



Facilities Plan

FDEP SRF# WW05119

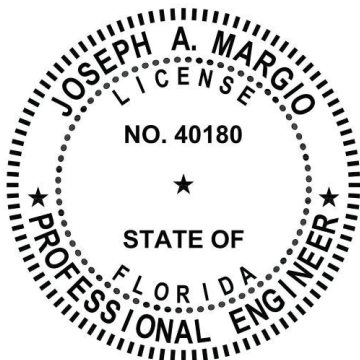
Document no: 260126125050_e136a634

Version: Final

Brevard County, Florida

South Beaches Wastewater Treatment Facility to Advanced Wastewater Treatment (AWT) Conversion – 6 MGD Treatment Train

March 4, 2026



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Acronyms and Abbreviations

Acronym	Description
AADF	annual average day flow
AWT	advanced wastewater treatment
BNR	biological nutrient removal
BOCC	Board of County Commissioners
CAS	conventional activated sludge
CBOD ₅	5-day carbonaceous biochemical oxygen demand
CIRL BMAP	Central Indian River Lagoon Basin Management Action Plan
CPH	CPH, Inc.
DIW	deep injection well
DO	dissolved oxygen
ERP	Environmental Resource Permit
FAC	<i>Florida Administrative Code</i>
FDEP	Florida Department of Environmental Protection
gpm	gallon(s) per minute
HLD	high-level disinfection
hp	horsepower
IPaC	Information for Planning and Consultation
MG	million gallon(s)
mgd	million gallon(s) per day
mg/L	milligram(s) per day
MIT	mechanical integrity test
NAVD88	North American Vertical Datum of 1988
No.	number

PICS	process instrumentation and control supplier
O&M	operations and maintenance
RAS	return activated sludge
RFI	Request for Inclusion
SBWWTF	South Beaches Wastewater Treatment Facility
SCADA	supervisory control and data acquisition
SND	simultaneous nitrification and denitrification
SRF	State Revolving Fund
SWD	side water depth
TMDL	total maximum daily load
TN	total nitrogen
TP	total phosphorous
TSS	total suspended solids
WAS	waste activated sludge
VFD	variable-frequency drive

1. Facility Overview and Background

This Facilities Plan documents the proposed improvements to the Brevard County South Beaches Wastewater Treatment Facility (SBWWTF) and is submitted as part of Brevard County's application to the State of Florida Clean Water State Revolving Fund (SRF) program administered by the Florida Department of Environmental Protection (FDEP). Brevard County is seeking to secure a low-interest loan for funding proposed advanced wastewater treatment (AWT) improvements at the SBWWTF, which are needed to reduce nutrient loadings to surrounding surface waters and ensure wastewater treatment compliance with state regulations.

This planning document prepared for the purpose of the FDEP's SRF program review includes the following:

- Description of the existing wastewater treatment facility and major components of the project including purpose and need for proposed improvements
- Cost comparison and alternatives analysis with rationale for the selected alternative
- Environmental review and federal flood risk analysis
- Review of financial feasibility and loan repayment, where Appendix B presents the capital financing plan prepared for the proposed project
- Project implementation and public participation process, where Appendix C presents the draft adopting resolution implementing this Plan

This Plan has been prepared to meet the planning requirements as set forth in Section 62-503 and 62-552 of the *Florida Administrative Code* (FAC), in accordance with the FDEP SRF program.

1.1 Project Background

Brevard County owns and operates the SBWWTF, permitted by FDEP to treat 8.0 million gallons per day (mgd) on an annual average day flow (AADF) basis under permit number FL0040622, which has a permit expiration date of August 8, 2029. The SBWWTF consists of two parallel treatment plants, a 6.0 mgd dual-train carousel oxidation ditch and a 2.0 mgd plug-flow-activated sludge plant. These components operate in parallel with a common preliminary treatment process (mechanical screening and grit removal) and separate aeration, followed by separate clarification, separate chemical feed facilities, filtration, and disinfection by chlorination for each plant, and ending with a common biosolids dewatering system. Biosolids from the facility are hauled to the landfill for disposal.

Treated wastewater effluent from the facility discharges to the following locations:

- **Underground Injection:** Deep Injection Well (DIW) #1 has a permitted effluent discharge capacity of 12.73 mgd AADF into Class G-IV groundwater. A second DIW is planned, with a proposed peak injection rate of 18.65 mgd.
- **Land Application:** 3.0 mgd discharge on an AADF basis to a slow-rate public access reuse system that primarily feeds golf courses and residential development within the reclaimed water transmission system service area.
- **Surface Water Discharge:** 0.11 mgd AADF surface water discharge to the Indian River Lagoon. Discharge to the Indian River Lagoon is permitted only during a 5-day period during the DIW mechanical integrity test (MIT) performed every 5 years.

The SBWWTF primarily sends its effluent to the reclaimed water system. Effluent that exceeds the reclaimed water system’s demand or capacity is disposed of in the DIW #1. By January 1, 2032, discharge to the Indian River Lagoon will need to be eliminated; however, after July 1, 2025, discharge to the Indian River Lagoon is still allowable if the effluent meets AWT and the annual total maximum daily load (TMDL) waste allocation is met, per Florida Statutes Section 403.086 and Section 403.064.

Recently, the County experienced aeration issues with the 2.0 mgd activated sludge plant, which ultimately led the SBWWTF staff to shut it down and rely solely on the carrousel oxidation ditches for treatment. Additionally, the plant’s solids-holding tank aeration system has not been performing as intended and is suspected to have an aeration problem as well. The County received a grant from FDEP under Agreement Number (No.) WG008 to make improvements to its treatment processes by converting the 2.0 mgd activated sludge plant into an AWT plant and replacing the solids-holding tank aeration system to improve its performance. Furthermore, the County received grant funding from FDEP for the design of an additional DIW under Agreement No. LPA0477. The engineering design for these improvements is under a separate project and nearing completion. In addition to a proposed DIW and the AWT improvements to the 2.0 mgd plant and solids-handling process, the County is implementing improvements to the 6.0 mgd dual-train carrousel oxidation ditches to convert this treatment process to AWT. The preliminary engineering design for the 6.0 mgd AWT process is underway.

1.2 South Beaches Wastewater Treatment Facility Description

The SBWWTF is at 2800 S Highway A1A in Melbourne Beach, Florida (Figure 1-1). Its service area falls between the Atlantic Ocean and the Indian River Lagoon and includes the municipalities of Satellite Beach, Indian Harbour Beach, Indialantic, Melbourne Beach, a portion of the City of Melbourne, and several areas of unincorporated Brevard County (Figure 1-2). The service area primarily consists of residential development and small commercial development associated with the residential subdivisions. No expansion of the existing service area is proposed. The wastewater collection system consists of 55 County-owned lift stations, private lift stations, and force mains. The SBWWTF effluent feeds a public access reuse system bounded by the Melbourne Causeway and the commercial area south of MacFarlane Street/Glengarry Avenue and dominated by residential land use.

Figure 1-1. South Beaches Wastewater Treatment Facility Location

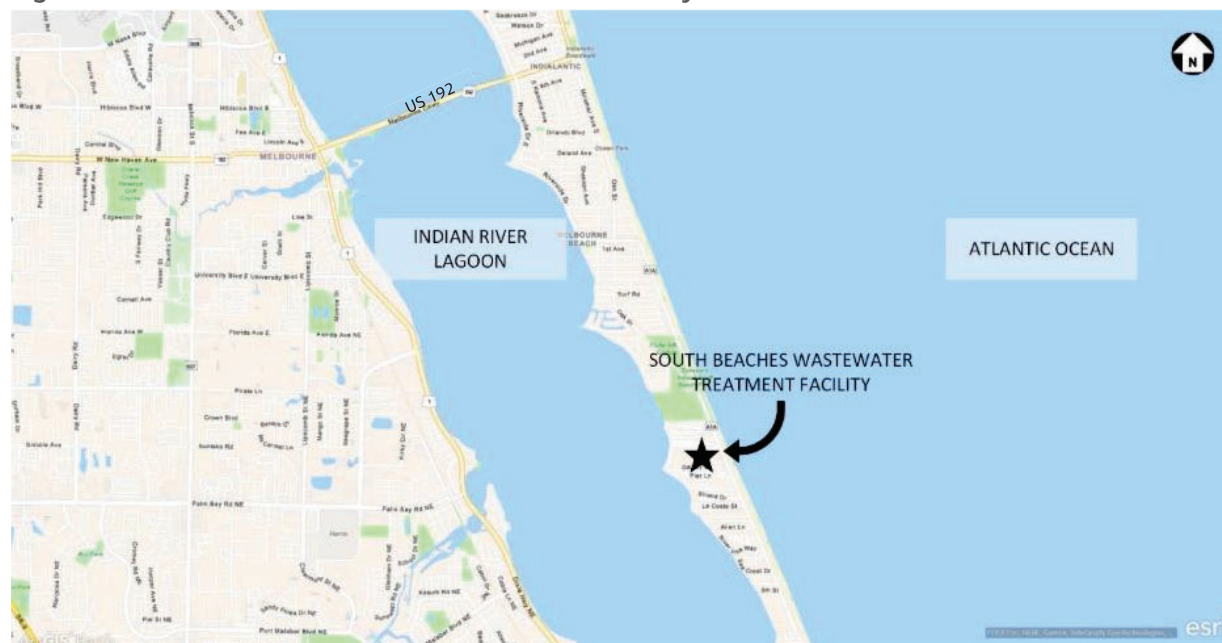
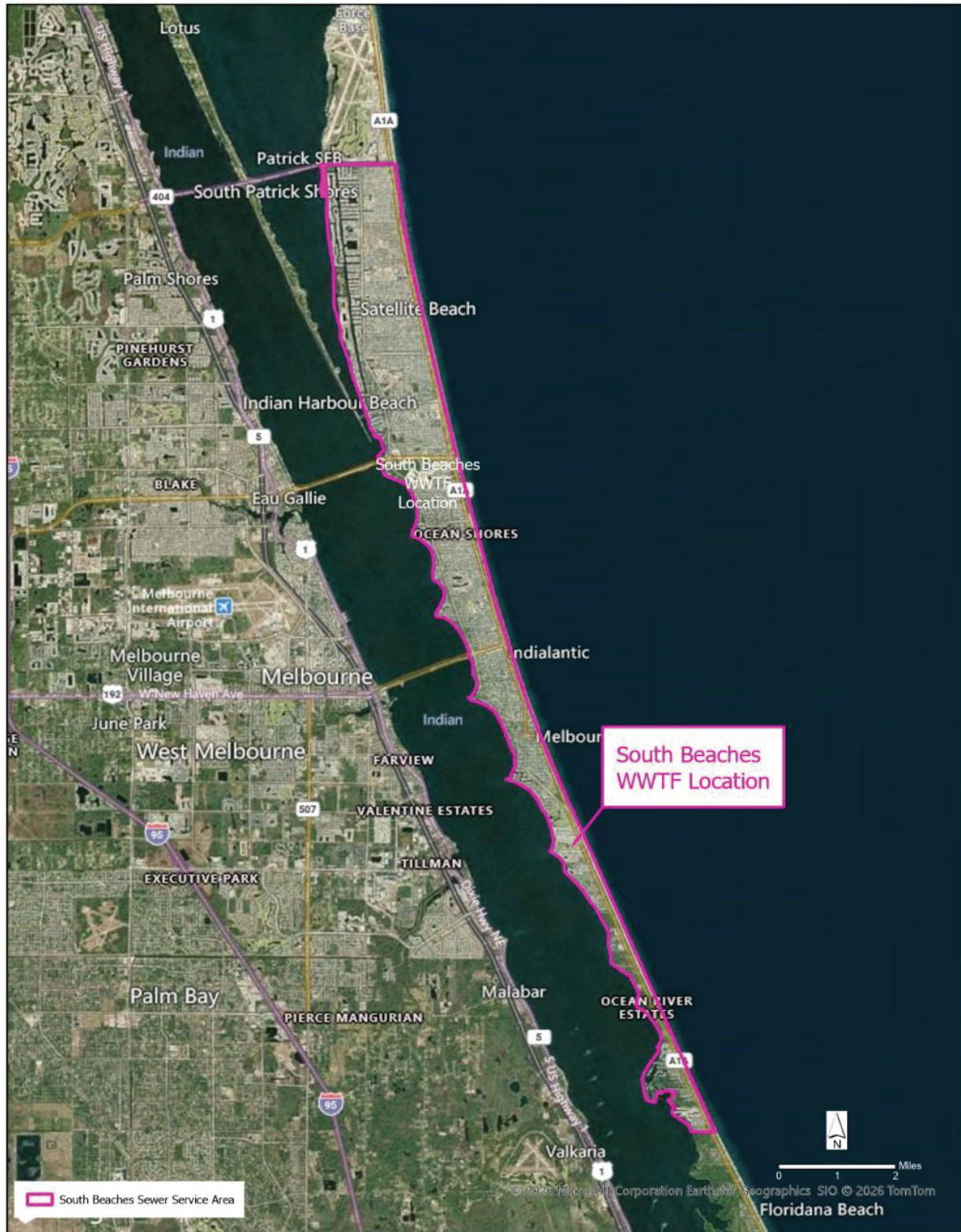


Figure 1-2. South Beaches Wastewater Treatment Facility Service Area



1.2.1 Existing Major Facilities

The SBWWTF is classified as a Secondary Treatment plus Filtration Facility (Category I, Class A) with a permitted capacity of 8.0 mgd AADF. The plant was first brought online in 1968, having only the 2.0 mgd activated sludge process, with effluent disposal via spray irrigation and surface water discharge into the Indian River Lagoon. Sometime between 1968 and 1987, DIW #1 was constructed, and the SBWWTF began using deep well injection for effluent disposal. Tertiary filters were later added in 1987. In 1991, two carrousel oxidation ditches with a total capacity of 6.0 mgd AADF were added to increase the treatment capacity of the SBWWTF. During the same expansion in 1991, the solids-holding tank and dewatering building were constructed. In 1996, the 2.0 mgd activated sludge plant underwent rehabilitation and improvement. Since that time, no major changes or improvements have been made to any of the treatment processes. Table 1-1 summarizes the major facilities, which are also shown on Figure 1-3.

