BREVARD COUNTY
WATER SUPPLY
FACILITIES WORK PLAN

FOR

BREVARD COUNTY, FLORIDA

AUGUST 2023

Prepared for:

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Kimley»Horn
Expect More. Experience Better.

ACKNOWLDEGEMENTS

Brevard County recognizes its continued partnership with the St. Johns River Water Management District and the East Central Florida Regional Planning Council and thanks them for the collaborative effort to present a document that is consistent with their goals as well as the goals for Brevard County. Furthermore, Brevard County expresses its appreciation to all the staff who contributed to the development and production of this collaborative Water Supply Facilities Work Plan.

EXECUTIVE SUMMARY

The purpose of the Water Supply Facilities Work Plan (WSFWP) is to establish future water demands and potential water sources and facilities to meet those demands for the 2020-2040 planning horizon. Additionally, the WSFWP assists the St. Johns River Water Management District (SJRWMD) in creating a framework for the future water management decisions in the District. Brevard County's WSFWP has been prepared in accordance with Chapter 163, Part II, and Section 373.709, F.S.

Brevard County's 2020 population was approximately 606,612 and is projected to rise to 729,800 by 2040, an increase of more than 20%. Based on data from SJRWMD's 2040 Regional Water Supply Plans, Brevard County's Public Supply water demand in 2040 is projected to be 74.22 million gallons per day (MGD), an increase of more than 18% over 2020's estimated demand of 62.64 MGD.

Brevard County	2020	2040	Delta	% Increase
Total Population	606,612	729,800	123,188	20.3%
Public Water Supply Demand	62.64 MGD	74.22 MGD	11.58 MGD	18.5%

Brevard County residents are served by one of several Public Water Supply facilities, owned and operated by the Cities of Cocoa, Melbourne, Palm Bay, Titusville, and West Melbourne, as well as by Brevard County. These Water Treatment Plants (WTPs) draw and treat water from 229 wells, 34 of them being County Owned, as well as surface water from Lake Washington and Taylor Creek Reservoir. Municipal utilities maintain their own Work Plans pursuant to Florida Statutes.

Recent historical production data from County's three WTPs – Mims, Barefoot Bay, and San Sebastian – showed a total overall demand rate of 73 gallons per capita per day (GPCD), and a maximum daily demand of 90 GPCD. Applying estimated demand to projected population, this plan concludes that existing Brevard WTPs can supply their share of the increase in water demand during the 20-year planning horizon without expanding existing sources. **Mims WTP CUP will need to be revised up per previous allocation to accommodate required expansion per IRLPP.**

Brevard's currently adopted Level of Service standards (LOS) for its WTP territories are demonstrated to be sufficient to meet projected demand. As such, LOS are not recommended to be amended in substance, but rather clarified to uniformly represent per-capita demand.

However, the SJRWMD's most recent Regional Water Supply Plans (RWSP) find that traditional groundwater supply is insufficient to meet projected increasing demands region-wide. Therefore, Brevard County concurs with the SJRWMD recommendation to mitigate future demand and its impacts. This plan recommends conservation and reuse policies for the Brevard County Comprehensive Plan to support this effort, as well as preparation for investigation into eventual Alternative Water Supply. In addition to these policies, this plan also includes Capital Improvement Plan (CIP) projects necessary to ensure that the projected demand for water can be met over the planning period. CIP projects such as water main expansion will help ensure adequate future water supply to the county.

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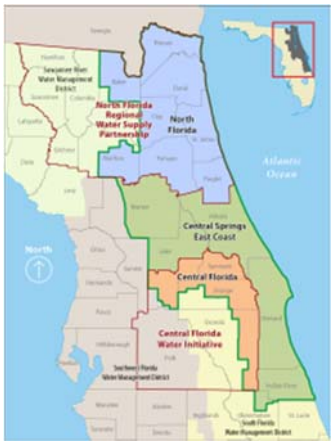
PURPOSE

The purpose of this document is to assess and plan for adequate water supply for the County's future population. This Water Supply Facilities Work Plan (WSFWP) has been prepared in accordance with Chapter 163, Part II, Florida Statutes (F.S.) and 373.709, F.S. The F.S. state that local governments must maintain a WSFWP to assess the water supply sources and facilities necessary to meet existing and projected water use demands for a minimum planning period of 10 years in coordination with the Regional Water Supply Plan (RWSP) of their Water Management District(s). This WSFWP addresses projected supply and demand for years 2020-2040.

INTRODUCTION



An important role of the St. Johns River Water Management District is to ensure there are adequate and sustainable water supplies to meet future needs while protecting the environment. In addressing water supply, the District divided its water supply planning into three plan areas: Central Florida Water Initiative (CFWI); Central Springs/East Coast (CSEC) Planning Area and North Florida Regional Water Supply Partnership. Brevard County is in the CSEC RWSP area which includes all or part of six counties — Volusia, Lake, Marion, Brevard (excluding the City of Cocoa, which is included in the CFWI), Indian River and Okeechobee counties. This plan is coordinated with the CSEC 2040 RWSP and the CFWI 2040 RWP to assess all of Brevard County including the City of Cocoa. There are five public providers of potable water for Brevard County's population: the Cities of Cocoa, Melbourne, Palm Bay, Titusville and West Melbourne, and Brevard County.

PLANNING PERIOD

The Planning Horizon for the Brevard WSFWP is 2020-2040, consistent with the most recent CSEC RWSP (2020-2040) and CFWI RSWP (2020-2040). Florida Statues require local governments plan to a 10-year horizon at minimum, but congruent planning time horizons for the local and regional plans is a best practice in Florida water supply planning.

RWSPs are based on available data at the time of plan development. The base year for both the CSEC and CFWI RWSPs is 2015, which was the most current year with population and water use data available at the time the projections were developed. RWSP demand projections were based on actual use data over the 2011-2015 period to incorporate per-capita trends. For Brevard's own WTP demand projections, more current actual use data from 2018-2023 were used.

Pursuant to Chapter 163, F.S., local governments are required to update their WSFWP and Comp Plan every 5 years within 18 months of an update to their related WMD RWSP. For governments comprising more than one RWSP area, updates must be made within 18 months of the later RWSP update. Brevard county is included in two RWSP areas: the CSEC, covering all of Brevard except for the City of Cocoa, and the CFWI, covering the City of Cocoa.

STATUTORY REQUIREMENTS

FLORIDA REGULATIONS FOR WATER SUPPLY AND FACILITY PLANNING

Brevard County is required by Florida Statutes to adopt a Water Supply Facilities Work Plan that complies with the following regulations for water supply and facility planning and related Comprehensive Elements:

I. {163.3177(4)(a), F.S.}: **Coordinate with the St. Johns River Water Management District** Coordinate aspects of the comprehensive plan with the associated regional water supply plan and adjacent utilities.

II. {163.3177(6)(a), F.S.}: **Ensure the Future Land Use Plan is based upon availability of adequate water supplies and public facilities and services.** Data and analyses demonstrating adequate water supplies and public facilities available to meet project growth demands. **(Future Land Use)**

III. {163.3180(2), F.S.}: **Consult with the water supplier, ensure adequate water supplies and potable water facilities are available to serve new development** no later than the issuance by the local government of a certificate of occupancy or its functional equivalent. **(Future Land Use)**

IV. {163.3177(6)(c), F.S.}: **Work plan will cover at least a 10-year planning period** to meet existing and projected demand. The work plan must address those facilities that provide service within the local government jurisdiction and include any facilities needed to develop alternative water supplies. The work plan must also identify conservation and reuse measures to meet future needs identified in the RWSP. **(Potable Water)**

V. {163.3177(3)(a)4, F.S.}: **Identify water supply capital projects over next 5 years** for which the county is responsible (both publicly and privately funded) needed to achieve and maintain adopted levels of service. The projects would include funded and unfunded projects. If unfunded include the level of priority for funding. **(Capital Improvements)**

VI. {163.3177(6)(d)3, F.S.} & {163.3167(9), F.S.}: **Assess current and projected water needs and sources for at least a 10-year planning period** considering existing levels of water conservation, use and protection, and applicable policies of the water management district. Address water supply sources for existing and projected water use demand. **(Conservation)**

VII. {163.3177(6)(h)1}: **Ensure internal consistency between the Comprehensive Plan and the Water Supply Plan**. **(Intergovernmental Coordination)**

NEW FLORIDA LAWS REGARDING PERMITTING OF SEPTIC TANKS

As of July 1, 2023, Subparagraph 403.067(7)(a)9.a, Florida Statutes, specifies that local governments within a Basin Management Action Plan ("BMAP") must develop a wastewater treatment plan and an onsite sewage treatment and disposal system ("OSTDS") remediation plan containing certain information, if the Florida Department of Environmental Protection ("Department") "identifies domestic wastewater treatment facilities or onsite sewage treatment and disposal systems as contributors of at least 20 percent of point source or nonpoint source nutrient pollution or if the Department determines remediation is necessary to achieve the total maximum daily load ("TMDL").

