study
City of Green Cove Springs, Florida
Client No. 8905-72-1

City of Green Cove Springs' 2024 Financial Audit

[located at https://www.greencovesprings.com/Archive.aspx?ADID=63]