Table 1-1. South Beaches Wastewater Treatment Facility Major Facilities

Facility	Characteristics
Headworks	<ul style="list-style-type: none"> ▪ One automatic self-cleaning, 6-millimeter mechanical screen by Huber ▪ One backup 1-inch manual screen ▪ Screenings compacting/dewatering screw system ▪ Centrifugal grit separator ▪ Grit classifier ▪ Odor control system
Biological Treatment	<ul style="list-style-type: none"> ▪ Two 3.0 mgd carrousel oxidation ditches (2.2 MG each with an SWD of 15 feet) with two 100-hp mechanical surface aerators per ditch ▪ One 2.0 mgd activated sludge process system (0.75 MG with an SWD of 15 feet) with three 50-hp centrifugal blowers and course bubble diffusers (currently, engineering design is being completed to convert this CAS process to an AWT process)
Secondary Clarifiers	<ul style="list-style-type: none"> ▪ Two 102.5-foot-diameter and 15-foot SWD clarifiers with full-surface skimmers for the 6.0 mgd oxidation ditches ▪ One 65-foot-diameter and 10-foot SWD clarifier with full-surface skimmers for the 2.0 mgd conventional activated sludge process
RAS/WAS Pumping	<ul style="list-style-type: none"> ▪ Three 25-hp (3,100 gpm) RAS pumps for the oxidation ditches clarifiers ▪ Two 15-hp (2,220 gpm) RAS pumps for the activated sludge process clarifier ▪ One 5-hp (760 gpm) WAS pump for the activated sludge process clarifier
Tertiary Filters^[a]	<ul style="list-style-type: none"> ▪ Three 14-foot-by-14-foot, 1.0 mgd (each), dual-media filters (sand and anthracite) ▪ Filter backwash recovery tank
Disinfection	<ul style="list-style-type: none"> ▪ One chlorine contact basin for public access reuse with five 39.7-foot-by-4-foot passes and an SWD of 5.75 feet ▪ Two chlorine contact basins for deep injection with three 100-foot-by-15-foot passes and an SWD of 14 feet each ▪ Sodium hypochlorite feed and storage systems
Dechlorination^[b]	<ul style="list-style-type: none"> ▪ Sodium bisulfite feed and storage system

Facility	Characteristics
Solids Handling	<ul style="list-style-type: none"> One 49-foot-by-29-foot, 0.1-MG sludge holding tank with coarse bubble diffusers Two 2.0-meter belt filter presses (currently being replaced with screw presses)
Reclaimed Water	<ul style="list-style-type: none"> One 0.6-MG ground storage tank High-service pump station consisting of three 75-hp, 1,400-gpm vertical turbine pumps
DIWs	<ul style="list-style-type: none"> Class I underground DIW #1, with a peak injection rate of 12.7 mgd Proposed DIW #2 with a peak injection rate of 18.65 mgd is currently being designed

^[a] Filtration is solely done for the effluent sent to the public access reuse system.

^[b] Dechlorination is only needed in case of surface water discharge.

CAS = conventional activated sludge

gpm = gallon(s) per minute

hp = horsepower

MG = million gallon(s)

RAS = return activated sludge

SWD = side water depth

WAS = waste activated sludge

Figure 1-3. South Beaches Wastewater Treatment Facility Existing Facilities



Note: Abandoned package plant has been demolished and removed from the site.

1.2.2 Operation and Maintenance Program

Wastewater treatment plant equipment at the SBWTF is rehabilitated, repaired, or replaced as needed to maintain normal operations. The SBWTF keeps a copy of its operation and maintenance (O&M) manual onsite, which operators regularly review. The facility is staffed with licensed operators, and maintenance staff are on call 24 hours per day, 7 days per week. Records are also maintained for all equipment repairs and maintenance.

1.3 Purpose and Need

Because of recent changes to the Florida State regulations, such as Florida Statutes Section 403.086 and Section 403.064, and establishment of the Central Indian River Lagoon Basin Management Action Plan (CIRL BMAP), the SBWWTF requires modifications to its current treatment effluent disposal system to meet the more stringent requirements and reduce nutrient loadings into the environment.

Florida Statutes Section 403.086 disallows the discharge of effluent into the Indian River Lagoon after July 1, 2025, without providing AWT to produce a reclaimed water product that meets the following requirements on an annual average daily basis:

- 5-day carbonaceous biochemical oxygen demand (CBOD₅) and total suspended solids (TSS): Less than 5 milligrams per liter (mg/L)
- Total Nitrogen (TN): Less than 3 mg/L
- Total Phosphorus (TP): Less than 1 mg/L
- Has received high-level disinfection (HLD)

In accordance with Florida Statutes Section 403.086, any wastewater treatment facility that provides reclaimed water for land application within a nutrient BMAP is required to meet the aforementioned AWT standards for TN and TP if the department has determined that the use of reclaimed water is causing or contributing to the nutrient impairment being addressed in the BMAP.

Florida Statutes Section 403.064 requires that the SBWWTF submit a plan to FDEP to remove non-beneficial surface water discharges by January 1, 2032. Brevard County met this requirement with an engineering study and the submittal of its plan titled *Non-Beneficial Surface Water Discharge Elimination Plan*, prepared by CPH, Inc. (CPH) in October 2021. The plan presented two options for meeting the regulations at that time. Table 1-2 describes the CPH options.

Table 1-2. Non-Beneficial Surface Water Discharge Elimination Plan Options

	Option 1	Option 2
Phase 1	Conversion of 2.0 mgd conventional activated sludge treatment plant to meet AWT requirements	Conversion of 2.0 mgd conventional activated sludge treatment plant to meet AWT requirements
Phase 2	Installation of second DIW	Conversion of 6.0 mgd dual-train carousel oxidation ditch to meet AWT requirements

It was determined that, to meet the existing rules at that time, at a minimum, the SBWWTF should be upgraded to provide HLD for the entire treatment capacity of 8.0 mgd. Currently, HLD is only achieved when part of the flow is directed to the effluent filters and reuse chlorine contact chamber to supply reuse irrigation water for the golf course or reuse customers.

Phase 2 of Option 1 is the installation of a second DIW, which would eliminate the need to directly discharge to the Indian River Lagoon during the 5-year MIT and the need to convert the 6.0 mgd dual-train carousel oxidation ditch to AWT, as described in Option 2. The installation of a second DIW also provides redundancy for the deep well injection system to allow repair or maintenance of one of the wells while the other is in service. Under Option 1, the 6.0 mgd oxidation ditch treatment train effluent would need to be filtered and chlorinated before discharge to the proposed DIW to meet HLD requirements, in accordance with the FAC 62-528, Underground Injection Control. The 6.0 mgd oxidation ditch treatment train is currently meeting the former nutrient limits (10 mg/L TN and 6 mg/L TP) and can discharge a portion of its flow to the public access reuse system via the existing 2.0 mgd dual-media filtration facility.

Although the County is moving forward with the conversion of the 2.0 mgd train to AWT and installation of a second DIW, conversion of the oxidation ditches to AWT is also now necessary to comply with the recently updated rules and regulations requiring AWT. Therefore, the planned modifications for this project will include conversion of the existing 6.0 mgd dual-train carousel oxidation ditch to AWT using simultaneous nitrification and denitrification in the oxidation ditch and denitrification filters with metal salt addition for phosphorus removal, which will provide improvements to the existing facility treatment process and allow the SBWTF to produce AWT effluent in accordance with the updated regulations. Furthermore, the proposed improvements to the 6.0 mgd treatment process will provide the following advantages:

- **Better operational flexibility:** Provides same treatment level as the 2.0 mgd AWT conversion, which provides flexibility for discharge to the golf course and reuse system.
- **Flexibility in the event of a discharge:** Allows discharge to the Indian River Lagoon during DIW mechanical integrity testing until January 1, 2032.
- **Higher quality reuse water produced:** Increases capability of producing more reuse water supply that meets higher levels of effluent treatment and AWT water quality that can be used in land application.
- **Increased redundancy:** Enables production of reuse quality effluent if the 2.0 mgd process is down for maintenance.
- **Additional nutrient loading reduction:** Allows additional reduction in TN and TP loadings into the Indian River Lagoon and CIRL BMAP areas as the public access effluent reuse system expands or as reuse demands increase because of other indirect factors.

2. Cost Comparison and Selected Alternative

This section presents the cost comparison analysis and selected alternative.

2.1 Alternatives Descriptions

For the reasons described in the previous section, the 6.0 mgd oxidation ditch treatment train was reviewed by Jacobs to determine feasible alternatives for implementing improvements to meet various levels of treatment in accordance with the new regulations. These levels of treatment include the following:

- AWT of 5 mg/L CBOD₅, 5 mg/L TSS, 3 mg/L TN, 1 mg/L TP on an annual average daily basis with HLD

Four potential wastewater treatment plant improvement alternatives were identified based on the three available effluent disposal options, the existing process facilities, constructability, and potential proposed facilities to meet the levels of treatment. Table 2-1 summarizes these alternatives.

Table 2-1. Preliminary Alternatives for Initial Feasibility Screening

Alternative	Associated Discharge Elimination Plan CPH Option (Table 1-2)	Effluent Discharge Options[a]	Treatment Type[a]	Description	Feasible (Y or N)
1	2	IRL, PAR, DIW	AWT	Upgrade and convert existing oxidation ditch treatment train to 8.0 mgd capacity and plug flow reactors with diffused aeration (surface aerators eliminated); chemical feed facilities for TN and TP removal 2.0 mgd CAS train eliminated Cloth media filtration for HLD	Yes
2	2	IRL, PAR, DIW	AWT	Upgrade existing oxidation ditch treatment train to 8.0 mgd capacity and oxidation ditches optimized for SND (surface aerators upgraded to deliver more oxygen); chemical feed facilities for TN and TP removal 2.0 mgd CAS train eliminated Denitrification filters for HLD and additional TN removal	Yes
3	2	IRL, PAR, DIW	OXD and CAS: AWT	Convert existing oxidation ditch treatment train to plug flow reactors at 6.0 mgd capacity with diffused aeration (surface aerators eliminated); chemical feed facilities for TN and TP removal 2.0 mgd CAS converted to AWT Cloth media filtration for HLD	Yes
4	2	IRL, PAR, DIW	OXD and CAS: AWT	Existing oxidation ditches optimized for SND at 6.0 mgd capacity (surface aerators upgraded to deliver more oxygen) 2.0 mgd CAS converted to AWT Denitrification filters with chemical feed for HLD and additional TN removal plus chemical feed for TP removal in the 6.0 mgd oxidation ditch train	Yes.

^[a] Effluent discharge options and treatment types are described as follows:
 AWT = 5 mg/L CBOD₅, 5 mg/L TSS, 3 mg/L TN, 1 mg/L TP on an annual average daily basis with HLD
 CAS = conventional activated sludge treatment train
 IRL = Indian River Lagoon
 OXD = oxidation ditch treatment train
 PAR = public access reuse (10 mg/L TN, 6 mg/L TP on an annual average daily basis with HLD)
 SND = simultaneous nitrification and denitrification

2.2 Alternatives Comparison

Alternatives 1 and 2 involved increasing the capacity of the existing oxidation ditches to 8.0 mgd and eliminating the 2.0 mgd train with the benefit of simplified operation. However, it was decided that the conversion of the 2.0 mgd train to AWT should be done regardless because it reduces operational risk during construction in the 6.0 mgd train, provides greater redundancy when taking a train down for maintenance, and maintains greater flexibility for potential future rerating of plant capacity. Therefore, removal of the 2.0 mgd train did not need to be evaluated further, and Alternatives 1 and 2 were eliminated from consideration.

The two remaining alternatives, Alternatives 3 and 4, were further evaluated, and Table 2-2 presents a qualitative analysis of the two short-listed alternatives.