Brevard County is located within three such BMAPs: Banana River Lagoon, North Indian River Lagoon, and Central Indian River Lagoon and must complete a "BMAP Plan" that includes plans for County-owned and operated wastewater treatment plants as well as OSTDSs located in the County. The draft plans are due to FDEP by February 1, 2024, and final drafts by August 1, 2024.

Brevard County owns and operate the following wastewater treatment facilities (WTF):

- Barefoot Bay Water Reclamation Facility
- South Beaches Wastewater Treatment Facility
- Sykes Creek Regional Wastewater Treatment Facility
- North Regional (Mims) Wastewater Treatment Facility
- Port St John Wastewater Treatment Facility

In response to this new legislation, Brevard County plans to develop a Wastewater Master Plan in Fiscal Year 2024. The related laws are:

{163.3177(3)(a)4.b.}: Include a list of projects necessary to achieve the pollutant load reduction requirements within the schedule of Capital Improvements.

{373.469 (3)(d)1.}: Beginning Jan 1, 2024, unless previously permitted, new onsite sewage treatment and disposal systems will be prohibited within the BMAP areas where publicly owned or investor-owned sewerage system is available. Where central sewer is not available, only enhanced nutrient-reducing OSTDS achieving at least 65% nitrogen reduction are authorized.

{373.469 (3)(d)2.}: By July 1, 2030, any commercial or residential property with an existing OSTDS within the BMAP areas must connect to a central sewer if available or upgrade to an enhanced nutrient-reducing OSTDS achieving at least 65% nitrogen reduction.

DATA & ANALYSIS

STATISTICAL METHODS AND ANALYTIC APPROACH

Confirmed primary-source data is the preferred set for statistical analysis in this Work Plan. Wherever possible, straight averages are avoided in favor of weighted averages. Projections are derived using the most recent and highest rates for growth and demand, to anticipate reasonable "worst-case" impacts to water supply. All internal GPD demand calculations are rounded up to the nearest whole number.

WATER INFRASTUCTURE

Potable water within the County is provided by three (3) County-Owned Water Treatment Plants in addition to municipally-owned water treatment plants which provide water to municipal residents as well as some of unincorporated Brevard County. A map of the County's current water and sewer service areas can be found in the appendices.

Municipal water utilities are planned for and managed in accordance with their respective WSFWPs. The most current Work Plan dates are summarized in ***Table 1*** below.

TABLE 1 – WATER SUPPLY FACILITIES WORK PLAN DATES

Municipal Utility	Last WSFWP
City of Cocoa	2009
City of Melbourne	2021
City of Palm Bay	N/A
City of Titusville	2023
City of West Melbourne	N/A

Due to recent changes in state law requiring regular 5-year updates to all WSFWPs, Brevard County anticipates out-of-date municipal Work Plans will be updated within the next FY.

The Brevard County-owned potable water distribution facilities include over 111.6 miles of pipe ranging from smaller than 4 inches to 24 inches in diameter. Throughout the potable water service areas identified, the existing water mains are composed mostly of PVC pipe. There are also small areas of County owned water mains constructed of ductile iron and high-density polyethylene (HDPE). Descriptions of the potable water infrastructure maintained by the municipal suppliers in Brevard County are included in their respective Work Plans.

POPULATION

By 2040, 729,800 people are projected to reside in the County, compared to the 606,612-person population in 2020. While not all of these residents will receive water from Public Supply Utilities, it can be anticipated that the Public Supply population will increase at a similar rate. This population analysis can be found later in ***Tables 5 and 6*** of this document. This WSP addresses these development trends in the population projections and anticipated demands, identifying conservation initiatives to accommodate additional users while conserving water supply.

DEMAND AND LOS

The SJRWMD RWSPs analyze prior actual use data against BEBR population projections to estimate demand into the future. The most recent RWSPs estimate through 2040 based on use data from 2011-2015. These figures represent projections for total Public Supply demand in Brevard County, served by both Municipal and County water utilities, excluding small private supply including well/septic systems. Brevard WTP figures are based on Brevard's MOR data from 2018-2023 and BEBR populations.

**Note that the RWSP projections include some overlap of the City of Cocoa service, as it falls within two planning areas; therefore, the primary value of these figures is for trend analysis.*

TABLE 2 - RWSP PUBLIC SUPPLY DEMAND 2020-2040, MILLION GALLONS PER DAY (MGD)

Planning Area	2020	2025	2030	2035	2040
CSEC (Central Springs/East Coast) - Brevard	37.51	39.00	39.95	41.07	42.11
CFWI (Central Florida Water Initiative) – City of Cocoa	25.13	29.91	30.82	31.49	32.11
*Combined RWSP – Brevard**	*62.64*	*68.91*	*70.77*	*72.56*	*74.22*
% Growth 5-Year		+ 10.0%	+ 2.7%	+ 2.5%	+ 2.3%
% Growth over 2020		+ 10.0%	+ 13.0%	+ 15.8%	+ 18.5%

Sources: CSEC 2020 RWSP, CFWI 2020 RWSP

Level of Service (LOS) standards are adopted by Brevard County to ensure sufficient water supply for existing and future development. LOS are used in land use decisions to estimate increased demand from development, and they are an important measure for estimating the necessity of utility expansion.

TABLE 3 – POTABLE WATER LEVEL OF SERVICE

Service Area	Use	Level of Service Standard	Standardized Per Capita
Mims	Residential	400 gal / residential unit / day	**172 gal / capita / day**
	Non-Residential	250 gal / equivalent unit / day	**108 gal / capita / day**
Titusville		104 gal / capita / day	**104 gal / capita / day**
Cocoa		234 gal / ERC / day	**101 gal / capita / day**
South Brevard		125 gal / capita / day	**125 gal / capita / day**

**Source: Brevard County Comprehensive Plan Chapter VI: Potable Water Element, exc. Standardized*

For consistency within the Work Plan, LOS is converted to a standardized per capita unit based upon BEBR's Households and Average Household Size in Florida. The 2021 report shows Brevard County's Average Household Size is 2.33 persons per household. Therefore, the Mims Residential LOS can be standardized to 172 GPCD, Residential and 108 GPCD, Non-Residential.

WATER USE PERMIT INFORMATION

The St. Johns River Water Management District issues Consumptive Use Permits (CUPs) authorizing withdrawal of ground and surface waters for public supply within Brevard County. A copy of the available present CUPs for each publicly owned water provider within the County can be found in the appendices.

Table 4 below is a summary of the existing consumptive use permits in Brevard County and their source allocations.

TABLE 4 - PUBLICLY OWNED WATER PROVIDERS

Provider	CUP Current Year Water Allocated (MGY)	Total # of Wells	Source	Permit #	Permitted to Serve Pop.
Barefoot Bay WTP*	291.72	10	Groundwater from surficial aquifer, with backup from Upper Floridan Aquifers (UFA)	236	10,600
MIMS WTP*	384.7	21	Groundwater from surficial aquifer	233	9,700
San Sebastian WTP*	29.15	3	Groundwater from surficial aquifer	1742	330
City of Titusville	*2,193.65*	*61*	*Groundwater from surficial aquifer*	*10647, 99052*	*63,369*
City of Palm Bay	*6,267.05*	*59*	*Groundwater from surficial aquifer and Floridan Aquifers*	*202*	*144,867*
City of Melbourne	*8,592.23*	*12*	*Surface water from Lake Washington and groundwater from the brackish Upper Floridan aquifer (UFA)*	*50301*	*233,937*
City of West Melbourne	*1,372.40*	*5*	*Groundwater from the Upper Floridan Aquifers (UFA).*	*173509*	*41,570*
City of Cocoa	*14,537.95*	*63*	*Surface water from the Taylor Creek Reservoir, Groundwater from the intermediate aquifer system and Upper Floridan Aquifer (UFA)*	*50245*	*256,385*

Source: OCULUS, FL Department of Environmental Protection (DEP) 2023 Current consumptive use permits
***** = Brevard County Owned Facilities

INVENTORY OF EXISTING WATER SUPPLY & FACILITIES

BREVARD-COUNTY OWNED WATER TREATMENT PLANTS

MIMS WATER TREATMENT PLANT (WTP) (FACID: 3050834, CUP PERMIT #: 233)

The Mims WTP is a 1.05 million gallon per day (MGD) annual average daily flow (AADF) permitted capacity potable water treatment facility. The facility treats raw water from surficial aquifer wells located in the Mims area through aeration, lime softening, secondary clarification, tertiary filtration, and high-level disinfection to generate potable water meeting all FDEP and Potable Water criteria requirements. It has a CUP authorization limit of 383.3 MGY, with source water obtained from the surficial aquifer.