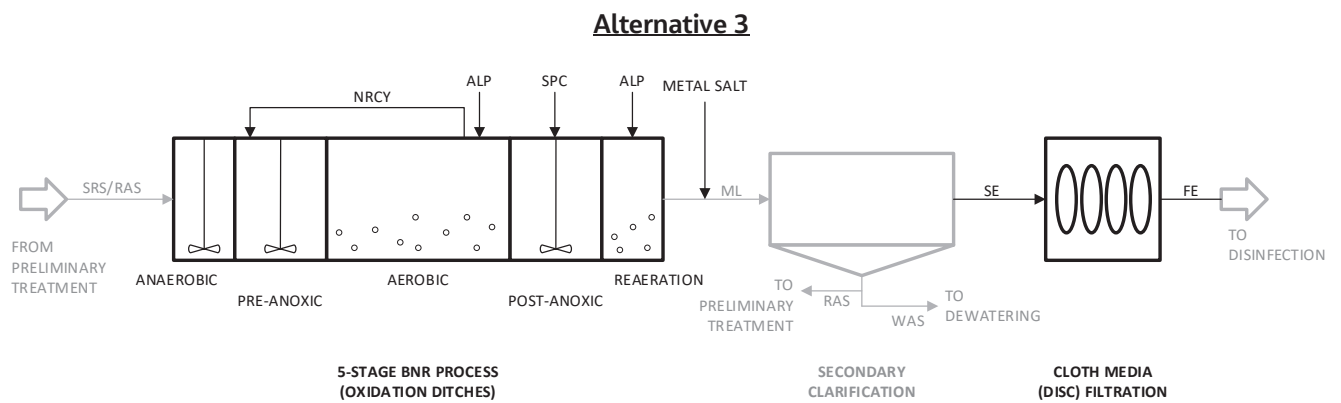
Alternatives 3 and 4 provide a higher level of treatment with modifications that allow these facilities to meet AWT standards. Alternative 3 will significantly modify the 6.0 mgd oxidation ditch treatment train and have the greatest amount of time with a basin out of service. Alternative 4 includes denitrification filters, which combines the second stage of nitrogen removal and filtration in a single step. Figures 2-1 and 2-2 depict conceptual process flow diagrams for the short-listed alternatives.

Table 2-2. Pros and Cons of Two Short-Listed Alternatives (Alternatives 3 and 4)

Alternative	Associated Discharge Elimination Plan CPH Option (Table 1-2)	Pros	Cons
3	2	AWT effluent quality Similar biological process operation in all trains	Significant work inside oxidation basins for conversion to diffused aeration and BNR process configuration Additional process equipment Chemical addition for AWT Construction sequencing must be coordinated with 2.0 mgd AWT project
4	2	AWT effluent quality Significantly less construction work and maintenance inside oxidation basins than Alternative 3 Operational flexibility to meet AWT or public access reuse in oxidation ditch train Construction sequencing and maintenance of plant operation	Repumping required after clarification to lift secondary effluent to top of denitrification filters Chemical addition for AWT More complex filter operation

BNR = biological nutrient removal

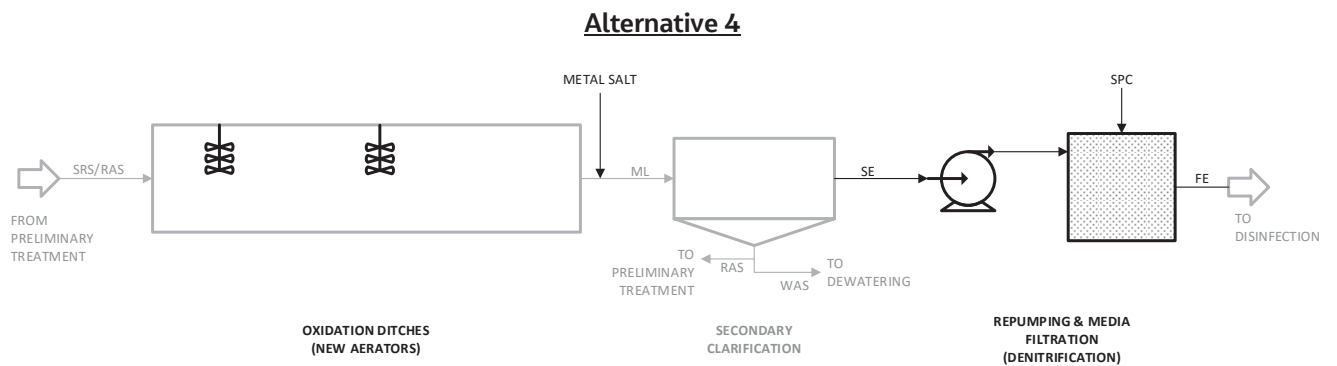
Figure 2-1. Conceptual Process Flow Diagram – Alternative 3



LEGEND

- ALP = AIR LOW PRESSURE (FROM BLOWERS)
- FE = FILTER EFFLUENT
- ML = MIXED LIQUOR
- NRCY = NITRIFIED RECYCLE
- RAS = RETURN ACTIVATED SLUDGE
- SE = SECONDARY EFFLUENT
- SPC = SUPPLEMENTAL CARBON
- SRS = SCREENED RAW SEWAGE
- WAS = WASTE ACTIVATED SLUDGE

Figure 2-2. Conceptual Process Flow Diagram – Alternative 4



LEGEND

- FE = FILTER EFFLUENT
- ML = MIXED LIQUOR
- RAS = RETURN ACTIVATED SLUDGE
- SE = SECONDARY EFFLUENT
- SPC = SUPPLEMENTAL CARBON
- SRS = SCREENED RAW SEWAGE
- WAS = WASTE ACTIVATED SLUDGE

2.2.1 Cost Comparison

Preliminary cost estimates for construction were developed and are presented in Table 2-3 for the short-listed alternatives. These estimates should be considered Class 5, according to the Association for the Advancement of Cost Engineering, which is used for concept screening with an expected accuracy of -30% to +50%.

For each alternative, the filtration capacity needs to meet the peak hydraulic flowrate through the plant. The existing peak flowrate is 20.0 mgd based on the historical collection system capacity.

Table 2-3. Preliminary Construction Cost Estimates of Short-Listed Alternatives^[a]

	Alternative 3	Alternative 4
Oxidation Ditch Upgrades	\$10,600,000	\$3,300,000
Blowers	\$3,000,000	-
Repumping	-	\$2,500,000
Filtration	\$4,300,000	\$13,000,000
AWT Chemicals	\$900,000	\$900,000
Site Work (4%) ^[b]	\$800,000	\$800,000
Yard Piping (8%) ^[b]	\$1,500,000	\$1,600,000
Plant Network (9%) ^[b]	\$1,700,000	\$1,800,000
Site Electrical (15%) ^[b]	\$2,800,000	\$3,000,000
Subtotal Direct Costs	\$25,600,000	\$26,900,000
Contractor Costs ^[c]	\$6,900,000	\$7,200,000
Total Construction	\$32,500,000	\$34,100,000

^[a] All facility and discipline costs were developed in Jacobs Replica Parametric Design tool, which uses parametric data and historical cost factors and includes a contingency to account for the conceptual level of this work. Cost estimating was completed in December 2023.

^[b] Discipline cost based on percent of combined facilities costs for each alternative

^[c] Contractor related markups: General conditions and Overhead – 12%; Profit – 10%; Mobilization/Bond/Insurance – 3%

Preliminary annual O&M costs were developed and are presented in Table 2-4 for the short-listed alternatives.

Table 2-4. Preliminary Operations and Maintenance-Related Cost Estimates of Short-Listed Alternatives^[a]

	Alternative 3	Alternative 4
Power ^[b]	\$130,000	\$250,000
Chemical ^[d]	\$140,000	\$140,000
Maintenance ^[e]	\$240,000	\$150,000
Total Annual O&M	\$510,000	\$540,000

^[a] O&M costs based on 6.0 mgd at annual average daily loading.

^[b] Power costs based on \$0.10 per kilowatt-hour operating at 50% of installed horsepower, assuming variable-frequency drives (VFDs) included in upgrades.

^[c] Power costs assume operating at 100% of installed aerator horsepower.

^[d] Chemical costs based on \$3 per gallon for supplemental carbon and \$0.10 per pound of metal salt.

^[e] Annual maintenance costs based on \$10,000 per year for each unit of process equipment.

^[f] Annual maintenance costs for existing aerator increased to \$20,000 per year.

A life-cycle analysis was also used to compare the short-listed alternatives. The analysis is presented in Table 2-5 and considers the cost of money in today's value using the cost of construction as the initial capital investment. The present worth of each alternative was calculated based on the following:

- Planning period of 30 years
- Discount rate of 3% (assuming a discount rate of 0% in 2025)
- Capital costs of each alternative
- O&M costs of each alternative

Table 2-5. 30-Year Present Worth Comparison

Cost Component	Alternative 3	Alternative 4
Capital Cost	\$32,500,000	\$34,100,000
Annual O&M Cost	\$510,000	\$540,000
Present Worth O&M Cost = Annual O&M Cost * 19.6004	\$9,996,225	\$10,584,238
30-Year Present Worth = Capital Cost + Present Worth O&M Cost	\$42,496,225	\$44,684,238

2.2.2 Rerating and Plant Modification Considerations

The plant currently operates at approximately between 75% to 85% capacity, based on AADF. The footprint of the SBWWTF service area is fairly established and does not have much room to expand out horizontally; therefore, there currently is not a need to increase plant capacity. However, with trends across Florida of construction near the coast going to higher density vertical development, there is a distinct possibility of an eventual need to expand the plant capacity from the current 8.0 mgd to 10.0 mgd. This increase in capacity of 2.0 mgd would come from rerating the 6.0 mgd oxidation ditch treatment train to 8.0 mgd.

For the short-listed alternatives, the improvements needed for a 6.0 mgd capacity are the same for 8.0 mgd, except larger equipment and unit process (for example filtration) capacities are needed for the 8.0 mgd rerating. Table 2-6 describes the improvements needed for each alternative for 6.0 mgd capacity and the additional improvements needed to rerate from 6.0 mgd to 8.0 mgd in the future. Because most of the improvements for Alternative 4 are separate from the existing facilities, impacts to existing treatment operations are reduced. Note that only the components affected by the 6.0 mgd improvements are considered in Table 2-6. Other unit processes, such as DIW pumps, DIWs, and headworks capacity, may also require improvement to rerate the entire plant to 10.0 mgd but are not captured here.

Table 2-6. Rerating Improvements

Alternative	6.0 mgd Improvements	Improvements to Rerate to 8.0 mgd
3	<p>For both oxidation ditches, partition the oxidation ditches into anoxic and aerobic zones to create a 5-Stage Bardenpho system. Replace the surface aerators with a diffused aeration system consisting of fine bubble diffusers and a proposed aeration blower facility. Add mixers to the proposed anoxic zones.</p> <p>Ferric salt chemical feed facility for the addition of ferric to precipitate phosphorus for removal during sedimentation and filtration.</p> <p>Supplemental carbon chemical feed facility to drive the denitrification process in the anoxic zones.</p> <p>Add cloth media disk filtration facility.</p>	<p>Install additional diffusers inside oxidation ditches.</p> <p>Provide additional blower in aeration blower facility.</p> <p>Add larger chemical metering pumps for ferric and carbon feed facilities.</p> <p>Expand cloth media disk filtration.</p>
4	<p>For both oxidation ditches, convert the ditches to operate in a simultaneous nitrification and denitrification mode by upgrading the surface aerators and process controls.</p> <p>Ferric salt chemical feed facility for the addition of ferric to precipitate phosphorus for removal during sedimentation and filtration.</p> <p>Supplemental carbon chemical feed facility to drive the denitrification process in the anoxic zones.</p> <p>Repumping facility to lift secondary effluent to denitrification filtration facility.</p> <p>Add denitrification filtration facility.</p>	<p>Replace aerators with larger units.</p> <p>Add larger chemical metering pumps for ferric and carbon feed facilities.</p> <p>Expand repumping facility with additional pump.</p> <p>Expand denitrification filtration.</p>

Any modifications or upgrades now or in the future need to consider maintaining operations during construction of those modifications or upgrades. Each short-listed alternative includes work affecting operation of the oxidation ditches. Alternative 3 involves significant work within the basin to make structural modifications and the installation of diffused aeration and mixing equipment. With one oxidation ditch offline for several months, the remaining oxidation ditch and the 2.0 mgd CAS will need to treat the influent flow. Given the risk of operating the oxidation ditches with only one train in service while the other is significantly upgraded for several months, Alternative 3 is not recommended.

In contrast, Alternative 4 requires less work affecting the oxidation ditch operation because only the surface aerators will need to be upgraded. This advantage is noted in Table 2-2. This alternative requires the construction of a filtration facility outside the oxidation ditches, which does not affect operations except during short-term construction activities, such as connections to existing yard piping. Alternative 4 also includes the construction of denitrification filters, which combines suspended solids removal to meet HLD requirements and nutrient removal.

Alternative 4 is a feasible option to upgrade the plant to meet various water quality criteria. As stated earlier, Alternative 3 is not recommended because of the risk of operating with only one oxidation ditch. Considering ease of construction while maintaining plant operation, flexibility of effluent usage to meet

reclaimed water demand, and advantages when considering potential future rerating or upgrade of plant capacity, Alternative 4 is the recommended option.

2.3 Selected Alternative

Several alternatives were presented and evaluated in Sections 2.1 and 2.2 for consideration to achieve the updated treatment goals. Based on the alternatives comparison discussed previously, Alternative 4 was selected to implement the SBWWTF modifications. Alternative 4 aligns with the updated nutrient reduction strategies and new AWT standards aimed at protecting surface waters and areas governed by the CIRL BMAP. The modified SBWWTF will have the following processes in place after the improvements outlined in Alternative 4 are completed:

- Existing preliminary treatment processes of screening and grit will remain in service at the Pretreatment Building. Weirs at the pretreatment effluent channel will split the screened and dewatered wastewater between the two treatment trains.
- Oxidation ditches will continue to provide secondary treatment and nutrient removal. This project will replace the four existing 100-hp aerators with 125-hp aerators to provide full nitrification at the design conditions. Instrumentation and process control features will also be improved to optimize simultaneous nitrification/denitrification in the oxidation ditches.
- To meet the AWT requirement for TN, an additional process step is needed. SBWWTF will add denitrification filters to accomplish this. These filters will provide the necessary TSS reduction to meet HLD (required for AWT and public access reuse) and provide the additional nitrogen removal necessary. The filters will be sized to receive secondary effluent from both treatment trains.
- Proposed chemical storage and feed facility will also be included as part of these improvements. Supplemental carbon is needed at the filters for denitrification, and ferric chloride will be dosed at the oxidation ditches for chemical removal of TP.
- Final component of these improvements is a filter effluent pump station. This pump station is necessary for Operations to use the full capacity of the existing chlorine contact basin/equalization basin downstream of filtration when the need arises.

Compared with the other short-listed alternatives, Alternative 4 provides the greatest advantages, allowing for straightforward construction without disrupting ongoing plant operations and offering strategic advantages for future capacity expansions or facility enhancements. Figure 2-3 illustrates the proposed site plan and improvements at the SBWWTF. Figure 2-4 presents a process flow diagram depicting the existing and proposed wastewater treatment processes at the SBWWTF.

Figure 2-3. Site Plan

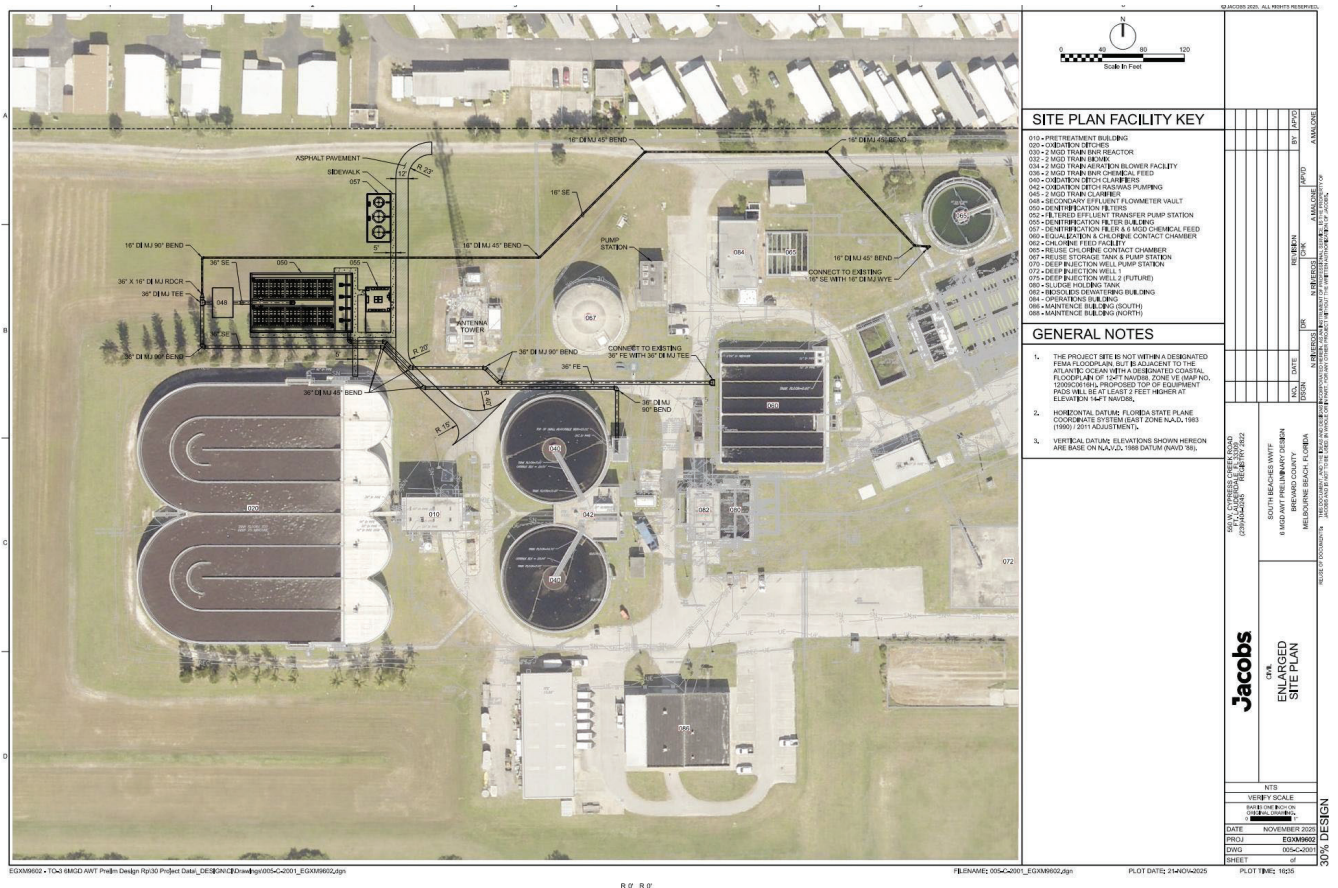
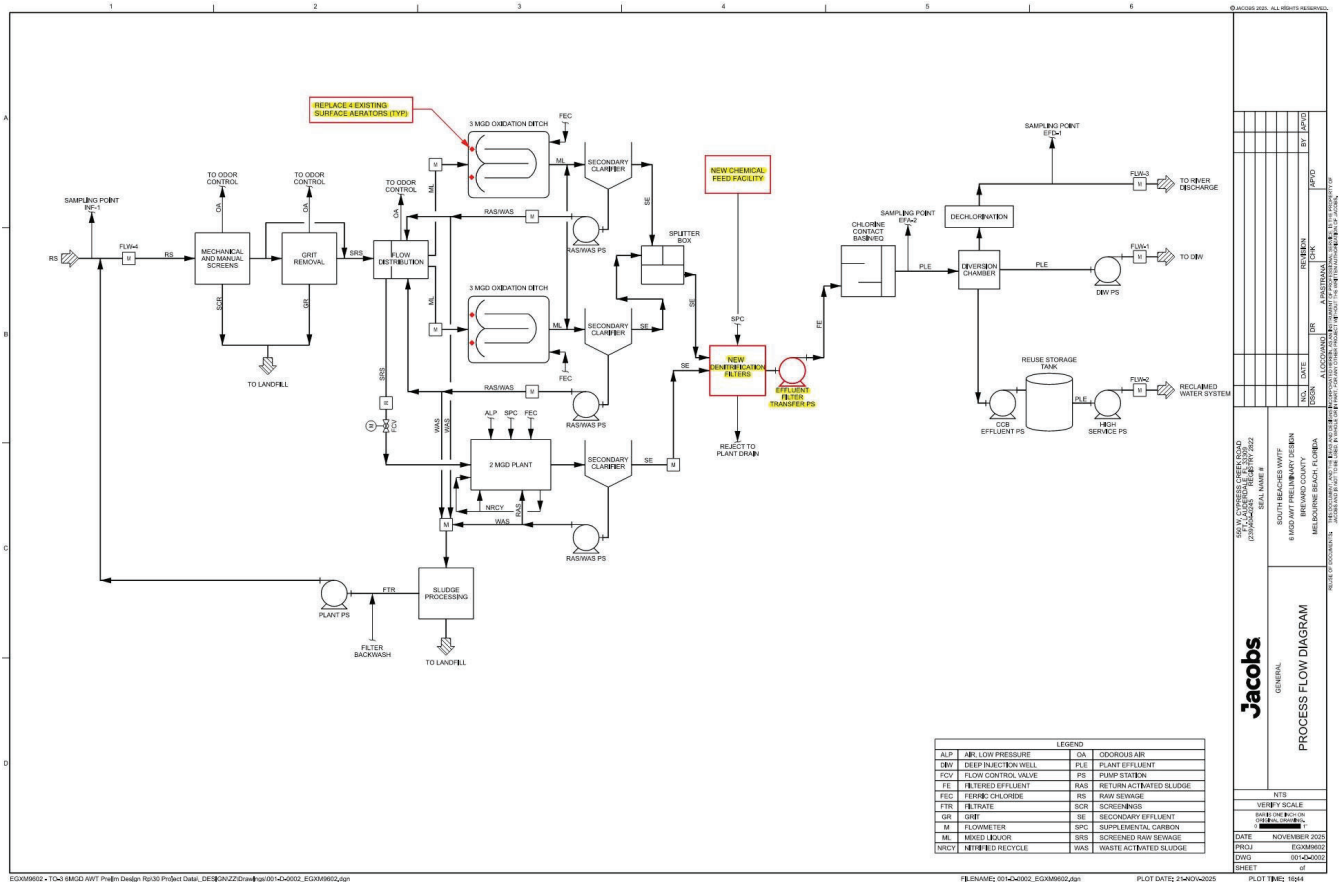


Figure 2-4. Process Flow Diagram



2.3.1 Plant Control System and Supervisory Control and Data Acquisition System

The following discusses the proposed control system architecture of each unit process included in the selected alternative, as it relates to the plant control system and supervisory control and data acquisition (SCADA) system. Control narratives and related loop specifications for each unit process will be developed as part of the detailed design. The control system philosophy will be based on 24-hour-per-day, 7-day-per-week operation of the plant and the control of equipment from a proposed process instrumentation and control supplier (PICS) control panel, vendor packaged control panel, and packaged local control panels, with integration into the existing SCADA system for remote monitoring, alarming, and operation. The proposed process monitoring and control system upgrades for Alternative 4 will include the following:

- **Oxidation Ditch No. 1 and 2:** To increase aeration capacity for improved nitrogen removal, the existing surface aerators at the oxidation ditches will be replaced by a total of four proposed, higher horsepower surface aerators, two at each oxidation ditch. The aerators will operate off proposed VFDs, with automatic speed control based on the dissolved oxygen (DO) level from the existing DO probe in each oxidation ditch. A proposed PICS control panel will monitor and control the surface aerators via hardwired control signals to the VFDs, with DO level shared from the existing control panel via data exchange over the existing control system network.
- **Denitrification Filters:** The denitrification filters will operate using a package vendor-supplied control system. The filter system will have a package vendor-supplied master control panel that will monitor TN on the filter influent and pressure and low level on the influent channel. One local control panel will control the constant speed rotary screw compressors and communicate back to the master control panel via hardwired control signals. The filter system master control panel will interface with SCADA through the proposed PICS control panel, where SCADA commands, status, and alarms will be exchanged.
- **Filter Effluent Pump Station:** The filter effluent pump station will contain four adjustable speed pumps to convey filter effluent from the filter effluent wet well to the equalization and chlorine contact basin. The proposed PICS control panel will monitor and control the pumps operation via hardwired control signals with the pump VFDs. There will be three duty pumps and one standby, with automatic lead/lag 1/lag 2 control of the transfer pumps based on a radar level transducer in the filter effluent wet well and backup level floats.
- **Chemical Feed Systems:** There are two chemical feed systems: a supplemental carbon system and a ferric chloride system. Each system will have one local control panel that will control its respective metering pumps and related instrumentation. The proposed PICS control panel will coordinate interlocks, provide pump start/stop commands, provide dosage setpoints, and coordinate data transfer between the chemical feed systems local control panels and SCADA via hardwired signals.
- **Process Instrumentation and Control Supplier Control Panel:** One proposed PICS control panel is planned for this project. The control panel will be a NEMA 4X enclosure, 316 stainless steel. Location of this proposed control panel will be determined during the detailed design phase.
- **SCADA Human-Machine Interface System and Network:** The SCADA human-machine interface system will be updated to reflect additions and changes to the plant control system and processes. Proposed control panels will tie into the SCADA network via fiber optic cable at fiber optic patch panels to be determined during the detailed design phase. Surge protection devices (that is, surge suppressors) will be installed to protect equipment, instruments, and control hardware from electrical transients and lightning strikes.

2.3.2 Cost Comparison with Previous Evaluation

In 2019, the Brevard County Utility Services Department tasked CPH with evaluating the feasibility of upgrading the SBWWTF to meet AWT standards. The results of the evaluation are documented in the report *South Beaches Regional Water Reclamation Facility AWT Feasibility Evaluation* (CPH 2019). The evaluation presented different options to meet the AWT requirements, where conversion of the 6.0 mgd oxidation ditches to a 5-Stage Bardenpho using disk filtration was the selected option to proceed with for design. The opinion of probable construction cost for the option was approximately \$12 million. Brevard County's FDEP grant for converting the 6.0 mgd oxidation ditches to AWT (Agreement No. LPA0421) was based on this \$12 million estimate.

In 2023, Jacobs was selected to design the SBWWTF 6.0 mgd AWT conversion and initially tasked by the County to evaluate alternatives to meet the updated effluent disposal regulatory requirements. As part of this evaluation, Jacobs developed and recommended Alternative 4 with an opinion of probable cost of \$34.1 million, as detailed and summarized in previous sections of this Facilities Plan.