BAREFOOT BAY WATER TREATMENT PLANT (WTP) (FACID: 3050057, CUP PERMIT #: 236)

The Barefoot Bay WTP is a 0.8 million gallon per day (MGD) annual average daily flow (AADF) permitted capacity potable water treatment facility. The facility treats raw water from surficial aquifer wells located in Barefoot Bay through softening, filtration, and primary disinfection to generate potable water meeting all FDEP and Potable Water criteria requirements. It has a CUP authorization limit of 291.72 MGY, with source water obtained from the surficial aquifer and Upper Floridian aquifer as a backup.

SAN SEBASTIAN WATER TREATMENT PLANT (WTP) (FACID: 3054170, CUP PERMIT #: 1742)

The San Sebastian WTP is a 0.08 million gallon per day (MGD) annual average daily flow (AADF) permitted capacity potable water treatment facility. The facility treats raw water from surficial aquifer wells located at the facility through aeration and disinfection to generate potable water meeting all FDEP and Potable Water criteria requirements. It has a CUP authorization limit of 29.15 MGY, with source water obtained from the surficial aquifer.

MUNICIPALLY OWNED WATER TREATMENT PLANTS (WTP):

CITY OF TITUSVILLE (CUP PERMIT #: 10647)

The City of Titusville owns 61 wells. It has a CUP authorization of 6.01 MGD (2,193.65 MGY) of groundwater from the surficial aquifer system and the Floridan aquifer. The city is permitted through 2031 to serve a population of 63,369.

CITY OF PALM BAY (CUP PERMIT #: 202)

The City of Palm Bay owns 59 wells. It has a CUP authorization of 4.9 MGD of groundwater from the surficial aquifer system and 12.27 MGD of groundwater from the Floridan aquifer (6267.05 MGY total). The city is permitted through 2029 to serve a population of 144,867.

CITY OF MELBOURNE (CUP PERMIT #: 50301)

The City of Melbourne owns 12 wells. It has a CUP authorization of 23.54 MGD (8,592.1 MGY) of surface water from Lake Washington and groundwater from the brackish Upper Floridan aquifer (UFA). The city is permitted through 2049 to serve a population of 233,937.

CITY OF WEST MELBOURNE (CUP PERMIT #:173509)

The City of West Melbourne owns 5 wells. It has a CUP authorization of 3.76 MGD (1372.4 MGY) of groundwater from the Upper Floridan Aquifer (UFA). The city is permitted through 2041 to serve a population of 41,570.

CITY OF COCOA (CUP PERMIT #: 50245)

The City of Cocoa owns 63 wells. It has a CUP authorization of 8.83 MGD of surface water from the Taylor Creek Reservoir, 3 MGD of groundwater from the intermediate aquifer system and 28 MGD of groundwater from the Upper Floridan Aquifer (UFA) (14,537.95 MGY total). The city is permitted through 2052 to serve a population of 256,385.

BREVARD COUNTY POPULATION ANALYSIS

As required by all Comprehensive Plan amendments, the WSFWP must be based upon data relevant to Brevard County. Per Section 163.3177, F.S., comprehensive plans shall be based upon permanent and seasonal population estimates. However, RWSPs are based on the University of Florida's Bureau of Economic and Business Research (BEBR) data. It should be noted that the population figures used in this WSFWP similarly use BEBR as an acceptable source allowed under Florida Statutes, and as such they do not include seasonal or other types of temporary residents. The projections used for this Work Plan are based upon the "Medium" BEBR projections released in April 2023 for Brevard County. ***Table 5*** provides the projected population in 5-year increments with % Growth over 5 years and overall for each period.

TABLE 5 - BREVARD COUNTY POPULATION PROJECTIONS AND OVERALL GROWTH 2020-2040

Brevard County	2020	2025	2030	2035	2040
Population (Medium)	606,612	651,600	685,200	710,300	729,800
% Growth 5-Year		+ 7.4%	+ 5.2%	+ 3.7%	+ 2.7%
% Growth over 2020		+ 7.4%	+ 13.0%	+ 17.1%	+ 20.3%

Sources: BEBR: Projections of Florida Population by County, 2025–2050, Medium, (April 2023); BEBR: FL Estimates of Population 2022 (April 2022).

The CSEC and CFWI RWSPs identify the "Public Supply Population" as a discrete portion of the overall population, since not all developments receive public water services. ***Table 6*** provides the estimated Public Supply Population in the RWSPs across the 2020 – 2040 planning horizon. Note that CFWI - City of Cocoa includes a Public Supply Population larger than the municipal population, due to its service agreements to non-Cocoa residents, including some of unincorporated Brevard County.

TABLE 6 - BREVARD COUNTY PUBLIC SUPPLY POPULATION 2020-2040

Public Supply Population	2020	2025	2030	2035	2040
CSEC (Brevard)	419,811	441,484	455,304	472,027	488,330
CFWI (City of Cocoa)	190,375	199,285	206,178	211,309	215,987
Total Brevard - All RWSP	610,186*	640,769*	661,482*	683,336*	704,317*
% Growth 5-Year		+ 5.0%	+ 3.2%	+ 3.3%	+ 3.1%
% Growth over 2020		+ 5.0%	+ 8.4%	+ 12.0%	+ 15.4%

Source: CSEC 2020 RWSP Appendix B; CFWI 2020 RSWP Appendices
**The projections for CSEC and CFWI include some overlap for the City of Cocoa, which explains the large total population. The actual total values are insignificant compared to their Growth Trend data.*

Per these projections, it is anticipated that the total Brevard County population will increase faster than the Public Supply population. This may be due to the likelihood of comparatively more rural/suburban development than infill or redevelopment within existing utility service territories. Another explanation for the discrepancy may be due to the differing BEBR data sets used; RWSP PS projections use 2017 BEBR data while Brevard's Total projections use more recent 2023 BEBR data. In any case, the highest recent growth rate projections will be used to better anticipate future demand.

BREVARD WTP POTABLE WATER PER CAPITA DEMAND

Monthly Operation Reports (MOR) covering January 2018 – April 2023 from each Water Treatment Plant (WTP) were used to establish the rates of water demand across the populations served in each service area. These figures were based on the actual water produced by each WTP by month and include the populations served by each.

MORs were analyzed for both Average and Maximum monthly production to project both typical and reasonable worst case demands over the planning horizon. Because Brevard County's adopted Level of Service standards specifically reference Maximum GPD, this Work Plan prioritizes Maximum demand projections.

Tables 7 and 8 analyze MOR data for each County-Owned WTP to establish Average and Maximum demand per capita per day.

TABLE 7 - AVERAGE DEMAND PER DAY FROM MOR DATA (2018-2023)

WTP	Average Month Demand (GPM)	Average Total WTP GPD	Average Per Capita GPD	Population Served	AADF Permitted (GPD)
MIMS	23,723,071	780,261	99	7,947	1,050,000
San Sebastian	1,417,650	46,612	320	146	80,000
Barefoot Bay	13,998,466	461,569	48	9,636	800,000
TOTAL	**39,139,187**	**1,288,442**	**73**	**17,729**	**1,930,000**

TABLE 8 - MAXIMUM DEMAND PER DAY FROM MOR DATA (2018-2023)

WTP	Maximum Month Demand (GPM)	Max Total WTP GPD	Max Per Capita GPD	Population Served	Design Capacity (GPD)
MIMS	28,907,000	932,484	118	7,947	2,400,000
San Sebastian	2,270,000	73,226	502	146	100,000
Barefoot Bay	18,244,000	588,516	62	9,636	1,000,000
TOTAL	**49,421,000**	**1,594,226**	**90**	**17,729**	**2,700,000**

**: Tables 7 & 8 were calculated using maximum demand per day from January 2018-April 2023 MOR data for each County-owned Water Treatment Plant.*

The per capita use rates were calculated by determining both the average and maximum volume of potable water produced by the County's water treatment plants from January 2018 to April 2023 and dividing it by the population served. Using this method, the Mims WTP averaged 99 GPD per capita (GPCD) with a max day of 118 GPCD; the Barefoot Bay WTP averaged 48 GPCD with a max day of 62 GPCD; and the San Sebastian WTP averaged 320 GPCD with a max day of 502 GPCD. Overall, the total demand across the three Brevard County WTPs averaged 73 GPCD with a max day of 90 GPCD.

LEVEL OF SERVICE (LOS)

Brevard County has adopted acceptable Level of Service (LOS) standards to ensure sufficient water quantity for current and future development. Per the County's Comp Plan, LOS is based on the maximum daily demand. There are separate LOS for Mims and South Brevard. Mims LOS vary across Residential and Non-Residential uses, ranging from 400 gallons per Residential Unit per day for residential uses, and 250 gallons per Equivalent Unit per day for non-residential uses. Because the scope of this Work Plan contemplates per capita consumption, Brevard's per-capita LOS can be calculated using BEBR Average Household Size for Brevard (2.33), resulting in a per-capita LOS of 171 GPCD. South Brevard LOS is a standard 125 GPCD. This Work Plan defines the South Brevard region as comprising both the Barefoot Bay and San Sebastian WTPs.

TABLE 9 - CURRENT DEMAND LEVEL OF SERVICE COMPARISON

WTP	Average GPCD	Max GPCD	Level of Service GPCD	Meets LOS?
MIMS	99	118	172	Yes
South Brevard	52	68	125	Yes

**: This table was calculated using maximum demand per day over 5 years of MOR data from each County-owned Water Treatment Plant. LOS from Brevard County Comp Plan*

As shown, current maximum daily demand falls well below adopted LOS. Because of the inconsistency in unit measurement between the various geographic LOS designations, it is recommended that the Comprehensive Plan LOS reference be amended to per capita rather than per unit, and for the South Brevard LOS to be broken into two distinct service areas to reflect the different capacities of Barefoot Bay and San Sebastian WTPs.

POTABLE WATER PROJECTIONS

BEBR population figures and projections were used to establish overall growth rates in 5-year increments through 2040. These rates as shown previously in ***Table 5*** are applied to each current Brevard WTP service territory population. The projected populations are then multiplied by average and maximum per-capita demand rates from ***Tables 7 & 8*** to project a range of future finished water demands for each Water Treatment Plant. These projections can be seen in the tables and figures below.

FIGURE 1 - TOTAL BREVARD-OWNED WTP FUTURE DAILY WATER DEMAND

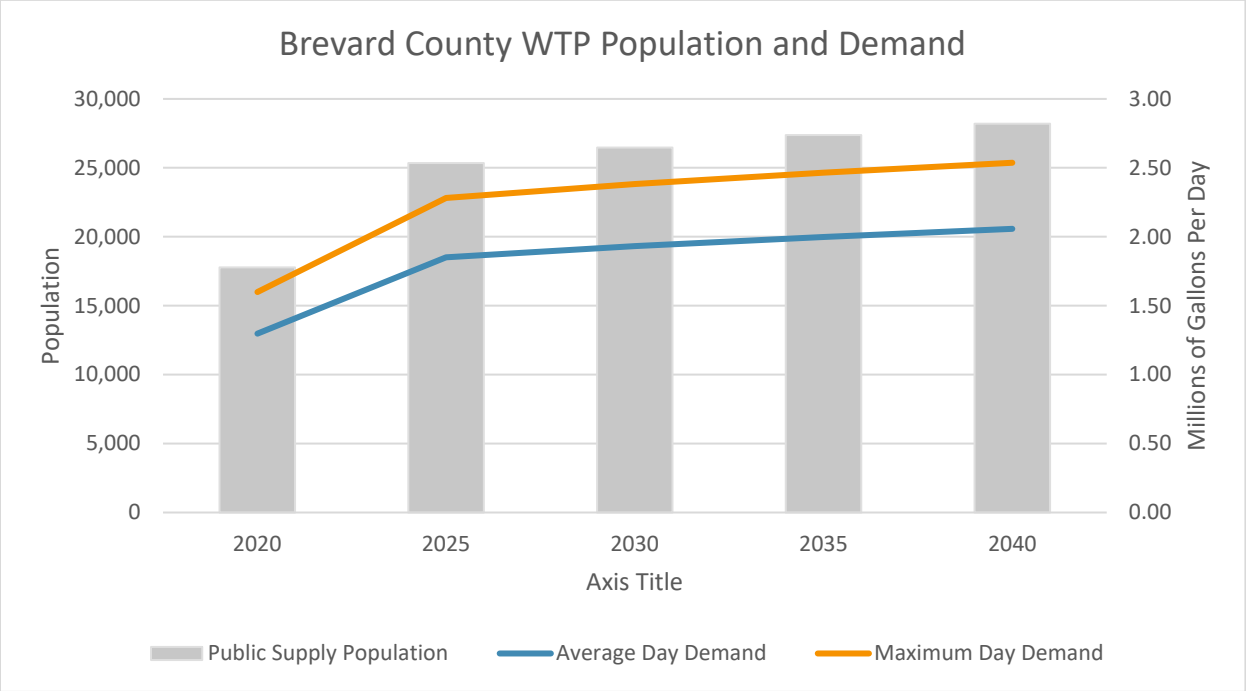


TABLE 10 - BREVARD COUNTY TOTAL WTP FUTURE POTABLE WATER DEMAND (2020-2040)

Year	Projected Public Supply Population	Average Gal. Per Capita (GPD)	Average Day Demand (MGD)	Maximum Gal. Per Capita (GPD)	Maximum Day Demand (MGD)
2020	17,769	73	1.30	90	1.60
2025	25,340	73	1.85	90	2.28
2030	26,459	73	1.93	90	2.38
2035	27,372	73	2.00	90	2.46
2040	28,190	73	2.06	90	2.54

MIMS WTP FUTURE WATER DEMAND

FIGURE 2 - MIMS WTP FUTURE DAILY WATER DEMAND

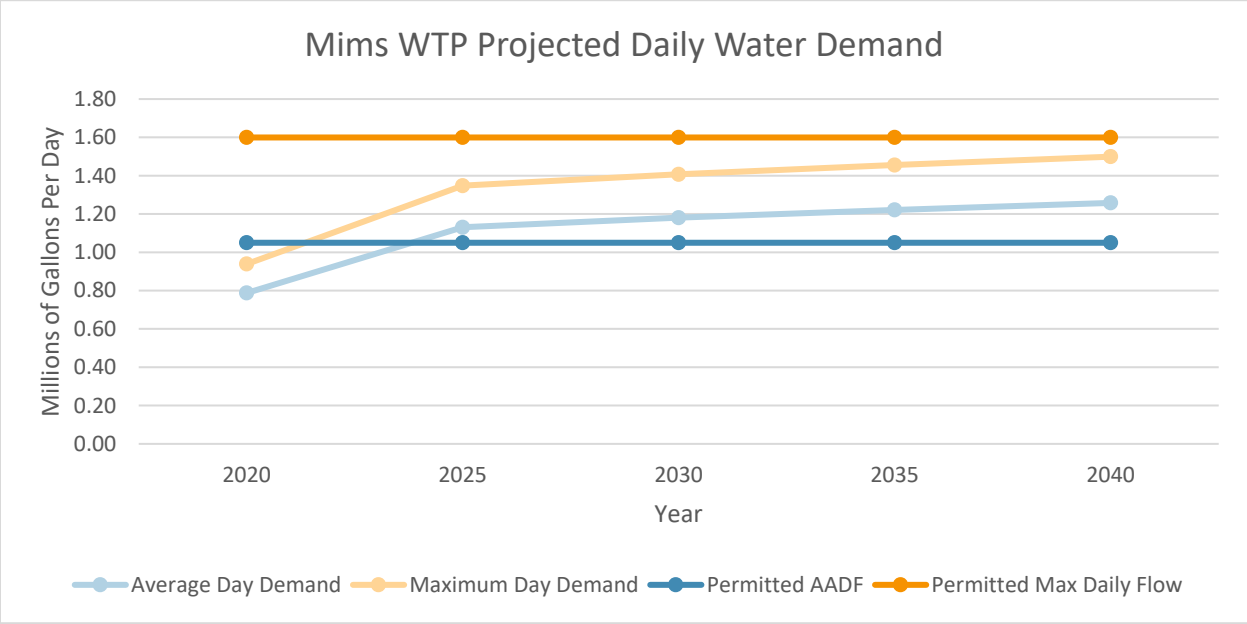


TABLE 11 - MIMS WTP FUTURE POTABLE WATER DEMAND (2020-2040)

Year	Total Population Estimated	Average Gal. Per Capita (GPD)	Average Day Demand (MGD)	Maximum Gal. Per Capita (GPD)	Maximum Day Demand (MGD)	Permitted Surplus at Average Day (MGD)	Design Surplus at Max. Day (MGD)
2020	7,958	99	0.79	118	0.94	0.26	0.66
2025	11,422	99	1.13	118	1.35	-0.08	0.59
2030	11,926	99	1.18	118	1.41	-0.13	0.54
2035	12,337	99	1.22	118	1.46	-0.17	0.50
2040	12,706	99	1.26	118	1.50	-0.21	0.47

As shown in ***Table 11***, Mims WTP is projected to have an average daily demand of 1.26 MGD and a maximum daily demand of 1.50 MGD across 12,706 customers by 2040. As it is currently permitted for 1.05 MGD AADF with design capacity of maximum 1.6 MGD through 2038, **it is not expected to be able to accommodate projected average demand** through 2040 assuming continued CUP limits. **Brevard County should work with SJRWMD to revise up its CUP per previous allocation before small area study.**

Continued conservation and reuse expansion is still recommended to help offset any potential restrictions SJRWMD may impose upon reissuance of CUP after 2038 due to regional long-range supply concerns. The Mims Wastewater Treatment Plant is allocated a significant remaining permitted reuse capacity, so further expansion of its service for non-potable uses is recommended.

BAREFOOT BAY WTP FUTURE WATER DEMAND

FIGURE 3 - BAREFOOT BAY WTP FUTURE DAILY WATER DEMAND

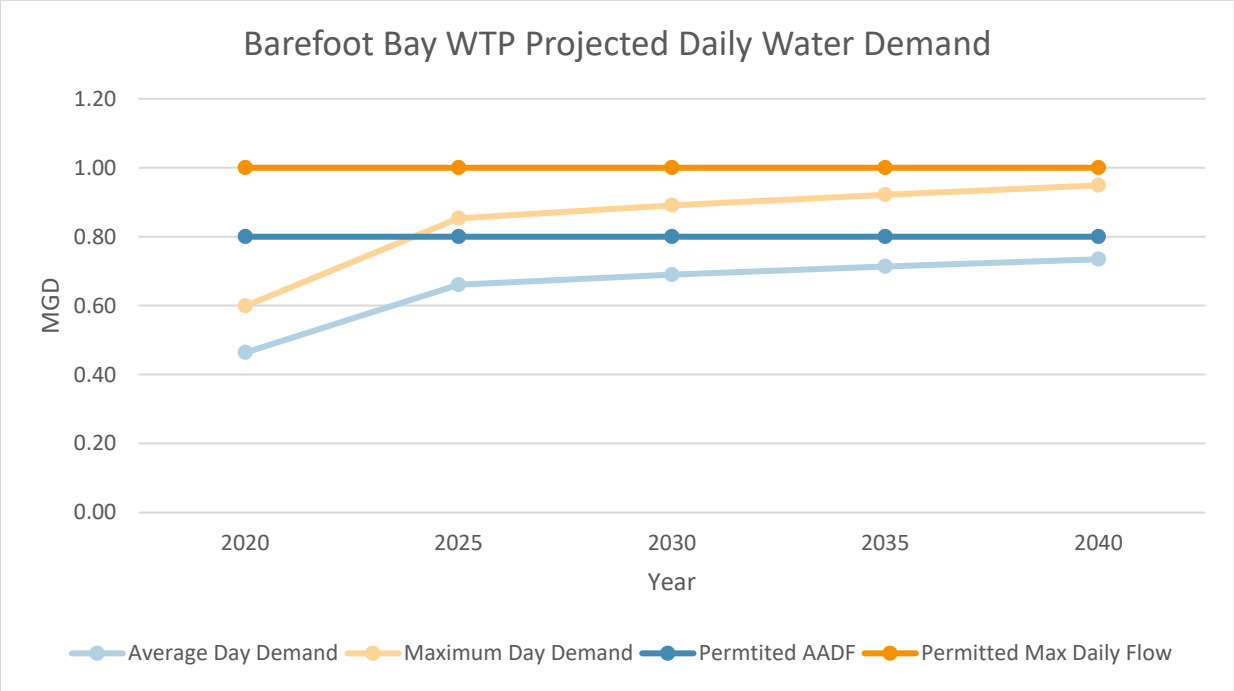


TABLE 12 - BAREFOOT BAY WTP FUTURE POTABLE WATER DEMAND (2020-2040)

Year	Total Population Estimated	Average Gal. Per Capita (GPD)	Average Day Demand (MGD)	Maximum Gal. Per Capita (GPD)	Maximum Day Demand (MGD)	Permitted Surplus at Average Day (MGD)	Design Surplus at Max. Day (MGD)
2020	9,665	48	0.46	62	0.60	0.34	0.40
2025	13,761	48	0.66	62	0.85	0.14	0.15
2030	14,368	48	0.69	62	0.89	0.11	0.11
2035	14,864	48	0.71	62	0.92	0.09	0.08
2040	15,308	48	0.73	62	0.95	0.07	0.05

As shown in ***Table 12***, the Barefoot Bay WTP is projected to have an average daily demand of 0.73 MGD and a maximum daily demand of 0.95 MGD by 2040, serving 15,308 customers. This WTP is projected to be within its current CUP water limit through 2040.

Adopted LOS are demonstrated to be maintained through 2040 based on these projections.

SAN SEBASTIAN WTP FUTURE WATER DEMAND

FIGURE 4 - SAN SEBASTIAN WTP FUTURE DAILY WATER DEMAND

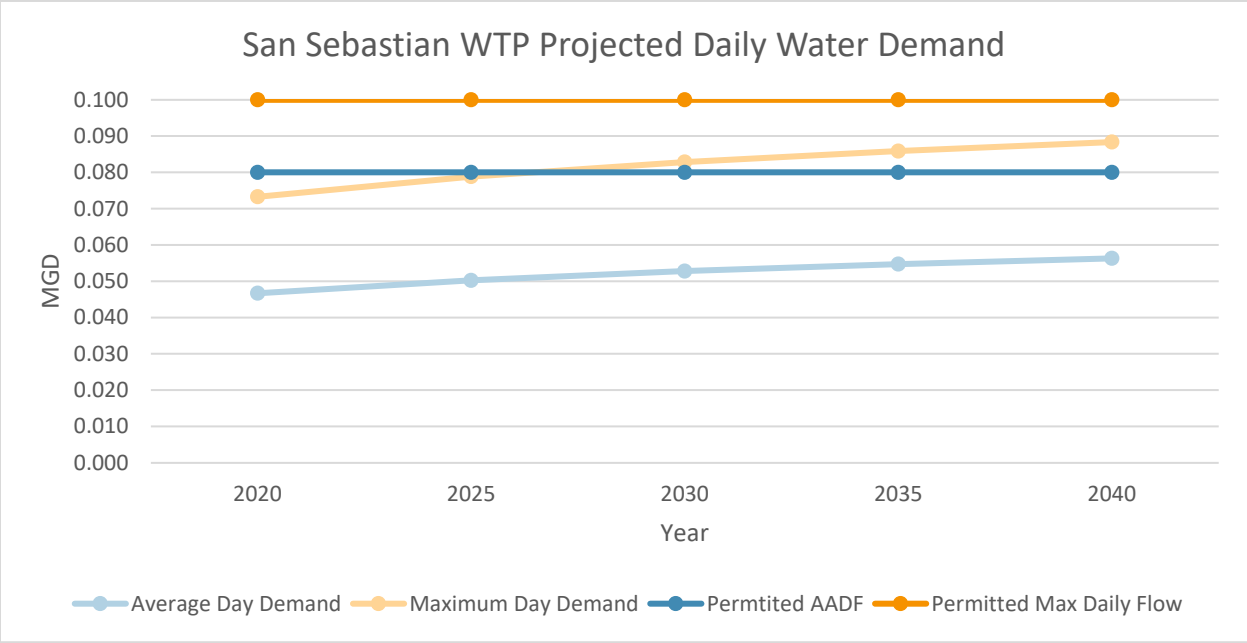


TABLE 13 - SAN SEBASTIAN WTP COUNTY FUTURE POTABLE WATER DEMAND (2020-2040)