The 5-Stage Bardenpho cost estimate by CPH is approximately \$12 million, and the Alternative 4 cost estimate by Jacobs is approximately \$34.1 million. The primary reasons for the higher cost for Alternative 4 are as follows:

1. **Difference in Scope:** The overall treatment schemes and equipment for the two options are significantly different. Some of these major differences are:
 - a. **Filtration Technology:** Disk filtration, as part of the CPH option, has a smaller footprint and a simplified backwash system. A denitrification filtration facility is a granular media filtration facility that requires a larger footprint and a more complex backwashing system; therefore, it is a much higher cost than disk filtration. A denitrification filtration facility is needed because retrofitting the oxidation ditches to achieve the AWT nitrogen limits is a constructability issue, as previously discussed in the alternatives evaluation. To reduce the TN after the oxidation ditches to meet AWT standards requires an additional denitrification process. The denitrification filters in conjunction with the oxidation ditches reduce the TN to less than AWT standards through denitrification and meets the TSS limit of 5 mg/L through filtration simultaneously. Because disk filters do not reduce the TN and only reduce TSS to less than 5 mg/L, the TN limits will not be met with disk filters alone.
 - b. **Filtration Capacity:** The 5-Stage Bardenpho cost estimate includes a disk filtration facility with a capacity to treat 8.0 mgd. The Alternative 4 cost estimate includes a denitrification filtration facility with a capacity to treat approximately 20.0 mgd peak flow. The denitrification facility was sized to pass the peak hydraulic flowrate coming into the plant because up to 18.0 mgd peak flow has passed through the plant during a hurricane. Therefore, the cost for the denitrification filtration facility is higher than that of the disk filtration facility because of the higher treatment capacity.
 - c. **Ferric Salt Chemical Feed Facility:** A ferric salt chemical feed facility for phosphorus chemical precipitation was not included in the 5-Stage Bardenpho option but is included in Alternative 4.
 - d. **Repumping Facility:** A repumping facility to transfer secondary effluent from the clarifiers to the proposed denitrification facility is needed for Alternative 4 because the headloss through the denitrification filter is greater than what is available.
2. **Cost Escalation:** Cost estimating for the 5-Stage Bardenpho option was performed in 2019, while the cost estimate for Alternative 4 was completed in 2023, which is about a 4- to 5-year difference in cost

escalation. Cost escalation during the early 2020s was significantly higher than normal, and construction costs increased approximately by about 30% to 50% over the 4- to 5-year period.

3. **Contingency Level:** A 30% contingency was used for the Alternative 4 estimate as opposed to a 20% contingency used in the 5-Stage Bardenpho estimate.

3. Environmental Review

The proposed project includes modifications to an existing developed wastewater treatment facility within an established wastewater treatment facility site. The proposed project is not considered to be a substantial improvement. Construction and operation limits of this project are confined to the existing wastewater treatment property boundary. Therefore, the proposed improvements will not have any adverse effects upon flora, fauna, threatened or endangered plant or animal species, surface water bodies, prime agricultural lands, wetlands, or undisturbed natural areas. Furthermore, no environmental justice concerns are associated with this wastewater facility improvements project.

3.1 Threatened and Endangered Species

The U.S. Fish and Wildlife Service Information for Planning and Consultation (IPaC) tool was searched to determine any threatened, endangered, proposed, and candidate species and designated critical habitats present that may be affected by activities in the project area. The following list of potential species was identified:

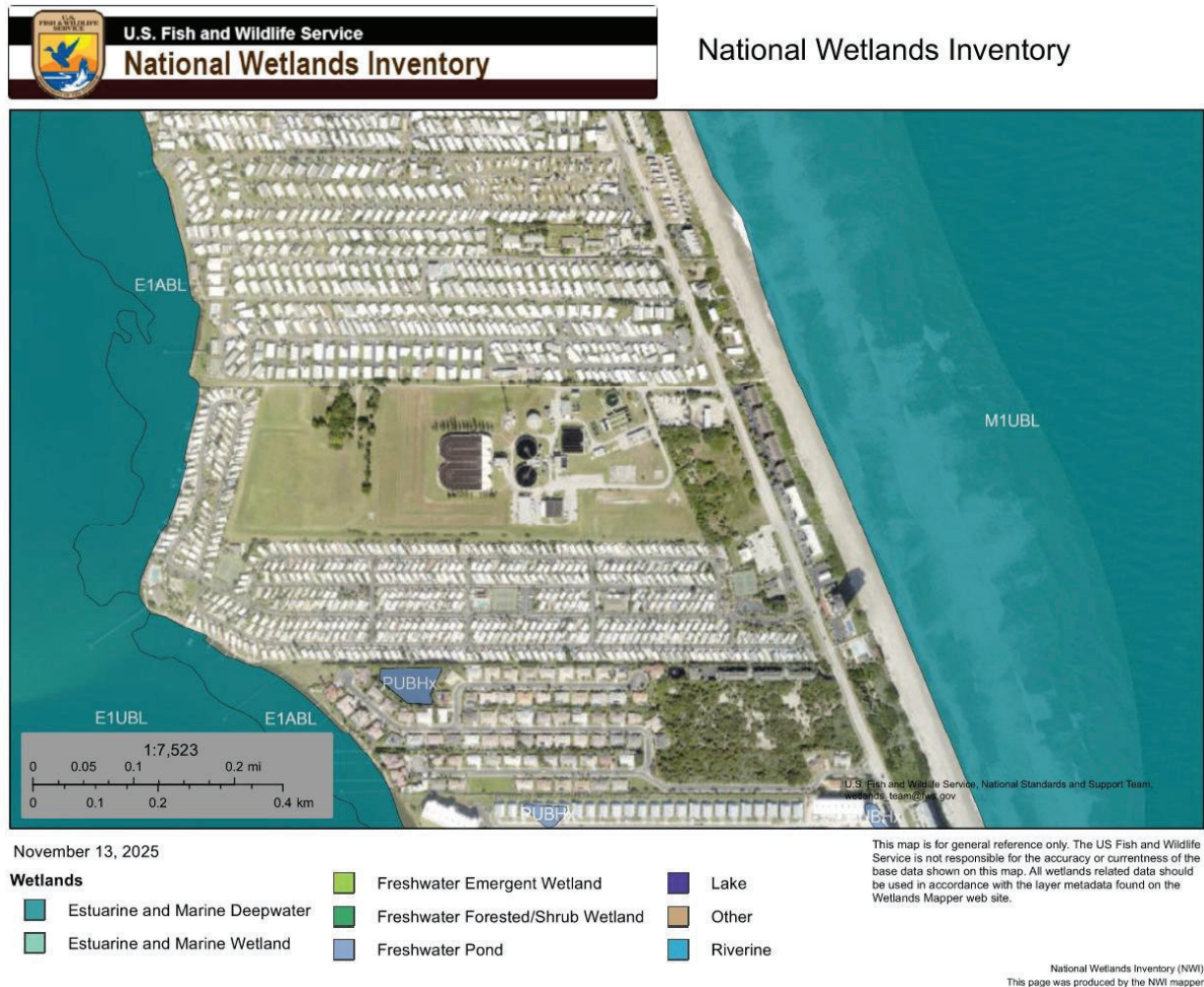
- Mammals
 - West Indian Manatee (Threatened)
- Birds
 - Crested Caracara (Threatened)
 - Eastern Black Rail (Threatened)
 - Everglade Snail Kite (Endangered)
 - Florida Scrub-Jay (Threatened)
 - Rufa Red Knot (Threatened)
 - Wood Stork (Threatened)
- Reptiles
 - American Crocodile (Threatened)
 - Eastern Indigo Snake (Threatened)
 - Green Sea Turtle (Threatened)
 - Gopher Tortoise (State-designated Threatened)
- Insects
 - Monarch Butterfly (Proposed Threatened)
- Flowering Plants
 - Carter's Mustard (Endangered)
 - Lewton's Polygala (Endangered)

IPaC confirmed no critical habitats are present in the project area. Project construction and operation will be within the existing wastewater facility site boundaries and only on lands that have been previously cleared and disturbed from their natural conditions. Based on this review, the proposed project is not anticipated to have any significant adverse effects upon threatened or endangered plant or animal species.

3.2 Wetlands and Surface Water Bodies

The U.S. Fish and Wildlife Service National Wetlands Inventory was used to identify wetlands and other surface water bodies within the project area. Figure 3-1 presents the findings from the evaluation. Review of the National Wetlands Inventory indicates that several freshwater ponds are within the Melbourne Beach boundaries; however, no wetlands are within the project area. Furthermore, the proposed improvements will reduce TN and TP loadings being discharged to the Indian River Lagoon, which is a priority water body as identified by the St. Johns River Water Management District.

Figure 3-1. National Wetlands Inventory



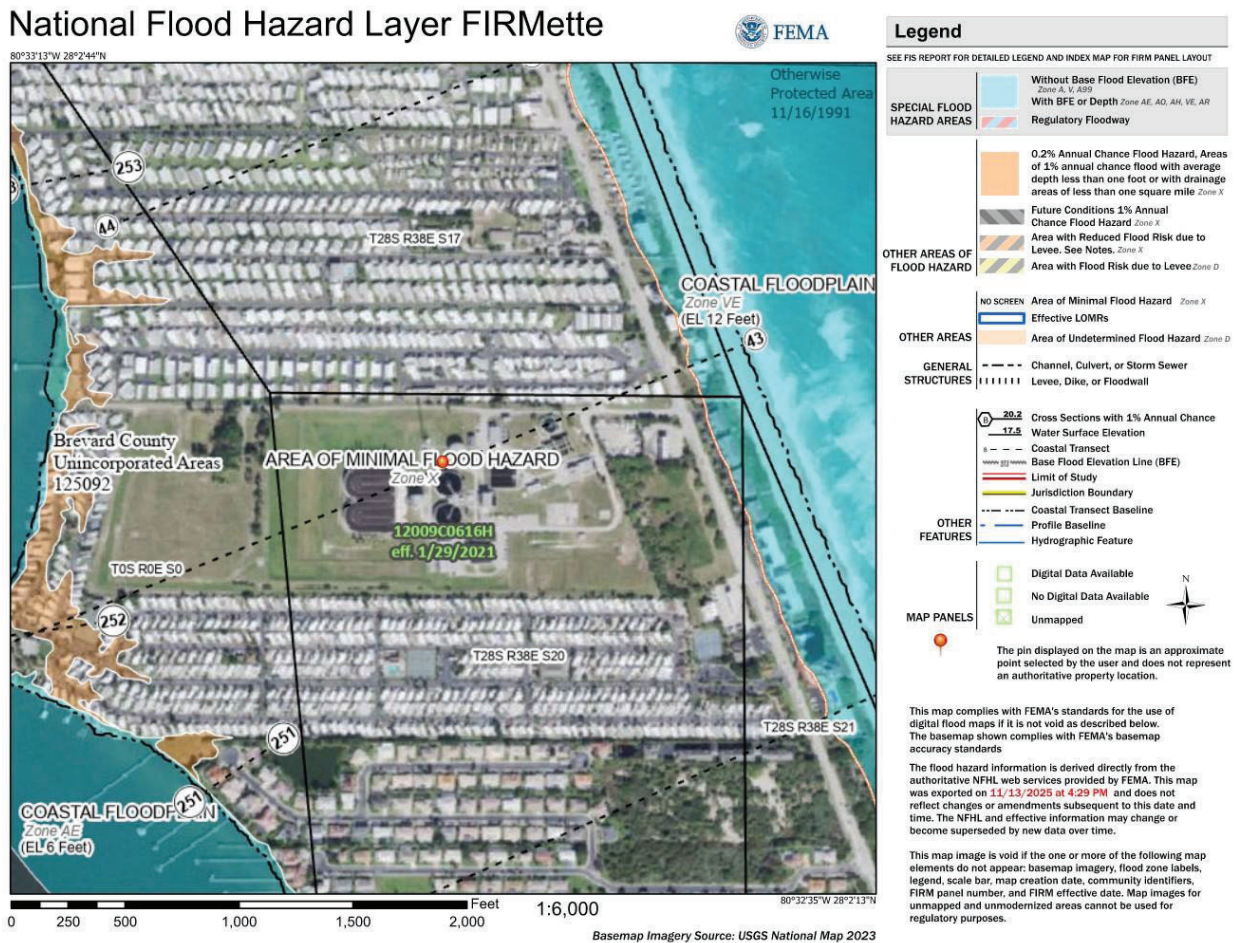
3.3 Minority and Low-Income Communities

The proposed project will have no significant adverse human health or environmental effects on any populations, including minority and low-income communities. The improvements are in the public interest and will contribute to increased water quality and protection of public health.

3.4 Flood Risk

Review of the Federal Emergency Management Agency flood maps indicates the site is within Flood Zone X and, therefore, not within the 100-year special flood hazard. There are no defined floodways within the project limits, and the project will result in no floodplain encroachments. However, because of the site's proximity to the Atlantic Ocean to the east and the associated coastal storm surge (Zone VE) floodplain elevation of 12 feet North American Vertical Datum of 1988 (NAVD88), equipment pads for electrical features, pumps, and control panels will be designed at elevation 14 feet NAVD88 or higher. Proposed structures and foundation finished floors will also be at elevation 14 feet NAVD88 or higher. Figure 3-2 presents the flood zone for the planning area.

Figure 3-2. National Flood Hazard FIRMette



4. Implementation and Financial Planning

This section provides implementation and financial planning details.

4.1 Schedule

The following is a conceptual schedule for implementation of the SBWWTF improvements project:

- Submit all planning documentation to FDEP SRF: March 2026
- Complete Preliminary design: January 2026
- Complete 75% Design: April 2026
- Complete 90% Design: June 2026
- Complete 100% Design and obtain permits: August 2026
- Notice to proceed to contractor: December 2026
- Complete construction activity: November 2028

The project is anticipated to be constructed in one phase. Brevard County has the sole responsibility and authority to implement the proposed improvements at the SBWWTF. At this time, there is no official action by Brevard County enacting any commitment to implement the project.

4.2 Public Participation

An advertised public meeting will be held to explain the proposed project and address the environmental impacts, project alternatives, and financial costs and engage public comments and feedback. Records of the public notice, sign-in sheet, meeting minutes, and other documentation will be retained for future reference.

4.3 Permitting

Permitting through FDEP and the Brevard County Building Department will be required to implement the proposed improvements to the SBWWTF. The following provides details of the anticipated permits required before project construction and subsequent operation.

4.3.1 Florida Department of Environmental Protection Wastewater Permit

As part of this project, application documents for the FDEP Wastewater Permit required for the proposed improvements will be developed. After the County accepts the improvements design, a virtual pre-application meeting will be coordinated with FDEP to discuss the proposed improvements. Any feedback received from FDEP will be considered and incorporated into the design and permit application if acceptable by the County. The application documents will include *FDEP Wastewater Facility or Activity Permit Application-General Information-Form 1 (Activity Permit – Form 62-620.910[1])*, *Wastewater Permit Application Form 2A for Domestic Wastewater Facilities (Form 62-620.910[2])*, and required attachments. The permit application package will be submitted to FDEP shortly after the pre-application meeting.

4.3.2 Florida Department of Environmental Protection Environmental Resource Permit

Permitting of the proposed site improvements and stormwater system may be required through FDEP's Environmental Resource Permit (ERP) program. The SBWWTF has an existing ERP under Permit No. 42-008-2229NG. The total impervious area from the proposed facilities is approximately 7,720 square feet. The St. John's River basin has a permit threshold of 5,000 square feet for permit modifications, so this project may not qualify for an exemption for a permit modification. A pre-application meeting or phone call with FDEP will be held to confirm whether an ERP permit modification is required.

4.3.3 Brevard County Building Permit

Based on Chapter 62 of the Code of Ordinances of Brevard County, Florida, a Land Development Permit is not required. In accordance with Section 62-3202 (b)(5), sewer lift station, sewer vacuum station, and other water and sewer utility infrastructure are exempt.

However, a building permit will be required with the Brevard County Building Department for the proposed improvements. As part of this project, application documents for the initial County's Building Permit application will be developed. After the 90% Design is accepted by the County, a virtual pre-application meeting will be coordinated with the County's Building Department to discuss the proposed improvements. Any feedback received from the Building Department will be considered and incorporated into the design and permit application if acceptable by the Utility Services Department. The application materials will include only the engineering disciplines requested by the Building Department. The final application will be based on 100% Design, with the actual Building Department permit to be pulled by the contractor.

4.4 Financial Feasibility

Brevard County intends to design, bid, and construct this project with funding support from the FDEP SRF Loan Program. FDEP has provided a \$12 million grant under Agreement No. LPA0421 and a \$2 million grant under a separate application for this 6.0 mgd project already; this SRF loan will provide supplemental funding to compensate for the increased total estimated cost of \$34.1 million, as discussed in Section 2.2.1 of this Facilities Plan. To initiate the process for receiving an SRF loan, and in accordance with FAC 62-503.200(33), a Request for Inclusion (RFI) on the Clean Water Priority List form with attachments was prepared and submitted to FDEP on December 23, 2025. Appendix A provides a copy of the RFI submittal.

A Capital Financing Plan was prepared on behalf of Brevard County by Raftelis Financial Consultants and demonstrates Brevard County's ability to repay potential loans associated with this project, including the 1.15 coverage factor. The County has already adopted indexing provisions tied to the Water and Sewer Maintenance Index, allowing for annual rate adjustments. The projected financial analysis indicates that this indexing mechanism is projected to yield approximately 4% annually. When combined with anticipated customer growth, this revenue will provide sufficient funds to support debt coverage for existing and projected bonds and State Revolving Fund loans through 2030. Consequently, no rate adjustments beyond the adopted index are anticipated to be required to meet debt coverage requirements. Appendix B provides a copy of the Capital Financing Plan. A fiscal sustainability plan will be developed and provided for FDEP review before the project's final disbursement. The approved fiscal sustainability plan will be implemented at the SBWWTF for maintaining critical project components and ensuring adequate funds will be available for any needed expenses.

4.5 Project Authorization

The Brevard County Board of County Commissioners (BOCC) will consider an adopting resolution for implementing the SBWWTF 6.0 mgd AWT Improvements Facilities Plan following FDEP's review and approval. The BOCC's official action will take place during a scheduled publicly noticed board session. Appendix C provides a draft resolution developed from an example provided by FDEP.

5. References

CPH, Inc. (CPH). 2019. *South Beaches Regional Water Reclamation Facility AWT Feasibility Evaluation*. Prepared for Brevard County.

CPH, Inc. (CPH). 2021. *Non-Beneficial Surface Water Discharge Elimination Plan*. Prepared for Brevard County. October.

Appendix A

Request for Inclusion Form





Florida Department of Environmental Protection

REQUEST FOR INCLUSION ON THE CLEAN WATER PRIORITY LIST

Clean Water State Revolving Fund Program
3900 Commonwealth Blvd., MS 3505, Tallahassee, FL 32399-3000

Process to receive a State Revolving Fund (SRF) Loan. This Request for Inclusion (RFI) form, Form RFI 1 per subsection 62-503.200(33), F.A.C., lets us know that you are interested in obtaining an SRF loan. Each RFI will be assigned a project engineer to assist you throughout the SRF funding process. The information contained in the RFI is used to determine a priority score for your project; and the priority score is used to rank projects on the SRF priority list. Only projects ranked on the fundable portion of the priority list will receive consideration for a loan. Your project engineer will assist you in understanding all program requirements necessary before you are asked to submit a loan application, Form Application 1 or Form Application 2 per paragraph 62-503.430(1)(a), F.A.C. Please note that costs incurred before the adoption of the project on the fundable or waiting portion of the priority list are ineligible for reimbursement.

Type of Loan Requested in this Application. Select only one loan category and project type.

Loan Category: Planning Design Inflow/Infiltration Rehabilitation Construction
Project Type: Design/Bid/Build Design/Build (D/B) Construction Manager at Risk (CMR)

Note: Procurement of professional services must meet the requirements of the Consultants' Competitive Negotiation Act, Section 287.055, F.S.

1. Applicant's Name and Address.

Project Sponsor: Brevard County Utility Services Department **Contact Person:** Edward Fontanin, PE **Title:** Utility Services Director
2725 Judge Fran Jamieson Way, A-213 Viera Brevard FL 32940
(street address) (city) (county) (state) (zip code)
321.633.2091 utility.development@brevardfl.gov
(telephone) (ext.) (email address)

Contact Person Address (if different): _____
(street address) (city) (state) (zip code)

2. Name and Address of Applicant's Consultant (if any).

Firm: Jacobs Engineering Group, Inc. **Contact Person:** GJ Schers **Title:** US South Principal Technologist
550 W. Cypress Creek Rd., Suite 400 Fort Lauderdale FL 33309
(street address) (city) (county) (state) (zip code)
(239) 404-0245 gj.schers@jacobs.com
(telephone) (ext.) (email address)

3. Certification by Authorized Representative. I certify that this form and attachments have been completed by me or at my direction and that the information presented herein is, to the best of my knowledge, accurate.

Edward.fontanin@brevardfl.gov 12/22/25
(email address) (date)
Edward Fontanin, PE Utility Services Director
(name, typed) (title)

(signature)

REQUEST FOR INCLUSION ON THE CLEAN WATER PRIORITY LIST

4. Eligible Projects.

- a. Stormwater management facilities, such as detention/retention facilities, treatment facilities, etc. sponsored by a local government (eligible under Section 212 of the amended Clean Water Act).
- b. Wastewater management facilities, such as sewers, pump stations, treatment plants, reuse facilities, sludge facilities, etc. sponsored by a local government (eligible under Section 212 of the amended Clean Water Act).
- c. Nonpoint source pollution control best management practices for agriculture, silviculture, on-site treatment and disposal, wetlands, mining, marinas, brownfields or groundwater protection sponsored by any entity (eligible under Section 319 or 320 of the amended Clean Water Act).

5. Project Information (Please attach). See Attachment A

- a. Describe the project, its location, the scope, why it's needed and the environmental benefit.
- b. Attach maps showing system boundaries, existing and proposed service area, and project area.

6. Estimated Costs (Clean Water Act Section 212, 319, and 320).

a. Planning and/or SSES including geotechnical studies and surveying	N/A
b. Design	N/A
c. Special Studies including feasibility studies	N/A
d. Eligible Land (necessary land divided by total land times purchase price)	N/A
e. Construction, Equipment, Materials, Demolition and Related Procurement	\$31,000,000
f. Construction Contingency (10% of Item e)	\$3,100,000
g. Technical Services during Construction	\$2,100,000
h. Sum of Items a. through g.	\$36,200,000

7. Project Schedule.

(Month and Year)

a. Submit the planning or SSES documentation	N/A
b. Submit the design documents, obtain permits, and acquire sites (as necessary)	8/31/2026
c. Start activity (such as construction or non-structural best management practice)	12/1/2026
d. Complete activity (such as construction or non-structural best management practice)	11/30/2028

8. Population

a. Population served by the system	58,260
b. Population to be served by the project	58,260

9. Project Priority

- a. Baseline Priority Categorization.

In the Table below, identify each of the project components for which the project qualifies and provide the component's construction cost. The baseline priority score (BPS) will be determined by prorating each component. The project sponsor must provide documentation that supports the selection of a base priority score of 350 points or greater.

REQUEST FOR INCLUSION ON THE CLEAN WATER PRIORITY LIST

<u>Project Component</u>	<u>Priority Points</u>	<u>Component Construction Cost</u>
1. Eliminate a documented acute or chronic public health hazard. Examples include elimination of failing septic tanks, failing package plants, or elimination of sanitary sewer overflows.	500 points	_____
2. Implement a project included in, or to be implemented as a direct result of, an adopted Basin Management Action Plan or a Reasonable Assurance Plan approved pursuant to section 403.067, F.S.	450 points	<u>\$36,200,000</u>
3a. Protect surface or ground water by preventing or reducing a documented source of pollution, pollution reductions necessary to meet regulatory requirements; or		
3b. Projects or activities by local governments or on-site system management entities, under section 319 of the Act, that correct septic tank failures in springsheds of first magnitude springs; or correct septic tank contributions to nutrient impaired spring systems.	400 points	_____
4. Address a compliance problem documented in an enforcement action where the Department has issued a notice of violation or entered a consent order with the project sponsor.	375 points	_____
5. Meet the criteria for a Green Project; correct excessive inflow/infiltration or other issues within the collection and transmission system that cause sanitary sewer overflows; scheduled rehabilitation; replacement; repair described in an approved asset management plan; or reuse that replaces an existing or proposed demand on a water supply.	350 points	_____
6. Planning and design loans; projects for the installation of wastewater transmission facilities to be constructed concurrently with other construction projects occurring within or along a transportation facility right-of-way; or for rehabilitation, replacement or repair not included in an approved asset management plan.	340 points	_____
7. Projects that construct other reclaimed water systems or residuals reuse systems that do not meet the criteria of component 5. above.	300 points	_____
8. Ensure compliance with other enforceable standards or requirements.	200 points	_____
9. Timely submitted projects that otherwise meet the requirements of the Act (including land or wastewater system acquisition projects).	100 points	_____
b. Restoration and Protection of Special Water Bodies.		
In order to qualify for a base score multiplier, identify which of the water bodies listed below that the project will assist in restoring or protecting; and reference the location in existing documentation where substantiating information may be found or attach other such substantiating information. If none are selected, the multiplier equals 1.0. If one or more are selected, the multiplier is 1.2. Supporting documentation must be provided for items selected.		
1. A priority water body identified in an adopted Surface Water Improvement and Management (SWIM) Plan. <input checked="" type="checkbox"/>		
2. A water body classified as Outstanding Florida Waters or Wild and Scenic Rivers. <input type="checkbox"/>		
c. Projects that document any of the following shall have bonus points added to the priority score after the adjustment under paragraph (b) above, as indicated. Items 3, 4 and 5 below are only applicable to financially disadvantaged small communities.		
1. Elimination of Ocean Outfalls.	15 points	<input type="checkbox"/>
2. Consistency with an Integrated Water Resource Management (One Water) plan.	15 points	<input type="checkbox"/>
3. Population of 10,000 or less as of most recent decennial census, and affordability index less than or equal to 100. 1000 divided by the affordability Index = _____ points.		
4. Negative population trend as defined in 62-505.300(2)(c)2, F.A.C.	25 points	<input type="checkbox"/>
5. End of useful life as defined in 62-505.300(2)(c)3., F.A.C.	25 points	<input type="checkbox"/>

Return the completed form to the State Revolving Fund Program, 3900 Commonwealth Blvd., MS 3505, Tallahassee, Florida, 32399-3000. The form may be scanned and emailed to SRFRFI@FloridaDEP.gov.

ATTACHMENT A
BREVARD COUNTY SOUTH BEACHES WASTEWATER TREATMENT FACILITY
6 MGD CONVERSION TO ADVANCED WASTEWATER TREATMENT

REQUEST FOR INCLUSION – PROJECT INFORMATION

Background

The South Beaches Wastewater Treatment Facility (SBWWTF) is a domestic wastewater treatment facility permitted by Florida Department of Environmental Protection (FDEP) under permit number FL0040622 to treat 8 mgd of wastewater on an annual average day flow (AADF) basis. The SBWWTF is located at 2800 S Highway A1A in Melbourne Beach, Florida (Figure 1) and its service area includes the municipalities of Satellite Beach, Indian Harbour Beach, Indialantic, Melbourne Beach, a portion of the City of Melbourne, and several areas of unincorporated Brevard County. The existing service area is illustrated in Figure 2. No expansion of the existing service area is proposed.