Year	Total Population Estimated	Average Gal. Per Capita (GPD)	Average Day Demand (MGD)	Maximum Gal. Per Capita (GPD)	Maximum Day Demand (MGD)	Permitted Surplus at Average Day (MGD)	Design Surplus at Max. Day (MGD)
2020	146	320	0.047	502	0.073	0.033	0.027
2025	157	320	0.050	502	0.079	0.030	0.021
2030	165	320	0.053	502	0.083	0.027	0.017
2035	171	320	0.055	502	0.086	0.025	0.014
2040	176	320	0.056	502	0.088	0.024	0.012

As shown in ***Table 13***, the San Sebastian WTP is projected to have an average daily demand of 0.056 MGD and a maximum daily demand of 0.088 MGD by 2040, serving a projected 176 residents. As it is permitted for 0.08 MGD through 2031, it can accommodate projected future demands and is not in need of supply expansion for the foreseeable future. San Sebastian currently exceeds South Brevard LOS.

Despite the relatively small size of the San Sebastian WTP service territory, its per capita consumption is relatively high compared to other areas in Brevard County and in the region. This may be due to irrigation of large single-family lots, or other non-potable or non-residential uses. It is recommended that this per capita consumption be reduced by expansion of reuse infrastructure from neighboring Barefoot Bay WWTP to serve non-potable uses. Additional water conservation policies are recommended.

SERVICE AREA BOUNDARIES

This Water Supply Plan addresses future demands for potable water and reuse water within the established planning horizon as required by Florida Statutes. In order to determine future water service areas, the current service areas were superimposed over the county's future land use classifications, prioritizing the denser areas for potential expansion. Additionally, the Indian River Lagoon Protection Program (IRLPP), established in 2023, applies to the County. The IRLPP was created to help protect the Indian River Lagoon System from nutrient pollution, prohibiting new septic systems where sewer is available beginning January 1, 2024, and requiring hookup to sewer for existing systems by July 1, 2030. The County is looking to extend water and sewer services to the portions of the county within the BMAP that are currently not being served. Reclaimed water service areas were not redrawn for the purpose of this water supply plan. The proposed future water service area maps can be found in the appendices.

CONSERVATION MEASURES

The County has established and continues to develop a variety of incentive programs including outreach and educational programs, irrigation restrictions, leak detection audits, water reuse and restricted use of potable water for irrigation.

An anticipated growth in sewer hookups due to the 2023 IRLPP will create the possibility for more reuse programs to help offset potable water demand for non-potable uses.

The following table displays the significant remaining Reuse capacity permitted for Brevard's Wastewater Treatment Plants.

TABLE 14 - BREVARD COUNTY WASTEWATER FLOW AND REUSE INFORMATION

Wastewater Treatment Plant	Permitted AADF (MGD)	Permitted Reuse (MGD)	Reuse Average Over Last 10 Years (MGD)
Barefoot Bay	0.9	1.041	0.538
MIMS (North Brevard) aka John D. Wright	0.99	2	0.271
Port St. John	0.5	0.606	0.368
South Beaches	8	3	1.446
South Central	12	10.7	4.003
Sykes Creek	6	4.5	1.466

Source: OCULUS, FL Department of Environmental Protection (DEP) 2023

ADDITIONAL CONSERVATION PROJECTS OUTLINED IN RWSP

- Outreach and education: Water conservation outreach is common throughout the CSEC RWSP area, regarding both indoor and outdoor water use. Water conservation outreach occurs via websites, utility bill stuffers, webinars and in-person events, and through other collaborative approaches implemented by local governments, utilities, SJRWMD, and other partners. The SJRWMD WaterLess campaign launched in 2019 and SJRWMD has successfully partnered with a number of local governments and utilities in the region to expand the public reach and promote decreasing irrigation water use. The SJRWMD Utility Conservation Coordinator group meets quarterly and offers members in the region an opportunity to learn more about specific conservation strategies relevant to their service areas. Other conservation messaging includes general recommendations for efficient water use as well as advertising for existing programs such as Florida-Friendly Landscaping™, Florida Water Star℠, and the Florida Green Building Coalition. Consistent and collaborative messaging in the region is essential to the success of conservation measures.
- Water use audits for residential customers: When employed by a public supply utility, this strategy has been very effective in this region as it provides customized recommendations, includes direct contact with landowners, and can be targeted to water users with the greatest potential for savings.
- Meter reading technology: Automatic meter reading and advanced metering infrastructure are used by several utilities in the CSEC RWSP area to identify high water users or unusual increases in water use relative to historical patterns for individual customers. This technology provides a significant opportunity for water conservation savings when used to identify individual homeowners/businesses that public supply utility staff can then contact to provide technical assistance identifying and resolving the cause(s) of high water use and/or unusual increases.
- Water conservation rebate programs: This strategy offers customers either a reduced price or free replacement of a variety of indoor plumbing fixtures and outdoor irrigation devices (e.g., replacement rain sensors, soils moisture sensors, evapotranspiration controllers). Water savings is achieved one of two ways; either when the replacement fixtures and devices are more efficient than the older fixtures or when broken/malfunctioning fixtures and devices are replaced. Fixture replacement occurs in both residential and commercial customers.
- Innovative practices: Public supply utilities are also experimenting with utilization of new technology as well as data-driven approaches for targeted implementation of existing programs and technology to maximize their effectiveness.

CAPITAL IMPROVEMENTS

The County established long-term strategies for water supply and distribution in the Annual Capital Improvement Plan for Fiscal Year 2022-2023 to Fiscal year 2026-2027. A list of potential projects was created in accordance with the Annual Capital Improvement Plan. ***Table 15*** includes relevant proposed capital improvement utility projects included in the Plan put together by Brevard County and recommended projects to meet future water. The full description of the County's CIPs is included in the appendices.

TABLE 15 - 5-YEAR CAPITAL IMPROVEMENT PLAN THROUGH FY 2027

Timeline	Project Cost	Program Name	Project Name	Project Description	Funded Program	District
Oct 2019-Sept 2027	$11,229,439	County Water and Wastewater	Mims: Water Main Replacement of Asbestos Cement Pipe	This project will replace the asbestos cement and thin-walled PVC pipe in the Mims water distribution system and includes changing over the water service connections from the existing pipes to the new pipes.	6980111	1
Oct 2019-Sept 2024	$380,000	County Water and Wastewater	Mims: Plant Mixing Improvements	This project consists of replacing the chlorine and ammonia mixing system at the Mims water treatment plant. The system has reached its useful life and requires replacement in order to meet FDEP compliance.	6540116	1
Oct 2019-Sept 2024	$1,916,000	County Water and Wastewater	Mims: Clarifier Replacement	Major upgrade that will increase performance/efficiencies of asset 640041 at the Mims Water treatment plant. The clarifier treatment unit was built in the early 1960's and has exceeded its useful life. New turbine, rakes, stilling well and any additional steel components inside the concrete tank will have to be replaced	6540118	1
Oct 2019-Sept 2024	$3,200,500	County Water and Wastewater	Mims: Plant Additional Wells	This project consists of installing new water wells to the Mims water system. Current wells have been underperforming in their water withdrawal resulting in the installation of new wells to meet customer water demand.	6983105	1
Oct 2019-Sept 2024	$1,600,000	County Water and Wastewater	South Beaches: Deep Injection Well Improvements	Replacement of existing Deep Injection Well (DIW) pumps, electrical, controls, instrumentation and building improvements and associated infrastructure which is a substantial improvement to increase performance.	6540318	3
Oct 2019-Sept 2024	$75,000	County Water and Wastewater	South Beaches: Flow Meter Replacement	This project will change the orientation of the pipe from above ground to below ground and will improve the measuring accuracy of the FDEP required flow meter. The current flow meter configuration allows for inaccurate readings due to air entrapment.	6540502	3

Timeline	Project Cost	Program Name	Project Name	Project Description	Funded Program	District
Oct 2019-Sept 2024	$1,600,000	County Water and Wastewater	South Central: Additional Plant Reject Pond	Install additional reject pond and pumping system north of the two existing storage ponds needed to optimize reclaimed water production at SCWWTP and provide additional capacity.	6540423	4
Oct 2019-Sept 2024	$75,000	County Water and Wastewater	South Central: Flow Meter Replacement	This project will change the orientation of the pipe from above ground to below ground and will improve the measuring accuracy of the FDEP required flow meter. The current flow meter configuration allows for inaccurate readings due to air entrapment.	6540420	4
Oct 2019-Sept 2025	$900,000	County Water and Wastewater	South Central: Replace Plant Reuse Transfer Pumps and Controls	Transfer pumps and controls have exceeded the design service life and are becoming more prone to failure.	6540421	4
Oct 2019-Sept 2024	$100,000	County Water and Wastewater	South Central: Reuse Flow Meter Replacement	This project will change the orientation of the pipe from above ground to below ground and will improve the measuring accuracy of the FDEP required flow meter. The current flow meter configuration allows for inaccurate readings due to air entrapment.	6986409	4
Oct 2019-Sept 2024	$440,733	County Water and Wastewater	South Central: Reuse System Optimization Improvements	This project involves several projects to improve the level of service, integrity and operation of the South Central reclaimed water system. Performing these projects will increase the level of service to the reuse customers within this service area.	6540409	4
Oct 2019-Sept 2024	$2,577,928	County Water and Wastewater	South Central: Viera Wetlands Improvements To Pump Station and Effluent Electrical	This project involves the replacement of the Viera Wetlands pumping station. Not only is this pump station not performing to expectation but is visible to those visiting the wetland. This project will address its performance and aesthetics. Current electrical feed to the wetlands pump is insufficient for the pump size/ horse power required for operation. This project brings upgraded power from existing FPL transformers to the pump site. Presently, if the pumps must be operated, they are powered by portable generators. Completion of the project will also reduce the total hours of generator operation and free another generator for use during storm events. Existing wetland equipment is failing and is in need of replacement. Improvements to include a structure to move the equipment out of the elements.	6538429	4

Timeline	Project Cost	Program Name	Project Name	Project Description	Funded Program	District
Oct 2019-Sept 2024	$5,765,000	County Water and Wastewater	Sykes: Effluent Pump Station Building Replacement	Construct a new pump station building with pump station inside for the filter feed pumps and deep injection well pumps; minor filter backwash strainer improvements; and new electrical gear including replacements for automatic transfer switches 1-3 and master distribution panels. Replaces asset 640636.	6520204	2
Oct 2019-Sept 2024	$992,741	County Water and Wastewater	Sykes: Reclaimed Water Improvements	This is phase 1 of a 3 phase project which will provide necessary improvements to the reclaimed water production facility to meet future demands of a growing population in the north Merritt Island region.	6300236	2
Oct 2019-Sept 2024	$5,600,000	County Water and Wastewater	Sykes: Sodium Hypochlorite Improvements	Install new dual chamber chlorine contact tank to replace the one wrapped around the north ground storage tank; install a transfer pump station sized to pump up to the future height of the ground storage tanks; install new sodium hypochlorite storage facility including a new building.	6300239	2
Oct 2019-Sept 2024	$647,000	Barefoot Bay Water and Wastewater	Barefoot Bay Water: Center Drive Replacement	Original Drive Equipment is 20 years old and has reached its useful life. The drive is rusting and sweeping corner drives are worn and leaking. This component is major component of the water production plant.	6540315	3
Oct 2019-Sept 2024	$1,431,964	Barefoot Bay Water and Wastewater	Barefoot Bay Water: Chlorine & Ammonia Feed Systems At The Booster Pump Station And Soft Starters Installation	This project consists of installing a chlorine and ammonia feed system at the Barefoot Bay water booster station. Included in this project are upgrades to the pumping and electrical systems that would be tied into this project. Completion of this project will assure that we continually meet the Clean Water Act requirements associated with potable water.	513868	3
Oct 2019-Sept 2023	$375,000	Barefoot Bay Water and Wastewater	Barefoot Bay Wastewater: Clarifier Rehabilitation	This project involves the rehabilitation of clarifier #1 (West), asset #640020. The current clarifier is not in operation. This project will address the age and the performance of the equipment. Doing so will assure we maintain compliance with the FDEP.	6540314	3
Oct 2019-Sept 2024	$260,000	Barefoot Bay Water and Wastewater	Barefoot Bay Water: Carbon Dioxide Replacement	The current CO2 system is undersized and replacement is needed to have better pH control to compensate for variability of lime slaker at the water production plant.	6540316	3

Timeline	Project Cost	Program Name	Project Name	Project Description	Funded Program	District
Aug 2023-Sept 2025	$1,131,200	Barefoot Bay Water and Wastewater	PROPOSED: Barefoot Bay Water: Plant Additional Wells	This proposed project consists of installing 2 new water wells to the Barefoot Bay water system in order to meet projected future customer water demand.	N/A	3
Aug 2023-Sept 2030	$33,638,768	Barefoot Bay Water and Wastewater	PROPOSED: Barefoot Bay And San Sebastian Water: Water Main Installation*	This project will install 8" PVC water mains along with corresponding fire hydrants and gate valves in accordance with the proposed expansion of the Barefoot Bay and San Sebastian water distribution systems.	N/A	3
Aug 2023-Sept 2032	$65,539,094	County Water and Wastewater	PROPOSED: Mims Water: Water Main Installation*	This project will install 8" PVC water mains along with corresponding fire hydrants and gate valves in accordance with the proposed expansion of the Mims water distribution system.	N/A	1

*Proposed projects, not obtained from Brevard County Annual Capital Improvement Plan.

RELEVANT REGIONAL WATER SUPPLY ISSUES

St. Johns River Water Management District foresees no acute issues with the Upper Floridan Aquifer, Surficial Aquifer, Lake Washington, or Taylor Creek Reservoir that would cause a shortage of public water supply in Brevard County for the planning period of this Work Plan.

Algal (Cyanobacteria) toxins are found seasonally in Lake Washington, causing the Department of Health to issue alerts not to drink, swim, wade, boat or eat fish from the lake. However, the health department has informed residents of Brevard County that there is no risk to water customers as water from the lake is treated prior to entering the water distribution system.

Although Brevard County's projected population and water demand fall within available current CUP limits, the SJRWMD does foresee long-term traditional supply concerns region-wide, primarily due to aquifer saltwater intrusion. District UFA monitoring wells, in addition to Public Utility well water quality monitoring reports show increasing salinity concentrations, especially along the Indian River Lagoon, possibly due to lateral intrusion as well as to upconing from overdraw. The District estimates that many of these wells already do or will exceed Secondary Drinking Water Standard chloride limits by 2040. While this is unlikely to result in impacts to public supply due to existing water treatment infrastructure, expanded draws may compromise water quality for neighboring domestic self-supply systems. Data from SAS public supply wells show that while saltwater intrusion is increasingly compromising this resource overall, adoption and adherence to wellfield protection plans are demonstrated to reduce and even reverse chloride concentration trends.

Brevard County is encouraged to consider expansion of alternative water supply projects including Reverse Osmosis treatment, and to continue to adopt and expand water conservation policies, wellfield protection plans, land conservation for groundwater recharge, Low-Impact Design (LID) and Green Stormwater Infrastructure (GSI) incentives and requirements, and reuse projects in line with the SJRWMD recommendations.

GOALS, OBJECTIVES AND POLICIES

To support this Plan, Brevard is recommending policy changes to the following Comprehensive Plan Elements.

These have been drafted and submitted to the county for review.

CONCLUSION AND RECOMMENDATIONS

In summary, Brevard County's population is expected to grow at nearly 1% per year through 2040, and therefore its public water demand will increase similarly. County-owned water supply resources are currently sufficient to accommodate projected future water supply demands and current adopted LOS standards. However, the County may need to modify consumptive use permits in order to be authorized to serve the increased population.

The St. Johns River Water Management District does anticipate that future regional traditional water supply will not be sufficient to meet demand given overall regional population growth in addition to other factors. While supply-source surface water Minimum Flow Levels (MFLs) are projected to be met through 2040 in Brevard County, increasing saltwater intrusion of groundwater sources will necessitate continued conservation policies, reuse expansion, and the exploration of Alternative Water Supply infrastructure including RO treatment.

GLOSSARY AND ACRONYMS

Alternative Water Supply - Water supplied by sustainable sources that can be used to help offset the use of fresh surface water and groundwater .

Aquifer - A geologic formation, group of formations, or part of a formation that contains sufficient saturated, permeable material to yield significant quantities of water to wells and springs.

Average Annual Daily Demand (AADD) – The total volume of water delivered to the system in a full year expressed in gallons. When demand fluctuates up and down over several years, an average is used. (Average Daily Demand, ADD, is the total volume of water delivered to the system over a year divided by 365 days.)

Average Annual Daily Flow (AADF) - Average flow for the individual year or multi-year period of interest. It is obtained by dividing the sum of all the individual daily flows by the number of daily flows recorded for the year.

Gallon Per Day (GPD)

Basin Management Action Plans (BMAPs) - A framework for water quality restoration that contains local and state commitments to reduce pollutant loading through current and future projects and strategies. BMAPs contain a comprehensive set of solutions, such as permit limits on wastewater facilities, urban and agricultural best management practices, and conservation programs designed to achieve pollutant reductions established by a total maximum daily load (TMDL). BMAPs are adopted by Florida Department of Environmental Protection Secretarial Order and are legally enforceable.

Bureau of Economic and Business Research (BEBR) - BEBR was founded in 1930 and is part of the University of Florida College of Liberal Arts and Sciences. BEBR began publishing the Florida Statistical Abstract in 1967. This award-winning research volume of statistical data about Florida is the standard for Comprehensive Plans data needs related to population, housing, employment, income, education, health, tourism, elections, and much more.

Central Florida Water Initiative (CFWI) – One of three water supply planning areas for St. Johns River Water Management District and includes the City of Cocoa in its Water Supply Plan adopted in November of 2020.

Central Springs/East Coast Regional Water Supply Plan (CSEC RWSP) - Recognizes the unique local challenges and resource constraints facing the central region springs and coastal areas of the district. The planning region encompasses three sub-regions that include Marion and north Lake counties, Volusia County and Brevard, Indian River and Okeechobee counties. The plan is updated every 5 years and is adopted by the by the St Johns River Water Management District Governing Board.

Consumptive Use Permit (CUP) – According to the SFWMD, this is a permit that allows the holder to withdraw a specified amount of water from the ground (aquifers) or a canal, lake or river (surface water) for reasonable-beneficial uses.

Facility Identification for the Treatment Plants (FACID)

Florida Department of Environmental Protection (FDEP) - The Florida Department of Environmental Protection is the state's lead agency for environmental management and stewardship, protecting our air, water and land.

Florida-Friendly Landscaping - A landscaping method that details nine landscape principles that conserve water, protect the environment, and promote planting native flora adaptable to local conditions.

Florida Green Building Coalition (FGBC) - Created five "Florida Green" Standards. These standards were founded by industry professionals to promote sustainability in the built environment. Florida Green Standards are designed specifically for Florida. The standards represent a scientific approach to address Florida's unique climate and resiliency needs.

Florida Water Star - A certification program for homes and commercial buildings that use less water in landscapes, irrigation systems and indoors.

Gallons Per Capita Per Day (GPCD)

High-Density Polyethylene (HDPE) - Manufactured from high-density polyethylene, a flexible, lightweight and thermoplastic material.

Indian River Lagoon Protection Program (IRLPP) - Established by Section 373.469, F.S. consists of the Banana River Lagoon Basin Management Action Plan, Central Indian River Lagoon Basin Management Action Plan, North Indian River Lagoon Basin Management Action Plan, and Mosquito Lagoon Reasonable Assurance Plan, and such plans are the components of the Indian River Lagoon Protection Program which achieve phosphorous and nitrogen load reductions for the Indian River Lagoon. The Indian River Lagoon refers to the combined Indian River Lagoon Surface Water Improvements and Management Plan (SWIM) and National Estuary Programs.

Level of Service (LOS)

Low Impact Development or Design (LID) - Refers to systems and practices that use or mimic natural processes that result in the infiltration, evapotranspiration or use of stormwater to protect water quality and associated aquatic habitat. LID is used to preserve, restore and create green space using soils, vegetation, and rainwater harvest techniques. LID is an approach to land development (or re-development) that works with nature to manage stormwater as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treat stormwater as a resource rather than a waste product.

Million Gallons Per Day (MGD) - A flow rate expressed in millions of gallons per day.

Minimum Flow Levels (MFLs)

Monthly Operation Report (MOR)

North Florida Planning Area – One of three water supply planning areas for St. Johns River Water Management District and includes 14 counties. This planning area is in the process of updating its plan. It is anticipated that this plan will be approved in the Fall of 2024.

OCULUS - The Electronic Document Management System (EDMS) used by the Florida Department of Environmental Protection (DEP) to store documents.

Onsite Sewage Treatment and Disposal Systems (OSTDS) - A system that contains a standard subsurface, filled, or mound drainfield system; an aerobic treatment unit; a graywater system tank; a laundry wastewater system tank; a septic tank; a grease interceptor; a pump tank; a solids or effluent pump; a waterless, incinerating, or organic waste-composting toilet; or a sanitary pit privy that is installed or proposed to be installed beyond the building sewer on land of the owner or on other land to which the owner has the legal right to install a system. This term does not include package sewage treatment facilities and other treatment works regulated under chapter 403 FS.

Potable Water - Water that is suitable for drinking, culinary, or domestic purposes.

Regional Water Supply Plan (RWSP)

South Brevard Water - For water supply planning purposes, South Brevard encompasses two Water Treatment Plants specifically Barefoot Bay and San Sebastian.

St. Johns River Water Management District (SJRWMD) - An environmental regulatory agency of the state of Florida whose work is focused on ensuring a long-term supply of drinking water, and to protect and restore the health of water bodies in the district's 18 counties in northeast and east-central Florida. While the district works closely with utilities on water supply issues, the district is not a water supplier. SJRWMD was established in 1972 by the state Legislature through passage of the Water Resources Act (Chapter 373, *Florida Statutes*).

Surficial Aquifer - The Surficial Aquifer System is widespread and shallow, ranging from approximately 100 to 300 feet underground. It is separated from the Floridan Aquifer System by a confining bed of soil. Surficial aquifers provide most of the public freshwater supply southwest of Lake Okeechobee and along the Atlantic coast in St. Lucie, Martin, Palm Beach, Broward and Miami-Dade counties**.**

Total Maximum Daily Load (TMDL) - A scientific determination of the maximum amount of a given pollutant that a surface water can absorb and still meet the water quality standards that protect human health and aquatic life. Waterbodies that do not meet water quality standards are identified as "impaired" for the pollutants of concern (nutrients, bacteria, mercury). The threshold limits on pollutants in surface waters (Florida's surface water quality standards on which TMDLs are based) are set forth primarily in rule 62-302, Florida Administrative Code, and the associated table of water quality criteria.

Upconing – Upward migration of mineralized or saline water as a result of pressure variation caused by withdrawals.

Upper Floridan Aquifers (UFA) - The Upper Floridan aquifer is the primary source of water supply in most of north and central Florida. In the southern portion of the state, the aquifer is deeper and contains brackish, or slightly salty water.

Water Supply Facilities Work Plan (WSFWP) - A plan to establish future water demands and potential water sources and facilities to meet those demands for a 20-year planning horizon. This plan is developed in collaboration with St. Johns River Water Management District, adopted by reference in the Brevard County Comprehensive Plan and must be updated within 18 months after the St. Johns River Water Management District approves an update to the regional water supply plans affecting Brevard County.

Water Treatment Plant (WTP)

Wastewater Treatment Plant (WWTP)