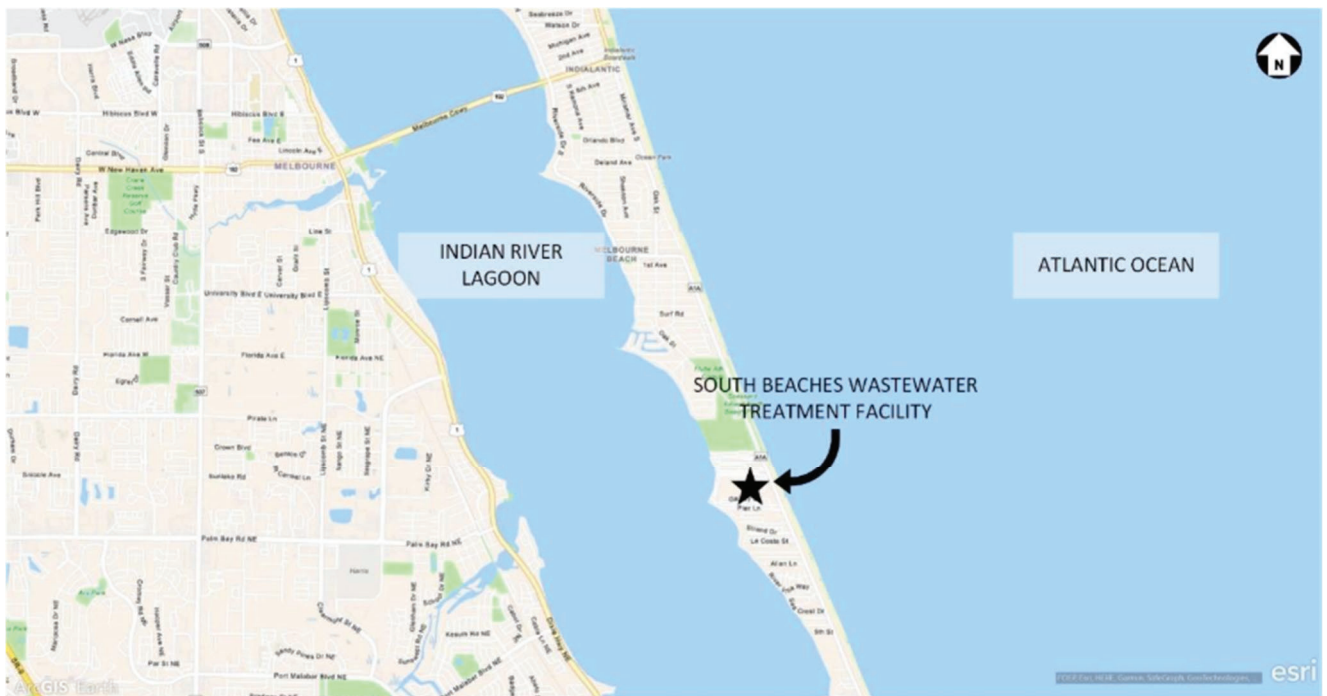


Figure 1. SBWWTF Project Location

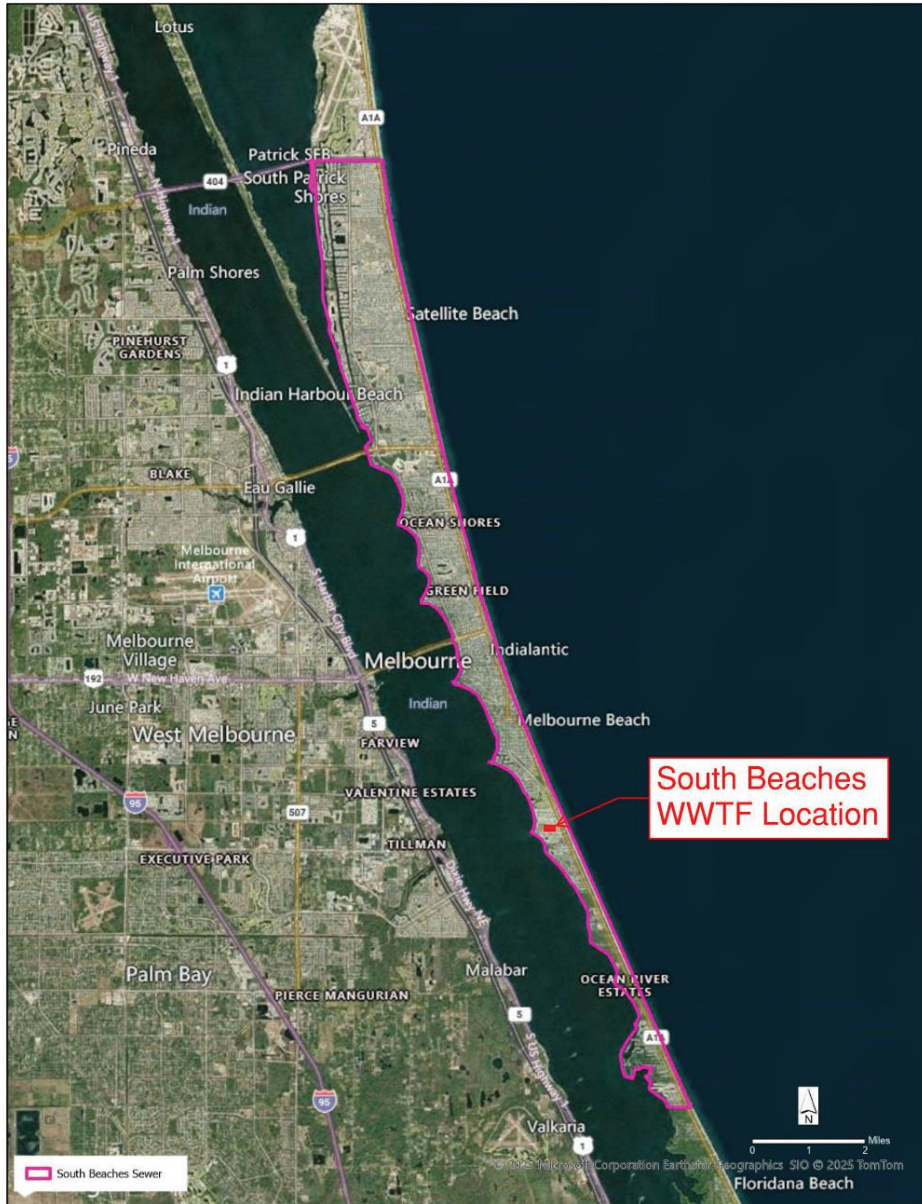


Figure 2. SBWWTF Service Area

The SBWWTF consists of two activated sludge treatment trains, where one treatment train contains a 6 mgd dual train carousel oxidation ditch and the other train contains a 2 mgd conventional activated sludge (CAS) basin (Figure 3). Treated wastewater from the SBWWTF is discharged via the following three permitted effluent disposal methods:

- 12.7 mgd (peak flow rate) deep injection well (DIW)
- 3.0 mgd AADF slow-rate public access system for irrigation within the reuse service area
- 0.11 mgd AADF surface water discharge to the Indian River Lagoon; discharge to the Indian River Lagoon is permitted only during a 5-day period during the deep injection well mechanical integrity test (MIT) performed every 5 years



Figure 3. SBWWTF Existing Facilities

Due to recent changes to the Florida State regulations, such as issuance of Final Order Office of General Counsel (OGC) Case No. 21-0081 by FDEP on February 17, 2021, the SBWWTF requires modifications to its current treatment and effluent disposal system in order to comply with more stringent wastewater requirements and reduce nutrient pollution in the Indian River Lagoon watershed. Final Order OGC Case No. 21-0081 established the Central Indian River Lagoon Basin Management Action Plan (CIRL BMAP) and required wastewater facilities that discharge effluent in the CIRL BMAP area to meet new total nitrogen (TN) and total phosphorus (TP) effluent limitations. The SBWWTF is listed as a facility in the CIRL and is therefore subject to the new CIRL BMAP provisions (refer to Table 11 in the CIRL BMAP).

Potential alternatives were identified based on available effluent disposal options, existing process facilities, constructability, and potential new facilities to meet the new levels of treatment and reduce nutrient loading to the CIRL. After reviewing the treatment alternatives, conversion of the existing 6 mgd train to advanced wastewater treatment (AWT) for simultaneous nitrification and denitrification was determined to be the best option for the County.

Proposed Project

Based on recommendations developed from the treatment alternatives analysis, the proposed project will provide improvements to the existing facility treatment process as well as allow the SBWWTF to produce AWT effluent in accordance with Chapter 403.086(4) of the Florida Statutes to meet the new regulations. All proposed modifications for this project are listed below, and illustrated in the site plan shown in Figure 4:

- Modification of the existing oxidation ditches to create an environment for nitrification and denitrification to occur simultaneously through aeration control and oxidation-reduction potential monitoring.
- Upgrade to four oxidation ditch aerators to meet aeration requirements based on updated influent flows and loads.
- Denitrification filtration facility including media filters, backwash pumps, air scour blowers, backwash water supply tank, and backwash recovery basin.
- Effluent transfer pump station directly downstream of the denitrification filters to transfer treated effluent to the equalization/chlorine contact basin.
- Chemical storage and feed facilities for adding supplemental carbon substrate (e.g. Micro C) to enhance denitrification, ferric salt to remove phosphorus and an additional sodium hypochlorite feed pump.
- Electrical switchgear, standby generator and other electrical facilities for the 6 mgd train of the SBWWTF, including new MCCs and power panels, associated with the denitrification facility, transfer pump station and chemical feed facilities.
- Yard piping from the clarifier splitter box to the denitrification filter facility and from the denitrification facility to the equalization/chlorine contact basin.
- Associated site civil, electrical and process control and instrumentation facilities.

The oxidation ditch improvements will be designed for a 6 mgd AADF while the transfer pump station and denitrification filters will be designed for a peak hour flow of 20 mgd. Brevard County intends to design, bid, and construct this project with funding support from the FDEP State Revolving Fund (SRF) Loan Program. FDEP has provided a \$12,000,000 grant for this 6 mgd project already under Agreement No. LPA0421; this SRF loan will provide supplemental funding to compensate for increased total estimated cost.

Conversion of the 2 mgd CAS process to an AWT process and addition of a new DIW are each being designed separately and will be constructed as part of a separate project from this project. A \$2,200,000 FDEP grant funding with 50/50% match was received for the 2 mgd system AWT conversion under Agreement No. WG008. A \$2,000,000 FEP grant funding was received for the additional DIW under Agreement No. LPA0477.

Appendix B
Capital Financing Plan



CAPITAL FINANCING PLAN

Brevard County Utility Services

(Project Sponsor)

Edward Fontanin

(Authorized Representative and Title)

Viera, Florida 32940

(City, State, and Zip Code)

Thierry Boveri, Senior Vice President, 407-628-2600

(Capital Financing Plan Contact, Title and Telephone Number)

341 N Maitland Ave Suite 300

(Mailing Address)

tboveri@raftelis.com

(Email Address)

Maitland, FL 32751

(City, State, and Zip Code)

The Department needs to know about the financial capabilities of potential State Revolving Fund (SRF) loan applicants. Therefore, a financial capability demonstration (and certification is required well before the evaluation of the actual loan application).

The sources of revenues being dedicated to repayment of the SRF loan are Utility operating revenues (**Note: Projects pledging utility operating revenues should attach a copy of the existing /proposed rate ordinance**)

Estimation of Proposed SRF Loan Debt Service

Capital Cost [1]	\$	22,200,000
Loan Service Fee (2% of Capital Cost)	\$	444,000
Subtotal	\$	22,644,000
Capitalized Interest [2]	\$	276,257
Total Cost to be Amortized (Rounded)	\$	22,920,257
Interest Rate [3]		1.22%
Annual Debt Service	\$	1,294,981
Annual Debt Service Including Coverage Factor [4]	\$	1,489,228

Notes:

- [1] Capital Cost = Allowance + Construction Cost.
- [2] Estimated based on linear draw of project amount over a 2 year construction period.
- [3] Based on previous CFP interest rate submission. FY 25/26 Q2 reported CWSRF rate equals 1.22%.
- [4] Coverage Factor is assumed at 1.15 recognizing that no impact fees are assumed within the Schedule of Revenue and Debt Service Coverage.

SCHEDULE OF EXISTING DEBT SERVICE AND DEBT EQUIVALENTS ^[1]

List annual debt service beginning two years before the anticipated loan agreement date and continuing at least fifteen fiscal years.

Use additional pages as necessary.

IDENTIFY EACH OBLIGATION

#1 Water & Wastewater Utility Revenue Bonds, Series 2014 Coverage % [2] 110% Revenue Pledge Lien Priority 1st Insured (Yes/No) Yes	#2 CW-051170 Coverage % 115% Revenue Pledge Lien Priority 2nd Insured (Yes/No) N/A	#3 WW05110 Coverage % 115% Revenue Pledge Lien Priority 2nd Insured (Yes/No) N/A
#4 CW-051130 Coverage % 115% Revenue Pledge Lien Priority 2nd Insured (Yes/No) N/A	#5 Estimate - SRF Loan 1 (CDM2) Coverage % 115% Insured (Yes/No) N/A	#6 Estimate - SRF Loan 2 (WT) Coverage % 115% Insured (Yes/No) N/A
#7 Estimate - SRF Loan 3 (CDM1) Coverage % 115% Insured (Yes/No) N/A		

Fiscal Year	Annual Debt Service (Principal + Interest)							Total Non-SRF Debt Service w/coverage	Total SRF Debt Service w/ coverage
	1	#2 ^[3]	#3 ^[3]	#4	#5 [4]	#6 [4]	#7[4]	(Excludes Leases)	
2025	1,473,431	113,183	2,166,769	598,006	0	0	\$0	\$1,620,774	\$3,309,652
2026	1,473,431	113,183	2,166,769	598,006	0	0	0	\$1,620,774	\$3,309,652
2027	1,475,056	113,183	2,166,769	598,006	0	0	0	\$1,622,562	\$3,309,652
2028	1,472,406	113,183	2,166,769	598,006	0	557,545	0	\$1,619,647	\$3,950,828
2029	1,474,156	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,621,572	\$7,275,908
2030	1,475,156	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,622,672	\$7,275,908
2031	1,475,406	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,622,947	\$7,275,908
2032	1,472,781	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,620,059	\$7,275,908
2033	1,474,344	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,621,778	\$7,275,908
2034	1,473,800	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,621,180	\$7,275,908
2035	1,471,075	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,618,183	\$7,275,908
2036	1,472,650	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,619,915	\$7,275,908
2037	1,472,200	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,619,420	\$7,275,908
2038	1,474,725	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,622,198	\$7,275,908
2039	1,475,000	113,183	2,166,769	598,006	982,848	1,115,089	1,350,980	\$1,622,500	\$7,275,908
2040	1,473,025	113,183	1,083,385	598,006	982,848	1,115,089	1,350,980	\$1,620,328	\$6,030,016
2041	1,473,800	113,183		299,003	982,848	1,115,089	1,350,980	\$1,621,180	\$4,440,270
2042	1,473,400	113,183			982,848	1,115,089	1,350,980	\$1,620,740	\$4,096,417
2043	1,471,000	113,183			982,848	1,115,089	1,350,980	\$1,618,100	\$4,096,417
2044	1,471,600	56,592			982,848	1,115,089	1,350,980	\$1,618,760	\$4,031,336
2045					982,848	1,115,089	1,350,980	\$0	\$3,966,256
2046					982,848	1,115,089	1,350,980	\$0	\$3,966,256
2047					982,848	1,115,089	1,350,980	\$0	\$3,966,256
2048					982,848	557,545	1,350,980	\$0	\$3,325,080
2049								\$0	\$0
2050								\$0	\$0
2051								\$0	\$0
2052								\$0	\$0
2053								\$0	\$0
2054								\$0	\$0

Footnote:

- [1] Reflects debt service schedules from outstanding bonds and active SRF loans. It should be noted that the projections contained herein do not reflect any additional debt service that may be contemplated or required to fund future capital pursuant to the County's Capital Improvement Plan.
- [2] Pursuant to the Bond Resolution authorizing the issuance of the outstanding Water and Wastewater Revenue Bonds, Series 2014, the county must:
 - a) generate sufficient Net Revenue equal to or greater than 110% of the annual debt service of the outstanding bonds; and b) generate sufficient Net Revenues plus impact fees equal to or greater than 120% of the annual debt service of the outstanding bonds. For purposes of the CFP we have assumed the senior lien coverage requirement at 110% in recognition that no impact fees were assumed in the projections contained in the *Schedule of Projected Revenues and Debt Coverage for Pledged Revenue*.
- [3] Amounts shown reflect estimates and are subject to change based on completion of actual project cost and timing of completion.
- [4] Amounts shown reflect estimates of additional proposed SRF loans which would be submitted in parallel with the current submission.

**SCHEDULE OF ACTUAL REVENUES AND DEBT COVERAGE
FOR PLEDGED REVENUE**

(Provide information for the two fiscal years preceding the anticipated date of the SRF loan agreement)

	<u>FY 23-24</u> [1]	<u>FY 24-25</u> [1]
(a) Operating Revenues (Identify)		
Charges for Service [2]	\$ 52,168,786	\$ 57,601,404
Other Operating Revenue	<u>-</u>	<u>-</u>
(b) Interest Income	<u>\$6,075,498</u>	<u>\$4,907,624</u>
(c) Other Incomes or Revenues	<u>\$0</u>	<u>\$0</u>
(d) Total Revenues	<u>\$58,244,284</u>	<u>\$62,509,028</u>
(e) Operating Expenses (excluding interest on debt, depreciation and other non-cash items)	<u>\$41,469,096</u>	<u>\$43,860,028</u>
(f) Net Revenues (f = d - e)	<u>\$16,775,188</u>	<u>\$18,649,000</u>
(g) Debt Service (including coverage) Excluding SRF Loans [3]	<u>\$1,618,849</u>	<u>\$1,620,774</u>
(h) Debt Service (including coverage) for Outstanding SRF Loans [3]	<u>\$3,179,491</u>	<u>\$3,193,528</u>
(i) Net Revenues After Debt Service (i = f - g - h)	<u>\$11,976,847</u>	<u>\$13,834,698</u>

Source:

Notes:

- [1] Unless otherwise noted, amounts shown are derived from the County's audited financial statements for FY24 and unaudited budget to actuals document for FY25.
- [2] The Board approved the following rate adjustments at the February 8, 2022 Public Hearing;
- a. The water and sewer user rates will be indexed as follows effective each year:
- 2022 – 6.5%
- 2023 – 8.5%
- 2024 – 8.5%
- 2025 – 8.5%
- 2026 – 7.5%
- Beginning and in all subsequent years, the water and sewer user rates shall automatically increase based on the actual change in the Consumer Price Index Sewer and Water Maintenance Index (S W M I)(U) based on the average of the index from the previous 12 months (November to November).
- [3] Amounts shown reflect debt service as noted in the prior *Schedule Of Debt Service And Debt Equivalents*.

**SCHEDULE OF PROJECTED REVENUES AND DEBT COVERAGE
FOR PLEDGED REVENUE**

	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>
(a) Operating Revenues Service Charges [1]	\$58,515,000	\$60,776,000	\$63,127,000	\$65,573,000	\$68,116,000
(b) Interest Income [2]	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000	\$3,500,000
(c) Other Incomes or Revenues (Identify) [3]	\$0	\$0	\$0	\$0	\$0
(d) Total Revenues	\$62,015,000	\$64,276,000	\$66,627,000	\$69,073,000	\$71,616,000
(e) Operating Expenses (excluding interest on debt, depreciation and other non-cash items) [4]	\$46,698,633	\$48,416,401	\$50,197,623	\$52,044,655	\$53,959,937
(f) Net Revenues (f = d - e)	\$15,316,367	\$15,859,599	\$16,429,377	\$17,028,345	\$17,656,063
(g) Existing Debt Service on Non-SRF Projects (including coverage) [5]	\$1,620,774	\$1,622,562	\$1,619,647	\$1,621,572	\$1,622,672
(h) Existing SRF Loan Debt Service (including coverage)	\$3,309,652	\$3,309,652	\$3,950,828	\$7,275,908	\$7,275,908
Total Existing Debt Service (i = g + h)	\$4,930,426	\$4,932,214	\$5,570,475	\$8,897,480	\$8,898,580
(j) Projected Debt Service on Non-SRF Future Projects (including coverage)	\$0	\$0	\$0	\$0	\$0
(k) Projected SRF Loan Debt Service (including coverage) [6]	\$0	\$0	\$0	\$744,614	\$1,489,228
Total Debt Service (Existing and Projected) (l = i + j + k)	\$4,930,426	\$4,932,214	\$5,570,475	\$9,642,094	\$10,387,808
(m) Net Revenues After Debt Service (m = f - l) [7]	\$10,385,941	\$10,927,385	\$10,858,901	\$7,386,251	\$7,268,255

Source:

Notes:

- [1] Revenue projection for FY26 is assumes a 7.5% rate adjustment (adopted by the County) (pro rated for only 8 months since it is effective February 1st 2026) and for all future years 4.0% rate adjustments were assumed which is slightly below the 5 year average for the BLS water and sewerage maintenance index w the County adopted as its rate adjustment index for future years. Revenue projections exclude impact fees.
- [2] Includes interest income on unrestricted cash balances, which were assumed to be held constant during the forecast.
- [3] Although excluded from the projections, the County recovered on average approximately \$4.76 million in water and wastewater impact fees during the Fiscal Years 2024 and 2025. The County continues to charge new connections the impact fees.
- [4] Amounts are based on the County's adopted budget for operating expenses for the Fiscal Year 2026 and escalated thereafter at an average annual factor of approximately 3.7%.
- [5] Pursuant to the Bond Resolution authorizing the issuance of the outstanding Water and Wastewater Revenue Bonds, Series 2014, the county must:
a) generate sufficient Net Revenue equal to or greater than 110% of the annual debt service of the outstanding bonds; and b) generate sufficient Net Revenues plus impact fees equal to or greater than 120% of the annual debt service of the outstanding bonds. For purposes of the CFP we have assumed the senior lien coverage requirement at 110% in recognition that no impact fees were assumed in the projections contained in the Schedule of Projected Revenues and Debt Coverage for Pledged Revenue.
- [6] Amounts reflect the estimated annual debt service for the proposed SRF Loan.
- [7] For the purposes of full disclosure, the County budgets and funds: a) transfers to the general fund associated with Payment in Lieu of Taxes and b) capital outlay for minor units of equipment and vehicles. The following provides a forecast of net revenues after such transfers and payments:

Net Revenues After Debt	\$10,385,941	\$10,927,385	\$9,516,950	\$7,386,251	\$7,268,255
Less:					
Payment in Lieu of Taxes (PILOT)	\$1,754,149	\$1,754,149	\$1,754,149	\$1,754,149	\$1,754,149
Capital Outlay (Excludes Major Maintenance)	2,750,000	2,750,000	2,750,000	2,750,000	2,750,000
Net Available to Utility Reserve Fund	\$5,881,792	\$6,423,237	\$5,012,801	\$2,882,102	\$2,764,106

CERTIFICATION

I, Edward Fontanin, PE, certify that I have reviewed the information
Utility Services Department Director

included in the preceding capital financing plan worksheets, and to the best of my knowledge, this
information accurately reflects the financial capability of Brevard County Utility Services
Department,
Local Government

I further certify that Brevard County Utility Services Department
Local Government

adequate construction, operation, and maintenance of the system, including this SRF project.



Signature

MAR 18/26

Date

Appendix C

Draft Adopting Resolution



RESOLUTION NUMBER 2026-000

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF BREVARD COUNTY, FLORIDA, RELATING TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) STATE REVOLVING FUND (SRF), ADOPTION OF THE WASTEWATER FACILITIES PLAN FOR THE IMPLEMENTATION OF THE SOUTH BEACHES WASTEWATER TREATMENT FACILITY TO ADVANCED WASTEWATER TREATMENT (AWT) CONVERSION – 6 MGD TREATMENT TRAIN, AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Florida Statutes provide for loans to local government agencies to finance the construction of wastewater facilities, and the Florida Administrative Code requires authorization by the Board to formally adopt a Facilities Plan outlining necessary wastewater facility improvements to comply with State of Florida funding requirements;

WHEREAS, formal adoption of the proposed Facilities Plan, including public participation through a public hearing, is required for Brevard County to participate in the State Revolving Loan Fund Program;

WHEREAS, the Board of County Commissioners of Brevard County, Florida agrees with the findings and summary of necessary improvements as outlined in the Facilities Plan for the purpose of improving the existing facility treatment process to reduce nutrient loadings to surrounding surface waters and ensure wastewater treatment compliance with state regulations;

NOW THEREFORE BE IT RESOLVED by the Board of Commissioners of Brevard County, Florida, that:

SECTION 1. FINDINGS

The foregoing recitals are incorporated herein by reference and made a part hereof.

The Board of County Commissioners of Brevard County, Florida, is authorized to approve the proposed Facilities Plan, and hereby formally approves and adopts the South Beaches Wastewater Treatment Facility to AWT Conversion - 6 MGD Treatment Train Facilities Plan as written and presented to the Board on this date, a copy of which is attached hereto and incorporated herein by reference.

The County Manager is hereby designated as the authorized representative to provide the assurances and commitments that will be required by the Facilities Plan.

The County Manager is hereby designated as the authorized representative to execute the Facilities Plan which will become the foundation of all activities related to the wastewater facility improvements. The County Manager is authorized to represent the County in carrying out the County's responsibilities under the Facilities Plan. The County Manager is authorized to delegate responsibility to appropriate County Staff to carry out technical, financial, and administrative activities associated with the Facilities Plan.

The legal authority for adoption of this facilities plan is pursuant to the County Charter, County Code of Ordinances, and the Laws of the State of Florida.

All Resolutions or part of Resolutions in conflict with any of the provisions of this Resolution are hereby repealed.

If any section or portion of a section of this Resolution proves to be invalid, unlawful, or unconstitutional, it shall not be held to invalidated or impair the validity, force, or effect or any other section or part of this Resolution.

SECTION 2. EFFECTIVE DATE

This Resolution shall take effect upon its approval and adoption by the Board.

APPROVED AND ADOPTED IN REGULAR SESSION THIS ____ DAY OF _____, ..

ATTEST:

**BOARD OF COUNTY COMMISSIONERS
BREVARD COUNTY, FLORIDA**

CLERK

CHAIR (SEAL)

APPROVED AS TO FORM AND CONTENT:
